

**Urban and Semi-Urban High School Students: Comparison in  
Respect to E-learning Resources their Dependency and Effect on  
Academic Performance**



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**2022**

## **CANDIDATE’S DECLARATION**

I, **Deepti Singh** hereby declare that the work titled “**Urban and Semi-Urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance**” has been carried out by me under the supervision of Prof. Sunita Mishra, Professor, Department of Human Development and Family Studies, School for Home Sciences, Babasaheb Bhimrao Ambedkar (A Central) University, Lucknow for the award of **Ph.D Degree in Home Science**. This research work is an original 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 sources used in this research work have been acknowledged properly.

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# **CERTIFICATE**

This is to certify that the thesis titled “**Urban and Semi-Urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance**” submitted by Ms. Deepti Singh is an original research 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.

This thesis submitted to Babasaheb Bhimrao Ambedkar University Lucknow satisfies all the requirements as stipulated in the Doctor of Philosophy (Ph.D.) regulations-1999 as amended in 2013 and it is fit for submission and evaluation for the award of degree of Doctor of Philosophy of the University.

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## **ABSTRACT**

E-Learning is all about using electronic technology for the education curriculum outside the boundaries of a typical classroom. It is essentially imparting education through computer and network-enabled digital technologies which include internet, Computer, TV, CDROM, Audio, and video resources. In today's time, ICT has the power to transform education.

In the present scenario, anyone can obtain education from anywhere at any time. They need to learn through online education. It is breaking the shackles of a traditional classroom and adapting to new and electronic learning technologies empowers all learners irrespective of their diversities.

Blended learning is becoming increasingly popular across the world because of the benefits it can bring including easy and quick access to learning resources, Timely feedback to students, Better collaboration, and improved flexible and personalized learning.

Education plays an important role in educational development among students. Now, e- learning (Blended learning) overcomes the limitation of time and place and therefore learners are more attracted because of its flexibility. Use of computer network technology primarily through the internet, to deliver information and instruction to learners. The main purpose of the study is to attract the attention to explore the use of the e-learning resources among the high school students and the impact of blended learning on the academic performance of the students from urban and semi-urban school. Hence, the present study is focused on “Urban and Semi- Urban High School Students: Comparison in respect to e-learning Resources their Dependency and Effect on Academic Performance” with the following major Objectives of the study.

1. Demographic profile of the respondents
2. To study about awareness and usefulness of e-learning resources among the student.

3. To study the productivity and quality of information retrieved through e-learning resources by the student.
4. To identify the problems faced by the student while using e-learning resources.
5. To study the impact of level of engagement (hours online/offline) on academic performance.
6. To study the impact of e-learning (blended learning) on the academic performance of the student.

The research design adopted in the present study is “Quasi-experimental research design”. The investigation was carried out in two phases.

The present research was carried out in the following phases: -

### **Phase 1: Preliminary Phase**

In this phase, urban and semi-urban schools were selected and the questioner was distributed to the students to obtain information about the demographic profile, technology usages, availability, awareness, and role of e-learning resources.

### **Phase 2: Intervention Phase**

In the second phase, two groups were divided as experimental and control groups, tests were conducted, an evaluation was done through assignments and presentations.

In the present study two places, Faizabad and Varanasi were selected. Urban and semi-urban schools were selected from both areas. One urban school “Udaya Public School” and one semi-urban school “Anil Saraswati Vidya Mandir” from Faizabad and one urban school “W. H. Smith Memorial school” and one semi-urban school “Sunbeam school” from Varanasi. High school students were randomly selected from the schools. 150 correspondents were selected from urban schools and 150 correspondents were selected from semi-urban schools. A total of 300 students were selected from both areas.

The data was coded, Tabulated, and analyzed by using appropriate statistical techniques i.e. mean, SD, ANOVA Frequency, Correlation coefficient, and the percentage was administrated to analyze the data accordingly using SPSS software. From the results obtained at that students were having a positive impact of blended learning on their academic performance compared to the traditional learning students. Students were facing problems using e-learning resources from both urban and semi-urban schools. From the analysis of results obtained, observation, and based on the review of literature a set of criteria were developed to design the website. The website was developed for the students to learn.

The result shows that there was a lack of awareness among the semi-urban students as compare to urban students. Schools were not having proper learning resources. Students from urban and semi-urban schools were facing problems in using e-learning resources. Results also show a significant effect on the academic performance of the students. E-learning helps in the improvement of academic performance.

The infrastructure of the school for e-learning was not appropriate. Teachers were not well trained. There was a lack of availability of e-learning resources in the school. The infrastructure of schools should be well developed for the students. Teachers should be well trained in ICTs. Awareness about e-learning resources should be given to the student and teachers.

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## **ABBREVIATIONS**

E - learning	Electronic Learning
ICTs	Information and Communication Technologies
VLE	Virtual Learning Environment
UNESCO	United Nations Educational Scientific and Cultural Organization
CD	Compact Disc
DVD	Digital Versatile Disc
TV	Television
CD-ROM	Compact Disc Read- Only Memory
TLP	Teaching Learning Process
IT	Information Technology
OCW	Open Course Ware
LMS	Learning Management System
WINDOWS	Wide Interactive Network Development for Office Work Solution
E-Mail	Electronic Mail
HTML	Hypertext Markup Language
E-Board	Electronic Board
F2F	Face To Face
NACOL	North America Council for Online Learning



*Introduction*

## CHAPTER-1

### INTRODUCTION

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#### 1.1 INTRODUCTION

Education and development go hand in hand. The Role of education in developing countries is a very important one as lack of education causes poverty and slow economic development of a country especially if the country is a developing country.

The importance of education, especially in developing nations, is expanding because of progressing pressure to make up with the created world regarding, for example, global competitiveness (Hawkins, 2002).

In today's world technology has taken over everyday life. It makes it a struggle for the one who is not tech savvy. In recent times, due to advancement of technology, the technology has reached the classroom. 'Students are being educated for a world that demands continuous learning, the creation of knowledge and adaptation of new circumstances. The community expects students to be technology competent'. [Learning in an Online World: Research Strategy2003]

The importance of education in developing countries has a more profound effect on people's lives. In developing nations, education has a large and vital role to play in people's living regardless of the types of education (e-learning or traditional on-campus education).As quoted by Säljö (2000), learning and knowledge are important factors, linked to people's perceptions of economic as well as social development. In recent decades, a technological revolution has taken place in large parts of the world. In earlier times, societies were characterized almost exclusively by an educational system where teachers and students physically interacted in the classroom.

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During the last 20 years our view of education has changed completely due to the technological developments because of the Internet (Castells, 2001) have changed our view of education. In today's educational systems, teachers and students use different information and communication technologies (ICTs) for teaching and learning activities in schools.

Recent developments in digital electronics are transforming many of our education processes and the management of learning. Changes in information and communications technologies (ICTs), especially Internet and the rapid expansion and development of e-learning resources are instrumental in this transformation.

These developments have enabled the evolution of e-learning systems that can be used by teachers and learners to support the school curriculum. Global use of e-learning is growing very fast (Elango, Gudep & Selvam 2008; Abbad & Al bargothi 2010). Rapid development is also occurring in the Middle East, as described by Jarbi and Sheriffdeen (2010). Aldhafeeri, Almulla and Alraqas (2006) have described e-learning as the future of learning and as the "fastest growing learning tool in the Middle East".

The concept of "E-learning" has emerged during last 15 to 20 years. According to Laurillard (2004), e-learning describes the interaction in which students use different types of ICTs in their learning process.

"E-learning is a powerful instructional strategy because it exceeds the boundaries of traditional classroom methodologies. It creates virtual schools that allow learning to occur at the student's initiative at any time and place" (Blomeyer, 2002). Online learning is also bringing equity to students as it is providing access to courses and teachers for all students, no matter their zip code or socio-economic status. E-Learning offers opportunities and possibilities that were unknown to educators over a decade ago. E-learning can be used as a medium by the teachers. This facilitates and manages learning. It includes using virtual learning environment (VLE) or an intranet to access learning materials including video and online assessment, submit assignments electronically, and using email to send feedback and support. Through this an instructor can make course content

accessible and to learners. Teachers can share course materials with other students' same time. Communicate with learners other than in the classroom around the world. Teachers can evaluate learners' understanding and also can track learner's progress.

Early developments in e-learning focused on computer assisted learning, where part or all of the learning content was delivered digitally. More recently the pedagogical dimension of e-learning has become prominent. E-learning comprises all forms of electronically supported learning and teaching.

The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process.

E-learning according to Markus (2008) can be defined as a learning process created by interaction with digitally delivered content, network-based services and tutoring support. E-learning is any technologically mediated learning using electronic resources whether from a distance or in face to face classroom setting (computer assisted learning). It is a shift from traditional education methods or training to ICT-based personalized, flexible, individual, self-organized, collaborative learning based on a community of learners, teachers, facilitators and experts. E-learning is the use of technologies to enhance knowledge and performance.

E-learning technologies offer learners control over content, learning sequence, pace of learning, time, and often media, allowing them to tailor their experiences to meet their personal learning objectives.

E-learning is also known as Web-based learning, distributed learning, online learning, computer- assisted instruction or Internet-based learning.

Multimedia learning. Multimedia uses two or more media, such as graphics, text, animation, audio, or video, to produce engaging content that learners access via computer. Blended learning, a fairly new term in education but a concept familiar to most of the educators, is a technique that combines e-learning technology with traditional instructor-led training, where, for example, a lecture or demonstration

is supplemented by an online tutorial. Multimedia e-learning enhances both teaching and learning.

Internet technologies permit the widespread distribution of digital content to large number of users simultaneously anytime, anywhere. The ICT (Information and Communication Technology) revolution is fast changing the world and creating a generation that is media hungry and technologically savvy.

This new generation is utilizing computerized media for learning and communication (Tapscott,2008) “educational technology is a combination of the processes and tools involved in addressing educational needs and problems, with an emphasis on applying the most current tools: computers and their related technologies” (Roblyer & Edards,2000)

## **1.2 Educational-Paradigm-Oriented Definitions**

This category defines e-learning as a new method of learning or as an improvement on an existing educational paradigm. Most of the creators falling into this class work in the training part. Some of the most representative examples of these definitions include the following.

- ❖ “E-learning is the use of new multimedia technologies and the Internet to improve the nature of learning by facilitating access to resources and services, as well as remote exchange and collaboration” (Alonso et al.,2005).
- ❖ “E-earning is a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery” (Aldrich,2005).
- ❖ “E-learning is defined as information and communication technologies used to support students to improve their learning” (Ellis, Ginns & Piggott,2009).
- ❖ “E-learning refers to educational processes that utilize information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities” (Jereb & Šmitek,2006).

### **1.3 Communication-Oriented Definitions**

This category considers e-learning to be a communication, interaction, and collaboration tool designs secondary roles to it so the aspects and characteristics. Representative examples of these definitions, which come mostly from the academic and communication sectors, include the following.

- ❖ “E-learning is education that uses computerized communication systems as an environment for communication, the exchange of information and interaction between students and instructors” (Bermejo,2005).
- ❖ “E-learning is learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the web” (González-Videgaray,2007).
- ❖ “E-learning is defined as learning facilitated by the use of digital tools and content that involves some form of interactivity, which may include online interaction between the learner and their teacher or peers” (Ministry of Communication and Technology of New Zealand, 2008).

The number of other terms are also used to depict this mode of teaching and learning. These include virtual learning, online learning, distributed learning network and web-based learning. Essentially, all these referred to educational processes which utilize information and communication technology to mediate asynchronous as well as synchronous learning and teaching activities.

These include lot more than virtual learning, online learning, distributed learning, web-based or networked learning. As the letter “e” in e-learning stands for the word “electronic”, e- learning would incorporate all educational activities that are carried out by individuals or groups working online or offline and synchronously or asynchronously via network or standalone computer and other electronic devices.

In the present age of information technology, the learning sector has not remained untouched. With the use of ICT, E-learning has placed into academic system. In

the current time of information technology, the learning sector has not remained immaculate. With the utilization of ICT, E-learning has placed into scholastic framework.

According to UNESCO, e-learning is described as “The tool and the processes to access, retrieve, store, manipulate, organize, produce, present and exchange information by electronic and other automated means. These include hardware, digital cameras, phones, faxes, modems, CD and DVD players and recorders, digitized video/radio and T.V. programs database programs and multimedia programmers”.

E-learning can be defined as instruction delivered via a computer that is intended to promote learning. This definition can be broken down into the what, how and why of e- learning:

What. Instruction refers to content (e.g., words and pictures describing how lightning storms develop) and instructional techniques (e.g., presenting words in spoken form rather than printed form). E-learning depends on instructional material being presented using effective instructional techniques.

How. Delivered via a computer refers to presenting material via a computer by way of internet, CDROM, intranet, or related means. Instructional output includes images and printed words that appear on a screen and sounds and spoken words from a speaker or headphones; students input includes spoken words through a microphone, characters entered on a keyboard and screen things clicked with a mouse. Hence, e-learning uses the output and input channels of computers and their fringe gadgets.

Why Intended to promote learning refers to the goal of helping to foster changes in student’s knowledge, which is reflected in changes in their performance. Thus, e-learning is proposed to assist individuals to achieve learning objectives.

## **1.4 Need of-Learning**

The requirement for-learning has as many different answers as the number of different perspectives that individuals have. E-learning is seen as desirable form of perspectives. The specific need relate to, quite significantly determines approach to e-learning. It is, therefore, important to carefully analyze these and choose a position. Outline some of these below:

- ❖ **Teacher's shortage:** In many disciplines, shortage of qualified instructors is a problem tormenting most educational institutions. The quality of the available teaches is another significant concern. Given the financially attractive opportunities in the industry and poor academic environment that is seen in most of the educational institutions, teaching jot is among the lowest in the preference list for many. While hardly anyone looks at e-learning as an alternative to conventional teaching, in this context. It is seen to expand the reach of the available instructors.
- ❖ **A3 (any time, any place, any pace) learning (Ali et al., 2011):** As referenced prior, for the need to come together at a fixed place at a fixed time is a major constraint. This is especially true for those pursuing courses in part time mode, the just-in-time learners, adult learners, etc. the freedom to connect to the course setup at any time of once choice and from any place is a major incentive for e-learning. It also empowers learners to take to studying when they feel it's the best time for them to study and hence provides for adapting the TLP to the learner's individual characteristics.
- ❖ **Enhanced learning experience:** This is significant, but frequently ignored and under- explored aspect. When exploited effectively, e-learning empowers a high degree of personalization and a wide range of instructional methods. Powerful simulation environments, multimedia capability and high-end visualization support empowers a learner to relate to the subject much more deeply and hence understand well.
- ❖ **Content creation:** India, despite her IT prowess, is still a poor contributor of content in the Web. Part of the reason is that very few of our educators are on the web. While one use online courseware from sources such as MIT

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Open Course Ware (OCW), one seldom considers contributing work to share with the world. Embracing e-learning empowers and encourages one to do this naturally. It is a little advance to contact the world.

- ❖ **Enhancing quality of teaching:** When one gets into practicing e-learning to any significant degree, one will be creating much of the course material electronically. These are a lot more reusable as compared to written notes, used otherwise. These can also be shared with other teachers, can be improved over the years using user feedback and hence results in better quality of material (Allan,2002).
- ❖ **More systematic feedback and evaluation:** Bringing assessment and other activities under e-learning enables to gather much more detailed feedback on various aspects of the courses. These incorporate quality of questions, quality of content, qualitative judgment on students' performance etc. these can be used to enhance the quality of instruction at an institutional level (American LibraryAssociation,1989)
- ❖ **Learning Environments:** An effective deployment of e-learning would address numerous concerns including content creation, content delivery, assessment, collaboration and communication between faculty and students and among students. In addition, support for online assessment would need mechanisms to keep track of marks per student per assessment and computing suitable weighted total. A learning management system (LMS) is an integrated application that provides all these and more under one umbrella. With one login, one can see and access all pertinent parts of a course (Ammons-Stephens et al., 2009). From an administrative perspective, one would need mechanisms to control access to the course allowing legitimate students and faculty. In general, an individual can be an understudy of some subject and a faculty in another. Therefore, most LMSs today provide a user login mechanism supporting role-based access control.

## **1.5 Concept of E-Learning**

E-learning is characterized as an interactive learning in which the learning content is available on-line and provides automatic feedback to the students learning activities. E-learning covers a wide range of applications and processes like computer-based learning, web-based learning, virtual classrooms and digital collaboration. It includes the delivery of content by means of Internet, intranet/extranet, satellite broadcast, Interactive Television, DVD, CD-ROM, audio and video tape. E-learning can be defined as instructional content or learning experiences delivered or enabled by electronic technology. It is a structured, interactive approach to educating and informing the learners, employees.

- ❖ In 1980s, when computers were not in wide use, instructor led training was the primary training method, which allowed the students to interact with their teacher and classmates. It was costly and time bound training of traditional technique of learning. As a result of technological advancement, by the year 1995 WINDOWS, CD-ROMs, power point, DVD came into utilization. The educational institutions and business organizations tried to make training more transportable and visually engaging via CD- ROMs and DVDs and anytime, anywhere usable training with supporting the conventional educating techniques.
- ❖ First phase of e-learning 1994–1999: the advent of Internet and internet browsers, E-mail, HTML, media players led to the development of e-learning with multimedia support. Intranet made easy the transmission of text & graphics, and image information across the world at a low cost and proved to be beneficial for companies and organizations, with a rapid speed of information transfer.
- ❖ Second Phase 2000 onwards: During this period, with the access of high band width and improved website designs live instructor led education through online in multidimensional environment has emerged, which is more savvy and enhanced the learning with up to date interactive mode technology.

## Advantage & disadvantage of E-learning

### Advantages of E-learning

To increase the acceptance and successful utilization of the e-learning system, it is important to demonstrate the advantages of such a technique. In the literature, a number of researchers have highlighted the importance of e-learning systems from the perspectives of both students and instructors. For example, argues that e-learning will transform schooling outside the classroom.

E-learning is valuable to education, corporations and to all types of learners. It is affordable, saves time, and produces quantifiable outcomes. E-learning is more cost effective than traditional learning in light of the fact that less time and money is spent in traveling. Since e-learning can be done from any geographic location and there are no travel expenses, this type of learning is significantly less costly than doing learning at a traditional institute.

Adaptability is a significant advantage of e-learning. E-learning has the advantage of taking class whenever anywhere. Education is accessible when and where it is required. E-learning should be possible at the workplace, at home, out and about, 24 hours every day, and seven days per week. E-learning likewise has quantifiable appraisals which can be made so both the teachers and understudies will know what the students have learned, when they've finished courses, and how they have performed.

Students like e-learning since it obliges various sorts of learning styles. Students have the benefit of learning at their own pace. Students can likewise learn through an assortment of activities that apply to various learning styles students have. Students can fit e-learning into their bustling timetable. In the event that they hold an occupation, they can in any case be working with e-learning (Bawaden,2007). If the student wants to learn at night after work, then the option is available for learning. learner can sit at home in the comfortable environment and do the learning if the desire.

E-learning urges students to examine through data by utilizing hyperlinks and destinations on the overall Web. students can discover data pertinent to their own circumstances and intrigue. E-learning permits understudies to choose learning materials that meet their degree of information, interest and what they have to know to perform all the more viably in an action. E-learning is more centered around the student and it is all the more intriguing for the student because it is information that they need to learn. E-learning is adaptable and can be modified to meet the individual needs of the students (Bharati et al., 2008).

E-learning assists students with creating information on the Internet. This information will help students all through their professions. E-learning urges understudies assume individual liability for their own learning. At the point when students succeed, it manufactures self-information and fearlessness in them. Some other significant points of interest are:

- (a) Self-paced
- (b) Time and location flexible
- (c) Global teaching phenomenon
- (d) Cost effective
- (e) Large knowledge domain to choose
- (f) Life time learning options
- (g) More streamlined and focused
- (h) Diversified field to select from
- (i) Sharing of knowledge is easier
- (j) Labour savings: Save in training salaries
- (k) Access to a lot of data can be gotten at low gradual expense
- (l) Enhance academic productivity
- (m) Systematic

Anderson (2005, p.5) asserts that e-learning embraces learning by, with and through ICT and notes a number of reasons for implementing e-learning into an

educational system:

- ❖ E-learning has, because of the growth of information technology, become an important vehicle in the delivery of education and learning.
- ❖ It is information-rich: it offers access to information resources anywhere and at any time to both teachers and learners.
- ❖ It constitutes an alternative learning strategy as e-learning can reach people previously denied access to education, for example, students with disabilities.
- ❖ It can offer scope for blended learning as it can augment traditional classroom teaching, freeing up resources, and offering these to larger numbers of campus-based students (Jamlan 2004,p.3).

Jamlan (2004, p.3) lists the possible advantages of e-learning as:

- ❖ Offering links to a range of valuable learning materials.
- ❖ Providing online materials and self-assessments to guide and direct the learning processes of students. –
- ❖ Allowing access to an expanded number of rich learning materials.
- ❖ Facilitating interest via increased interaction.
- ❖ Providing immediate feedback and positive reinforcement.
- ❖ Creating a learning environment that is both flexible and conducive to students' busy lifestyles and employee schedules.
- ❖ Providing ongoing support for teachers.
- ❖ Creating a balance between various sources of information.
- ❖ Facilitating dialogue between and among educators and students.

E-learning is significant for education because it can improve the quality of the learning experience, and extend the reach of every lecturer and tutor. E-learning can help eliminate barriers to achievement, by providing new and creative ways of motivating and engaging pupils and learners of all abilities, enabling and inspiring

everyone to attain their educational potential. E-learning can uphold learning by offering differentiated learning, particularly for those who need support in literacy, numeracy, and ICT. E-learning offers a wide range of tools to empower instructors and learners to be innovative, creative, and resourceful in all learning activities. Teachers and learners can easily tweak computerized learning assets to suit pace and level, appropriate to any learning style and ability. E-learning creates on-line communities of practice. The Internet can bring learners, teachers, specialist communities, experts, practitioners and interest groups together to share ideas and good practice.

- ❖ E-learning can provide an individualized learning experience for all learners, including the individuals who are hindered, disabled, exceptionally gifted, have a special curriculum or learning needs, or who are remote or away from their typical spot of learning. E-learning can encourage wider participation and fairer access to further and higher education by creating the opportunity to start learning and to choose courses and support according to the learners' needs. E-learning provides tweaked learning support through information, advice, and guidance services. It can assist learners to find the course they need, with a seamless transition to the next stage of their learning, including online application or enrolment and an electronic portfolio of their learning to take with them. E-learning provides virtual learning worlds where learners can take part in dynamic and imaginative learning with others through simulations, role-play, remote control of real-world tools and devices, online master classes, or collaboration with other education providers.

### **Disadvantages of E-learning**

One disadvantage of e-learning is that students need to have access to a computer as well as the Internet. They additionally need to have computer skills with programs such as word processing, Internet browsers, and e-mail. Without these programming abilities and software, it is not possible for the student to succeed in e-learning. E-students need to be at ease using a computer. Slow Internet connections or older computers may make accessing course materials

troublesome. This may cause the learners to get baffled and surrender. Another disadvantage of e-learning is overseeing computer files and online learning software. For learners with amateur level computer skills, it can sometimes seem complex to keep their computer files organized. Without good computer hierarchical aptitudes, learners may lose or misplace reports causing them to be late in submitting assignments. Some of the students also may have difficulty installing software that is required for the class.

E-learning also requires the same amount of time for attending class and completing assignments as any traditional classroom course. This implies that students have to be highly motivated and responsible because all the work they do is on their own. Learners with low inspiration or bad study habits may fall behind. Another disadvantage of e-learning is that without the routine structures of a conventional class, students may get lost or confused about course activities and deadlines causing the student to fail or do poorly.

Another disadvantage of e-learning is that students may feel segregated from the instructor. Instructions are not always available to help the learners so learners need to have the discipline to work independently without the instructor's assistance. (Borrego & Urbano). E-learners also need to have good writing and communication abilities. When instructors and other learners aren't meeting face-to-face it is possible to misinterpret what was implied. Some other major disadvantages are:

- a) Not immediate feedback.
- b) More load for faculty to prepare instructions.
- c) Infrastructure requirements.
- d) More confusion due to the absence of direct interaction. (Budd & Cannaway, 1997).
- e) Requires more maturity and self-discipline.
- f) Dropout rates are more; a lonely study.
- g) Not all aspects of training can be covered using e-learning strategies, e.g.

Disciplines.

- h) Lack of social impact of a peer group in learning and personal development.

### Information and Communication Technology (ICT) in Learning

Recent developments in the field of Information and Communication Technology (ICT) are revolutionary in nature. The ability to use ICT effectively and appropriately is essential to allow learners to acquire and exploit information within every sphere of human activity. ICT is not an initiative introduced purposefully into an existing system in order to bring about improvement, but a major perturbation that has established the existing order and led to a number of unpredictable changes (Somekh, 2007). The creative potential of ICT can be unleashed when we actively make use of it. With its enormous potential, ICT has undoubtedly opened new avenues for lifelong learning which helps people to compete better in the new information economy. The knowledge society has enabled a shift away from technology as a driver of change to a tool that offers new ways of combining widespread information. ICT facilitates the enculturation processes of deep-rooted learning (Mann, Shakeshaft, Becker & Kottkamp, 1999). A remarkable growth in ICT has led to an increasing need for education that is effective, efficient, and satisfies the demands for greater sophistication and diversification of educational content. ICT intends to empower teachers and learners and tries to transform teaching-learning processes from being highly teacher dominated to student- centered. This change may bring increased learning gains for students, creates opportunities for learners to develop their creativity, problem-solving abilities, communication skills, and other higher-order thinking skills. A meta-analysis that examined the impact of technology on student learning revealed an increased teacher-student interaction, cooperative learning, and most importantly, problem solving and inquiry (Statham & Torell, 1996). Therefore, students should be oriented to this possibility allowing them to stand their ground amidst the technology-mediated onslaughts of the advanced world. We are in an era in which we have ubiquitous electronic interactivity and have a tremendous range of educational resources available. Today's high school students often have the maturity and technical expertise necessary to participate in e-learning

experiences. Moreover, the demands of the information era can't be satisfied with classroom instruction as the only source of learning. The styles of teaching and learning should go far beyond traditional pedagogic efforts within the four walls of the classroom, and in this context, ICT has paved the way for accelerating the paradigm shift by providing more flexible ways of learning and offers learners more ways to search for the most effective and efficient path to learning. The ready availability of computer technologies in the classroom and in the community has greatly expanded the educational options available to learners.

### ICT in Schools

Information Communication Technologies (ICTs) can enhance the quality of education in several ways which included, increase in learner motivation and commitment, facilitating the acquisition of essential aptitudes, and enhancing the training of teachers. The recent developments in information and communication technology (ICT) have many beneficiaries, particularly in industry, education, and management. ICT is characterizing as “any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form”. Such products include telecommunications, computers, and broadcasting technology. ICT has the ability to provide the higher interactive potential for users to develop their individual intellectual and creative abilities. ICT in schools has become a necessity to meet students' and teachers' needs and to facilitate learning processes. In addition, schools use ICT to enhance teaching and learning in two ways. The first way involves supporting learning, which is often referred to as “learning with technology”, while the second way of using ICT supports constructivist approaches to learning; this is alluded to as the “learning through technology” approach. It could be argued that ICT changes the whole structure of schools. It has an impact on communication in and among secondary schools; Internet and websites have become an integral part of school communication systems which enhances interaction and communication, also a source of information between teachers and learners who both use and interact with ICT to achieve successful learning processes.

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### The use of e-learning in education

The development of multimedia and information technologies and the use of the internet as a new approach to teaching has made radical changes in the traditional process of teaching (Wang et al. 2007). As in 1999 Yang and Arjomandeluci dated that development in information technology has generated more choices for today’s education compare to our old traditional methods. Schools and educational institutions have recognized e-Learning as an exceptional prospect to transform people, knowledge, skills, and performance.

### Approaches to E-learning

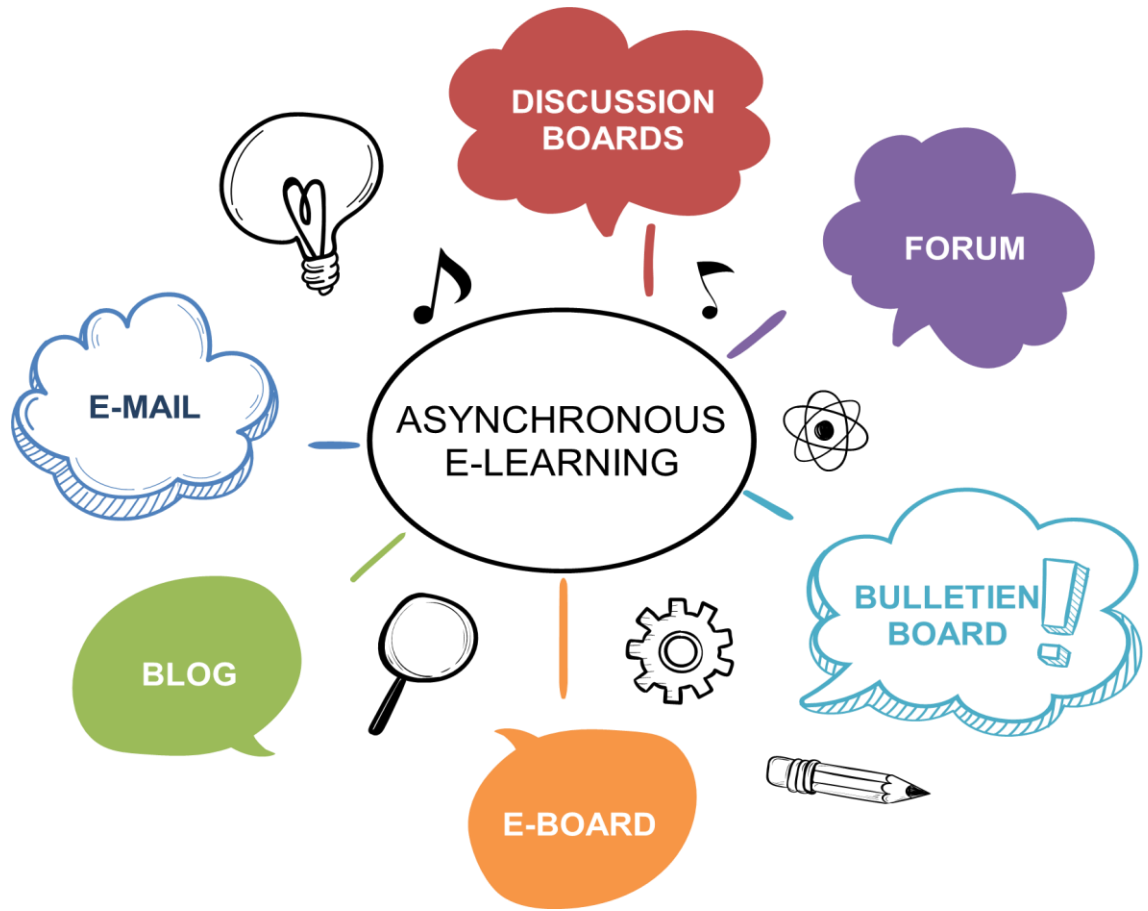
#### Synchronous E-learning

In Synchronous e-learning, communication occurs at the same time between individuals, and information is accessed instantly. It is characterized as real-time, simultaneous, and two-way communication. This is supported by multiple medias

such as Video Conferencing, Virtual Classrooms, and Chat sessions. The most familiar form of synchronous electronic communication is real-time, two-way, text-based, and online chat, which is widely used in e-learning. More sophisticated forms of synchronous instruction include virtual classrooms, which uses information and communication technologies to mimic a traditional classroom environment. This may involve video conferencing or the use of shared electronic white boards, which allow learning materials to be created and modified in real-time either by the presenter or the learners. Learners and Teachers experience synchronous e-learning as more social and less frustration in asking and answering questions in real-time. Synchronous sessions help e-learners feel like participants rather than isolates which increases the level of participation.

### Asynchronous E-learning

As you are familiar with the use of e-mail which is also a two-way communication, where the flexibility is that the sender and receiver of the message need not be online at the same time. You can check your e-mail at a convenient time. That kind of communication called Asynchronous which means you need not be online at the same time. Asynchronous E-learning is commonly facilitated by media such as e-mail and discussion board which supports work relations among learners and with teachers, even when participants cannot be online at the same time. It is therefore a key component of flexible learning. Asynchronous instruction allows participants to control their own timetables and fit learning around their other commitments and makes it beneficial. This is a major bonus, especially for adult learners who cannot match their timetable with the defined schedule. Asynchronous e-learning is beneficial because it gives a possibility for learners to log on to an e-learning environment at anytime and download documents or send messages to teachers or peers to get an opinion. Participants may spend more time refining their contributions, which are generally considered more reflective compared to synchronous communication. Technologies used in asynchronous e-learning also permit two-way communication between learners and instructors, or multi-directional collaborative communication among learners themselves.



**Fig. 1.1** Asynchronous E-learning

## Blended Learning

In blended learning, e-learning is a combination of traditional classroom methods and independent learning which creates a new hybrid teaching methodology. Many use terms like a hybrid, mixed, or integrative to describe the same trend. In a blended-learning course, for instance, students might attend a class instructed by an educator in a conventional classroom setting, while also independently completing online components of the course outside of the classroom. For this situation, in-class time may be either replaced or supplemented by online learning experiences, and understudies would learn about the same topics online as they do in class i.e., the online and in-person learning experiences would resemble and complement one another.

The blended learning will have the essential prerequisite of

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

- In-person classroom activities facilitated by a teacher
- online learning materials provided through a website, blog, or LMS
- organized independent study and assignments both face to face and online mode

Blended learning can provide the convenience, speed, and cost-viability of e-learning with the personal touch of traditional learning. Students can prepare for consolidating and recall classroom experiences online while gaining the benefits of interaction with teachers and students via an actual or virtual classroom. Learning and retention rates improve among the Student without compromising the convenience, cost-effectiveness, and customization of self-guided Web-based course work.

- Individual versus group: Individualized e-learning refers to circumstances where an individual learner is accessing learning assets such as a database or course content offline or online via an Intranet or the Internet. A typical example of this is a learner studying alone or conducting some research on the Internet, local network, or utilizing a CD or DVD. In group-based e-learning refers to circumstances where groups of learners are cooperating in real-time or with time delay via an Intranet or the Internet. It may include text-based conferencing, online discussion forums, electronic mailing, and one or two-way audio and videoconferencing. Instances of this include learners engaged in a real-time chat or an audio-videoconference.
- Self-paced versus Instructor Lead: In the self-paced approach the e-learning course ware is usually made available through an online e-learning platform or on CD-ROM. Learners are free to choose learning activities and learn at their own pace based on individual needs and interests. E-learning content is developed according to a set of learning objectives and is conveyed using different media components, such as text, graphics, audio, and video. It must provide as much learning support as could be expected (through explanations, examples, interactivity, feedback, glossaries, etc.), in order to make learners self-sufficient. Whereas in instructor lead, the course is scheduled and driven by an instructor and/ or facilitator through an online learning platform-learning content for

individual study can be incorporated with instructor's lectures, individual assignments, and shared exercises among learners. Learners, facilitators, and instructors can use specialized communication tools such as e-mails, discussion forums, chats, polls, whiteboards, and application sharing and audio and video conferencing to communicate and work together. In the end, a final step typically includes an exercise or assessment to measure learning.

### Blended learning

Like many advances in educational practices, blended learning is defined and implemented in multiple ways. Blended learning is a hybrid of online learning and Face-to-Face (F2F) instruction using a variety of learning resources. Blended learning is a flexible learning strategy that integrates innovative and technological advances of online learning with interaction and participation of traditional classroom learning. Thorn (2003) depicts blended learning as a method of meeting the difficulties of tailoring learning and development to the needs of individuals by integrating the innovative and technological advances offered with the best of traditional learning.

North American Council for Online Learning [NACOL], an International Association for K-12 Online Learning, characterizes blended learning as combining online delivery of educational content with the best features of classroom interaction and live guidance to personalize learning, allow mindful reflection, and differentiate instruction from student- to-student across a diverse group of learners. Carter (as referred to in Battye & Carter, 2009) characterizes blended learning as a strategic and considered approach to teaching and learning that effectively integrates different models of teaching and styles of learning whereby both face-to-face and online learning are each improved by the presence of the other.

Ultimately, the exact definition of blended learning, beyond some combination of online and face-to-face learning may not make any difference. Kim (2007) has classified learning into three key dimensions: physical class-based versus virtual, formal versus informal, and scheduled versus self-paced. Several possible

combinations can be formulated out of these three dimensions. He has defined blended learning as a combination of two or more of all possible learning types. He has given one significant qualifier to this definition. At least one of the learning types must be a physical class-based type and at least one other learning type must be online learning type. This is to make sure blended learning remains a combination of some form of traditional learning and some form of online learning. Along these lines, Dziuban, Hartman, and Moskal (2004) in a research brief noted that blended learning should be viewed as a pedagogical approach that consolidates the effectiveness and socialization opportunities of the classroom with the innovatively improved active learning possibilities of the online environment, rather than a ratio of delivery modalities. In other words, blended learning should be approached not just as a fleeting develop, yet rather as a fundamental redesign of the instructional model with a shift from 'lecture' to 'student-centered instruction' in which students become dynamic, active, and interactive learners. This enables increased interaction between student- instructor, student-student, student-content, and student outside resources.

Blended learning reflects a more conscious and intentional approach in designing optimal instruction or learning environments following the strategy of blending components while the blended character of traditional instructional contexts is to a great extent the result of habit (tradition), convenience, or happenstance (Rossett & Frazee, 2006). A superficial understanding of blended learning is that it simply adds non-face-to-face elements into the traditional course structure and most often results in a dysfunctional phenomenon known as the "course-and-a-half (Educause, 2010). Schools may be particularly susceptible to this trap if the added on line elements are simply based on the latest technology, which can give a false impression of true innovation. As both face-to-face instruction and online learning suffer from limitations, it is natural to combine the strengths of the two modes in to blended learning. Combining face-to-face and fully online components optimizes both environments in ways impossible in other formats (Dziuban & Hartman, 2004). Garrison and Vaughan (2008) define blended learning as a new educational paradigm that integrates the strengths of face-to-face and online learning a design approach where by both face-to-face and online learning are

each improved by the presence of the other. He asserted that blended learning is not an expansion that simply builds another expensive educational layer. Rather, it represents a restructuring of the class contact hours to enhance engagement and extend access to web-based learning opportunities. In particular, blended learning is a fundamental redesign that transforms the structure of, and approach to, teaching and learning.

The key assumptions of a blended learning configuration given by Garrison and Vaughan (2008) are:

- ❖ Thoughtfully incorporating face-to-face and on line learning
- ❖ Fundamentally reconsidering the design to optimize student engagement
- ❖ Restructuring and replacing traditional class contact hours.

Blended learning is an educational formation that integrates online learning techniques including online delivery of materials through web pages, discussion boards, and/or email with the traditional teaching method. The pedagogy of blended learning is based on the assumption that there are inherent advantages in face-to-face interaction as well as the understanding that there are points of interest in utilizing on the web techniques (Clark & Patrick, 2007). Blended learning is used to depict learning that mixes various event-based activities, including face-to-face classrooms, live e-learning, and self-guided learning (Valiathan, 2002). Providing several online options in addition to traditional classroom training increased what students learned and adopted (Dean, Stahl, Sylvester & Pearson, 2001; Graham & Allen, 2005). Blended Learning, the teaching practice that combines teaching methods from both face-to-face and online learning, is an established, rapidly growing instructional model that is proving profoundly effective in helping schools and districts address the challenges of student achievement, restricted assets, and the expectations of 21st-century learners (Eduviews, 2009). With the growth of blended learning, the pedagogy of blended learning also is evolving. As mentioned, the role of a teacher is getting transformed from 'lecturer' to 'mentor' who gives continuous support, guidance, and assistance. The blended learning models are so flexible and adaptive that

teachers can create instructional activities that give students the opportunities to work collaboratively, tapping their interests and abilities in social learning (Eduviews, 2009).

The good merit of blended learning is that it can cater to individual preferences of learning style. Students are free to choose their favored learning style to some extent though some components may be compulsory (Harding, Kaczynski & Wood, 2005). Thus differentiated instruction is possible to an enormous degree. Self-pacing allows for the engagement of every learner at any given time in blended learning. Students also visualize that the learning involved becomes a process, not isolated individual learning tasks.

One of the most specific advantages is the opportunity to quickly establish a sense of community amongst student learners (Garrison & Kanuka, 2004). Within the blended learning classroom, students meet during face-to-face instruction and then have opportunities to collaborate, communicate with open dialogue, experience critical debate through a worldwide open platform which in-turn facilitates noteworthy reflection on the part of learners. The blended learning approach provides room for the development of autonomy, self-efficacy, and individual organizational skill since it gives scope for self-regulated learning. This, in effect, contributes to the development of higher-order thinking.

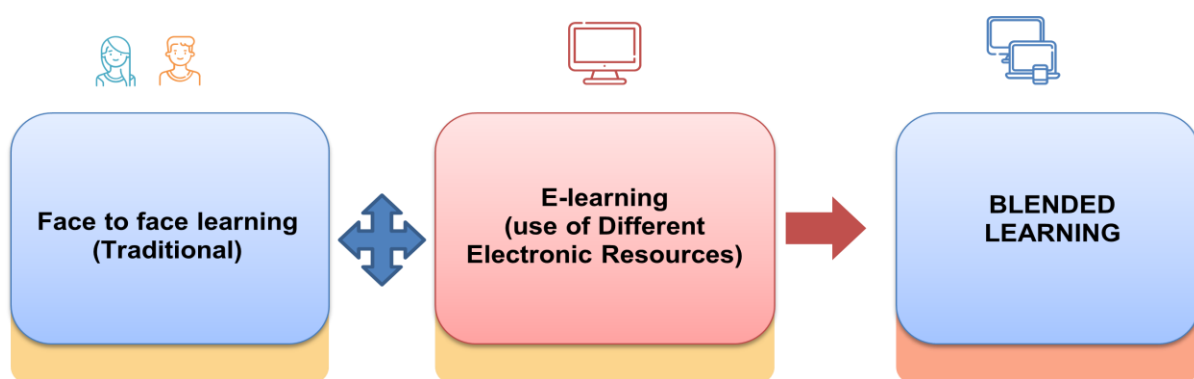


Fig. 1.2: Meaning of blended learning.

## Blended learning environment

Blended learning is the natural progress of e-learning towards a complete program of various multi-media and applying it in an ideal manner to take care of issues. Blended learning, as mentioned above, blends both e-learning and face-to-face learning. A blended learning environment which is regarded as a type of distance education integrates the advantages of distance education with the affective aspects of traditional education, such as face-to-face interaction. In contrast to the classical learning environment which poses limitations on spot and time, e-learning provides an environment where the learners can study regardless of time and place restrictions. The factors such as learners' differences, personal characteristics, and learning styles have significant impacts on the learning environment. For instance, the learners who experience difficulty in establishing communication in the classroom environment find it easier to communicate in the electronic environment. Clearly, the shortcomings and qualities of the online environment and the weaknesses and strengths of face-to-face education integrate into blended learning (Finn & Bucci, 2004). In the case study research carried out by Osguthorpe and Graham (2003), it was inferred that the aim of using blended learning approaches is to find a harmonious balance between online access to knowledge and face-to-face human interaction. In other words, Heterick and Twigg, (2003) describe blended learning aims to find the balance of instructional strategies that are tailored specifically to improve student learning. The integration or combination of various learning/ teaching methods is of profound importance for the accomplishment of the blended learning platform. Reay(2001)emphasizes that blended learning is not simply adding online materials to a conventional training environment; it must be relevant and demands a holistic strategy taking the best characteristics of all learning interventions. These elected process should be appropriate to the subject. Sharma and Barrett (2007) stress the significance of blended learning in bringing the outside world into the class and which maximizes motivation as well as enthusiasm in learning. Mc Campell (2001) emphasizes that blended e-learning will be an appropriate methodology for incorporating online applications into an existent course program for the first time, and highlights that some parts of the course content should be transferred to the

online environment (forum, e-mail, web environment), without offering the whole courses on the web. However, it is important to establish the equilibrium between face-to-face and online environments, given the advantages of both methods.

## Technology and Blended Learning

According to Thornburg (2002), the expanding globalization of work and the rapid advancement of technology are making age-old teaching methods irrelevant. Thornburg makes reference to that one of the greatest challenges to incorporating new practices in schools would be of human behavior not technological because the examination of the validity of assumptions that have been held for ages would be the deciding factor about whether schools reform their practice.

The pattern toward virtual learning in the kindergarten to twelfth-grade setting is exploding. Yet it may remain the teacher who is the critical element and resource for student achievement, learning, and commitment (Pierce, 2005). It is the engineer and architect (instructor) who characterizes the specific process being learned and the methodology that could foster learning (Munro and Rice-Munro, 2004). In time, schools may offer courses in various settings for a myriad of reasons, including the ability to attract and retain students for state funding (Bonk & Graham, 2006) or perhaps for adaptability in credit recovery or schedule alleviation (NASSP, 2004). Technology offers an approach to increase access to knowledge and a way to promote learning (Bransford et al., 2000, 2002). Blending different approaches (online and face-to-face) to learning is certainly not a new idea, and blended learning represents a combination of a variety of approaches, but the distinct difference in the discussion of blended learning currently is that “information technology and the development of virtual learning environments are used to support learning” (Graham and Robinson, 2007).

## Characteristics of blended learning

Huang and Wang (2006) assume that blended learning has three attributes. The first is the flexibility of providing learning resources. Blended learning is treated as an instructional methodology, which is developed in a networked environment.

The second is the support of learning diversity. As learners are varying regarding learning styles, learning proficiency, as well as learning ability, blended learning can come to the rescue by making it possible for individualized learning and self-regulated learning to happen. The third is an enrichment of e-learning, blended learning redesigns the educational model with these qualities:

1. Moving from lectures to student-centered learning.
2. Maximizing teacher-student, student-student, student-content, student-outside resources interaction.
3. Integrated evaluation techniques for teachers and students.
4. Expand the spaces and opportunities available for learning. (Bath and Bourke, 2010:1);
5. Support course management exercises (e.g., communication, assessment submission, marking, and feedback).
6. Support the provision of information and assets to students.
7. Engage and motivate students through interactivity and collaboration. experience. From the faculty's perspective, blended learning can empower them to improve their existing teaching practices.

### Blended learning modes

Blended learning spans a continuum that covers a wide scope of exercises between conventional face-to-face interactions and those that are fully online. There are three modes of operation to indicate the degree of utilization of technology in learning and teaching.

1. **Mode 1** Technology is used to facilitate course management and resources for learner support. For example, to provide information and assets to students (e.g., lecture notes or recordings, assessment guidelines), and to perform fundamental regulatory functions (e.g., announcements or course emails).
2. **Mode 2** Technology is utilized to enrich the quality of the student's

learning experience through interactive learning activities beyond those attainable through face-to-face classroom interactions. For example, utilizing technology to support communication, collaboration, assessment, and course management.

3. **Mode 3** Technology is utilized to support learning that is largely self-directed but also involves the use of interactive and collaborative learning activities. In this mode, courses are delivered fully online

### Factors that promote successful blended learning

- ❖ Blended learning models ought to be created to respond to a local community or organizational needs rather than using a generic approach (Sharpe, Benfield, Robert, and Francis (2006). However, Mason and Rennie (2006) advocate putting the learner's needs first, ahead of the context, or the biases of the teacher in settling on such decisions.
- ❖ Organizational readiness, adequate specialized assets, motivated faculty, and good communication and feedback channels with students (Tabor,2007)
- ❖ Blended learning should be presented as an academic and transformative redesign process within the institution, that rebuilds the course rather than simply adding on technology (Sharpe, Benfield, Robert and Francis,2006)
  - ❖ Teacher's role in guiding students about the best possible time for learning
  - ❖ Team co-operative learning with explicit roles for the members.
  - ❖ Encouraging creative achievements.
  - ❖ Flexible potentials for solutions to some questions.
  - ❖ The significance of dealing with teacher's fears of loss of control
  - ❖ Continuous academic and technical support through a blended community of practice is a proven model that sustains such teacher innovation (Garrison and Vaughan, 2008).
  - ❖ Student expectations, especially their ideas that fewer face-to-face classes mean less work and the need to grow greater responsibility for their

learning and time management skills must be taken into account (Vaughan, 2007, and Tabor,2007);

- ❖ Steady and straightforward correspondence around the new expectations is needed in order to assist students and to understand the blended learning process (Sharpe, Benfield, Robert, andFrancis2006)
- ❖ It develops learning out comes.
- ❖ Its relevance to students' nature.
- ❖ The possibility of measuring its outcomes and viability

### Advantages of blended learning

There are some expected favorable circumstances to blended learning that are emerging. A portion of these revolves around accessibility, pedagogical effectiveness, and course interaction. Many of today's college students are non-traditional, attempting to balance family occupations and university life. Coming to campus is often difficult for a considerable lot of them and through reducing the number of face-to-face hours required, blended learning can help them meet this challenge (Carroll, 2003, and Johnson, 2002). Wingard (2004)improves the idea of accessibility saying that students like the ability to access course materials anytime, anyplace, and are positive about the convenience and flexibility this provides them. Since numerous students are over aged and working, blended courses help provide them with the flexibility they need to juggle jobs, school, and family. By reducing time and space commitment, access is easier, and thus many students have come to prefer the courses over their face-to-face counterparts.

Osguthorpe and Graham (2003) distinguish six reasons why one may decide to design or use a blended learning system: (1) pedagogical richness, (2) access to knowledge, (3) social interaction, (4) personal agency, (5) cost-effectiveness, (6) ease of revision. Graham and Robinson (2007)include three different reasons that encourage people to select the blended learning approach i.e. improved pedagogy, increased access, and flexibility.

Al Fiky (2011), summarizes the benefits of blended learning as follows:

1. Increasing students' interaction and participation.
2. Developing students' learning and performance.
3. Affecting teachers' approaches to other subjects.
4. Developing autonomous learners, a source of instant feedback, time-saving and motivation to learners (Sharma and Barrett,2007)
5. Increasing student learning outcomes and reduce instructional delivery costs. (Dziuban, Hartman and Moskal,2004)
6. Maximizing classroom space and/or reduce the number of overcrowded classrooms. Gould (2003:55)
7. Permitting institutions to offer more classes at peak demand times of the day, thus maximizing the scant resources by increasing flexibility in scheduling.
8. Decreasing paper and photocopying costs. In hybrid courses, all course archives, including syllabi, lecture notes, assignment sheets, and other hard copy handouts, are easily accessible to the students on the course website.

### Challenges facing blended learning

The application of blended learning uncovered a portion of the difficulties and challenges which might affect the quality of teaching and learning and hinders the expansion of using it in a wide range in the teaching. Hofmann (2011) portrays a variety of technical, organizational, and design challenges facing blended learning:

1. Ensuring participants' ability to use technology successfully.
2. Resisting the urge to utilize technology simply because it is available.
3. Overcoming the idea that blended is not as compelling as traditional teaching.
4. Redefining the role of the facilitator.
5. Managing and monitoring participant progress.

6. Looking at how to teach, not exactly what to teach.
7. Coordinating the best delivery medium to the performance objective.
8. Keeping online offerings interactive and intuitive rather than just “talking at” members.
9. Ensuring member's commitment and follow-through with “non-live” components.
10. Guaranteeing all the elements of the blend are coordinated.
11. Some adults experience some computer-related phobia (Saade and Kira,2009)
12. Frustration, confusion, anger, anxiety, and similar emotional states which may be associated with the interaction can adversely affect productivity, learning, social relationships, and overall well-being.
13. Various difficulties in assessment, monitoring, and class administration.

Harriman (2004) confirms that blended learning faces several challenges of offering Blended Learning represented in how to manage instructional complexity, how to design it, how to deal with the roles and responsibilities, how to create a consistent learning experience, how to meet expectations, and how to control costs.

### **Rational of the study**

The main purpose of the study is to attract the attention of the study is to attract the attention of the people regarding this education environment. Use of e-learning and technology improves the classroom interaction via positive environment through the internet. Learning through this medium can engage students' interest because it usually comes together with interactive sound, presentations, graphics, visuals, graphics, combative conferencing. E-learning improves access to education and training, the quality of teaching and learning.

Blended learning has the advantages of stirring students' motivation for achievement, taking into account individual differences and students' unique needs, improving their achievement level, saving time, effort and cost of the learning

process. It also provides variety of resources, flexibility for implementation in different areas and environments according to the available potentials where learners can acquire skills and knowledge independently according to their unique learning styles, desire, competencies, characteristics and individual differences. It also helps students practice discussion with others without fear of criticism and raise their achievement level through employing various learning resources which enhance learning. This study focused on the effect of e-learning resources on the academic performance of the student who belongs to urban and semi-urban schools. The study relates to the school children from urban and semi-urban schools using traditional method of learning and use of e-learning (blended learning) based methods. E-learning education (blended learning) has been revealed in this study which have a positive impact on academic performance on both urban and semi-urban students contrary to the expectation of this study.

The finding of this study might encourage education professionals to reconsider e-learning (blended learning) for schools to create effective learning environments inside the classroom which justifies the implementation of this study. Hence, the present study is focused on “Urban and Semi-Urban High School Students: Comparison in Respect to e-learning Resources their Dependency and Effect on Academic Performance” with the following major objectives of the study:

1. Demographic profile of the respondents
2. To study about awareness and usefulness of e-learning resources among the student.
3. To study the productivity and quality of information retrieved through e-learning resources by the student.
4. To identify the problems faced by the student while using e-learning resources.
5. To study the impact of level of engagement (hours online/offline) on academic performance.
6. To study the impact of e-learning (blended learning) on the academic performance of the student.



*Literature Review*

## **CHAPTER-2**

### **LITERATURE REVIEW**

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Review of related literature is directed to empower the researcher to get a clear understanding about the particular field of study. It additionally encourages the researcher to have a knowledge into the tested methods, methodology and understandings of comparative investigations conducted elsewhere.

An endeavor is made in this part to introduce a survey of the literature available in India and abroad under the subheadings listed below-

- Demographic profile of there spondents
- To study about awareness and usefulness of e-learning resources among the student.
- To study the productivity and quality of information retrieved through e-learning resources by the student.
- To identify the problems faced by the student while using e-learning resources.
- To study the impact of level of engagement (hours online/offline) on academic performance.
- To study the impact of e-learning (blended learning) on the academic performance of the student.

Review of related literature is led to empower the scientist to get a reasonable comprehension about the particular field of study. It additionally causes the specialist to have a knowledge into the tested methods, procedures and interpretations of similar studies conducted elsewhere. An endeavor is made in this chapter to show a study of the writing accessible in India and abroad.

## **2.1 The Role of E-Learning on Academic Performance**

Attitudes concerning e-learning, echoed by scholarly and academic reviews, extend from nonpartisan to positive. On one hand, it is noticed that e-learning is in any event as powerful as traditional instructional strategies (Rosenberg, Grad and Matear, 2003), and that there are no significant contrasts in academic performance between the more traditional and more technology-oriented modes of instruction (Cavanaugh, 2001). Then again, numerous reviews go further, mirroring a basically positive demeanour towards the effect of e-learning. The current piece tried to demystify e-learning by focusing on how explicit e-learning factors (hours spent on-line, socio-demographic characteristics and earlier computer skills) impact singular academic performance. There is a significant assemblage of evidence to recommend that distinctive teaching delivery styles can have various degrees of accomplishment; as estimated in terms of academic results (Emerson and Taylor, 2004). Corresponding to internet teaching and learning, a few studies show that this medium of delivery has a positive impact on performance, for instance, Smith and Hardaker (2000). Different investigations however, find that greater online teaching has a negative impact on performance (Johnson, 2005).

Benefits incorporate contribution an assortment of additional opportunities to students (Breuleux, Laferrière, and Lamon, 2002), in addition positively affecting understudies' accomplishment in various subject matter areas (Chambers, 2003). Different advantages of electronic training remember increments for enrolment or time in school as education programs reach underserved districts, more extensive instructive open door for students who can't go to conventional schools, admittance to assets and educators not locally accessible, and increments in student-teacher communication. As per Barker and Wendel (2001) students in virtual schools indicated greater improvement than their conventional school counterparts in critical thinking, exploring, using computers, learning autonomously, critical thinking, innovative reasoning, dynamic, and time the executives. An investigation by Calderoni (1998) revealed that academic advantages over conventional classroom guidance were shown by students in Mexico's Telesecundaria program, who were "substantially more likely than other groups to pass a final 9th grade examination" directed by the state; by understudies

taking a chemistry by satellite course; and by students learning reading and math via interactive radio instruction (Yasin & Luberisse, 1998).

Electronic education is not the most effective choice in all situations. Students may feel isolated, parents may have concerns about children's social development, and students with language difficulties may experience a disadvantage in a text-heavy online environment, and subjects requiring physical demonstrations of skill such as music, physical education, or foreign language may not be practical in a technology-mediated setting. Bond (2002) found that distance between tutor and learner in an online instrumental music program has negative effects on performance quality, student engagement, and development and refinement of skills and knowledge. Virtual school students show less improvement than those in conventional schools in listening and speaking skills (Barker & Wendel 2001). Highly technical subjects have also proven to be difficult to teach well online. The Albert a Online Consortiums evaluated student performance on end-of-year exams among virtual school students across the province, and found that virtual school student scores in mathematics, and the sciences lagged significantly behind scores of non-virtual school students (Schollie, 2001).

Kearsley (2000), notes that given instruction of equal quality, groups of students learning online generally achieve at levels equal to their peers in classrooms. Equality between the delivery systems has been well documented over decades for adult learners. Evidence to date convincingly demonstrates that when used appropriately, electronically delivered education 'e-learning'— can improve how students learn, can improve what students learn, and can deliver high-quality learning opportunities to all children".

A primary characteristic that sets successful distance learners apart from their classroom-based counterparts is their autonomy and greater student responsibility as is noted by Wedemeyer (1981).

A second characteristic that differentiates successful distance learners from unsuccessful ones is an internal locus of control, leading them to persist in the educational endeavor (Rotter 1989). It is interesting to note however, that a key

learning-style related factor may in fact be the student's familiarity with the technology. A number of studies have shown that computing experience is a strong predictor of attitudes towards, and also use of, computers and the internet (Atkinson & Kydd, 1997). In effect, the student's learning style may adapt and improve as familiarity with the e-learning medium increases. Shraim and Khlaif (2010), found that respondents had a strongly positive perception of the usefulness of e-learning in their study on e-learning approach to secondary education in Palestine: opportunities and challenges. Over 80% of students and 72% of teacher agreed that e-learning enhanced accessibility to education. Two-third of students (66%) and three-quarters (78%) of teachers agreed or strongly agreed that e-learning helps learner to understand the content better than in physical classroom. From their comments, students appreciated that e-learning provides interactive instructions in a wide range of text, diagrams and images with video and sound, making learning more effective and interesting than via traditional methods. The internet has become an increasingly important feature of the learning environment for teenagers. Research by Lenhart, Amanda; Simaon, Maya; Graziano, Mike (2001), shows that teens use internet as an essential study aid outside the classroom and that the internet increasingly has a place inside the classroom.

Some of the significant findings from a survey of 754 youth ages 12-17 conducted last are as follows:

- 94 per cent of youth ages 12-17 who have internet access say they use the internet for school research and 78 per cent say they believe the internet helps them with school work.
- 71 per cent of online teens say that they used the internet as the major source for their most recent major school project or report.
- 41 percent of online teens say they use e-mail and instant messaging to contact teachers or classmates about schoolwork.
- 34 per cent of online teens have downloaded an online study aid.
- 18 percent of online teens say they of someone who has used the internet to cheat on a paper or test.

**Deepthi Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

- 58 per cent of online teens report using web sites that had been set up specifically for their school or for a particular class.
- 17 per cent of online teens have created a web page for a school project.

Some of the key findings from a survey of 754 of the parents of those youths are as follows:

- 87 percent of parents of online teens believes that the internet helps students with their school work and 93 per cents believe the internet helps students learn new things.
- 55 percent say the internet has been a good thing for their children; only 6 percent say it has been a bad thing; 38 per cent say the internet has no effect one way or the other on their children.
- 55 per cent say that it is essential for today's children to learn how to use the internet in order to be successful and another 40 per cent believe it is important.
- 28 per cent of these parents have used e-mail to communicate with their children 's teachers.
- Other education related finding in the survey work of the Pew Internet Project:
  - 5 percent of adult internet users have taken a class online for college credit. That the amounts to more than 5 million people.
  - 53 per cent of adult internet users have gone online to do research for school or job training. On any given day 8 per cent of adult internet users are online doing research for school or job training.
  - 52 percent of adult internet users have done job-related research. About half of internet users (more than 50 million people) have access to the internet at work.

## **2.2 The Role of Prior Computer Skills on Performance in E-Learning Setup**

Some learners are better prepared than others to use e-learning technologies to facilitate their educational progress; individual “readiness” seems to be a crucial factor in accounting for the success of e-learning applications in education. Looker and Thiessen (2002), in their paper noted that digital divide for Canadian youth, remarked that access to, and experience with, computer technology determines “computer competency”, and that this competency is generally associated with urban residents of higher economic status.

Levin and Arafeh (2002) remarked on the differences between students who are highly gifted in the internet usage and those who have had little opportunity to develop their experience with net working tools. Dewar and Whittington (2000) concluded that adult learners’ learning styles (as indicated by Myers-Briggs personality types) can predict the pattern of their participation in online courses.

It is interesting to note however, that a key learning-style related factor may in fact be the student’s familiarity with the technology. A number of studies have shown that computing experience is a strong predictor of attitudes towards, and use of, computers and the internet (Atkinson & Kydd, 1997). In effect, the student’s learning style may adapt and improve as familiarity with the e-learning medium increases.

## **2.3 The role of Socio-Demographic Characteristics on Academic Achievement**

There have been numerous studies on the relationship between socio-demographic characteristics and academic performance. Some studies focused on specific socio-demographic Variables and e-learners’ academic performance, characteristics or areas such as gender and learning styles (Blum, 1999; Shaw & Marlow, 1999; McLean & Morrison, 2000), ethnicity and learning styles (Jaju, Kwak & Zinkham, 2002), academic performance and learning styles in both Information Technology (IT) and non- Information Technology (non- IT) subject

areas and in distance and contact courses (Aragon, Fowler, Allen, Armarego & Mackenzie, 2000; Papp, 2001; Johnson & Shaik, 2002; Neuhauser, 2002; Zywno & Waalen, 2002), level of educational attainment, number of children in the family, full-time work experience, family income level (Abdul-Rahaman, 1994; Parker, 1994; Whittigton, 1997), age, marital status, employment status (Woodley & Parlett, 1983; Chacon-Duque, 1985; Powell, Conway & Ross, 1990), number of hours employed per week, distance travelled to study centre, learners' previous educational level (Wang & Newlin, 2002).

Studies above established divergent findings. For example, for first year programming courses, Thomas, Ratcliffe, Woodbury and Jarman (2002), reported that there was a relationship between student learning style and academic performance, while it was established that no such relationship exists. Also, Woodley and Parlett (1983) found that previous educational level, gender, age and occupation were associated with persistence and academic performance. Similarly, Powell et al. (1990) established that marital status, gender and financial stability contributed significantly to distance learners' academic performance. Conversely, Chacon-Duque (1985), Wang and Newlin (2002) and Ergul (2004) found that educational level, age, gender, employment status and number of children in the family were not significant predictors of distance learners' academic performance. Based on the findings from above studies on the relationship between socio-demographic characteristics and academic performance, it appears the issue remains inconclusive.

Cuneo, Campbell & Harnish (2002) list several individual characteristics that may determine the outcomes of technological interventions: motivation, computer skills, literacy skills, communication skills, and learning styles. Cuneo and Harnish (2002) point out that "quasi-open computer-mediated environments are not safe places for students unsure of their writing skills and knowledge, online learning might not be appropriate for all students". Looker and Thiessen (2002) in their survey of Canadian high school students indicated that females demonstrated less interest (and less confidence) in achieving computer competency. Bryson, Petrina and Braundy (2003) studied "gender-differentiated participation" in British Columbia schools; they noted that the percentage of girls enrolled in technology-

intensive courses remains extremely low, while performance data indicate that those female students who participate in these courses do better, on average, than male students in these courses.

## **2.4 Student engagement in e-learning hours spend online/offline**

Research suggests that student academic performance may be affected by both engagement effects and learning-style effects. Carini et al (2006), found that, although in general, the relationship between engagement and performance is complex, engagement is positively correlated with student performance. Their conclusion is supported by a number of empirical studies: Rodgers and Ghosh (2001) identified that 'effort' (or engagement) levels were highly significant in determining student examination performance. Although, another study made in an e-learning context (Davies and Graff, 2005) found that online engagement had no statistically-significant impact on examination performance. Additional studies in this area have examined the issue of what determines the amount of time that a student spends on e-learning. Arbaugh (2000) argues that this will depend on the student's attitude to the perceived usefulness, and also the ease of use, of this delivery medium. It is suggested that students who spend more time on internet-based courses tend to be the ones who take more ownership of the learning process, and as a consequence receive the greatest learning benefit (good performance as measured by grades). From this it can be inferred that we might expect to find a significant, and positive, relationship between the level of e-learning engagement and academic performance.

The ability to effectively manage learning time is an important element in of electronic learner success (Kearsley, 2000). Palloff and Pratt (1999) hinted that interacting in a Web-based course can require two to three times the amount of time investment than in a face-to-face course. Gibson (1998) pointed out that a key construct relating to distance learners' persistence is their self-efficacy for learning at a distance and that personal perceptions of competence (self-efficacy) are related to learners' perceptions of their ability to manage time effectively.

Students who use their time efficiently are more likely to learn and/or perform better than students who do not have good time management skills. Zimmerman and Risemberg, (1997) opine that self-regulated learners know how to manage their time because they are aware of deadlines and how long it will take to complete each assignment. They prioritize learning tasks, evaluating more difficult from easier tasks in terms of the time required to complete them. They are aware of the need to evaluate how their study time is spent and to reprioritize as necessary.

#### **2.4.1 Student Engagement (Hours Spent Online/Offline)**

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who have difficulty managing time are more likely to achieve less in a distance course or drop out altogether. Gibson (1998) pointed out that a key construct relating to distance learners' persistence is their self-efficacy for learning at a distance and that personal perceptions of competence (self-efficacy) are related to learners' perceptions of their ability to manage time effectively. Students who use their time efficiently are more likely to learn and/or perform better than students who do not have good time management skills. Zimmerman and Risemberg, (1997) opine that self-regulated learners know how to manage their time because they are aware of deadlines and how long it will take to complete each assignment. They prioritize learning tasks, evaluating more difficult from easier tasks in terms of the time required to complete them. They are aware of the need to evaluate how their study time is spent and to reprioritize as necessary.

The other key performance-influencing issue relates to differences in student learning styles. These may result in differences in the effectiveness of e-learning delivery methods for individual sub-groups within the student body. Within the learning-styles literature the notion that different learners have different cognitive styles has been widely examined (Klob, 2000). In addition to be general indication, there is a considerable support in the literatures for the suggestion that there are identifiable variations in the learning styles of sub-groups within the student population.

A few researches were conducted to study the factors which determine the effectiveness of online learning environment. The case study conducted by Bucy (2003) described the experience of students enrolled in an online course and identified cognitive load as the negative factor. This suggested that it is possible to increase student motivation to participate and persist in online courses by adjusting the course design to enhance positive factors identified by participants and minimize negative factors. Similarly, Yukawa (2005) conducted a case study on a narrative analysis of learning through co-reflection in an on line actioners each course and found that online learning action research is effectively supported by 1) field based inquiry learning 2) instructor understanding of the learner's background 3) learning philosophy that values constructivist learning 4) online facilitation and mentoring skills and 5) social software.

**Lai (2003)**, analyzed the sense of community in computer mediated learning environments from the perspectives of learners. Analysis of the data showed that learners felt connected and supported, felt valuable, comfortable and relaxed, felt close to each other, felt they shared intellectually, felt happy, excited and invested in the process and had a strong sense of honesty and trust. All participants claimed that these experiences increased their learning quality and most of them had a very high level of satisfaction with those courses in which they had this experience.

## **2.5 Impact of e-Learning on Students**

Another author, Kulik (2003) conducted a meta-analysis of studies to identify the impact of e-learning on student outcomes. He identified the following trends:

- Students who used computer tutorials in mathematics, natural science, and social science score significantly higher on tests in these subjects compared to students who did not use computers. Similarly, students who used simulation software in science also scored higher. However, the use of computer-based laboratories alone did not result in higher scores.
- Primary school students who used tutorial software in reading scored significantly higher on reading scores. Very young students who used computers to write their own stories scored significantly higher on measures of reading skills.
- Students who used word processor or otherwise used the computer for writings scored higher on measures of writing skill.

## **2.6 Benefits of e-learning/e-learning resources in academic performance**

**Vanfossen (2001)**, points out, there are many supporters who claim that there are many benefits of Internet use in the classroom such as the ability to break down the classroom's physical limitations and expanding students' experiences, development of students' inquiry and analytical skills and expanding students' experiences with visual technologies. It is considered that technology is the main support for the

students learning developments and the computers are the main technology support as a tool for effective learning and teaching process.

**Kearsley (2002)**, studies show that students who learn from animation have greater self-esteem and motivation. His studies also show that students may retain information and sustain the learning process increases.

**Patel. R. (2001)**, conducted a study of learning through computer assisted learning material in relation to select production variables and contiguity and it was found the status of the CALM in terms of production variable and contiguity vis-à-vis achievement has been quite higher, expect on a few teaching points where there was need to improve upon graphics, mode of presentation, and animation etc.

**Dalwadi N. (2001)**, studied the development of computer assisted instruction in science for the students of standard 9th. The study found that computer assisted instruction (CAI) to be an effective individualized instructional technique for teaching science and was also found students as well as teachers have a positive opinion towards the computer assisted instruction.

**Anshu (2006)**, studied comparative effectiveness of single medium and multimedia on learning gains of 9th graders in chemistry at different level of academic achievement and intelligence. The result is that the multimedia is as effective as traditional method of teaching in chemistry to develop the knowledge and understanding domain of the students.

**Khan (2005)**, suggests that e-learning system is used for an open, flexible, and diverse E-learning environment. Moreover, E-learning system can be analyzed as an inventive approach for delivering, learner-centered, interactive, and facilitated learning environment to anyplace, anyone, anytime by utilizing the features and resources of different digital technologies along with other types of learning materials suited for an open, distributed, and flexible learning environment (Ibid,2008)

Effect of e-learning (blended Learning) on Academic Performance Alsalthi R.N. et.al. (2019), Investigate the effects of blended learning on ninth grade students' achievement in science and their attitudes towards using it. It compares the results of various ways of teaching science topics, and students' attitudes towards their use. The study was conducted using a quasi-experimental design case study. The participants of the study were 112 students, divided into two groups: one an experimental group (n=61) and the other a control group (n=51). The findings revealed that there were statistically significant differences between the experimental and the control groups, in favor of the experimental group, and the experimental group's attitudes were also more positive towards the using of blended learning. Their attitudes were in favor of students with academic performance in a science subject of the Performance level (Pass).

**Nisreen Saleh Khader Khader (2016)**, aimed at identifying the effectiveness of blended learning in improving students' achievement in the third grade's science in the traditional method. The study sample consisted of (108) male and female students, who were divided into two groups: experimental and control. The experimental group studied the units and changes of the material and the parts and functions of the plants for the third grade through using the blended learning while the control group studied the same units in the traditional method.

An achievement test was developed in the mentioned units of the science course to measure the achievement, which had a sufficient validity and reliability. It was applied to the study sample; the appropriate statistical analyzes were conducted. The results indicated the presence of statistically significant differences in the post-achievement due to the teaching method in favor of the experimental group, the presence of a statistically significant difference in the post-achievement due to gender, in favor of males and lack of a statistically significant difference in the post achievement due to the interaction between the method and gender.

**Al-Rimawi (2014)**, which aimed to investigate the effect of blended learning on the direct and delayed achievement of the sixth graders in the English language course; to achieve the objectives of the study, the quasi experimental approach was used, and the researcher prepared an achievement test, whose validity and

reliability were checked. The study members consisted of (60) students of Um-Qasir School for boys in Quwaismeh, Amman who were distributed into two groups: experimental and control. The study results showed the presence of statistically significant differences between the means of the direct and delayed achievement for the members of the experimental group.

**Al-Hasan (2013)**, aimed to identify the technology of blended learning and the effect of using it on the academic achievement in the biology course among the second graders in the private secondary schools and their trends towards it. To achieve this objective, the researcher followed the approach and a random sample of 41 students was selected from the private secondary schools; they were divided into two unequal groups: experimental consisting of (26) students who studied via the blended learning technology, and The control group consisting of (25) who were taught in the traditional method. Data were collected by using two tools: achievement test and a questionnaire to measure the trend towards blended learning. The data was treated through using the appropriate statistical methods. The research concluded that there are statistically significant differences in favor of the students who have studied through the blended e-learning (the experimental group) and that there are statistically significant positive trends among the members of the sample who responded to the items of the questionnaire of the trend measurement towards blended learning.

**Shahin (2008)**, aimed to measure the extent of the effectiveness of the blended learning on achievement and develop the science operations among the fifth graders in Al-Naser Experimental School in Tanta and their trends towards it. The most important results of the study reached to the effectiveness of blended learning since it combines the e-learning and the traditional learning helping provide the educational materials in many and different ways through the presence of a statistically significant difference in many ways between the marks' means of the experimental group which studied via the blended learning and the degrees of the control group which studied through the traditional way in the post application of the achievement test in science in favour of the experimental group.

Also, there appeared statistically significant differences between the mean of them

students' marks in the experimental group in the post-application for the trend's scale towards the blended learning in favor of the experimental group.

To investigate the students' learning styles and their views of blended learning Akkoyunlu and Soyulu (2008) conducted a study with (34) students at Hacettepe University, Ankara, Turkey. Two instruments were used: a questionnaire designed to identify students' views on blended learning and Kolb's Learning Style Inventory (LSI) to measure students' learning styles. Additional data were gathered from achievement scores of students'; and records demonstrated students' participation in e-learning environment. Results revealed that students' views on blended learning process, such as ease of use of the web environment, evaluation, face-to-face environment, etc. differed according to their learning styles. Results also revealed that students enjoyed participating in the blended learning environment and their achievement levels developed. At the same time, their views of blended learning process, and face-to-face interactive environment were positive. The overall findings showed no significant differences between students' achievement level according to their learning styles.

The findings of **Ela Goyal, Seema Purohit and Manu Bhaga (2011)**, suggest that in order to attain improvement in the student's performance, the decision-makers have to consider the fit between the tasks requirements and the functionalities of their internet systems. When there is a fit, this would create a positive perception among the students in terms of the usefulness and satisfaction of their internet systems and therefore, promote higher level of usage among them. This study found significant relationship between the internet usage and technology satisfaction. In other words, the student's usage of the internet system does to satisfaction towards the system. The study proved that internet usage is a predictor of technology satisfaction, as well as technology satisfaction is a predictor of the internet usage. Besides, the finding illustrate that task-technology fit does not predict technology resistance. This suggests that the resistance towards a technology could be for various other reasons as well. Student's performance is affected by internet usages and their resistance towards it. Most of the students were satisfied by the information they found on the internet. Hence, it can be said that internet's usage is found to be useful in improving the student's performance.

**Singh (2003)**, points out that combining different delivery modes has the potential to balance out and optimize the learning program development and deployment costs and time. A totally on line, self-paced, media-rich, Web-based training content may be too expensive to produce (requiring multiple resources and skills), but combining virtual collaborative and coaching sessions with simpler self-paced materials, such as generic off-the-shelf Web-based training, documents, case studies, recorded e-learning and PowerPoint presentations (requiring quicker turn-around time and lower skill to produce) may be just as effective or even more effective.

**Linda Carswell, Pete Thomas, Marian Petre, Baine Price and Mike Richards (2000)**, the internet offers students a rapid and convenient communication medium that can enable increased interaction with fellow students (both within and beyond their tutor groups) and tutors. Possibly the biggest gain for internet students is the improved turnaround time of assignments, so that students received timely feedback. A summary of gains includes:

- ❖ Faster assignment returns; more immediate feedback;
- ❖ Robust model for queries, with greater perceived reliability;
- ❖ Increased interaction with tutor and other students;
- ❖ Extending learning experiences (e.g., problem sharing with other students) beyond the tutorial; and Internet experience

In their study ‘learning outcomes were comparable, and the internet students’ experience was favorable and was one they would wish to repeat a major factor in maintaining the enthusiasm and motivation of distance education students throughout a complete degree programme. Distance education models for elements like tutorials had to be adapted-indeed, transform to serve teaching and learning functions within the strengths and limitation of the medium. Electronic tutorials offered different facility from conventional tutorials, not a replacement for them. However, the biggest obstacle to internet presentation is inexperience and cultural in experience. Internet presentation requires a cultivate communication in a largely asynchronous environment, and both must develop sensitivity to the

emerging etiquette and conventions of internet culture. Using the internet does come with higher expectations: students (both internal and conventional) expect electronic communication to be faster. One of the key to the successful internet presentation is to instill appropriate expectations among all participants.”

**Mc Kenzie, Mims, Bennett, and Waugh. (2000)**, investigated several issues related to the circumstances of faculty regarding the assistance and support needed to deliver distance education. The 270 faculty teaching academic courses at the Midwestern University rated the following issues as very important: developing interaction, developing instructional materials, and applying selected technologies. The study provided an analysis of education, assistance, and support needs identified by faculty attributes. General recommendations for ideas to help faculty prepare to teach distance education classes were presented.

**Douglas E. Comer (2001)**, is of the view that twenty years ago, the internet was a research project that involved a few dozen sites. But today schools at all levels from elementary through postgraduate, are using computer networks to provide students and teachers with instantaneous access to information in online libraries around the world. Evidence of internet on society can be seen in advertisements in magazines and television.

**Kathleen Korgen, Patricia Odell and Phyllis Schumacher (2001)**, focused on the importance of access to a computer and the internet at home and the length of time of that access. The students in their sample, across all races and ethnicities, who had a computer in their family’s home, tended to use the internet more hours per week than those who grew up in a house hold without a computer. Their study also shows a connection between study habits and internet use. Students who dedicate more hours per week studying a real so logging more hours online than these who devote less time to their academic work. With increased use of the internet in college courses, it makes sense that students who study less will spend fewer hours per week utilizing the internet that their classmates who study more. “Perhaps most surprisingly, there remain differences among racial/ethnic groups

even among students who live away from home and own their own computers. Asians still use the internet the most, and blacks still lag behind in time spent on the internet. These differences, on an apparently equal playing field, demonstrate that more than economic factors are playing a role in among of internet use.

Clearly, many factors are working together to influence the persistence of the 'digital divide.' Cultural, as well as economic forces, are at work. Disturbingly, this study indicates that this trend is alive and well at colleges and universities, even when virtually all college campuses have internet access for students. This study reveals that, among college students, it is not only access but whether or not students have been exposed to the internet in their home of origin and how willing they are to make use of the access they have on internet accessible campuses that are also key factors we must address if we are to ever bridge the 'digital divide'. This study indicates that the 'digital divide' is alive and well on college and university campuses today. It also supports previous research that reveals a positive relationship between internet use and home computer ownership.

There is strong evidence that student's excessive internet use sometimes is associated with academic problems, but it is not entirely clear whether these students' might have experienced similar or related problem without the internet if the problems result as the data suggest from the attempt to control loneliness rather than the properties of the of the internet itself. The internet does enable opportunities for social contact that did not exist before its invention and wide use, and thus we are inclined to conclude that the internet does play a role in some student's academic difficulties. Thus, we think it wise that academic administrators, faculty, staff and collegiate health workers became increasingly aware of what appears to be particularly undergraduate populations."

**Yang (2003)**, conducted a study titled, "Internet Use by Pre-service Teachers in Elementary Education Instruction" which explored the attitude of pre-service elementary educators towards internet use, internet self-efficacy, and internet anxiety and their relationship. The respondents of this survey were all elementary pre-service students enrolled in Core College of Education courses at Idaho State University during 2003. The questionnaires were distributed to 98 students' during

regularly scheduled class time and a total of 71 responses were obtained. The implications of the findings suggested that an early and frequent use of the internet across the teacher education curricula was useful in promoting students' internet use and self-efficacy.

**David W Morris (2007)**, describing the pros and cons of online learning says that online method of education can be a highly effective alternative medium of education for the mature, self-disciplined students, it is an inappropriate learning environment for more dependent learners. Online asynchronous education gives students control over their learning experience, and allows for flexibility of study schedules for non-traditional students; however, this place a greater responsibility on the student. In order to successfully participate in an online programme, students must be well organized, self-motivated, and possess a high degree of time management skills in order to keep up with the pace of the course. For these reasons, online education or e-learning is not appropriate for younger students (i.e., elementary or secondary school age), and other students who are dependent learners and have difficulty assuming responsibilities required by the online paradigm.

**Gomathi Viswanathan (2008)**, says that in the field of education concepts are changing from computer based training to web based training, like e-learning, online examination etc., then there is a virtual class room concept where the lecture is webcasted. Any doubts that arise can be clarified through the virtual classroom concept.

**Ruchi Sapra (2008)**, highlights the importance of internet. She says that with the revolution in technology reading habits are changing across the globe, even-versions of newspapers and online news resources have reduced the popularity of paper versions of newspapers. People have entree to online newspapers early in the morning thus they prefer not to buy newspapers. Children under the age of 16 are choosing to spend their time amidst books. They have other things to do, chatting with their friends on the internet, playing computer games and even watching TV. It has been noticed that book reading I becoming archaic and CD, DVD, and internet culture is becoming more and more popular. Even a trend of

reading soft copies or e- books of printed books is gaining an impetus.

**Ashish Kumar Roy (2009)**, explains the new learning environment. According to him the way we learned has evolved. Users have truly become the center of the learning process. The good news is that the time period for online learning is shorter and learners apply the learning directly to their work situation to remain competitive. The opportunities for learning are expanding. Technology provides access to new way to learn for both formally and informally. The younger generation grew up with technology and demands online access to information, research, processes, and new skills. Step in e-learning.

In View of **Muhammad S. Saud, Yahya Buntat, Asnul D. Minghat and Kamalulsubari Subari. (2010)**, the investigation of an Online Learning Technology in teaching and learning of technical and vocational education becomes tremendously important to increase the effectiveness of teacher's jobs. Since the development of the technology, all technical and vocational teachers should keep themselves up-dated with the changes to ensure that they can play important roles in educating the younger generation. Their research findings show that teachers view Online Learning technology as an important tool to help them educate students become literate in technology. The findings also show that teachers require more training in complicated skill in using online applications and producing online materials. This is parallel with their search findings which indicate that teachers perceived themselves as less competent in using the advanced online application to support their teaching and learning.

The findings of **Ela Goyal, Seema Purohit and Manu Bhaga (2011)**, suggest that in order to attain improvement in the student's performance, the decision-makers have to consider the fit between the tasks requirements and the functionalities of their internet systems. When there is a fit, this would create a positive perception among the students in terms of the usefulness and satisfaction of their internet systems and therefore, promote higher level of usage among them. This study found significant relationship between the internet usage and technology satisfaction. In other words, the student's usage of the internet system does to satisfaction towards the system. The study proved that internet usage is a

predictor of technology satisfaction, as well as technology satisfaction is a predictor of the internet usage. Besides, the finding illustrate that task-technology fit does not predict technology resistance. This suggests that the resistance towards a technology could be for various other reasons as well. Student's performance is affected by internet usages and their resistance towards it. Most of the students were satisfied by the information they found on the internet. Hence, it can be said that internet's usage is found to be useful in improving the student's performance.

**Tubaishat and Lansari (2011)**,found that students exhibited high level of acceptance towards the adoption of e-learning. They conducted a study on the readiness towards the implementation of e-learning at an institution in the gulf region. Further it is evident from the study results that a most of students think that e-learning can be helpful and can contribute positively to their learning.

**Haddad, Wadi D. and Alexandra Drexler (2002)**, says that education policy maker and planners must first of all be clear about goals should guide the choice of technologies to be used and their modalities of use. The potential of each technology varies according to how it is used. Haddad and Draxler identify at least five levels of technology use in education, and collaboration.

**Haddad, Wadi, D. and Jurich, Sonia (2002)**, consider ICT for improving the quality of education and training, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training.

**Ruchi Sapra (2008)**, highlights the importance of internet. She says that with the revolution in technology reading habits are changing across the globe, even e-versions of newspapers and online news resources have reduced the popularity of paper versions of news papers. People have entree to online newspapers early in the morning thus they prefer not to buy newspapers. Children under the age of 16 are choosing to spend their time amidst books. They have other things to do, chatting with their friends on the internet, playing computer games and even watching TV. It has been noticed that book reading I becoming archaic and CD,

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*Research  
Methodology*

## CHAPTER-3

### RESEARCH METHODOLOGY

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The chapter describes the methodology which is adopted by the researcher for the study. A detailed account of methodology in the present investigation has been distinctly covered in this chapter. The methodology is how information is found or the way the research is done. The methodology includes the techniques, methods, and procedures which are used for collecting and analyzing information. Research methodology does not only comprise of the research methods but also consider the logic behind the methods used in the context of not only the study but also explain why a particular method is used and why the others are not being used so that research results are capable of being evaluated either by researcher himself or by others (**Kothari and Garg,2014**).

The materials and methodological steps incorporated to carry out the study on **“Urban and Semi- Urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance”** are broadly classified under the subsequent subheads:-

- 1.1. Selection of the Research Design
- 1.2. Phase wise work plan
  - 1.2.1. Preliminary Phase
  - 1.2.2. Intervention Phase
  - 1.2.3. Description of the experiment
  - 1.2.4. Experimental Group

- 1.2.5. Control Group
- 1.3. Locale of the study
  - 1.3.1. Selection of the district understudy
  - 1.3.2. Selection of school
  - 1.3.3. Selection of the respondent
- 1.4. Conceptual frame work
- 1.5. Selection of variables
  - 1.5.1. Independent Variables
  - 1.5.2. Dependent Variables
- 1.6. Selection of Sample
- 1.7. Sampling Design
- 1.8. Data Collection
  - 1.8.1. Pilot Study
  - 1.8.2. Preparation of interview schedule
  - 1.8.3. Pre-testing of schedule
    - 1.8.3.1. Reliability
    - 1.8.3.2. Validity
  - 1.8.4. Exploration of availability of e-learning resources (blended learning) and traditional learning resources in the school
  - 1.8.5. Collection of information from the school children through questionnaire
- 1.9. Data analysis and processing
- 1.10. Statistical tool employed

1.11. Operational definition of the terms of research

### **3.1 RESEARCH DESIGN**

Research design is defined as the detailed blue print which guides a research study towards its objectives. Research design is a logical task undertaken to ensure that the facts collected to enable to answer the questions or to test theories as definitely as possible. Research design is a master plan specifying the methods and procedures guiding research (Kothari and Garg, 2014).

For the present study, the research design adopted in the present study is “**Quasi-experimental research design**” A quasi-experiment is an empirical interventional study used to estimate the causal impact of an intervention on target population without random assignment. Quasi-experimental research shares similarities with the traditional experimental design or randomized controlled trial, but it specifically lacks the element of random assignment to treatment or control.

Quasi-experimental research design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes, which may be similar (Best & Kahn, 2006). Quasi-experimental designs are ‘almost’ true experimental designs except that the participants are not randomly assigned to groups (Mertens, 1998). A quasi-experiment is an approximation of a true experiment that uses groups that have not been formed randomly (Wiersma & Jurs, 2009). In this research, the investigator selected intact groups rather than randomly assigning participants to the experimental or control groups, since assigning participants randomly to the groups disturbs the routine of the class schedule. The researcher was unable to randomly assign schools because the control group should be deprived of the online learning platform accessibility. Otherwise it may contribute to contamination effect and in turn affect experimental validity. Best and Kahn (2006) observed that if quasi-experimental design is the only feasible one, the comparison is

justifiable.

Quasi-experimental designs identify a comparison group that is as similar as possible to the treatment group in terms of baseline (pre-intervention) characteristics. The comparison group captures what would have been the outcomes if the programme/policy had not been implemented (i.e., the counterfactual). Hence, the programme or policy can be said to have caused any difference in outcomes between the treatment and comparison groups. (Wikipedia, 2019).

For the present study, the research design which is adopted in the study is 'Action Research'. Action research is a scientific method where in scientific problems can be solved. It provides instant answer to the problems that cannot wait for theoretical solutions through launching of a direct action with the objective of obtaining workable solutions to the given problems (Burns, 2000).

### **3.2 PHASE WISE WORKPLAN**

This study involves 10th grade school students from Urban and Semi-urban areas. The study was conducted in two phases, phase I and Phase II.

#### **3.2.1 Preliminary phase**

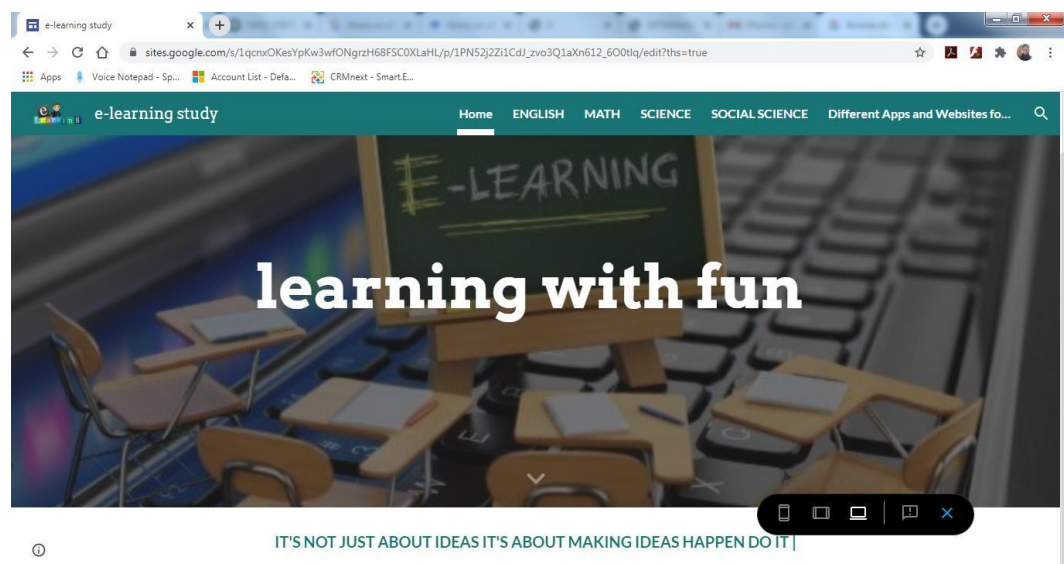
A set of questionnaires was distributed to obtain the demographic information and examine the role and level of awareness of e-learning education and resources. Questions are divided into sections consisting of Demographic profile, technology usages, availability, awareness and role of e-learning resources.

### 3.2.2 Intervention phase

It was designed on the premise that the initial professional development of student was very important for learning with ICTs. The design of the programme took into account units covering all the 12 weeks of the 2017& 18 academic session. Each unit had duration of two hours of tutoring each week in school (face-to- face learning). It is essential to note that this study was directed by two assignments (each 20 marks) that comprised Test One and Test Two. construct an instructional media or platform and; describe how it can be used in teaching and learning a specific concept or topic in their field of study. Test Two was total of 20 marks (assignments, presentation and description)

There were some useful resources for the success of the study:

- the right study environment;
- Internet access;
- Online Learning Platform



**Fig. No. 3.1** e-learning platform for the students to learn

### 3.2.3 Description of the Experiment

The purpose of the experiment was to find out whether students who are taught using the method of e Learning (Blended Learning) perform better than student who are taught using the traditional method of teaching. The independent variables are e-Learning which created conditions for learning while the dependent variable was the academic performance of student in educational technology. This was represented in terms as scores (results). The dependent variables also represented professional competences (knowledge, skill and attitude) to be developed.

### 3.2.4 Experimental Group

In this group 56 student from urban and 55 students from semi-urban were chosen and were given to access to an electronic platform. The blended learning mode (combination of face-to-face and internet- based learning) was adopted in learning. In this group students had the opportunity to meet “face-to-face” with the lecture during normal class time. In order to proceed the researcher created website through which they can learn online. The class agreed that this activity carried two points on continue assessment. Thirdly, the students were instructed on how they can use the website. A time limit was fixed for every activity. Assignments were given by the teacher to the students. Students have opportunity to use eLearning resources to complete their assignments it was submitted to teacher for the final evaluation.

### 3.2.5. Control Group

In this group 94 student from urban and 95 students from semi-urban schools out of 150 each were participating. Unlike in the experimental group, student in the control group had no access to an electronic platform. Students received their lessons following the face-to-face mode of delivery. In this group the lecture, demonstration and illustration method dominated in most of the lessons. This group helped the

researcher to determine whether the use of e-Learning had an effect on the academic performance of the student. However, both groups followed the same programme with the similar activities taking into account the need and expectation of the student, the expectations of the course. The course was taught in a way that students could acquire basic knowledge and skills needed for effective learning.

### **3.3. LOCALE OF THE STUDY**

The state of Uttar Pradesh was purposively chosen as locale of the study; this was done with the intention that U.P. is a major state of the country.

#### **3.3.1 Selection of the district under study**

Uttar Pradesh is comprised of 74 districts, out of these two districts viz., District Varanasi and Ayodhya was purposively selected for this study. This helped in collecting the necessary information accurately and timely.

#### **3.3.2 Selection of school**

4 schools were selected from both the district, two schools from each district were selected two from urban area and two from semi urban area.

#### **3.3.3 Selection of the Respondent**

A list of students belonging to different school was prepared separately from each selected school 75 students were selected randomly from each school. Thus, in all 300 respondents were selected for the study purpose.

**Table No. 3.1. Distribution of respondent**

<b>District</b>	<b>Areas</b>	<b>School</b>	<b>Respondents</b>
Ayodhya	Urban Semi-urban	Udaya Public school	<b>75</b>
		Anil Saraswatividyamandir	<b>75</b>
Varanasi	Urban Semi-urban	W.H. Smith Memorial School	<b>75</b>
		Sunbeam school	<b>75</b>
<b>Total</b>			<b>300</b>

### **3.4 CONCEPTUAL FRAMEWORK**

Conceptual model, a way of representing a particular concept, or set of concepts, that helps people understand or simulate the subject of that model. Often drawn as diagrams, conceptual models show relationships between factors and the flow of data or processes.

The conceptual framework was used in this study; the independent variables are socio-demographic characteristics that may influence the academic performance of individual. Socio- demographic characteristics include elements such as age, gender and income which play a role in academic performance.

The dependent variable in this study is Academic performance, it can be seen that how does academic performance supported the independent variables. Awareness and usefulness which deals with the overall perception of the learner about learning style

and hence influencing performance is the intervening variable. Regardless of the variance of the independent variables, the intervening variable's influence is constant. Student contact is that the moderating variable that gives the interaction effect where it moderates the relations between the independent variables. Academic performance through e-Education setup can be influenced by varied variables either positively or negatively.

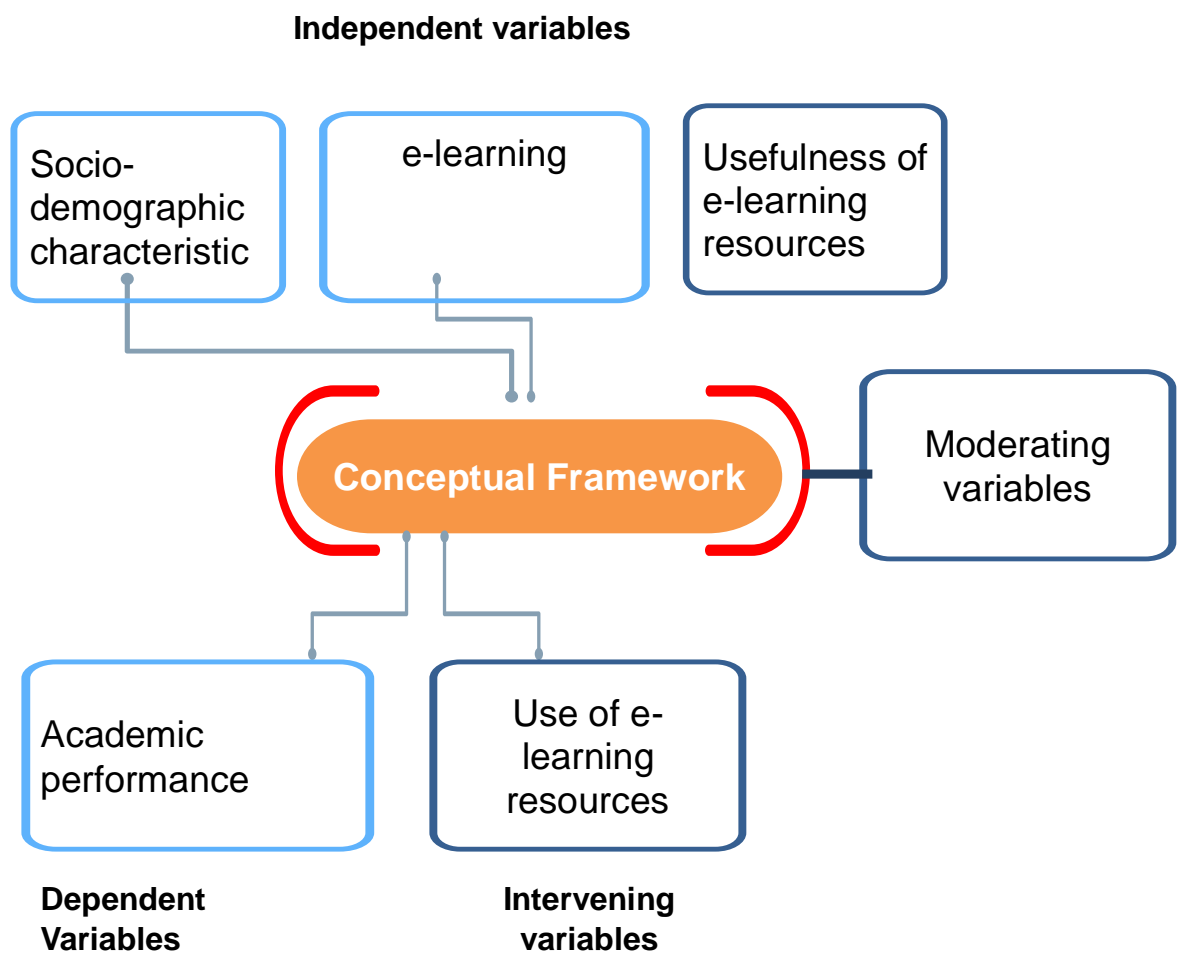


Fig. No. 3.2. Conceptual frame work

### **3.5. SELECTION OF VARIABLES**

Variables are the characteristics of conducting research that are manipulated, controlled or observed by the research. The variables were selected according to the objectives of the study. A set of independent and dependent variables have been identified for the study. That are manipulated, controlled or observed by the experiments. Categorized into two groups dependent and independent.

#### **3.5.1. Independent Variables**

A variable that is selected or controlled by the researcher, to determine its relationship to the observed outcome of the research which is also called explanatory, predictor, or manipulated variable. The nature of what is varied should be carefully described in order that the attributes of the various interventions or experiences are clear. The independent variable is the factor that is measured, manipulated or selected by the researcher to determine its relationship with observed phenomenon. For the present study independent variables identified were as under-

- 1. Age:** The chronological age of respondents at the time of investigation was recorded as number of years. All respondents were listed according to following age groups and given the score as follows:
- 2. Education:** Education qualification was operationalized as the number of years of formal education obtained by the respondents.
- 3. Gender:** The gender was categorized into Male and Female
- 4. Type of family:** Family is a basic unit of all type of social institutions. This is first institute that one joins. Family can be divided into various type as nuclear, joint or extended family, single parenting family, step family and grandparent family.
- 5. Family monthly income:** Income is one's earnings from the resources available. Position and status are considered as another aspect of the coin of income. Income

of the respondent has been seen at monthly level.

- 6. Employment of family:** Family employment can help the family to earn for the family.
- 7. Awareness:** Awareness is the state or ability to perceive, to feel, or to be conscious of events, objects or sensory pattern.

### 3.5.2 Dependent Variables

The variable can be measured as an outcome which is also called as outcome, response, criterion, or explained variable. The dependent variable is the factor that is measured to determine the effect of independent variables. The variables identified for the present research were Engagement, Academic Performance.

### 3.6. SELECTION OF SAMPLE

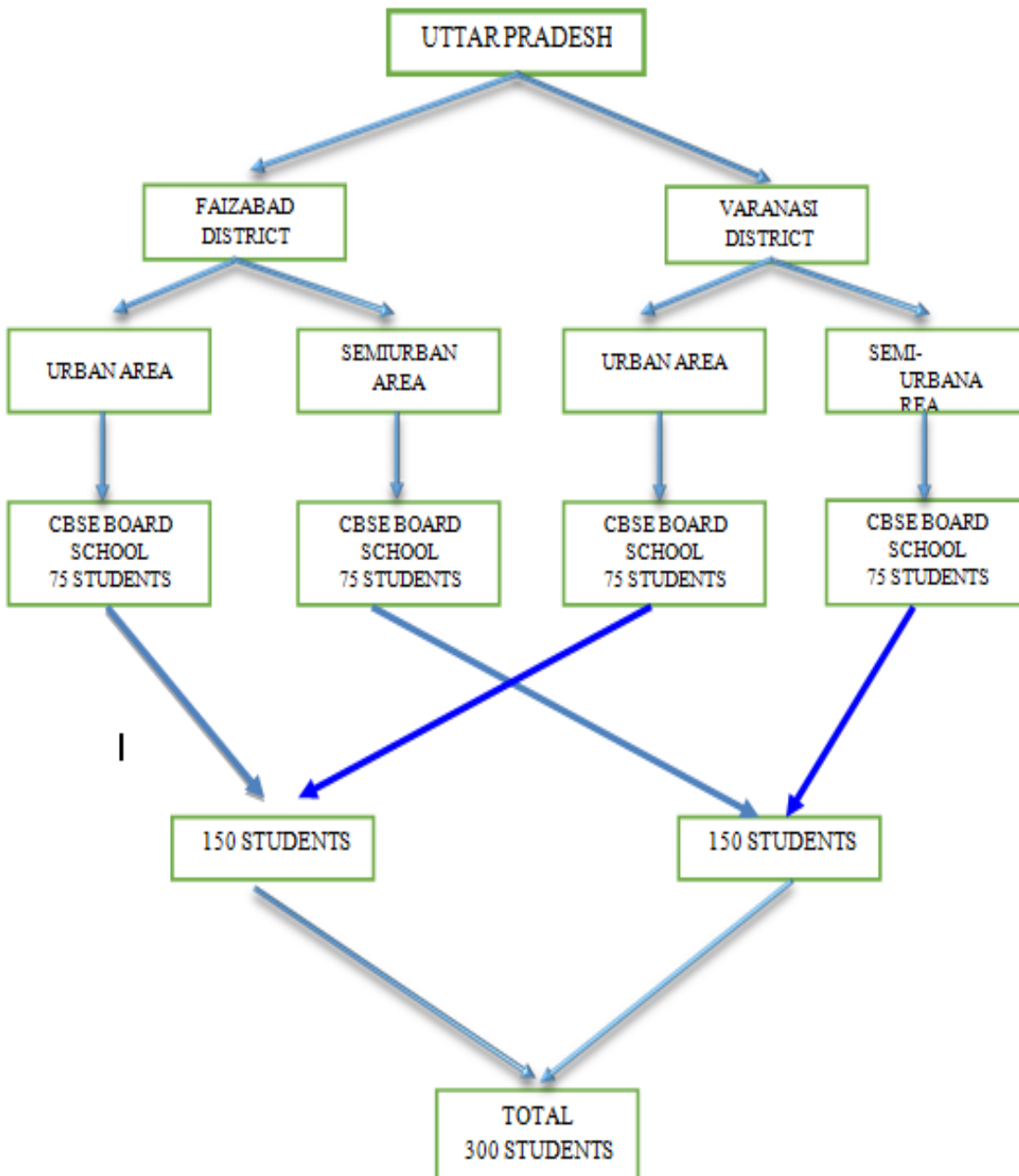


Fig. 3.3. Selection of sample

### **3.7 SAMPLING DESIGN**

Respondents were selected from the schools of urban and Semi-urban areas. Respondents were selected using random sampling technique. 150 respondents from Urban schools and 150 students from semi-urban schools to make total of 300 respondents, it was based on the availability and the willingness to respond/participate in the study.

### **3.8 DATA COLLECTION PROCEDURE**

The main tool which as used for the data collection in this study was questionnaires. The items in the questionnaire were structured (closed-ended) and unstructured (open-ended). The structured questions measured the subjective responses to clarify the objective responses and at the same time, enhance formulation of recommendations of the study. For the collection of information, researcher used trained research assistants to collect data for the study.

#### **3.8.1 Pilot study:**

After locating the school for the study and formulating the objectives, pilot study was conducted with a well thought outline for collecting the preliminary data and gain more knowledge and familiarity. In this study, after deciding the objectives, the school were visited once to prepare obtain general as well as factual information about the school, its communication facilities, types and nature of respondent and decide how to form interview schedule.

#### **3.8.2. Preparation of interview schedule:**

Interview schedule on the basis of the pilot study carried out. Self-constructed or administrative questionnaire.

### 3.8.3 Pre-testing of schedule:

For collection of information, a structured interview schedule was prepared. Before final collection of data, the schedule was pre-tested for its reliability and validity. After pre testing needed modification were made and some of the statements were eliminated during pre-testing. Then, respondents were selected and interviewed with the help of interview schedule for collection of information.

#### 3.8.3.1 Reliability

According to Devellis (1991), as cited by Mugenda, (2004) reliability is that the proportion of variance attributable to the time measurement of a variable and estimates the consistency of such measurement over time from a research instrument. It is a measure of the degree to which a research instrument would yield the same results or data after repeated trials. In order to ensure reliability, the researcher issued the questionnaires to the respondents, collected them and checked on the responses. After two weeks the questionnaires were re-tested by administering it at again to respondents with the same characteristics. This ensured internal consistency of the questionnaire and affirmed the responses from the selected sample.

#### 3.8.3.2 Validity

Validity establishes the connection between the data and the variable or construct of interest. Its estimates how accurately the data obtained in a study represents a given variable or construct within the study Mugenda, (2004). To check the accuracy of the data questionnaire as pre-tested by the researcher and results were analyzed and corrections were made in the questions which were not clear.

The questionnaires deliver accurate data due to the process of pre-testing which was done in the selected sample to maintain validity. The researcher visited the sampled

students to make them aware of the need of the study. This ensures validity of the data collected.

- Step-I**        The investigator obtained permission from respective authority(principle of school) to conduct the study
- Step-II**        The investigator introduces herself to the respondent explained the objectives and steps of the study from.
- Step-III**        The questionnaire distributed to students in all schools.

Exploration of availability of e-learning resources (blended learning) and traditional learning resources in the school

Availability of the e-learning/ blended learning Resources in the urban and semi-urban schools were explored to find how the students were taking their curriculum studies



**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**



Fig. No. 3.4. Availability of e-learning resources in the school



No. 3.5 Learning through traditional method of learning in the school

### **3.8.4 Collection of information from the school children through the questionnaire**

A questionnaire as prepared to elicit the required information from the sample. All required permission was taken from the school authorities and the sample as identified to conduct the study. Before conducting the study, the sample as explained was explained about the study in detail, and consent was taken from them. The respondents were assured that the information which was given by them would be kept confidential.





Fig. No.3.6. Collection of information from respondent in school

### 3.9. DATA ANALYSIS AND PROCESSING

#### ETHICAL ISSUES

- **Confidentiality:** The participants were guaranteed that the identifying information will not be made available to anyone who is not involved in the study and it will remain confidential for the purposes it is intended for.
- **Permission:** The researcher sought permission to carry out the research

from the University

- **Informed consent:** The prospective research participants were fully informed about the procedures involved in the research and were asked to give their consent to participate.
- **Anonymity:** The participant remained anonymous throughout the study and even to the researchers themselves to guarantee privacy.

### **3.10 STATISTICAL TOOLS EMPLOYED**

The data was analyzed using Statistical Package for Social Sciences version 20.0. Data has been represented as frequency and percentages for categorical and as mean and standard deviation for continuous variables. The statistical formulae used for the study are as follows:

#### **1. Mean:**

To obtain the mean, the individual observations were first added together and then divided by the number of observations. The operation of adding together or summation is denoted by the sign  $\Sigma$ .

The individual observation is denoted by the sign  $X$ , number of observations denoted by  $n$ , and the mean by  $\bar{X}$ .

$$\bar{X} = \frac{\Sigma X}{\text{No. of observations } (n)}$$

#### **2. Standard Deviation:** It is denoted by the Greek letter $\sigma$ .

$$\sigma = \sqrt{\frac{\Sigma (X - \bar{X})^2}{n}}$$

where,  $\sigma$  = Standard deviation

$\Sigma$  = summation

$(x - \bar{x})^2$  = Square of deviation of each value from the arithmetic mean

f = frequency

n = total number of observations

### 3. Chi square test:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where O = Observed frequency, E = Expected frequency

Degree of freedom for chi - square test

df = (c - 1) (r - 1) where, c = number of columns

r = number of rows

### 2. Multiple Regression:

$$\hat{y} = \hat{b}_0 + \hat{b}_1 x_1 + \hat{b}_2 x_2 + \hat{b}_3 x_3 \dots \dots \dots \hat{b}_n x_n + e_i$$

Where,  $\hat{y}$  = Dependent variable

$b_0$  to  $b_n$  = regression model coefficients determined in the analysis

$X_1$  to  $X_n$  independent variables

$e_i$  = residual error or difference between the observed and estimated dependent variable for site  $i$ .

3. **Student 't' test:** To test the significance of two means the student 't' test was used

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$\text{Where } S^2 = \frac{(N_1 - 1)SD_1^2 + (N_2 - 1)SD_2^2}{N_1 + N_2 - 2}$$

Where  $\bar{X}_1$ ,  $\bar{X}_2$  are means of group 1 and group 2

$N_1$ ,  $N_2$  are number of observation group 1 and group 2

$SD_1$  and  $SD_2$  are standard deviation in group 1 and group 2.

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

#### 4. Correlation

Where,

$\sum xy$  = Sum of products of deviations of  $x$  and  $y$  from their averages



Differences	Sum of Squares	Df	Mean Square	F
Between Groups	A	N1	X=A/N1	X/Y
Within Groups	B	N2	Y=B/N2	

### 7. Levene's Test

Levene's test is equivalent to one way between-groups analysis of variance (ANOVA) with the dependent variable being the absolute value of the difference between a score and the mean of the group. The test statistic,  $W$ , is equivalent to the  $F$  statistic that would be produced by such an ANOVA and is defined as follows:

$$W = \frac{(N - k)}{(k - 1)} \cdot \frac{\sum_{i=1}^k N_i (Z_{i.} - Z_{..})^2}{\sum_{i=1}^k \sum_{j=1}^{N_i} (Z_{ij} - Z_{i.})^2},$$

where

- $k$  is the number of different groups to which the sampled cases belong,
- $N_i$  is the number of cases in the  $i$ th group,
- $N$  is the total number of cases in all groups,
- $Y_{ij}$  is the value of the measured variable for the  $j$ th case from the  $i$ th group,
- $Z_{ij} = \begin{cases} |Y_{ij} - \bar{Y}_i|, & \bar{Y}_i \text{ is a mean of the } i\text{-th group,} \\ |Y_{ij} - \tilde{Y}_i|, & \tilde{Y}_i \text{ is a median of the } i\text{-th group.} \end{cases}$

### 3.11 OPERATIONAL DEFINITIONS OF THE TERMS OF THE RESEARCH

- a) **E-learning:** "E-learning is the use of electronic media for a variety of learning purposes that range from add-on functions in conventional

classrooms to full substitution for the face- to face meetings by online encounters” (Guri-Rosenblit,2005).

“E-learning is to take a course online using a modem, wireless, or cable connection to access academic course material from a computer, phone, or handheld device” (Governors State University, 2008).

- b) **Blended Learning:**Graham (2006) defines blended learning as "a combination of instruction from two historically separate models of teaching and learning: traditional face-to- face learning systems and computer-mediated learning". It is also defined as the integration of e-learning tools such as virtual learning environment with face to face learning (Welker and Berardino, 2006). it blends the advantages of both face-to-face method and the e- learning. It also shifts from teaching to learning, and from teacher centered class to student centered class.

## **Justification of the study**

Web based learning or Electronic learning and its more up to date and increasingly broad synonymous term e-Learning are two of the present trendy expressions in the scholarly world. Decision-making associate with its better approaches for discovering that are more cost effective than traditional learning systems and which enable understudies to more readily control the way toward learning since they can choose when, where and how quick to learn. The emergence of e-learning has colossally transformed information– handling and management of the board in scholastic situations (Ani and Ahiauzu, 2008). Various e- learning initiatives have been set up to aid the advancement preparing and utilization of electronic assets in various scholastic institutions.

These activities regardless, a few insufficiencies in the advancement arrangement and

usage of electronic assets have been distinguished in number of schools. Various studies have been made with the end goal of proffering solutions for issues experienced in the advancement of electronic information resources. Be that as it may, almost no endeavors have been recorded in the distinguishing proof of impact and effect of e-learning on academic performance of student in school. As the use of e-learning is becoming more and more widespread in higher education it has become increasingly important to examine the impact that this teaching style has on student performance. This study will therefore help add information on the effect of e-learning on academic performance.

### **Significance of the study**

The present investigation has a great significance. As a matter of first importance, the investigation discoveries give a thought regarding the e-learning viewpoints and scholastic execution so as to give key data to additionally explore work in such regions. Similarly, the examination gives learning and rules to that might be of assistance to policy makers. The examination is in this way of significance for organizers, and other social researchers. At last, this investigation gives a contribution to the understudies, educators and scientists in the territories of e-learning. Research works are left upon with the end goal of expanding the outskirts of information.

The present investigation was thusly done with this equivalent goal, particularly in the field of e-learning. It has thusly, added to the augmentation of the outskirts of learning in the accompanying ways. To begin with, the examination has appeared prescient intensity of the chose variables, particularly socio-statistic factors, earlier PC abilities and time the board status in the assurance of the scholastic execution.



*Data Presentation,  
Analysis and  
Interpretation*

## CHAPTER-4

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

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This chapter results and discussion deals with the analysis of the data and discussion of the findings also deals with the results incurred on different aspects of the study. The results of the research have been classified and discussed under the subsequent heading.

- ❖ **Demographic profile of the respondents**
- ❖ **To study about awareness and usefulness of e-learning resources among the student.**
- ❖ **To study the productivity and quality of information retrieved through e-learning resources by the student.**
- ❖ **To identify the problems faced by the student while using e-learning resources.**
- ❖ **To study the impact of level of engagement (hours online/offline) on academic performance.**
- ❖ **To study the impact of e-learning (blended learning) on the academic performance of the student.**

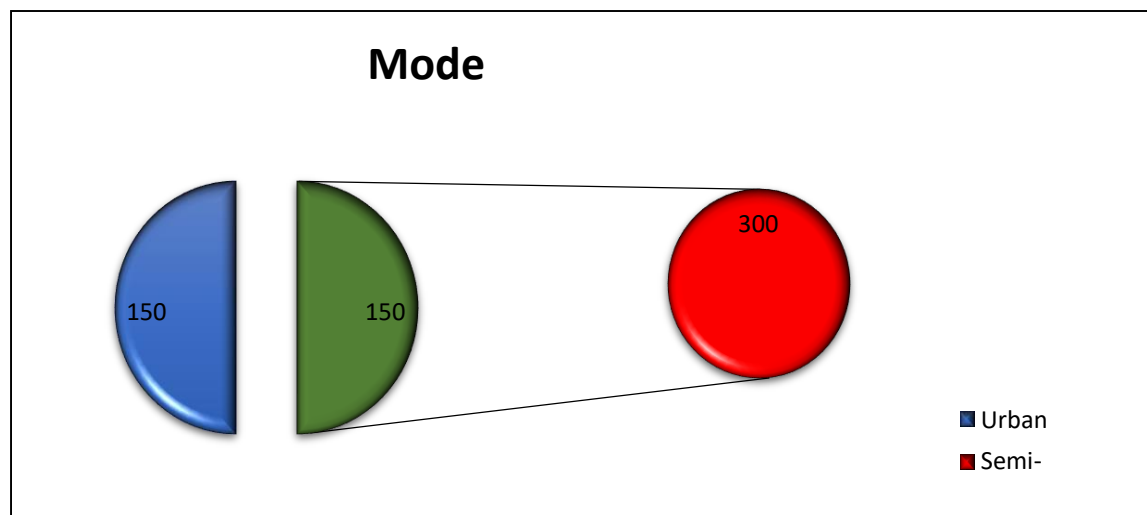
**Demographic profile of the respondents**

**Table: 4.1.1 Mode of the enrolment of student**

**N=300**

S.No.	Mode of enrolment	Frequency (%)	Total
1.	Full time students (URBAN SCHOOL)	150 (100.0)	150
2.	Full time students (SEMI-URBAN SCHOOL)	150 (100.0)	150

Above table 4.1.1 mode of the enrolment of the student shows that students from urban (150) and semi-urban school (150) were equally distributed they were all regular students in both the schools.



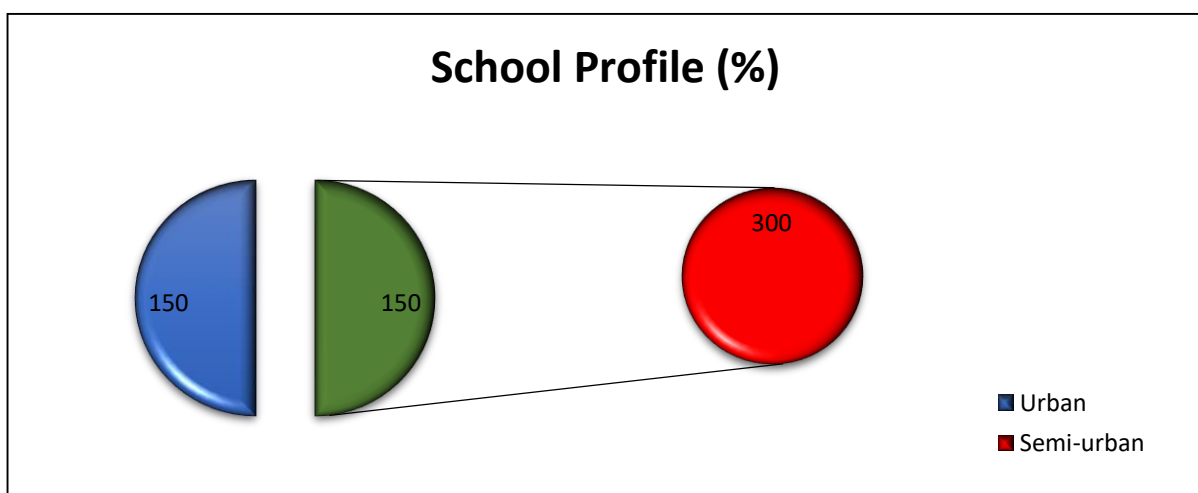
**Fig. 4.1 Mode of the enrolment of student**

**Table: 4.1.2 Distribution of the School profile**

**N=300**

S.No.	School profile	Frequency (%)	Total
1.	Urban	150 (100.0)	150 (100.0)
2.	Semi-urban	150 (100.0)	150 (100.0)

Table 4.1.2 depicts that study population (n=300) was divided in two groups Urban and Semi- Urban Schools comprising equal number of subjects 150 school students from Urban and 150 school students from Semi-Urban Schools.



**Fig. 4.2 Distribution of the School profile**

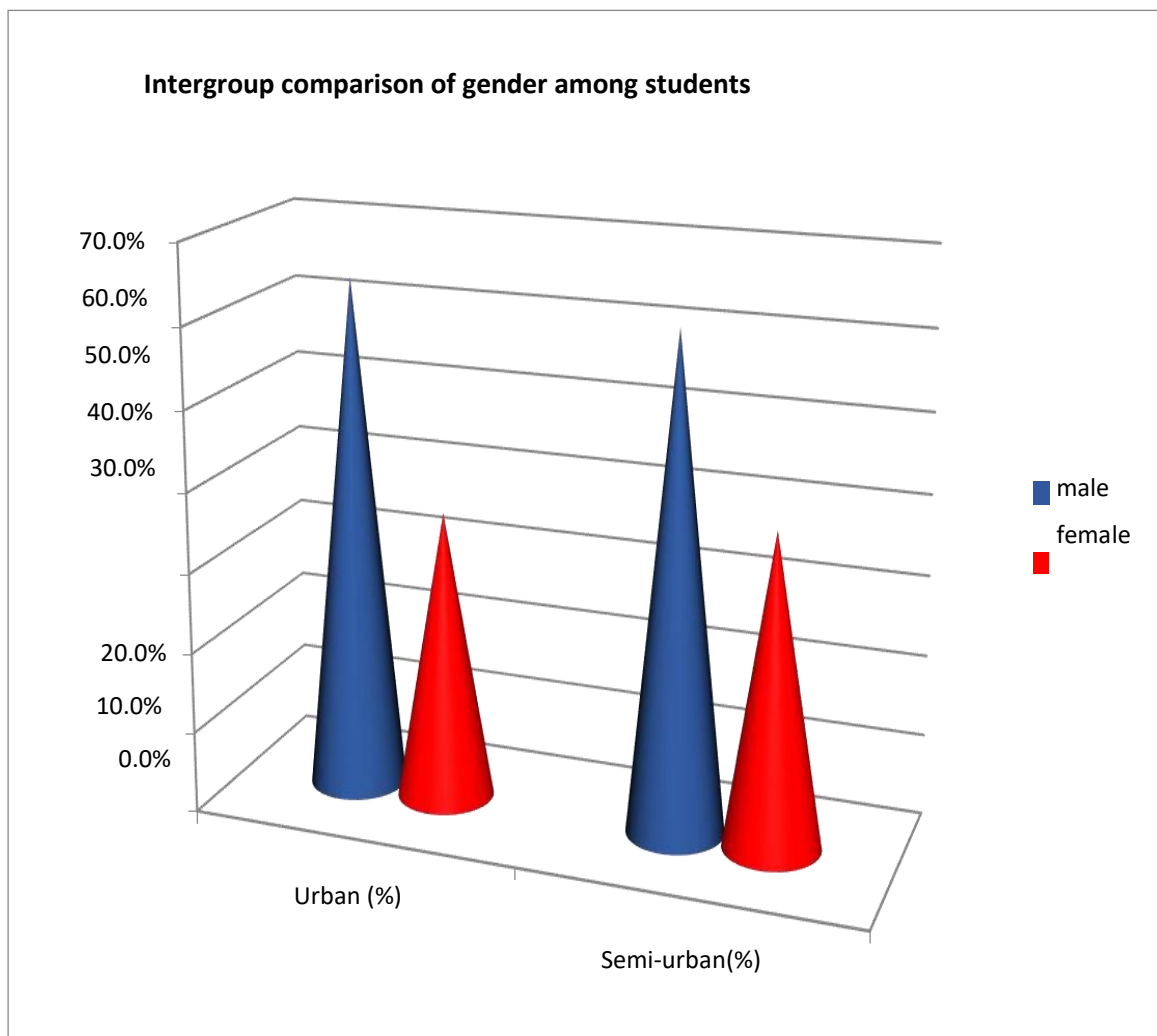
**Table: 4.1.3 Intergroup comparison of gender among students**

**N=300**

S.No.	Gender	Frequency (%) (Urban School) N=150	Frequency (%) (Semi-Urban School) N=150
1.	Male	96 (64.0%)	92(61.3%)
2.	Female	54 (36.0%)	58(38.7%)
		$\chi^2=16.521$ (df=2);	$p<0.0$ 01

**\*significant at  $p \leq 0.05$**

Form the above table 4.1.3 can be seen that the number of total respondents was 300 from urban and semi-urban Schools in which most of respondents 96 (64.0%) were male and 54(36.0%) were female from urban Schools and 92 (61.3%) respondents were male and 58(38.7%) were female belongs to semi-urban Schools. 56(37.3%). Difference in gender of above two groups was found to be statistically highly significant ( $p<0.001$ ).



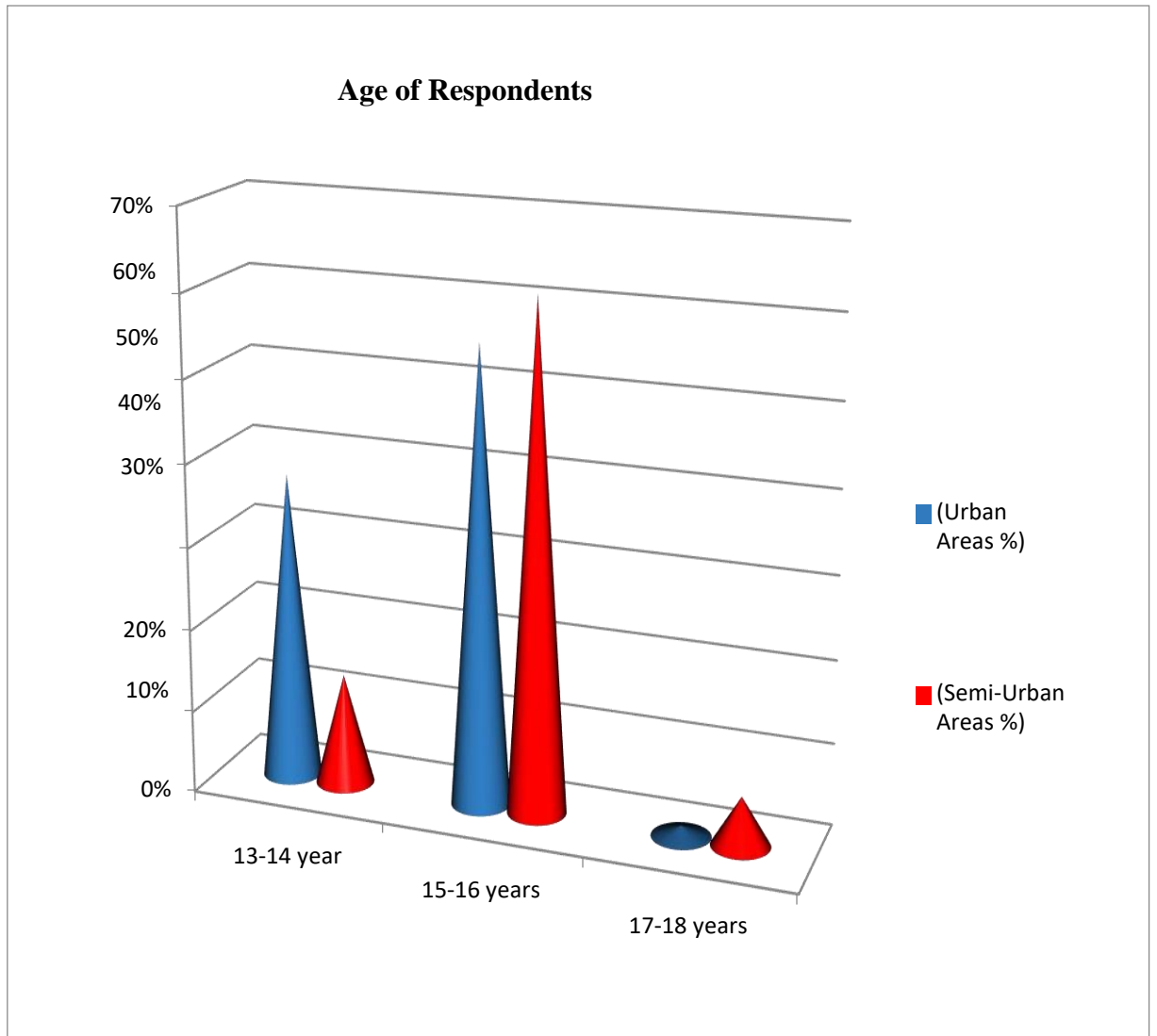
**Fig.4.3 Intergroup comparison of gender among students**

**Table: 4.1.4 Distribution of age of the respondents**

**N=300**

S.No.	Age group	Frequency (%)	Frequency (%)
		(Urban School) N=150	(Semi-Urban School) N=150
1.	13-14 year	56(37.3%)	49(13.5%)
2.	15-16 years	83(55.3%)	92(61.3%)
3.	17-18 years	11(1.3%)	9(6.0%)
	<b>Total</b>	150 (100.0)	150 (100.0)

Above table 4.1.4 age of the respondent shows that 56(37.3%) respondent from urban school and 49(13.5%) respondent from semi-urban school belongs to 13-14 year of age group, 11(1.3%) respondents from urban school and 9(6.0%) respondent from semi-urban school belongsto17-18-year age group, whereas maximum 83(55.3%)respondents from urban school and 92(61.3%) respondent from semi-urban school belongs 15-16 year of age group.



**Fig.4.4** Distribution of age of the respondent

**Table: 4.1.5 Intergroup comparison of type of family of study population**

**N=300**

S.No	Type of family	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	Nuclear	60(40.0%)	58 (38.7%)
2.	Single parenting	17(11.3%)	9 (6.0%)
3.	Joint or extended	49(32.7%)	55 (36.6%)
4.	Grandparent family	24(16.0%)	28 (18.7%)
	<b>Total</b>	<b>150 (100.0)</b>	<b>150 (100.0)</b>
<b><math>\chi^2=5.546</math>; <math>p=0.064</math></b>			

\*significant at  $p \leq 0.05$

Distribution of above table 4.1.5 shows that the population of respondents living in nuclear families was higher in urban Schools (40.0%) as compared to semi-urban Schools (38.7%), proportion of respondent living in single parenting families in urban Schools (11.3%) was higher as compared to semi-urban Schools (6.0%). Proportion of respondents living in joint and extended families 32.7% in urban Schools which was lower than semi-urban Schools (36.6%) and proportion of respondents living in grandparent's family was higher in semi-urban Schools (18.7%) as compared to urban Schools (16.0%). Difference in type of family among subjects of above two groups were not found to be statistically significant( $p=0.064$ ).

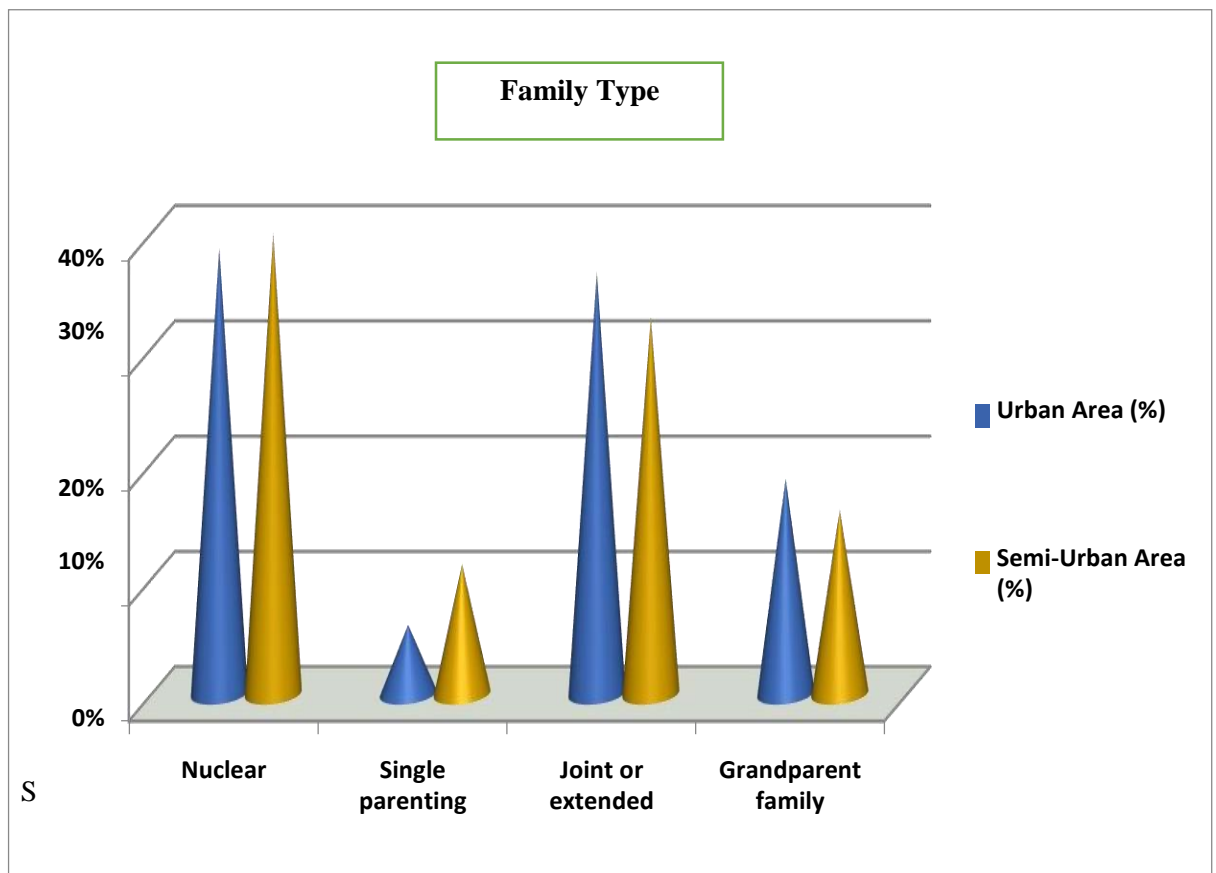


Fig. 4.5 Type of family of study population

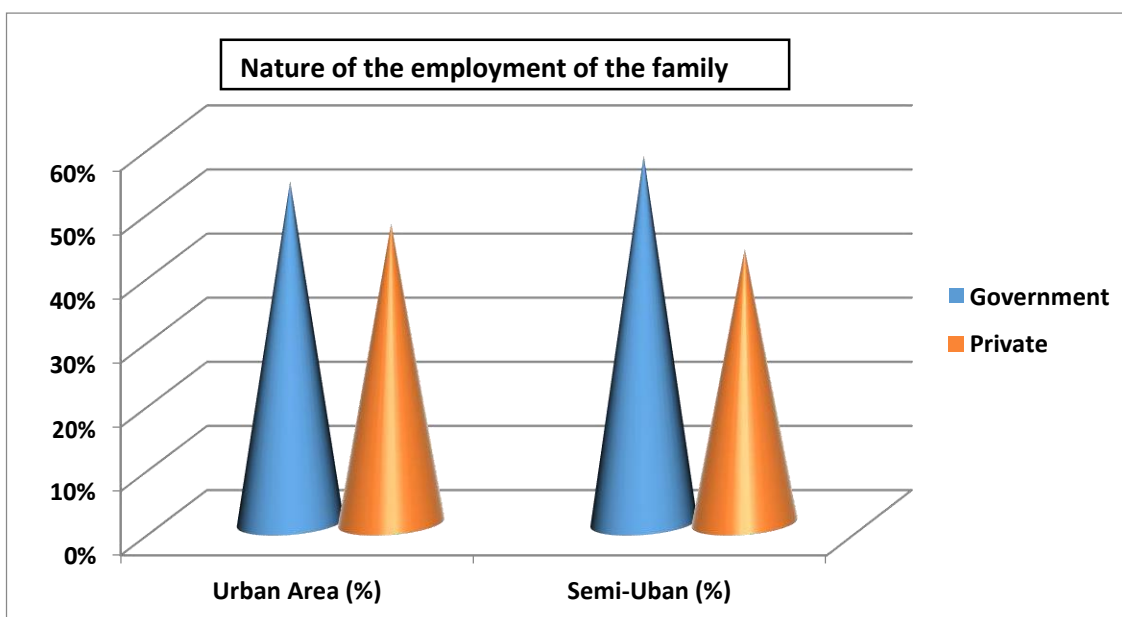
**Table:4.1.6 Nature of the employment of the family**

**N=300**

S.No.	Nature of the employment	(Urban School) Frequency (%) N=150	Semi-Urban School) Frequency (%) N=150
1.	Government	80 (53.3%)	86(57.3%)
2.	Private	70 (46.7%)	64(42.7%)
		$\chi^2=2.022$ ; $p=0.364$	

\*significant at  $p \leq 0.05$

Above table 4.1.6 nature of the employment of the family shows that 80 (53.3%) from urban and 86 (57.3%) from semi-urban Schools belongs to the government jobs, whereas, 70(46.7%) from urban and 64(42.7%) from semi-urban Schools were belongs to private sector jobs. It can be seen that maximum number of employments of the family were government employees. Difference in nature of employment of above two groups was found to be statistically not significant( $p=0.364$ ).



**Fig. 4.6 Nature of the employment of the family**

**Table: 4.1.7 Distribution of monthly income of the family**

**N=300**

<b>S.No</b>	<b>Monthly income of the family</b>	<b>(Urban School) Frequency (%) N=150</b>	<b>(Semi-Urban School) Frequency (%) N=150</b>
1.	Up to Rs. 25,000	23 (15.3%)	32(21.3%)
2.	25,001-50,000 Rs.	55 (36.7%)	73(48.7%)
3.	50,001-75,000 Rs.	44 (29.3%)	36(24.0%)
4.	75,001-100,000 Rs.	17 (11.3%)	9(6.0%)
5.	100001 and above	11 (7.3%)	0(0.00%)
	Total	150 (100.0%)	150 (100.0%)

Table 4.1.7 explains the distribution of respondents according to family's monthly income, 23(15.3%) from urban and 32(21.3%) from semi-urban Schools belongs to those families whose monthly income was up to Rs. 25,000, whereas 55(36.7%) from urban and 73(48.7%) from semi-urban Schools belongs to those families whose monthly income were between Rs. 25,001-50,000, 44 (29.3%) from urban and 36(24.0%) from semi-urban Schools belongs to those families whose monthly income were between Rs. 50,001-75,000, 17 (11.3%) from urban and 9(6.0%) from semi-urban Schools were belongs to the income group Rs. 75,001-100,000, whereas 11 (7.3%) family of respondents from urban Schools belongs to those whose monthly income was 100001 and above.

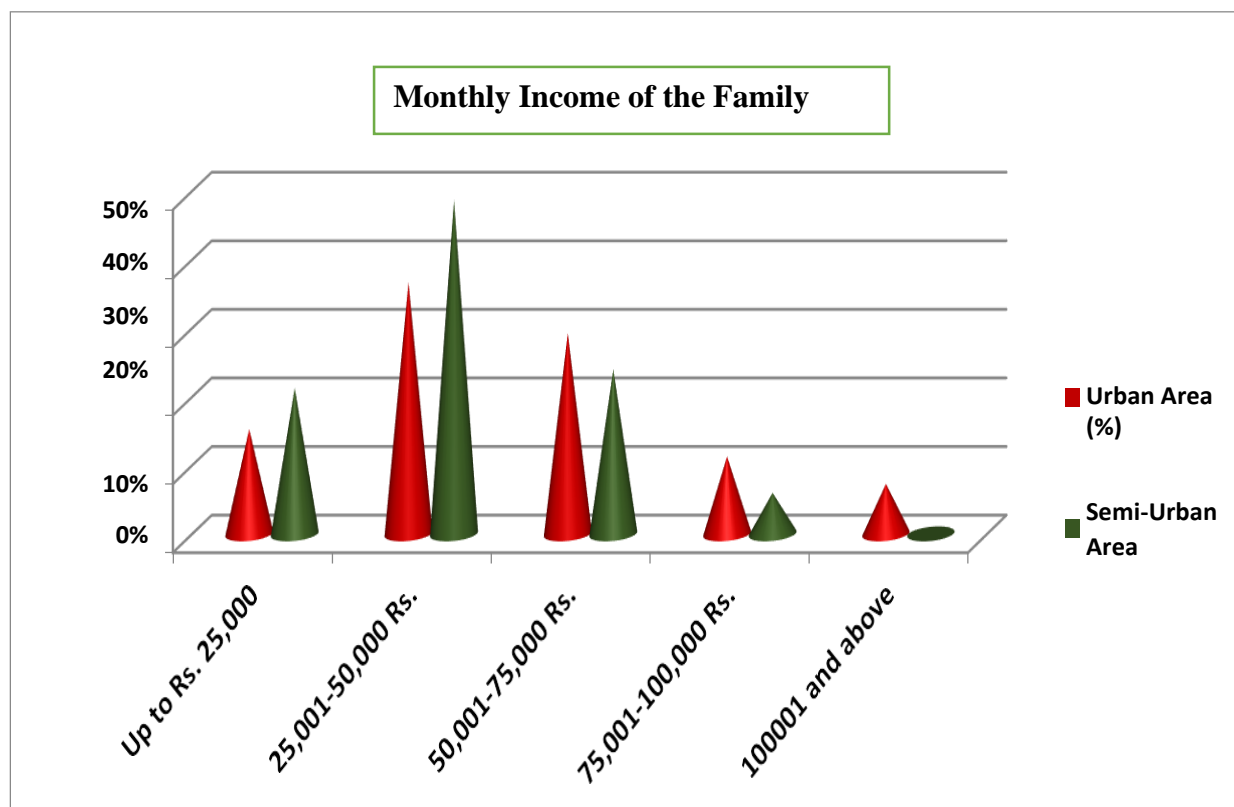


Fig. 4.7 Distribution of monthly income of the family

Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance

To study about awareness and usefulness of e-learning resources among the student

Table: 4.2.1 Awareness of e-learning resources among students

N=300

S. No.	Are you aware of following E-learning resources	(Urban School) Frequency (%) N=150		Mean	S.D	(Semi-Urban School) Frequency (%) N=150		Mean	S.D	ANOVA	
		Yes	No			Yes	No			F	'p'
1.	Internet	150(100.0%)	0(00.0%)	1.00	0.00	134(89.3)	16(10.7)	0.90	0.421	6.82	0.002
2.	E-journal	59(39.3%)	91(60.7%)	0.39	0.490	69(19.0)	81(54.0)	0.47	0.449	3.997	0.0489
3.	Computer	120(80.0%)	30(20.0%)	0.80	0.401	121(80.7)	29(19.3)	0.80	0.401	0.745	0.001
4.	Digital library	54(36.0%)	96(64.0%)	0.36	0.482	79(52.7)	71(47.3)	0.52	0.501	2.776	0.478

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5.	<b>Laptop</b>	150(100.0%)	0(00.0%)	1.00	0.00	126(84.0)	24(16.0)	0.83	0.386	1.641	0.040
6.	<b>Smart phone</b>	150(100.0%)	0(00.0%)	1.00	0.000	123(82.0)	27(18.0)	0.82	0.385	2.825	<0.001
7.	<b>Video tutorial</b>	102(68.0%)	48(32.0%)	0.68	0.468	90(60.0)	60(40.0)	0.59	0.493	3.339	0.001
8.	<b>E-books</b>	78(52.0%)	72(48.0%)	0.52	0.501	95(63.3)	55(36.7)	0.63	0.432	3.441	0.040
9.	<b>E-mail</b>	123(82.0%)	27(18.0%)	0.82	0.385	118(78.7)	32(21.3)	0.74	0.445	3.013	0.054
10.	<b>Electronic devices</b>	110(73.3%)	40(26.7%)	0.73	0.444	116(77.3)	34(22.7)	0.80	0.401	7.300	0.001
11.	<b>Videoconferencing</b>	150(100.0%)	0(00.0%)	1.00	0.000	109(72.7)	41(27.3)	0.67	0.467	3.203	0.045
12.	<b>Close circuit TV</b>	150(100.0%)	0(00.0%)	1.00	0.000	61(40.7)	89(59.3)	0.41	0.488	13.423	<0.001
13.	<b>Web based learning (E-lessons)</b>	89(59.3%)	61(40.7%)	0.59	0.493	91(60.7)	59(39.3)	0.60	0.494	18.684	<0.001

\*significant at  $p \leq 0.05$

The above table 4.2.1 describes the distribution of the awareness of e-learning resources among the students, it can be seen that the mean score of privy to the role of internet in curriculum studies was found to be higher in students from urban Schools ( $1.00\pm 0.00$ ) as compared to students from semi-urban school ( $0.90\pm 0.421$ ), the difference was found to be statistically significant. Mean score of awareness about e-journals among students of urban school ( $0.47\pm 0.449$ ) and semi-urban school student ( $0.47\pm 0.449$ ) was found statistically not significant. According to mean score students were aware about e-journals. Mean score of awareness about digital library among students were found to be higher in semi-urban school ( $0.52\pm 0.501$ ) as compare to urban school ( $0.36\pm 0.482$ ), the difference as found to be statistically not significant. Mean score of awareness about laptop as e-learning resources among students were found to be higher in urban school ( $1.00\pm 0.00$ ) as compare to semi-urban school ( $0.83\pm 0.386$ ), the difference as found to be statistically significant. Mean score of awareness about smart phone as e-learning resources among students were found to be higher in urban school ( $1.00\pm 0.00$ ) as compare to semi-urban school ( $0.82\pm 0.385$ ), the difference as found to be statistically highly significant. Mean score of awareness about video tutorials as e-learning resources among students were found to be higher in urban school ( $0.68\pm 0.468$ ) as compare to semi-urban school ( $0.59\pm 0.493$ ), mean difference found to be statistically significant. Mean score of awareness about e-books as e-learning resources among students were found to be higher in semi-urban school ( $0.63\pm 0.432$ ) as compare to urban school ( $0.52\pm 0.501$ ), the mean difference as found to be statistically significant. Mean score of awareness about e-mails as e-learning resources among students were found to be higher in urban school ( $0.82\pm 0.385$ ) as compare to semi-urban school ( $0.74\pm 0.445$ ), the difference as found to be statistically not significant. Mean score of awareness about electronic devices as e-learning resources among students were found to be higher in semi-urban school ( $0.80\pm 0.401$ ) as compare to urban school ( $0.73\pm 0.444$ ), the difference as found to be statistically highly significant. Mean score of awareness about video conferencing as e-learning resources among students were found to be higher in urban school ( $1.00\pm 0.00$ ) as compare to semi-urban school ( $0.67\pm 0.467$ ), the difference as found to be statistically significant. Mean score of awareness about close circuit TV as e-learning resources among

students were found to be higher in urban school ( $1.00 \pm 0.00$ ) as compare to semi-urban school ( $0.41 \pm 0.488$ ), the difference as found to be statistically significant. Mean score of awareness about web based learning (e-lessons) as e-learning resources among students were found to be higher in semi-urban school ( $0.60 \pm 0.493$ ) as compare to urban school ( $0.60 \pm 0.494$ ), the difference as found to be statistically highly significant. It can be seen that maximum number of students from urban school were more aware about the e-learning resources as compared to the semi-urban school students.

Results of similar study conducted by Ugwu et al., 2015 emphasized that students and teachers were having good knowledge about e-learning resources. Their awareness about e-learning resources was significant.

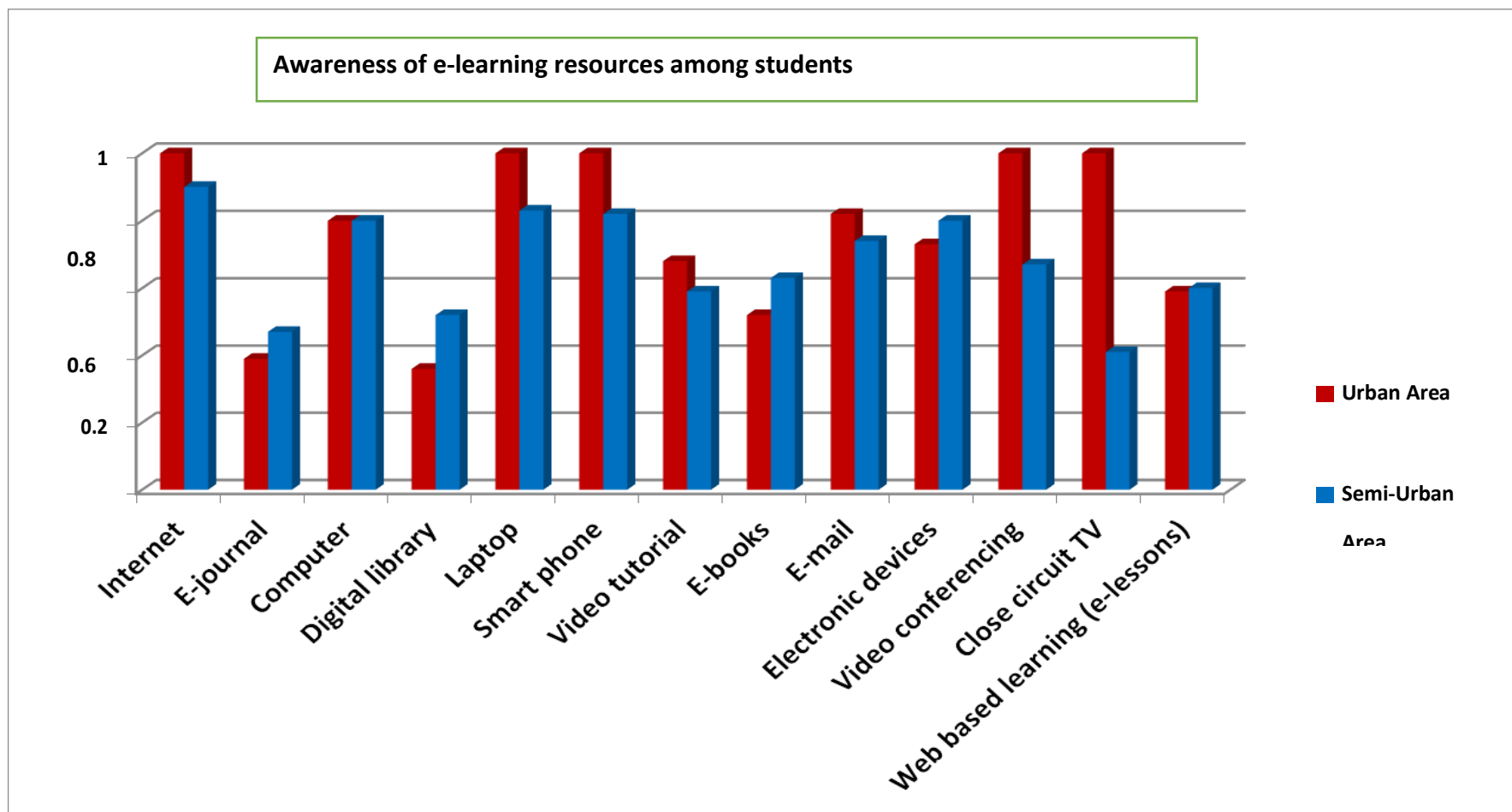


Fig.4.8 Awareness of e-learning resources among students

Table: 4.2.2 Availability of e-learning material in school for curriculum implementation

N=300

S. No.	Availability of e-learning material in school	(Urban School) Frequency (%) N=150				(Semi-Urban School) Frequency (%) N=150				ANOVA	
		Available	Not Available	Mean	S.D.	Available	Not Available	Mean	S.D.	F	'p'
1.	Off line/ordinary computer	150(100.0%)	0(00.0%)	1.00	0.000	136(90.3%)	14(9.3%)	0.91	0.292	18.684	<0.001
2.	On line/internet computer	110(73.3%)	40(26.7%)	0.73	0.444	121(80.7%)	29(19.3%)	0.81	0.396	13.423	0.001

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3.	Smart class	114(76.0%)	36(24.0%)	0.76	0.429	48(32.0%)	102(68.0%)	0.32	0.468	7.200	<0.001
4.	E-mail facilities	103(68.7%)	47(31.3%)	0.69	0.465	89(59.3%)	61(40.7%)	0.59	0.493	3.203	0.001
5.	Multimedia television	98(65.3%)	52(34.7%)	0.65	0.478	70(46.7%)	80(53.3%)	0.47	0.501	30.462	0.470
6.	Multimedia projector	150(100.0%)	0(00.0%)	1.00	0.00	132(88.0%)	18(12.0)	0.88	0.326	4.196	<0.001
7.	Digital library	44(29.3%)	106(70.7%)	0.29	0.457	24(16.0%)	126(84.0)	0.16	0.368	14.800	0.503
8.	Readymade courseware: CD-ROM,etc.	112(74.7%)	38(25.3%)	0.75	0.436	86(57.3%)	64(42.7%)	0.57	0.496	3.203	0.045

\*significant at  $p \leq 0.05$

Above table 4.2.2 distribution of the availability of e-learning material in school reveals that the mean score of availability of off line/ordinary computer in the school was found to be higher in the students from urban school ( $1.00\pm 0.00$ ) as compared to the students from semi-urban school ( $0.91\pm 0.292$ ), the difference was found to be statistically highly significant.

Mean score of availability of online/internet computer in the school was found to be higher in the students from semi-urban school ( $0.81\pm 0.396$ ) as compared to the students from urban school ( $0.73\pm 0.444$ ), the difference was found to be statistically significant.

Mean score of availability of Smart class in the school was found higher in the urban school ( $0.76\pm 0.429$ ), as compared to the students from semi-urban school ( $0.32\pm 0.468$ ), the difference was found to be statistically highly significant.

Mean score of availability of E-mail facilities in the school was found higher in the urban school ( $0.69\pm 0.465$ ), as compared to the students from semi-urban school ( $0.59\pm 0.493$ ), the difference was found to be statistically significant.

Mean score of availability of Multimedia television facilities in the school was found higher in the urban school ( $0.65\pm 0.478$ ), as compared to the students from semi-urban school ( $0.47\pm 0.501$ ), the difference was found to be statistically not significant.

Mean score of availability of Multimedia projector facilities in the school was found higher in the urban school ( $1.00\pm 0.00$ ), as compared to the students from semi-urban school ( $0.88\pm 0.326$ ), the difference was found to be statistically highly significant.

Mean score of availability of Digital library facilities in the school was found higher in the urban school ( $0.29\pm 0.457$ ), as compared to the students from semi-urban school ( $0.16\pm 0.368$ ), the difference was found to be statistically not significant.

Mean score of availability of Readymade courseware: CD-ROM, etc. facilities in the school was found higher in the urban school ( $0.75 \pm 0.436$ ), as compared to the students from semi-urban school ( $0.57 \pm 0.496$ ), the difference was found to be statistically significant. Results shows the schools are providing sensible quality of e-learning resources for curriculum teaching and learning in both urban and semi-urban Schools.

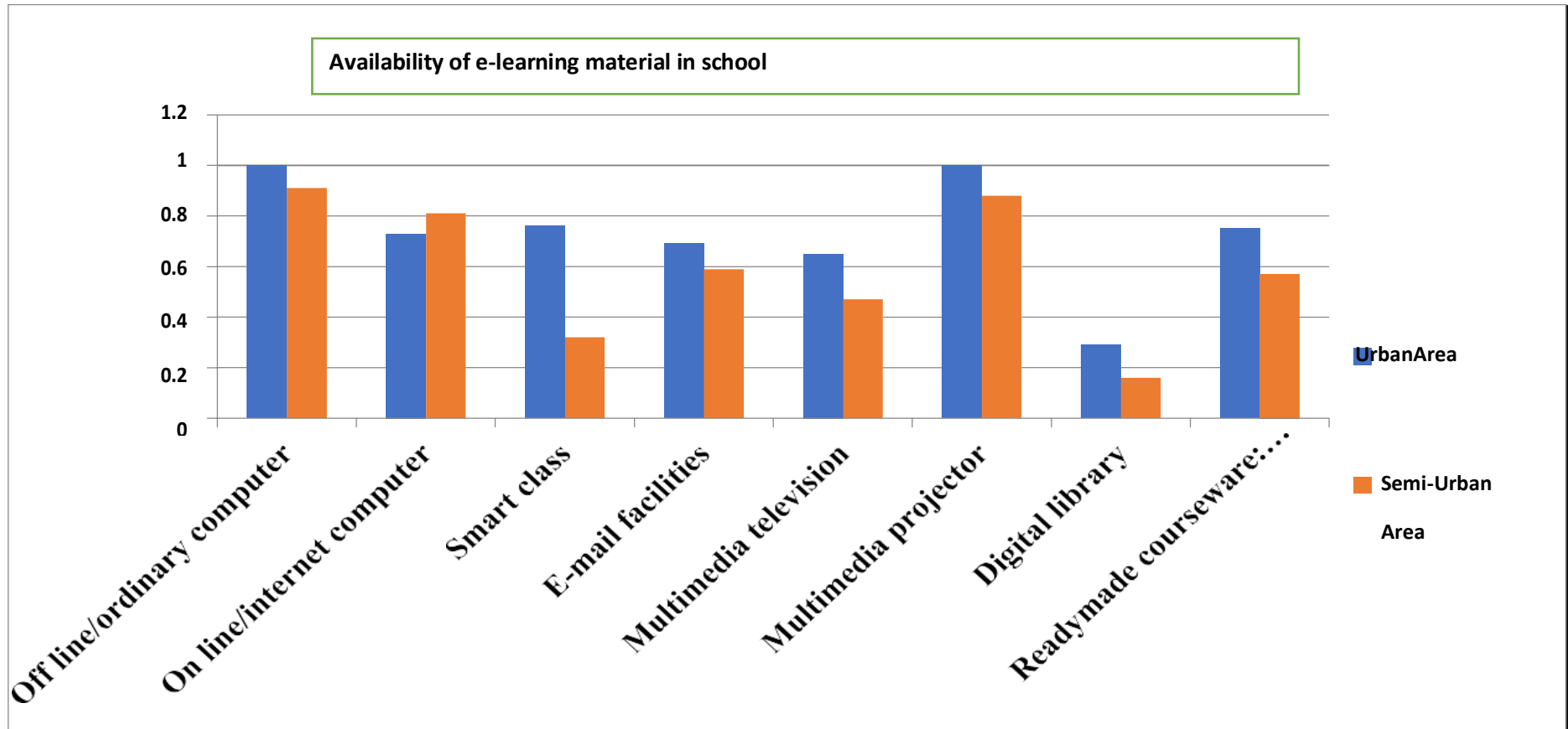


Fig. 4.9 Availability of e-learning material in school for curriculum implementation

Table: 4.2.3 Role of e-learning education (blended learning)

S.No	Role of e- learning education (blended learning)	N=300										
		Urban School Frequency (%)N=150				(Semi-Urban School) Frequency (%) N=150						ANOVA
		Yes	No	Mean	S.D.	Yes	No	Mean	S.D.	F	'P'	
1.	provides you better options for curriculum study	98(65.3%)	52(34.7%)	0.65	0.478	80(53.3%)	70(46.7%)	4.37	2.58	6.82	0.002	
2.	improves knowledge better than traditional knowledge	85(56.7%)	65(43.3%)	0.57	0.497	75(50.0%)	75(50.0%)	0.37	0.21	0.745	0.001	
3.	improve in- depth and practical learning than traditional knowledge	74(49.3%)	76(50.7%)	0.49	0.502	80(53.3%)	70(46.7%)	1.97	1.56	2.825	<0.001	

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4.	<b>brings social changes in India</b>	92(61.3%)	58(38.7%)	2.61	1.89	89(59.3%)	61(40.7%)	2.43	1.19	2.776	0.478
5.	<b>helps you to study more effectively to perform in class task</b>	112(74.7%)	38(25.3%)	0.75	0.436	104(69.3%)	46(30.7%)	1.53	1.07	3.349	0.001

\*significant at  $p \leq 0.05$

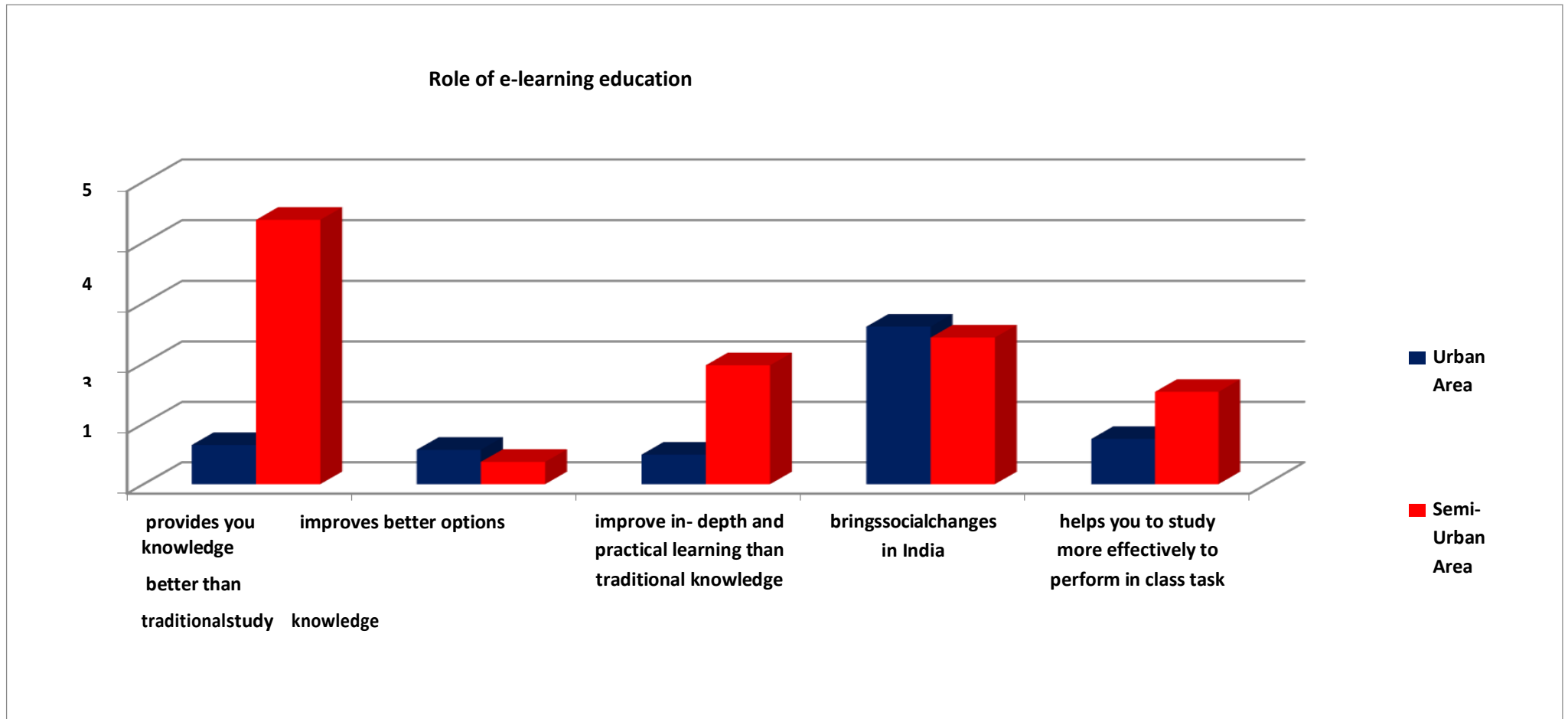
Above table 4.2.3 shows the role of e-learning education and resources in the curriculum study of the students mean score of e-learning education (blended learning) provides better option for curriculum study ( $4.37 \pm 2.58$ ) from semi-urban school as higher than the urban school with the mean score ( $0.65 \pm 0.478$ ), the difference as found statistically significant.

Mean score of e-learning (blended learning) improves knowledge better than traditional knowledge ( $0.57 \pm 0.497$ ) as found higher in urban school than the semi-urban school ( $0.37 \pm 0.21$ ), the difference as found statistically significant.

Mean score of e-learning (blended learning) improves in-depth and practical learning than traditional knowledge ( $1.97 \pm 1.56$ ) was found higher in semi-urban school as compare to urban school ( $0.49 \pm 0.502$ ), the difference was found statistically highly significant.

Mean score of e-learning (blended learning) brings social changes in India ( $2.61 \pm 1.89$ ) was found higher in urban school as compare to semi-urban school ( $2.43 \pm 1.19$ ), the difference was found statistically not significant.

Mean score of e-learning (blended learning) helps you to study more effectively to perform in class task ( $1.53 \pm 1.07$ ) was found higher in semi-urban school as compare to urban school ( $0.75 \pm 0.436$ ), the difference was found statistically significant. From the result it can be seen that e-learning is playing a commendable role in education, class performances, and also in social change.



**Fig. 4.10 Role of e-learning education (blended learning)**

Table:4.2.4 Exploration of the quality of e-learning in a way of usefulness and productivity

N=300

S. No	Quality of e-learning in a way of usefulness and productivity (blended learning)	(Urban School) Frequency (%) N=150							(Semi-Urban School) Frequency (%) N=150							ANOVA	
		Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mean	S.D.	Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mean	S.D.	F	'P'
1	met your personal and professional goals	5 (3.3%)	21 (14.0%)	86 (57.3%)	25 (16.7%)	13 (8.7)	1.87	1.427	8 (5.3%)	38 (25.3%)	60 (40.0%)	29 (19.3%)	15 (10.0%)	2.20	1.176	6.746	0.004
2	met your expectations to provide you useful information	8 (5.3%)	14 (9.3%)	88 (58.7%)	28 (18.7%)	12 (8.0)	1.77	0.765	5 (3.3)	15 (10.0)	65 (43.3)	47 (31.3%)	18 (12.0%)	1.76	1.295	3.657	<0.001

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3	provides you complete list of required and recommended learning and reference material	9 (6.0%)	35 (23.3%)	37 (24.7%)	39 (26.0%)	30 (20.0)	2.87	0.435	5 (3.3)	30 (20.0)	60 (40.0)	44 (29.3)	11 (7.3)	2.38	1.030	3.249	0.034
4.	accurate clear and understandable to you	8 (5.3%)	38 (25.3%)	60 (40.0%)	29 (19.3%)	15 (10.0)	2.27	1.423	4 (2.7)	18 (12.0)	59 (39.3)	60 (40.0)	9 (6.0)	2.501	0.655	3.481	0.301
5.	were in an appropriate language level for you	5 (3.3%)	15 (10.0%)	65 (43.3%)	47 (31.3%)	18 (12.0)	2.50	0.837	6 (4.0)	17 (11.3)	58 (38.7)	58 (38.7)	11 (7.3)	1.39	0.645	4.296	0.036
6.	helped you to examine issues to evaluate new ideas, and to apply what you have learned	5 (3.3%)	30 (20.0%)	60 (40.0%)	44 (29.3%)	11 (7.3)	2.49	1.030	5 (3.3)	30 (20.0)	60 (40.0)	44 (29.3)	11 (7.3)	2.59	1.034	3.103	<0.001

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7.	<b>encourages you to communicate and exchange ideas for your personal enhancement</b>	4 (2.7%)	18 (12.0%)	59 (39.3%)	60 (40.0%)	9 (6.0)	2.28	0.836	4(2.7)	18 (12.0)	59 (39.3)	60 (40.0)	9 (6.0)	1.64	0.834	3.452	0.018
8.	<b>helps you to reduce classroom workload</b>	6 (4.0%)	17 (11.3%)	58 (38.7%)	58 (38.7%)	11 (7.3)	1.59	0.765	6(4.0)	17 (11.3)	58 (38.7)	58 (38.7)	11 (7.3)	1.49	1.326	7.252	<0.001

\*significant at  $p \leq 0.05$

Above table 4.2.4 shows the Quality of e-learning in a way of usefulness and productivity (blended learning) which was measured as strongly agree, agree, disagree, and strongly disagree and neither agree nor disagree. The result from the Quality of e-learning in a way of usefulness and productivity (blended learning) shows that, mean score of quality of e-learning (blended learning) met your personal and professional goals was found to be statistically significant which is higher in semi-urban school ( $2.20 \pm 1.176$ ) as compare to urban school ( $1.87 \pm 1.427$ ).

Means core of quality of e-learning (blended learning) that met student's expectation to provide you useful information was found to be higher in urban school ( $1.77 \pm 0.765$ ) as compare to semi-urban school ( $1.76 \pm 1.295$ ), the difference was found to statistically highly significant.

Mean score of quality of e-learning (blended learning) provides you complete list of required and recommended learning and reference material was found to be higher among urban school students ( $2.87 \pm 0.435$ ) as compare to semi-urban school students ( $2.38 \pm 1.030$ ), the difference was found to be statistically significant.

Mean score of quality of e-learning (blended learning) found to be accurate clear and understandable for the student that was higher in the semi-urban school student ( $2.50 \pm 0.655$ ) as compare to urban school student ( $2.27 \pm 1.423$ ), the difference was found to be statistically not significant.

Mean score of quality of e-learning (blended learning) were in an appropriate language level for the students was found to be higher in the urban school student ( $2.50 \pm 0.837$ ) as compare to semi-urban school student ( $1.39 \pm 0.645$ ), the difference was found to be statistically significant.

Mean score of quality of e-learning (blended learning) helped you to examine issues to evaluate new ideas, and to apply what you have learned was found to

higher in semi-urban school student ( $2.59 \pm 1.034$ ) as compare to urban school student

( $2.49 \pm 1.030$ ), the difference was found to be statistically highly significant.

Mean score of quality of e-learning (blended learning) encourages you to communicate and exchange ideas for your personal enhancement was found to higher in urban school student ( $2.28 \pm 0.836$ ) as compare to semi-urban school student ( $1.64 \pm 0.834$ ), the difference was found to be statistically significant.

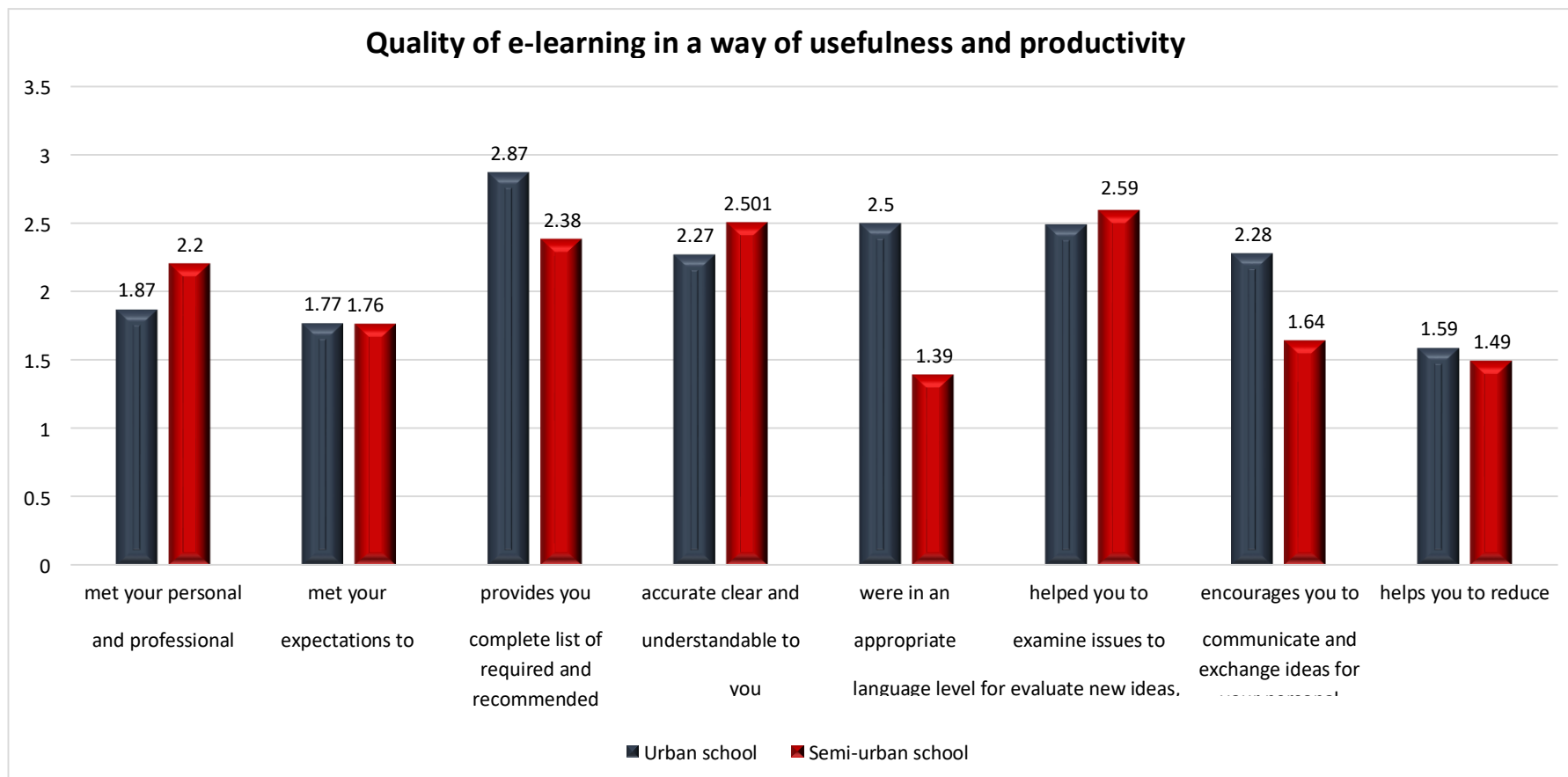


Fig.4.11 Exploration of the quality of e-learning in a way of usefulness and productivity

To study the productivity and quality of information retrieved through e-learning resources by the student.

**Table:4.3.1 Internet uses by the family**

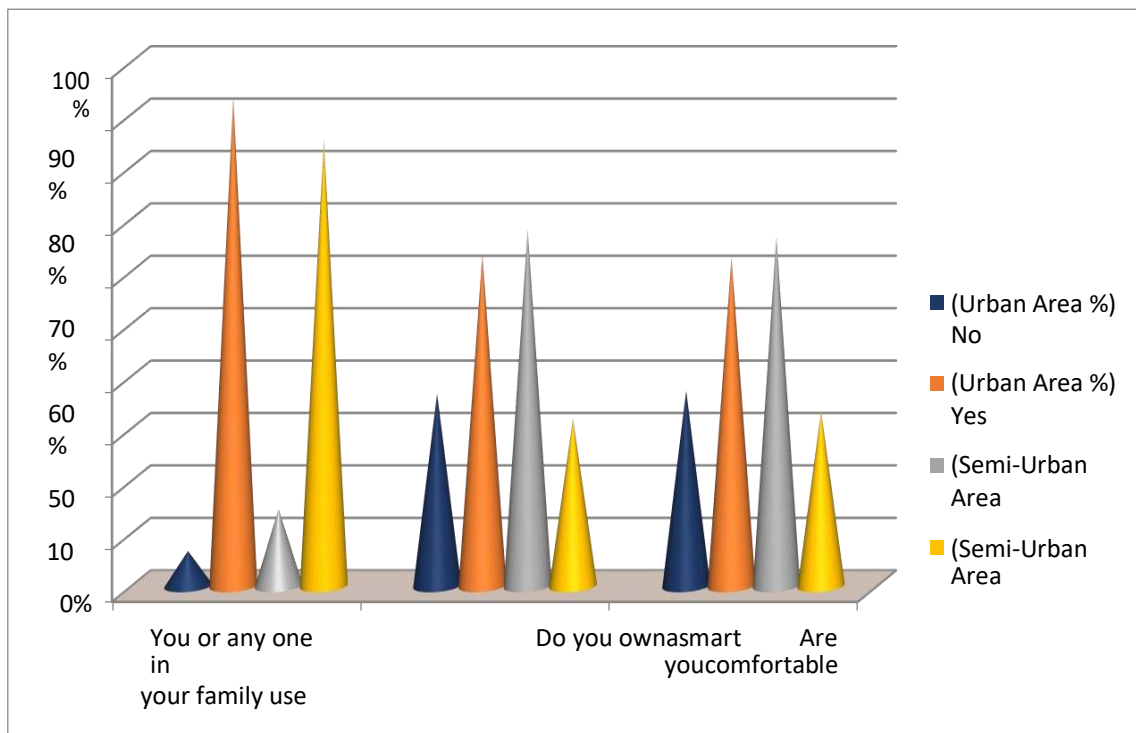
**N=300**

S.No.	Internet use by the family	Frequency (%)		Frequency (%)	
		(Urban School) N=150		(Semi-Urban School) N=150	
		No	Yes	No	Yes
1.	<b>You or any one in your family use the internet</b>	10(6.7%)	140 (93.3%)	22 (14.7%)	128 (85.3%)
2.	<b>Do you own a smart phone</b>	55 (36.7%)	95 (63.3%)	102 (68.0%)	48(32.0%)
3.	<b>Are you comfortable with ICT technology</b>	56 (37.3%)	94 (62.7%)	100 (66.6%)	50(33.4%)

The above table 4.3.1 shows that maximum 140(93.3%) respondents' families were using internet at their houses and 95(63.3%) respondents were having their own smart phone where 10(6.7%) respondent's families were not using internet and 55(36.0%) respondents were not having their own smart phones in Urban Schools. In semi-urban Schools maximum 128(85.3%) respondent's families were using internet only 22(14.7%) families were not using the internet at their houses, maximum 102(68.0%)respondents were not having their own smart phone and only 48(32.0%)respondents were having their own smart phones. 94(62.7%)respondents from urban and 50(33.3%) from semi-urban Schools were comfortable with the ICT technology where maximum 100(66.6%) from semi-urban and only 50(33.4%) of respondents were not comfortable with the ICT

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technologies. So it clearly shows that respondents from urban Schools are more technologically sound and using ICT technologies.



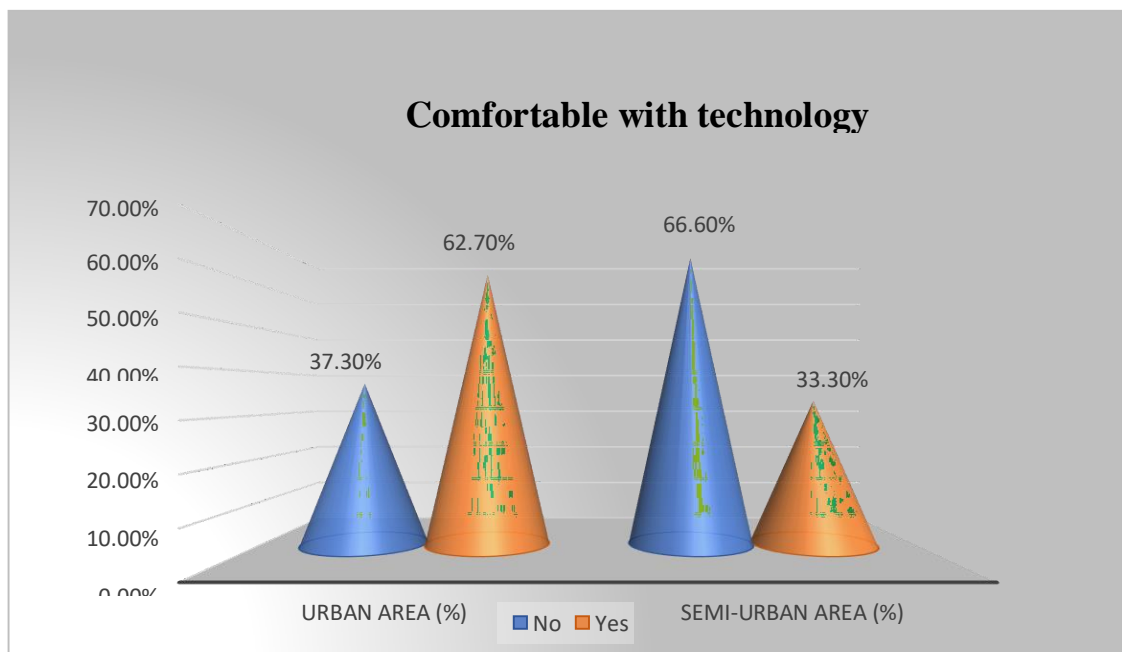
**Fig.4.12** Internet uses by the family

**Table: 4.3.2** Distribution of respondent to find comfort with the technology

S.No.	Are you comfortable with technology	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	No	56 (37.3%)	100(66.6%)
2.	Yes	94 (62.7%)	50(33.3%)
	Total	150 (100.0%)	150 (100.0%)

**N=300**

Above table 4.3.2 shows that 50(37.3%) students from urban and 100(66.6%) students from semi-urban Schools were not comfortable with the ICT technology whereas 94(62.7%) students from urban and 50(33.3%) students from semi-urban Schools were comfortable with the ICT technology, it can be seen that students who belong to the urban Schools were more comfortable with the ICT technologies than the semi-urban Schools.



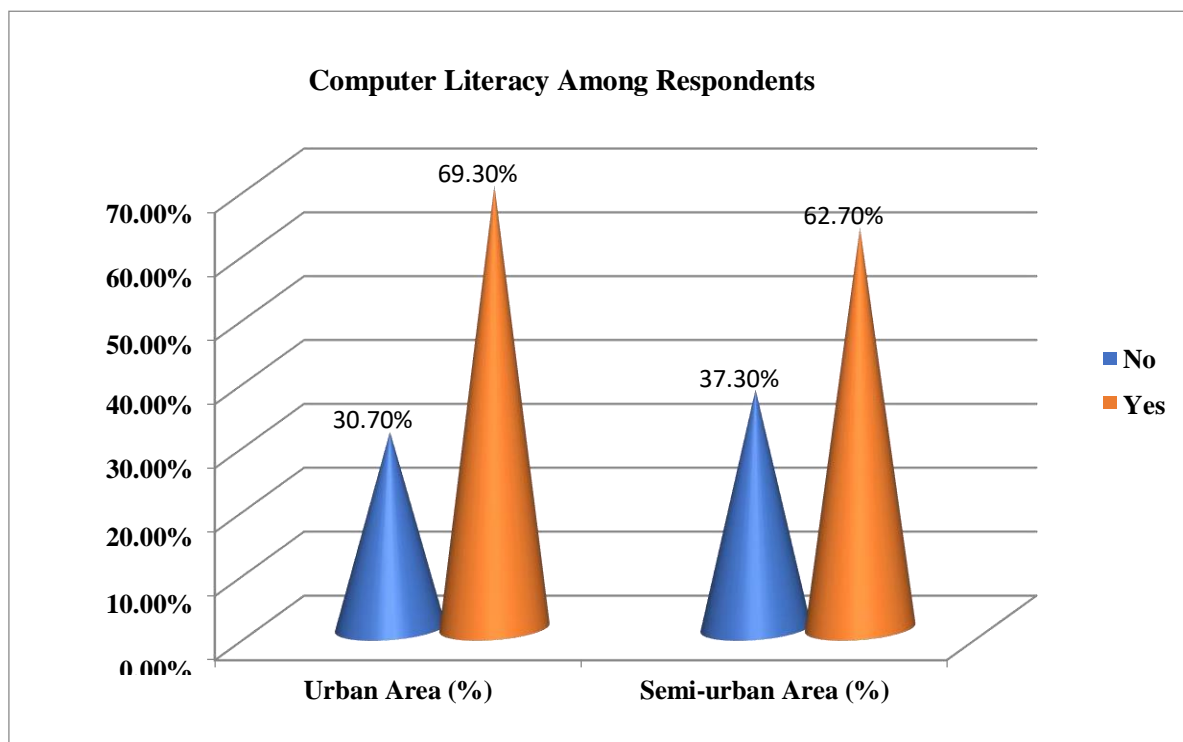
**Fig. 4.13** Distribution of respondent to find comfort with the technology

**Table: 4.3.3 Computer literacy among the school going students**

N=300

S.No.	Are you a computer literate	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency(%)N=150
1.	No	46 (30.7%)	56 (37.3%)
2.	Yes	104 (69.3%)	94 (62.7%)
	Total	150 (100.0%)	150 (100.0%)

Above table 4.3.3 reveals the computer literacy among the students of urban and semi-urban Schools, 104(69.3%) students from urban and 94(62.7%) from semi-urban were computer literate while 46(30.7%) students from urban and 56(37.3%) students from semi-urban were not computer literate. Students from semi-urban Schools were having less literacy about the computer as compared to the urban Schools students.



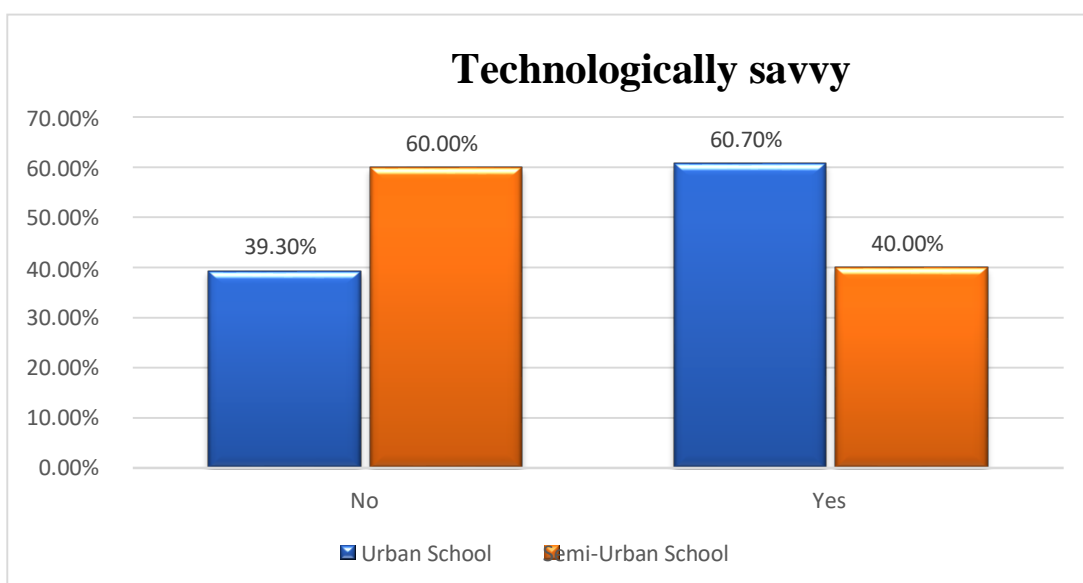
**Fig. 4.14 Computer literacy among the school going students**

**Table: 4.3.4 Distribution of respondent consider themselves to be  
technologically savvy**

N=300

S.No.	Do you consider yourself to be technologically savvy	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	No	59 (39.3%)	90(60.0%)
2.	Yes	91 (60.7%)	60(40.0%)
	Total	150 (100.0%)	150 (100.0%)

Above table 4.3.4 depicts that 91(60.7%) students from urban and 60(40.0%) from semi-urban Schools were considering themselves to be technologically savvy whereas 59(39.3%) students from urban and 90(60.0%) students from semi-urban Schools were not considering themselves to be technologically savvy, so it can be clearly seen that students from semi-urban Schools were not technologically savvy as compared to urban Schools students.



**Fig. 4.15 Distribution of respondent consider themselves to be technologically savvy**

**Table: 4.3.5 Distribution of gadgets used for the internet by the respondents**

**N=300**

S. No.	Gadgets used for internet	(Urban School) Frequency (%) N=150		Total	(Semi-Urban School) Frequency (%) N=150		Total
		Yes	No		Yes	No	
1.	Computer	60 (40.0%)	90 (60.0%)	150 (100.0%)	24 (16.0%)	126 (84.0%)	150 (100.0)
2.	Mobile phone	144 (96.0%)	6 (4.0%)	150 (100.0%)	101 (67.3%)	49 (32.7%)	150 (100.0)
3.	Laptop	78 (52.0%)	72 (48.0%)	150 (100.0%)	49 (32.7%)	101 (67.3%)	150 (100.0)
4.	Tablet	22 (14.7%)	128 (85.3%)	150 (100.0%)	15 (10.0%)	135 (90.0%)	150 (100.0)

The above table 4.3.5 reveals the distribution of gadgets used by respondents for internet use to study. In urban Schools 60(40.0%) respondents were using computer, 144(96.0%) respondents were using mobile phone, 78(52.0%) respondents were using Laptop and 22(14.7%) respondents were using the tablet for the study, where in semi-urban Schools 24(16.0%) respondents were using computer, 101(67.3%) were using mobile phone, 49(32.7%) were using laptop and only 15(10.0) were using table for curriculum study through internet.

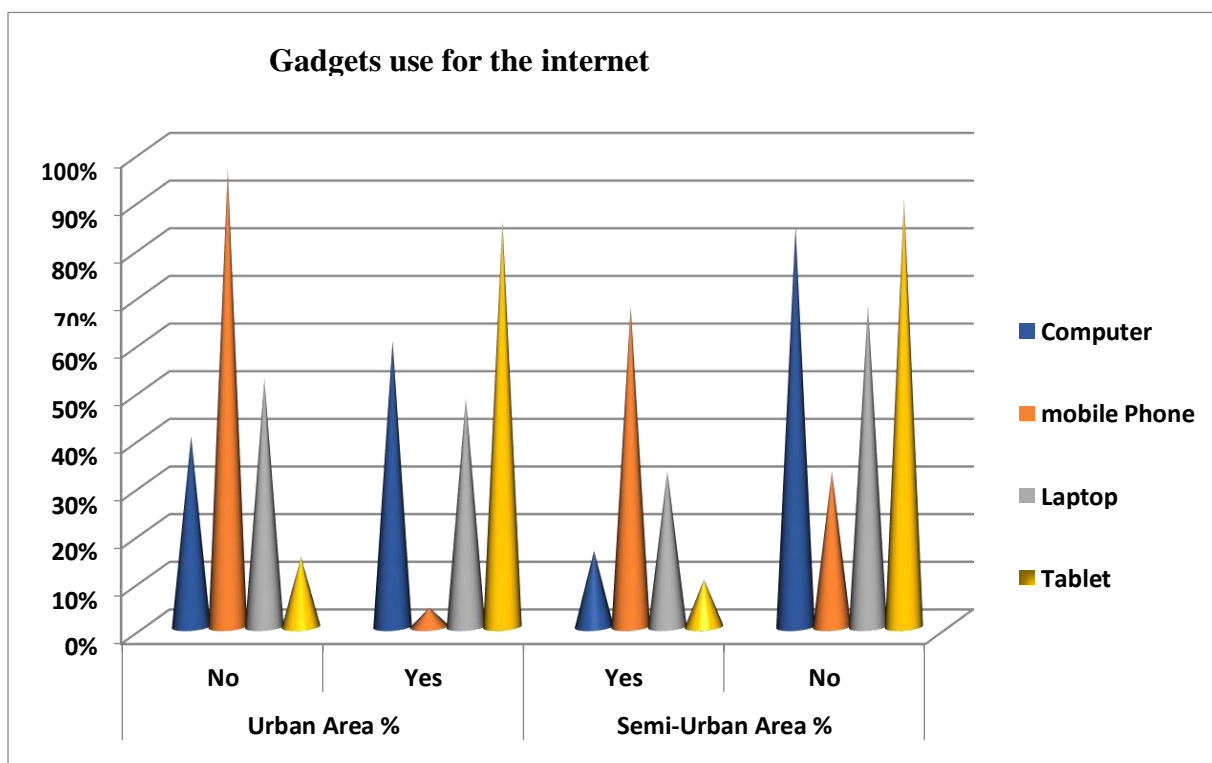


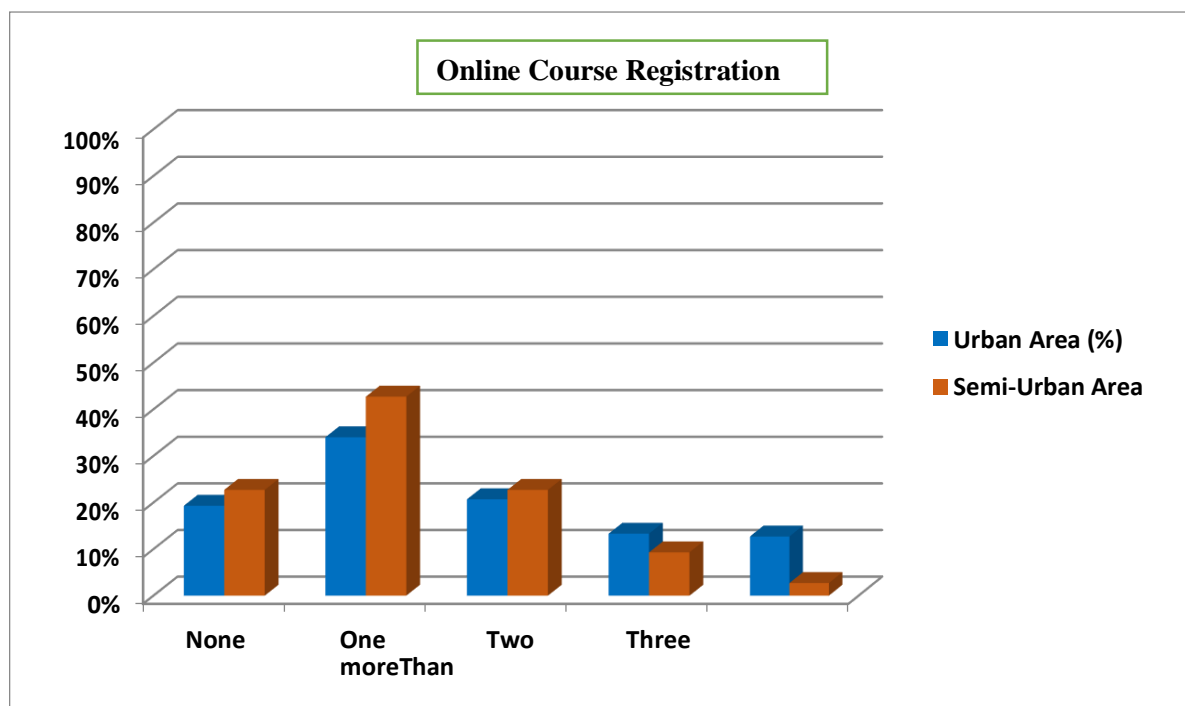
Fig. 4.16 Distribution of gadgets used for the internet by the respondents

Table: 4.3.6 Distribution of respondent's registration in online courses

N=300

S.No.	online courses you are registered in	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	None	29 (19.3%)	34(22.7%)
2.	One	51 (34.0%)	64(42.7%)
3.	Two	31 (20.7%)	34(22.7%)
4.	Three	20 (13.3%)	14(9.3%)
5.	more Than Three	19 (12.7%)	4(2.7%)
	Total	150 (100.0%)	150 (100.0%)

The above table 4.3.6 depicts the distribution of respondents on the basis of the registration of the respondents in online courses, result showed that maximum 51(34.0%) respondents from urban Schools were registered in more than three online courses for their curriculum study where only 4(2.7%) respondents were registered in more than three online courses for the curriculum study from semi-urban Schools. 29(19.3%) were respondents were not registered in any online course, 19(12.7%) respondents were registered in one online course, 31(20.7%) were registered in two and 20(13.3%) registered in three online courses in Urban Schools, whereas 34(22.7%) respondents were not registered in any online courses, 64(42.7%) were registered in one online course, 34(22.7%) were registered in two online courses, 14(9.3%) were registered in three online courses. Results showed that the maximum number of urban Schools students were actively participating in the online courses for the curriculum study as compared to the semi-urban students.



**Fig. 4.17 Distribution of respondent’s registration in online courses**

**Table: 4.3.7 Distribution of respondents using e-learning for curriculum studies**

**N=300**

<b>S.No.</b>	<b>Do you use e-learning for curriculum studies</b>	<b>(Urban School) Frequency (%) N=150</b>	<b>(Semi-Urban School) Frequency (%) N=150</b>
1.	No	35(23.3%)	53(35.3%)
2.	Yes	115(76.7%)	97(64.7%)
	Total	150 (100.0%)	150 (100.0%)

Above Table 4.3.7 reveals the distribution of use of e-learning resources for curriculum studies among the respondents 115(76.7) from urban and 97(64.7%) from semi-urban were using e- learning resources for their curriculum study while 35(23.3%) respondents from urban and 53(35.3%) respondents from semi-urban Schools were not using e-learning resources for their curriculum study. A maximum number of students from urban Schools were using e-learning resources for their curriculum study.

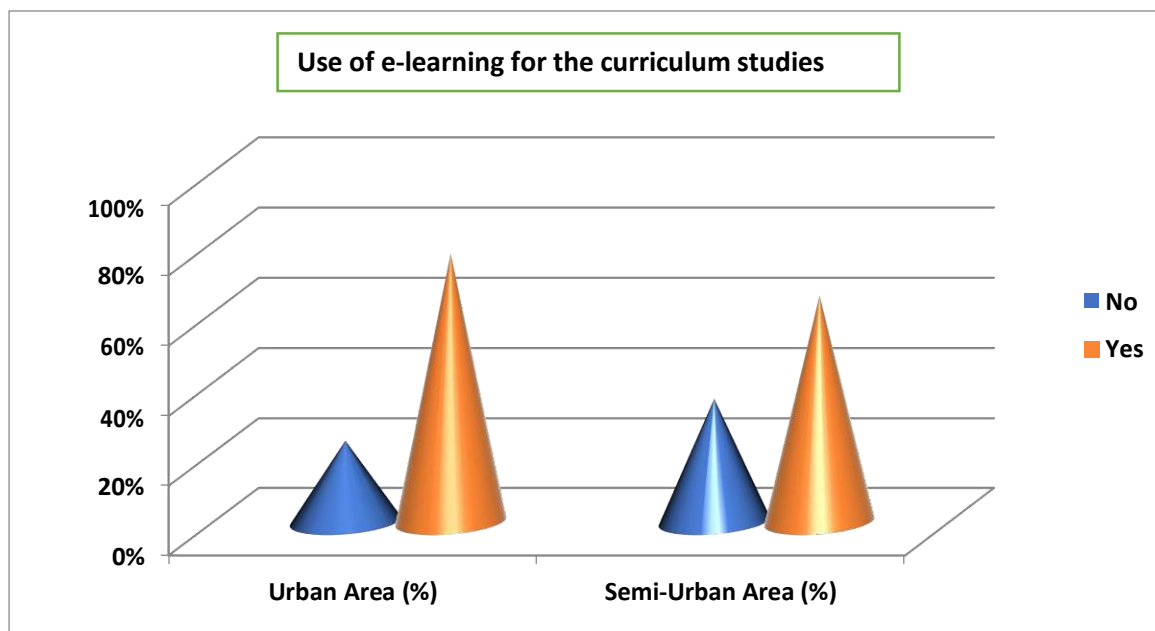


Fig. 4.18 Distribution of respondents using e-learning for curriculum studies

Table: 4.3.8 Use of e-learning resource among the respondents

N= 300

S.No.	Use of e-learning resource as	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	Primary	78 (52.0%)	38(25.3%)
2.	Secondary	72 (48.0%)	112(74.7%)
	Total	150 (100.0%)	150 (100.0%)

Table 4.3.8 explains the use of e-learning resources among the students on the bases of priority 78(52.0%) students from urban and 38(25.3%) from semi-urban 9s were using e- learning resources as a primary resource for their curriculum study whereas 72 (48.0%) students from urban and 112(74.7%)from semi-urban were using e-learning resources as secondary resource for their curriculum study,

it can be seen that students from urban Schools were using e-Learning resources more as compare to semi-urban Schools for their curriculum study.

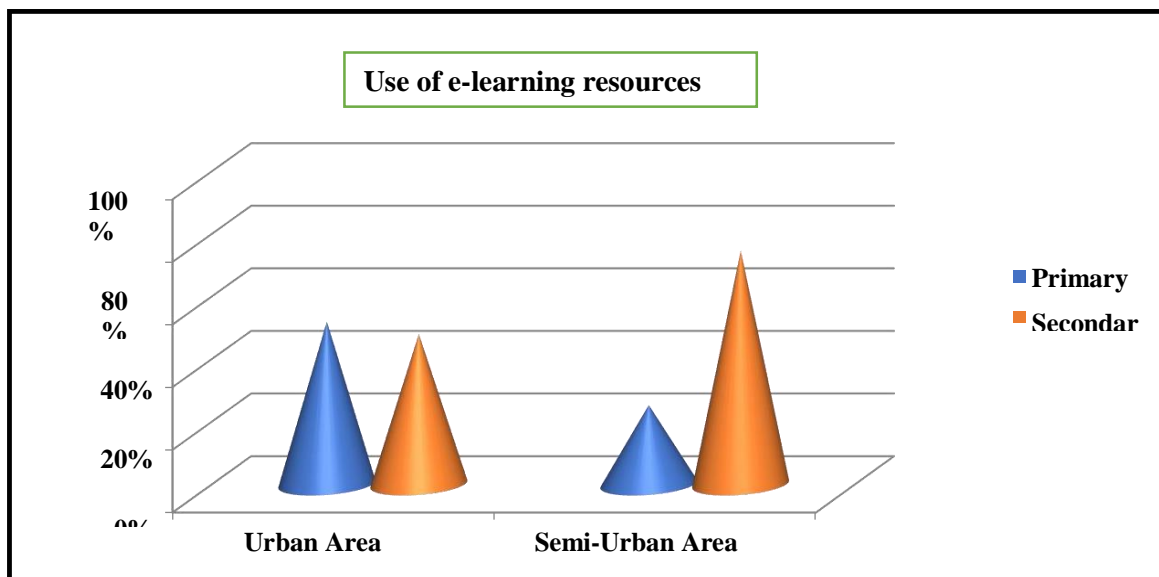


Fig. 4.19 Use of e-learning resource among the respondents

Table:4.3.9 Distribution of ICT tools helps in increasing the ability to build the knowledge that other student created, make link to the wider learning community

N=300

increasing the ability to build the knowledge that other student created, make link to the wider learning community			
S.No		ool) Frequency (%) N=150	School) Frequency (%) N=150
1.	No	43(28.7%)	62(41.3%)
2.	Yes	107(71.3%)	88(58.7%)
	Total	150(100.0%)	150(100.0%)

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Above table 4.3.9 shows ICT tools help in increasing the ability to build the knowledge that other student-created, make link to the wider learning community 107(71.3%) students from urban and 88(58.7%) students from semi-urban were agree that ICT tools helped them in increasing the ability while 43(28.7%) from urban and 62(41.3%)students from semi-urban were not agreed that ICT tools can help them to increase their ability to build the knowledge that other students created and make link to the wider learning community

Table:4.3.10 Perception about the benefits to the school learners with access to e-learning (Blended learning)

S. No	Benefits to school learners with access to e-learning (Blended learning)	(Urban School) Frequency (%) N=150							(Semi-Urban School) Frequency (%) N=150							ANOVA	
		Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mea	S.D.	Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mea	S.D.	F	'P'
1	motivation and engagement	36 (24.0)	74 (49.3)	11 (7.3)	17 (11.3)	12 (8.0)	1.97	1.237	89 (59.3)	3 (2.0)	31 (20.7)	27 (18.0)	0 (0.00)	2.30	1.186	6.826	0.002
2	e-learning gives independent and personalized	80 (53.3)	42 (28.0)	8 (5.3)	9 (6.0)	11 (7.3)	1.97	0.965	60 (40.0)	47 (31.3)	31 (20.7)	12 (8.0)	0 (0.00)	1.86	1.215	3.997	<0.001

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	<b>learning</b>																
3	<b>critical thinking and multi-literacies</b>	39 (26.0)	72 (48.0)	17 (11.3)	17 (11.3)	5 (3.3)	2.97	0.835	6 (4.0)	36 (24.0)	64 (42.0)	44 (29.3)	0 (0.00)	2.18	1.050	3.339	0.022
4.	<b>collaboration in wide contexts including international ones</b>	51 (34.0)	88 (58.7)	2 (1.3)	9 (6.0)	0 (00.0)	2.47	1.273	15 (10.0)	37 (24.7)	61 (40.7)	37 (24.7)	0 (0.00)	2.01	0.855	3.441	0.401
5.	<b>e-learning leads to positive outcomes</b>	37 (24.7)	75 (50.0)	19 (12.7)	10 (6.7)	9 (6.0)	2.80	0.927	11 (7.3)	58 (38.7)	35 (23.3)	37 (24.7)	9 (6.0)	1.79	0.745	4.186	0.036
6.	<b>Help in access to information, resources</b>	43 (28.7)	73 (48.7)	25 (16.7)	8 (5.3)	1 (0.7)	2.99	1.010	38 (25.3)	52 (34.7)	28 (18.7)	16 (10.7)	16 (10.7)	2.19	1.073	3.203	<0.001

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	<b>and experts around the world</b>																
7.	<b>have positive impact on learning environment of student</b>	80 (53.3)	42 (28.0)	8 (5.3)	9 (6.0)	11 (7.3)	2.88	0.926	60 (40.0)	47 (31.3)	31 (20.7)	12 (8.0)	0 (0.00)	1.74	0.734	3.462	0.018
8.	<b>Improves basic skill of literacy</b>	38 (25.3)	52 (34.7)	28 (18.7)	16 (10.7)	16 (10.7)	1.69	0.865	37 (24.7)	75 (50.0)	19 (12.7)	10 (6.7)	9 (6.0)	1.99	1.226	7.212	<0.001

\*significant at  $p \leq 0.05$

Above table 4.3.10 shows the benefits to school learners with access to e-learning (blended learning) which was measured as strongly agree, agree, disagree, and strongly disagree and neither agree nor disagree. The result from the benefits of e-learning to the urban and semi-urban Schools school learners with access to e-learning shows that, mean score of motivation and engagement was found to be higher in semi-urban student ( $2.30 \pm 1.18$ ) as compare to the urban students ( $1.97 \pm 1.237$ ), the difference was found to be statistically significant.

Mean score of e-learning gives independent and personalized learning as found to be higher in semi-urban student ( $1.86 \pm 1.215$ ) as compare to urban student ( $1.97 \pm 0.965$ ), the difference was found statistically highly significant.

Mean score of critical thinking and multi-literacy's was found to be higher in urban student ( $2.97 \pm 0.835$ ) as compare to the semi-urban students ( $2.18 \pm 1.050$ ), the difference was found to be statistically significant.

Mean score of collaboration in wide contexts including international ones was found to be higher in urban student ( $2.47 \pm 1.273$ ) as compare to the semi-urban students ( $2.01 \pm 0.855$ ), the difference was found to be statistically not significant.

Mean score of e-learning leads to positive outcomes was found to be higher in urban student ( $2.80 \pm 0.927$ ) as compare to the semi-urban students ( $1.79 \pm 0.745$ ), the difference was found to be statistically significant.

Mean score of Help in access to information, resources and experts around the world was found to be higher in urban student ( $2.99 \pm 1.010$ ) as compare to the semi-urban students ( $2.19 \pm 1.073$ ), the difference was found to be statistically highly significant.

Mean score of have positive impact on learning environment of the student was found to be higher in urban student ( $2.88 \pm 0.926$ ) as compare to the semi-urban students ( $2.19 \pm 0.734$ ), the difference was found to be statistically significant.

Mean score of Improves basic skill of literacy was found to be higher in urban student

( $1.69 \pm 0.865$ ) as compare to the semi-urban students ( $1.99 \pm 1.226$ ), the difference was found to be statistically highly significant. From the above results, it can be concluded that e-learning education and e-learning resources are providing benefits to both the Schools students.

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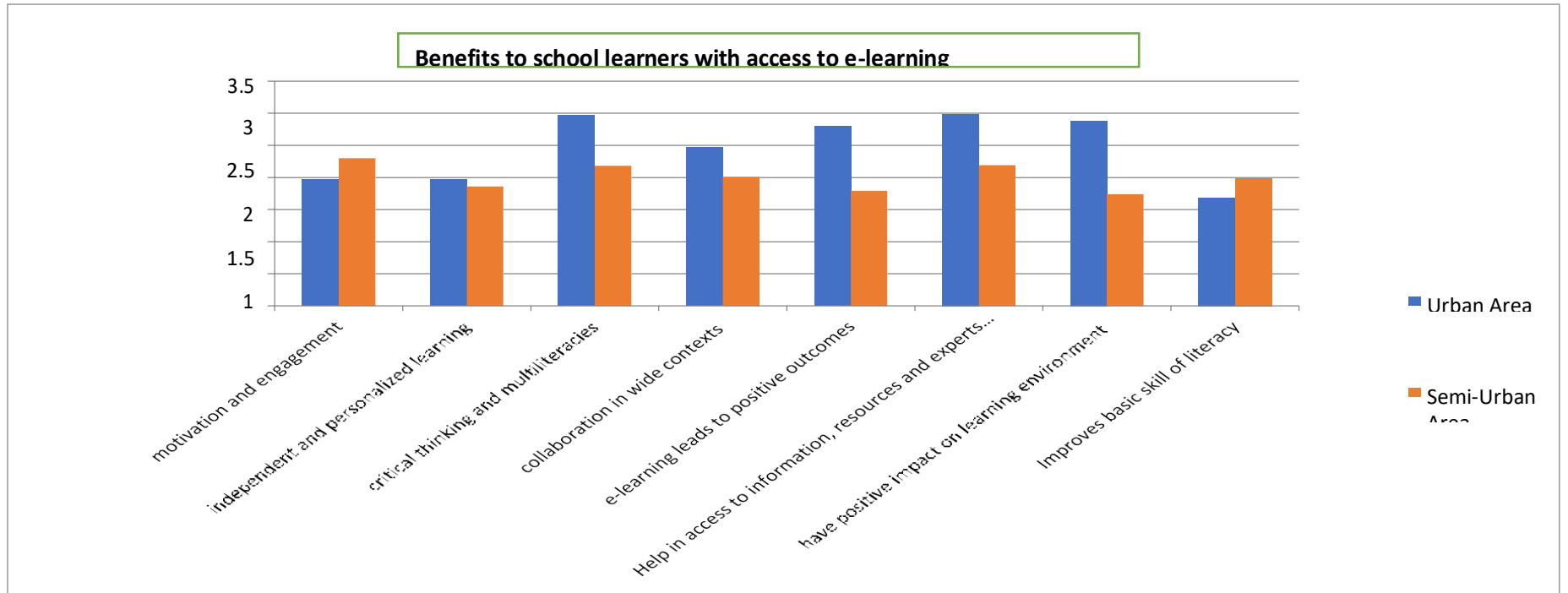


Fig.4.20 Perception about the benefits to the school learners with access to e-learning

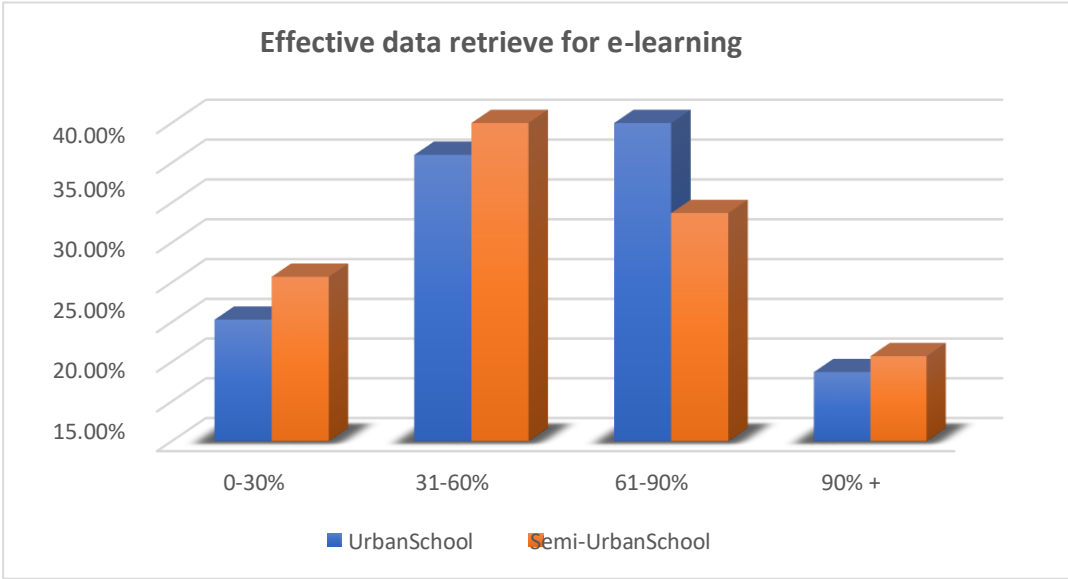
**Table: 4.3.11 Percentage of effective data retrieve for e-learning studies from e-learning resources**

N=300

S.No.	Percentage of effective data retrieve for e-learning	(Urban School) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	0-30%	23(15.3%)	31(20.7%)
2.	31-60%	54(36.0%)	60(40.0%)
3.	61-90%	60(40.0%)	43(28.7%)
4.	90% +	13(8.7%)	16(10.7%)
	Total	150(100.0%)	150(100.0%)

Above table 4.3.11 shows percentage of effective data retrieve for e-learning 23(15.3%) students from Urban and 31(20.7%) from semi-urban Schools were retrieving 0-30% data for e-learning, 54(36.0%) students from Urban and 60(40.0%) from Semi-urban School were retrieving 31-60% of data for e- leaning studies, 60(40.0%) students from Urban and 43(28.7%) from semi-urban School were retrieving 61-90% of data for e-learning whereas 13(8.7%) students from Urban and 16(10.7%) from semi-urban School were retrieving data for e-learning studies. So it can be clearly seen that students from both Schools urban and semi-urban were using e-learning platform for data retrieving for their studies.

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**Fig. 4.21 Percentage of effective data retrieve for e-learning studies from e-learning resources**

Table: 4.3.12. Effect of e-learning on the academic achievement of student

N=300

S. No	Effect of e-learning on your academic achievement	(Urban School) Frequency (%)N=150				(Semi-Urban School) Frequency (%) N=150				ANOVA	
		Yes	No	Mea n	S.D.	Yes	No	Mean	S.D.	F	'p'
1.	<b>gives positive and effective information about your subject/content/syllabus</b>	107 (71.3%)	43 (28.7%)	0.71	0.454	78 (52.0%)	72 (48.0%)	0.65	0.478	6.82	0.002
2.	<b>gives multiple choice of formats to study the curriculum</b>	108 (72.0%)	42 (28.0%)	0.72	0.451	98 (65.3%)	52 (34.7%)	0.57	0.497	0.745	0.001
3.	<b>provide faster and reliable communication</b>	93 (62.0%)	57 (38.0%)	0.62	0.487	94 (62.7%)	56 (37.3%)	0.49	1.89	2.776	0.478

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4.	<b>Feeling of confidence, self-esteem and renewed motivation in the e- learning environment</b>	100 (66.7%)	50 (33.3%)	0.67	0.473	87 (58.0%)	63 (42.0%)	2.61	0.402	2.725	<0.001
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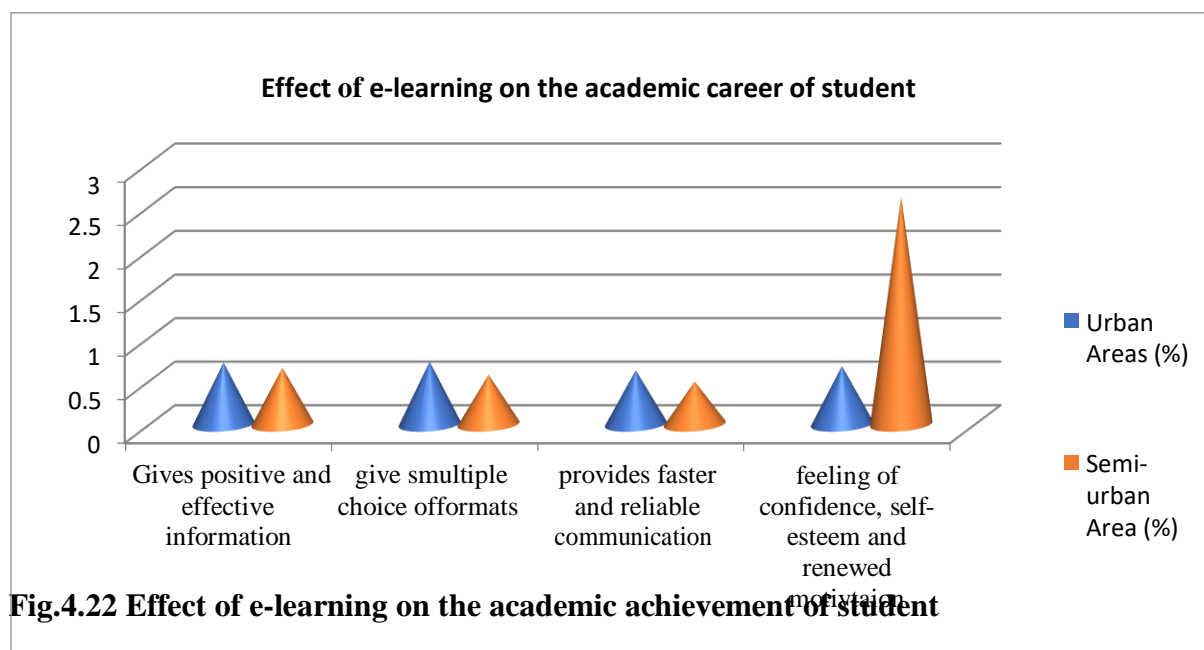
\*significant at  $p \leq 0.05$

Above table 4.3.12 depicts the effect of e-learning on the academic achievement of the student, mean score of e-learning gives positive and effective information about your subject/content/syllabus as found to be higher in urban school ( $0.71 \pm 0.454$ ) as compare to semi-urban school ( $0.65 \pm 0.478$ ), the difference was found statistically significant.

mean score of e-learning gives multiple choice of formats to study the curriculum found to be higher in the urban school ( $0.72 \pm 0.451$ ) as compare to semi-urban school ( $0.57 \pm 0.497$ ), the difference was found statistically significant.

mean score of e-learning provide faster and reliable communication found to be higher in the urban school ( $0.62 \pm 0.487$ ) as compare to semi-urban school ( $0.49 \pm 1.89$ ), the difference was found statistically not significant.

mean score of Feeling of confidence, self-esteem and renewed motivation in the e-learning environment to be higher in the semi-urban school ( $2.61 \pm 0.402$ ) as compare to urban school ( $0.67 \pm 0.473$ ), the difference was found statistically highly significant.



**Table: 4.3.13 Distribution of methods and medias used for school assignments**

**N=300**

S. No.	Methods and medias for assignment	(Urban School) Frequency (%) N=150				(Semi-Urban School) Frequency (%) N=150				ANOVA	
		Yes	No	Mean	SD	Yes	No	Mean	SD	F	'p'
1.	<b>Video conferencing</b>	68 (45.3%)	82 (54.7%)	2.47	2.67	77 (51.3%)	43 (48.7%)	1.23	1.07	4.630	0.302
2.	<b>Gmail</b>	22 (14.7%)	128 (85.3%)	2.17	1.29	67 (44.7%)	83 (55.3%)	0.37	0.85	0.836	0.502
3.	<b>Google search</b>	93 (62.0%)	57 (38.0%)	1.87	1.30	77 (51.3%)	73 (48.7%)	1.37	2.66	5.019	0.012
4.	<b>Learning Apps</b>	86	64	2.10	1.79	96	54	1.07	0.52	2.903	0.009

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		(57.3%)	(42.7%)			(64.0%)	(36.0%)				
<b>5.</b>	<b>Online videos</b>	85 (56.7%)	65 (43.3%)	4.10	2.38	77 (51.3%)	73 (48.7%)	1.93	1.20	3.069	<0.001
<b>6.</b>	<b>You Tube</b>	99 (66.0%)	51 (34.0%)	4.73	3.03	97 (64.7%)	53 (35.3%)	3.73	1.34	3.812	<0.001
<b>7.</b>	<b>Social media (Facebook, twitter, what's appetc.)</b>	70 (46.7%)	80 (53.3%)	2.27	2.24	60 (40.0%)	90 (60.0%)	1.87	2.66	0.836	0.004

\*significant at  $p \leq 0.05$

Above table 4.3.13 distribution of method and medias used for school assignments reveals that mean score of video conferencing used for assignment found to be higher among the students from urban school ( $2.47 \pm 2.67$ ) as compare to the semi-urban students ( $1.23 \pm 1.07$ ), the difference was found to be statistically not significant.

Mean score of Gmail which was used for doing assignments found to be higher among urban school students ( $2.17 \pm 1.29$ ) as compare to semi-urban school students ( $0.37 \pm 0.85$ ), the difference was found to be statistically not significant.

Mean score of google search used for the school assignment found to be higher among the students from urban school ( $1.87 \pm 1.30$ ) as compare to the semi-urban school students ( $1.37 \pm 2.66$ ), the difference as found to statistically significant.

Mean score of the learning apps used for school assignments found to be higher among the students from urban school ( $2.10 \pm 1.79$ ) as compare to the semi-urban schools ( $1.07 \pm 0.52$ ), the difference was found to statistically significant.

Mean score online videos used for school assignments found to be higher among the students from urban of schools ( $4.10 \pm 2.38$ ) as compare to semi-urban schools ( $1.93 \pm 1.20$ ), the differences was found to be statistically highly significant.

Mean score of YouTube used for school assignments found to be higher among the students from urban of schools ( $4.73 \pm 3.03$ ) as compare to semi-urban schools ( $3.73 \pm 1.34$ ), the differences was found to be statistically highly significant.

Mean score of Social media (Facebook, twitter, what's app etc.) used for school assignments found to be higher among the students from urban of schools ( $2.27 \pm 2.24$ ) as compare to semi-urban schools ( $1.87 \pm 2.66$ ), the differences was found to be statistically significant. Results shows that students from urban and semi-urban schools were using various medias for the completion of their school assignment but urban school students were using more compare to the semi-urban students.

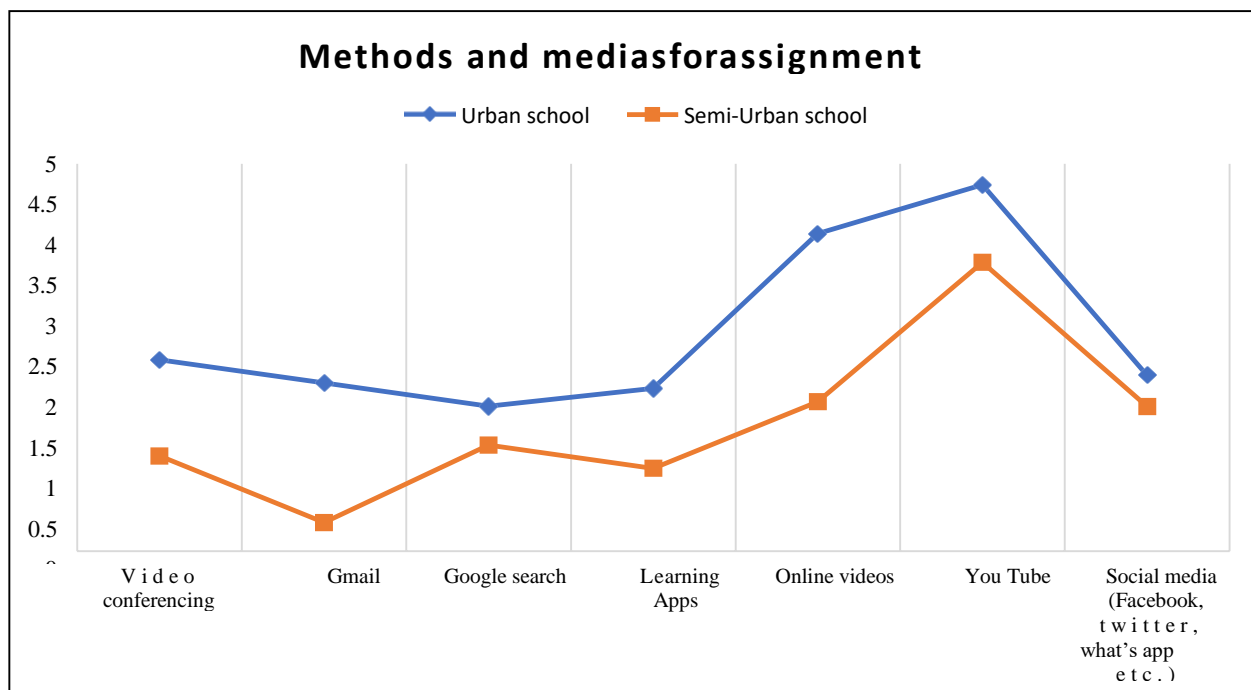


Fig.4.23 Distribution of methods and medias used for school assignments

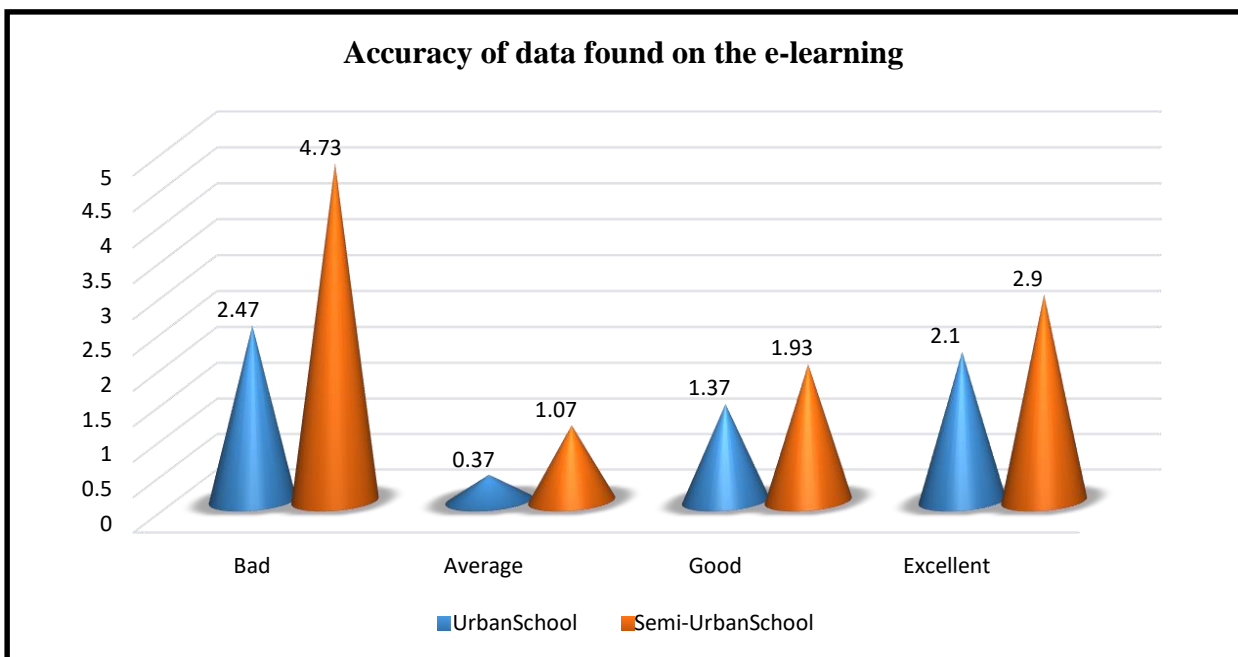
Table: 4.3.14 Intergroup comparison of accuracy of data retrieved from e-learning resources

S.No	Accuracy of data retrieved from e-learning resources	(Urban School) Frequency (%) N=150		(Semi-Urban School) Frequency (%) N=150		ANOVA	
		Mean	SD	Mean	SD	F	'p'
1.	Bad	2.47	2.67	4.73	1.34	0.36	0.107
2.	Average	0.37	0.85	1.07	0.52	2.903	0.060
3.	Good	1.93	1.20	1.37	1.30	12.090	<0.001
4.	Excellent	2.90	0.96	2.10	1.79	5.019	0.009

N=300

\*significant at  $p \leq 0.05$

Above table 4.3.14 accuracy of data retrieve from e-learning resources reveals that mean score of students ( $2.47 \pm 2.67$ ) from urban and ( $4.73 \pm 1.34$ ) from semi-urban school student which is higher and accuracy of data retrieved from e-learning resources found as bad which were found to be statistically not significant. Mean score of urban ( $0.37 \pm 0.85$ ) and ( $1.07 \pm 0.52$ ) from semi-urban school student which is higher than the urban school, the accuracy of data was found to be average and the difference was found to be statistically significant. Mean score of accuracy of data retrieved from e-learning resources as good which was found to be higher in urban school ( $1.93 \pm 1.20$ ) as compare to semi-urban school students ( $1.37 \pm 1.30$ ) the difference was found to be statistically highly significant ( $< 0.001$ ). Mean score of accuracy of data retrieved from e-learning resources as excellent which was found to be higher in urban school ( $2.90 \pm 0.96$ ) as compare to semi-urban school students ( $2.10 \pm 1.79$ ) the difference was found to be statistically significant.



**Fig.4.24 Accuracy of data found on the e-learning retrieve from e-learning resources**

**Table: 4.3.15 intergroup comparison of respondents receiving current or new information for subject study**

**N=300**

S.No.	you receive current or new information for your study subject	(Urban School)Frequency (%) N=150			(Semi-Urban School) Frequency (%)N=150			ANOVA	
			Mean	SD		Mean	SD	F	'p'
1.	Traditional classroom	40(26.7%)	2.07	2.48	59(39.3%)	4.67	1.83	6.207	0.001
2.	Internet	28(18.7%)	3.90	2.17	36(24.0%)	1.97	1.73	7.200	0.045
3.	Both(blended)	82(54.7%)	2.23	1.93	55(36.7%)	2.10	3.39	2.209	<0.001

\*significant at  $p \leq 0.05$

Above table 4.3.15 intergroup comparison of respondents receiving current or ne information for subject study reveals that mean score of students learning through traditional classroom found to be higher in school from semi-urban schools ( $4.67\pm 1.83$ ) as compare to the students from urban school ( $2.07\pm 2.48$ ) the difference as found to be statistically significant Mean score of students who were learning through internet found to be higher among the students from urban school ( $3.90\pm 2.17$ ) as compare to semi-urban students ( $1.97\pm 1.73$ ) the difference was found to be statistically significant.

Mean score of students who were learning through bended learning found to be higher among the students from urban school ( $2.23\pm 1.93$ ) as compare to semi-urban schools ( $2.10\pm 3.39$ ) the difference as found to be statistically highly significant ( $<0.001$ ). It can be concluded that students from both urban and semi-urban school were using blended learning for their subject study to improve their scores.

To identify the problems faced by the student while using e-learning resources.

Table: 4.4.1 Exploration of the problems faced by respondents in the utilization of e-learning resources

N=300

S. No	Following problems faced by students in the utilization of e-learning resources	(Urban School) Frequency (%) N=150							(Semi-Urban School) Frequency (%) N=150							ANOVA	
		Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mean	S.D.	Strongly agree	Agree	Disagree	Strongly disagree	Neither agree nor disagree	Mean	S.D.	F	'P'
1.	Lack of internet facilities at school and home	21 (14.0%)	47 (31.3%)	59 (39.3%)	1 (0.7%)	22 (14.7%)	2.38	1.179	53 (35.3%)	49 (32.7%)	25 (16.7%)	21 (14.0%)	2 (0.5%)	2.71	1.251	5.826	0.002
2.	Inadequate e-learning resources in school	52 (34.7%)	48 (32.0%)	28 (18.7%)	15 (10.0%)	7 (4.7%)	2.50	1.641	45 (30.0%)	46 (30.7%)	19 (12.7%)	23 (15.3%)	17 (11.3%)	2.87	1.641	2.697	<0.001

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3.	<b>High cost of computer, laptop, smart phone etc.</b>	79 (52.7%)	56 (37.3%)	0 (0.00)	0(0.00)	15 (10.0%)	2.18	1.153	46 (30.7%)	44 (29.3%)	18 (12.0%)	24 (16.0%)	18 (12.0%)	2.59	1.034	3.359	0.026
4.	<b>Poor electricity supply</b>	20 (13.3%)	21 (14.0)	39 (26.0%)	44 (29.3%)	26 (17.3%)	1.77	1.177	29 (19.3%)	48 (32.0%)	40 (26.7%)	33 (22.0%)	0 (0.00)	2.20	1.176	3.431	0.103
5.	<b>Low level of computer literacy of teacher/student</b>	56 (37.3%)	55 (36.7)	39 (26.0%)	0 (0.00)	0 (0.00%)	1.39	0.645	64 (42.7%)	46 (30.7%)	18 (12.0%)	10 (6.7%)	12 (8.0%)	3.23	1.271	3.186	0.021
6.	<b>Inadequate training of staff in institutions especially related to educational technology</b>	46 (30.7%)	44 (29.3)	35 (23.3%)	10 (6.7%)	15 (10.0%)	1.89	0.790	67 (44.7%)	43 (28.7%)	13 (8.7%)	14 (9.3%)	13 (8.7%)	2.01	0.855	3.503	<0.001
7.	<b>Problems while accessing and using e-resources due to lack of availability of suitable personal computers and bandwidth</b>	8 (57.3%)	64 (42.7)	0 (0.00)	0(0.00)	0 (0.00%)	2.36	1.260	73 (48.7%)	39 (26.0%)	13 (8.7%)	10 (6.7%)	15 (10.0%)	1.79	0.745	3.342	0.015

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8.	<b>Face problems with accessing suitable software</b>	76 (50.7%)	9 (6.0)	31 (20.7%)	34 (22.7%)	0 (0.00%)	1.43	0.496	54 (36.0%)	54 (36.0%)	14 (9.3%)	19 (12.7%)	9 (6.0%)	1.49	1.326	7.262	<0.001
9.	<b>Lack of information about how to use internet</b>	67 (44.7%)	19 (12.7%)	20 (13.3%)	36 (24%)	8 (5.3%)	1.76	1.295	44 (29.3%)	48 (32.0%)	17 (11.3%)	24 (16.0%)	17 (11.3%)	2.15	1.268	2.201	0.020
10.	<b>Lack of support from the library staff</b>	56 (37.3%)	21 (14.0%)	27 (18.0%)	32 (21.3%)	14 (9.3%)	2.33	1.388	39 (26.0%)	30 (8.2%)	32 (21.3%)	20 (13.3%)	29 (19.3%)	2.38	1.030	3.481	0.002
11.	<b>In solving problems through e-learning</b>	57 (38.0%)	21 (14.0%)	30 (20.0%)	42 (28.0%)	0 (0.00%)	2.51	1.413	8 (5.3%)	38 (25.3%)	54 (36.0%)	25 (16.7%)	25 (16.7%)	1.64	0.834	1.012	0.045

\*significant at  $p \leq 0.05$

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Above table 4.4.1 problems faced by students in the utilization of e-learning resources, which was measured as strongly agree, agree, disagree, and strongly disagree and neither agree nor disagree. The result shows that the mean score of Lack of internet facilities at school and home to be found higher among the semi-urban school student ( $2.71 \pm 1.251$ ) as compare to the urban school student ( $2.38 \pm 1.179$ ), the difference was found to be statistically significant.

The mean score of Inadequate e-learning resources in school to be found higher among the semi-urban school student ( $2.87 \pm 1.641$ ) as compare to the urban school student ( $2.501 \pm 0.655$ ), the difference was found to statistically highly significant.

The mean score of High cost of computer, laptop, smart phone etc. to be found higher among the semi-urban school student ( $2.59 \pm 1.034$ ) as compare to the urban school student ( $2.18 \pm 1.153$ ), the difference was found to statistically significant.

The mean score of Poor electricity supply to be found higher among the semi-urban school student ( $2.20 \pm 1.176$ ) as compare to the urban school student ( $1.77 \pm 1.177$ ), the difference was found to statistically not significant.

The mean score of Low level of computer literacy of teacher/student to be found higher among the semi-urban school student ( $3.23 \pm 1.271$ ) as compare to the urban school student ( $1.39 \pm 0.645$ ), the difference was found to statistically significant.

The mean score of Inadequate training of staff in institutions especially related to educational technology to be found higher among the semi-urban school student ( $2.01 \pm 0.855$ ) as compare to the urban school student ( $1.89 \pm 0.790$ ), the difference was found to statistically highly significant.

The mean score of problems while accessing and using e-resources due to lack of availability of suitable personal computers and bandwidth to be found higher among the urban school student ( $2.36 \pm 1.260$ ) as compare to the semi-urban school student

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( $1.79 \pm 0.745$ ), the difference was found to statistically significant.

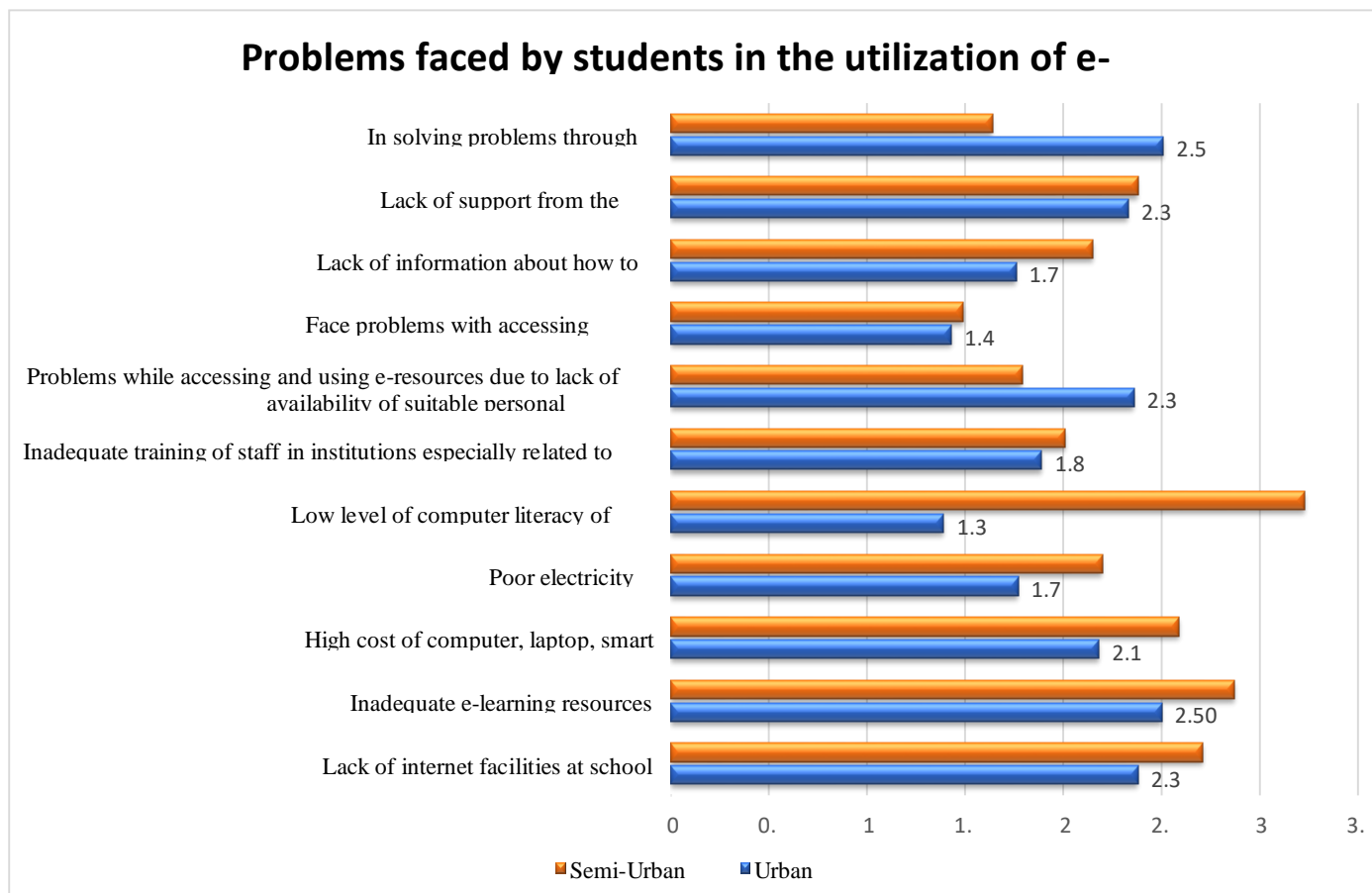
The mean score of face problems with accessing suitable software to be found higher among the semi-urban school student ( $1.49 \pm 1.326$ ) as compare to the urban school student ( $1.43 \pm 0.496$ ), the difference was found to statistically highly significant.

The mean score of lack of information about how to use internet to be found higher among the semi-urban school student ( $2.15 \pm 1.268$ ) as compare to the urban school student ( $1.76 \pm 1.295$ ), the difference was found to statistically significant.

The mean score of lack of support from the library staff to be found higher among the semi-urban school student ( $2.38 \pm 1.030$ ) as compare to the urban school student ( $2.33 \pm 1.388$ ), the difference was found to statistically significant.

The mean score of in solving problems through e-learning to be found higher among the urban school student ( $2.51 \pm 1.413$ ) as compare to the semi-urban school student ( $1.64 \pm 0.834$ ), the difference was found to statistically significant.

From the above results it can be concluded that students from semi-urban school were facing more problems in the utilization of e-learning resources as compare to the urban school student.



**Fig.4.25 Exploration of the problems faced by respondents in the utilization of e-learning resources**

**To study the impact of level of engagement (hours online/offline) on academic performance. (Study hours it's impact on academic performance)**

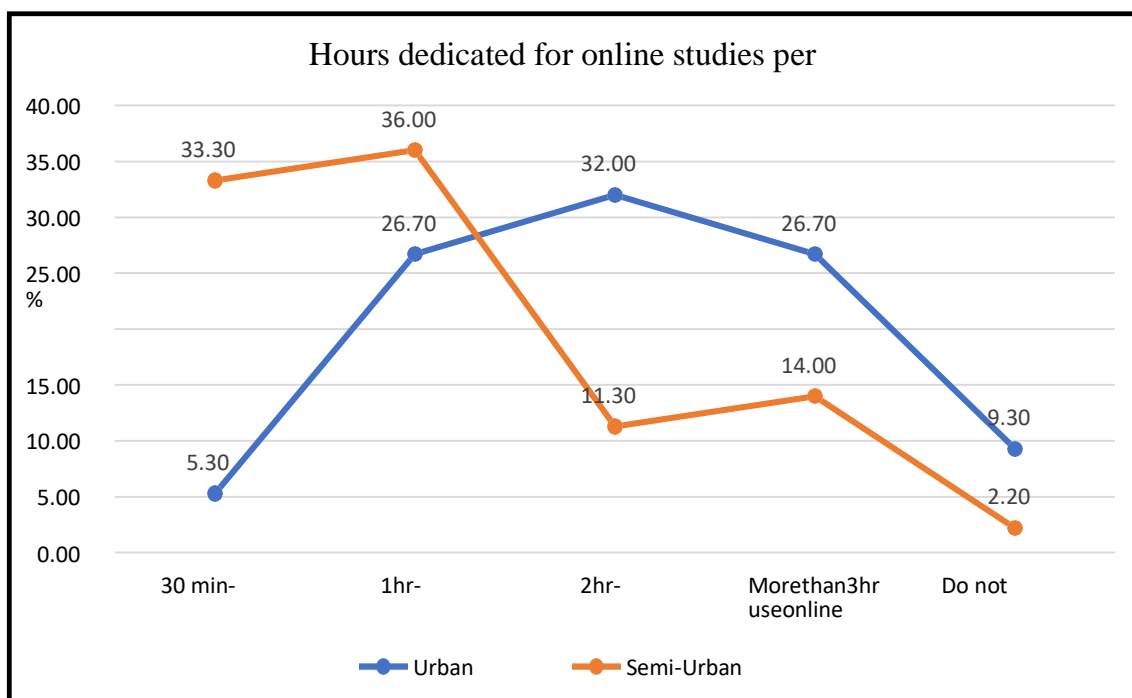
**Table: 4.5.1 Hours dedicated for online studies per day**

**N=300**

<b>S.No.</b>	<b>Hours dedicated for online studies per day</b>	<b>(Urban School) Frequency (%)N=150</b>	<b>(Semi-Urban School) Frequency (%)N=150</b>
1.	30 min-1hr.	8(5.3%)	50(33.3%)
2.	1hr-2hr	40(26.7%)	54(36.0%)
3.	2hr-3hr	48(32.0%)	17(11.3%)
4.	More than 3hr	40(26.7 %)	21(14.0%)
5.	Do not use online studies	14(9.3%)	8(2.2%)
	Total	150(100.0%)	150(100.0%)

Above table 4.5.1 Hours dedicated for online studies per day reveals that 8(5.3%) respondents from urban and 50(33.3%) respondents from semi-urban schools were spending 30 minutes per day for online studies, 40(26.7%) respondents from urban and 54(36.0%) respondents from semi-urban schools were spending 1hr-2hr per day for online study, 48(32.0%) respondents from urban and 17(11.3%) respondents from semi-urban schools were spending 2hr-3hr daily for online studies, whereas 40(26.7%) respondents from urban and 21(14.0%) respondents from semi-urban schools were spending more than 3hr per day for online studies, only 14(9.3%) respondents from urban and 8(2.2%) respondents from semi-urban schools were not using online platform for studies. It can be seen that from both urban and semi-urban school's students were spending good amount of hours in studying through online. So this can impact on their academic performance.

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**Fig. 4.25 Hours dedicated for online studies per day**

**Table:4.5.2 Distribution of ease in keeping up with reading hours required for online studies**

**N=300**

S.No.	ease in keeping up with reading hours required for online studies	(Urban School) (%) N=150	(Semi-Urban School))(%)N=150
1.	Disagree	32%	45%
2.	Neutral	16%	21%
3.	Agree	42%	30%

4.	Strongly Agree	10%	4%
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The study sought to establish whether the students in e-learning mode of study found it easy studying online; table 4.5.2 reveals that 32% of the respondents from urban and 45% respondent from semi-urban school indicated that they found difficulty studying online, 16% of the respondents from urban and 21% respondent from semi-urban school were not sure, while 42% of the respondents from urban 30% respondent from semi-urban school indicated that they found no difficulty studying online, only 10% of the respondents from urban and 30 percent respondent from semi-urban school on e-learning strongly agreed that studying online was easy to keep-up with.

**Table: 4.5.3 Ease in finding time to complete online course**

**N=300**

S.No.	ease in finding time to complete online studies	(Urban School) (%) N=150	(Semi-Urban School) School)(%) N=150
1.	Disagree	37%	52%
2.	Neutral	10%	13%
3.	Agree	53%	35%

The study sought to establish whether the students found time to do their studies online; above table 4.5.3 shows that 37% of respondents from urban and 52% respondents from semi-urban schools reported that it was not easy finding time for online studies, 10% from urban and 13% from semi-urban were undecided while only 53% respondent from urban and 35% respondents from semi-urban schools

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indicated that they found time to study online. It can be assumed that not so many e-learning students find study time; this may be reflected in their academic performance.

**Table: 4.5.4 Impact of study hours (e-learning) on grade score**

N=300

<b>S.No.</b>	<b>Impact of study hours on grade score</b>	<b>(Urban School) (%) N=150</b>	<b>(Semi-Urban School) (%)N=150</b>
1.	Excellent	32.0%	14.2%
2.	Good	26.7 %	36.0%
3.	Fair	26.7 %	33.3%
4.	Bad	9.3%	11.3%
5.	No Impact	5.3%	2.2%
	Total	100.0%	100.0%

Above table 4.5.4 Impact of study hours (e-learning) on grade score reveals that 32% respondents from urban and 14.2% respondents from semi-urban school were having excellent impact on their grade scores, 26% respondents from urban and 36% respondents from semi-urban school were having good impact on their grade score, 26% respondents from urban and 33.3% respondents from semi-urban schools were having fair impact on the grade score of the student, while 9.3% respondents from urban and 11.3% respondents from semi-urban schools were having bad impact on their grade score, only 5.3% respondents from urban and 2.2% respondents from semi-urban schools were having no impact on their grade score.

To study the impact of e-learning (blended learning) in the academic performance of the student.

**Table:4.6.1 intergroup comparison of impact of e-learning (blended learning) on the academic performance of the student**

**TEST ONE**

**T-test**

**Table:4.6.1 (a) Description of first test results in relation to mean and Standard Deviation**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Marks for first test in urban School</b>	<b>Experimental Group</b>	56	15.2679	1.77345	0.23699
	<b>Control Group</b>	94	14.1259	1.78028	0.15260
<b>Marks for first test in Semi-urban School</b>	<b>Experimental Group</b>	55	15.1567	1.66334	0.23589
	<b>Control Group</b>	95	14.1368	1.78029	0.15261

**Table:4.6.1(b) Independent Sample Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Marks for first test in urban School</b>	<b>Equal variance assumed</b>	0.006	0.940	3.869	148	0.000	1.14193	0.29519
	<b>Equal variance not assumed</b>			3.972	109.115	0.000	1.14193	0.28746
<b>Marks for first test in semi-urban School</b>	<b>Equal variance assumed</b>	0.006	0.941	3.879	148	0.000	1.14184	0.29519
	<b>Equal variance not assumed</b>			3.983	108.124	0.000	1.14186	0.28856

The result shows that on the average, the reported variability of the, marks in the first test was significantly higher for the experimental Group from urban (M=15.2679, SD= 1.77345) and experimental Group from semi-urban

(M=15.1567, SD= 1.66334) Control Group form urban (M=14.1259, SD=1.78028) and Control Group form semi-urban (M=14.1368, SD=1.78029),  $t(150) = 3.869$ ,  $p < 0.001$ ,  $r = 0.27$  in urban Schools and from semi-urban Schools  $t(150) = 3.879$ ,  $p < 0.001$ ,  $r = 0.26$ . the estimated size of the effect indicates that the difference in performance in the test created by group was small and thus representing a substantial effect.

## TEST TWO

### t-test

**Table:4.6.2(a) Description of Second test results in relation to mean and standard deviation**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Marks for second test in urban School</b>	<b>Experimental Group</b>	56	16.0536	1.34055	0.17914
	<b>Control Group</b>	94	14.2519	1.35337	0.11648
<b>Marks for second test in Semi-urban School</b>	<b>Experimental Group</b>	55	16.0525	1.34043	0.17902
	<b>Control Group</b>	95	14.2508	1.35325	0.11636

**Table:4.6.2(b) independent sample test**

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Marks for second test in urban school</b>	<b>Equal variance assumed</b>	0.368	0.0545	8.399	148	0.000	1.80172	0.21453
	<b>Equal variance not assumed</b>			8.432	102.728	0.000	1.80172	0.21368
<b>Marks for second test in semi-urban school</b>	<b>Equal variance assumed</b>	0.355	0.533	8.289	148	0.000	1.80172	0.21453
	<b>Equal variance not assumed</b>			8.332	103.728	0.000	1.81162	0.22456

The results show that on the average, the reported variability of the marks in the second test was significantly higher for the Experimental Group from urban

(M=16.0536, SD=1.34055) and experimental Group from semi-urban (M=16.0525, SD= 1.34043) than for the Control Group from urban (M=14.2519, SD=1.35337) and Control Group from semi-urban (M=14.2508, SD=1.35325), From urban student  $t(150) = 8.399$ ,  $p < 0.001$ ,  $r = 0.5214$  and from semi-urban Schools  $t(150) = 8.289$ ,  $p < 0.001$ ,  $r = 0.5213$ . the estimated size of the effect indicates that the difference on the performance in the second test created by group was significant and thus represents a substantial effect.

#### 4.6.3 Test one and test two T-TEST

**Table:4.6.3(a) description of mean marks in relation to Group for test One and Two**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Mean Marks for the two test in urban school</b>	<b>Experimental Group</b>	56	15.6607	1.20268	0.16071
	<b>Control Group</b>	94	14.1889	1.50480	0.12951
<b>Mean Marks for the two tests in Semi- urban School</b>	<b>Experimental Group</b>	55	15.5406	1.20156	0.16051
	<b>Control Group</b>	95	14.1788	1.50350	0.12840

**Table:4.6.3(b) independent sample test**

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Mean Marks for the two tests in urban School</b>	<b>Equal variance assumed</b>	3.412	0.066	6.505	148	0.000	1.47183	0.22626
	<b>Equal variance not assumed</b>			7.131	122.551	0.000	1.47183	0.20640
<b>Mean Marks for the two tests in semi-urban School</b>	<b>Equal variance assumed</b>	3.211	0.064	6.303	148	0.000	1.44053	0.22423
	<b>Equal variance not assumed</b>			7.101	122.561	0.000	1.47162	0.20530

The result shows that on the average, the reported variability of the Mean between the first test and the second test was significantly higher for the Experimental Group from urban (M=15.6607, SD=1.20268) and experimental Group from semi-urban (M=15.5406, SD= 1.20156) than for the Central Group from urban (M=14.1889,SD=1.50480) and Control Group form semi-urban (M=14.1788 SD=1.50350), From urban student  $t(150) = 6.505$ ,  $p < 0.001$ ,  $r = 0.4280$  and from semi-urban Schools  $t(150) = 6.303$ ,  $p < 0.001$ ,  $r = 0.4270$ . the estimated size of the effect indicates that the difference in performance between the two groups was significant, and therefore represents a substantial effect. The magnitude of the effect showed that the difference in performance between the two groups of students was significant. This finding offers evidence that e-learning has a significant influence on the performance of student.

Result of the similar study conducted by **Lumadi, M., (20130)** highlighted that students from experimental group were showing significant improvements in the test results as compare to the control group. E-learning (Blended learning) has a significant influence on the academic performance of the student.

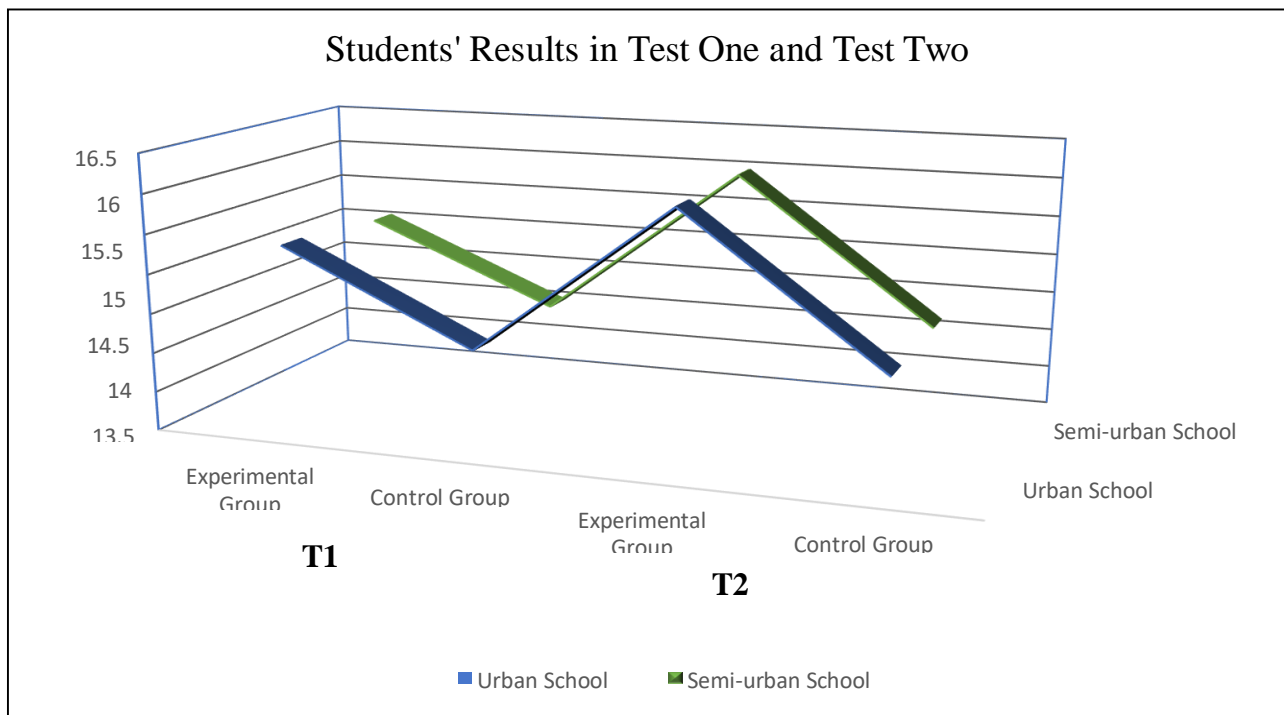


Fig. 4.27 Students' Results in Test One and Test Two

**Table: 4.7 Coefficient of Correlation**

		<b>Academic Performance</b>	<b>Hours spent online</b>	<b>Gender</b>	<b>Location setting</b>	<b>Subject</b>
<b>Academic Performance</b>	Pearson Correlation	1				
	Sig. (2-tailed)					
<b>Hours spent online</b>	Pearson Correlation	0.589	1			
	Sig. (2-tailed)	0.3079				
<b>Gender</b>	Pearson Correlation	0.562	.310	1		
	Sig. (2-tailed)	0.1855	0.0183			
<b>Location setting</b>	Pearson Correlation	0.582	0.1836	0.1208	1	
	Sig. (2-tailed)	0.0023	0.1859	0.4200		
<b>Subject</b>	Pearson Correlation	0.568	0.0072	0.2345	0.1038	1
	Sig. (2-tailed)	0.0432	0.9491	0.0936	0.4682	

To compute the correlation between the study variables and their findings in the study the Karl Pearson's coefficient of correlation (r) as used. The findings as shown in Table 8 revealed that there was a positive correlation between academic performance and hours spent online as shown by a correlation figure of 0.589, even though the correlation is positive, the connection between academic performance and hours spent online isn't significant. It was also clear that there was a positive correlation between academic performance and gender with a correlation figure of 0.562, even though the correlation is positive, the relationship between academic performance and gender is not significant. It was also revealed that there was a positive correlation between academic performance and location of setting with a correlation figure of 0.582, likewise even though the correlation is positive, the connection between academic

performance and site setting isn't significant. Finally, a positive correlation between academic performance and subject with a correlation value of 0.568 was realized. Even though the correlation is positive, the connection between academic performance and subject isn't significant. This clearly depicts that there was a moderate correlation between academic performance and hours spent online, gender, location setting and subject. The lack of significance in the individual relationships could be due to interactive effects with the other variables. **Rodgers and Ghosh (2001)** identified that 'effort' (or engagement) levels were highly significant in determining student examination performance.

**Table:4.8 Table of P-value**

Comparison	P-Value
1. Gender and technology usage	0.413
2. Gender and awareness	0.594
3. Gender and quality of easy to use	0.187
4. Gender and self-efficacy	0.688

Table 4.8 shows the P-value measure between genders with technology usage, usefulness of e-learning, quality in using e-learning and affect to self-efficiency. The correlation being done is to test the hypotheses. It can be seen that differences were not to be statistically significant.

**Table:4.9 Summary of overall question on e-learning**

<b>Question</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Neither Agree Nor Disagree</b>
Overall, e-learning system is beneficial for the student	32.20%.	46.80%	3.20%	2.70%	15.30%
Overall, quality in using e-learning resources is easy to use for curriculum study	25.50%	53.00%	4.50%	1.00%	15.40%.
Overall, the e-learning effects self-efficiency of the student	27.90%	47.90%	2.50%,	3.20%	18.60%.

The result from the implementation e-learning and e-learning resources shows that e-learning system is beneficial in their study where the percentage of agree shows 46.80% and strongly agree 32.20%. Meanwhile, only 2.70% strongly disagree and 3.20% disagree. Neither Agree nor Disagree 15.30%. These show that the students are receiving benefits from the implementation of e-learning and prefer to use the technology in their study. Due to the use of e-learning, the quality also should put under consideration. The result for the question on overall the quality in using e-learning resources is easy to use for curriculum study shows that 53.00% agree, 25.50% strongly agree. Disagree shows 4.50%, strongly disagree 1.00% and

Neither Agree nor Disagree 15.40%. There also questions related to self-efficacy in the questionnaire. The result for question overall, the e-learning affects student's self-efficacy shows that 47.90% agree, 27.90% strongly agree. While disagreeing 2.50%, strongly disagree 3.20% and Neither Agree nor Disagree 18.60%. The implementation of e-learning has built the students relies on the importance of e-learning in their study. Meanwhile, for the student that still do not aware or perceive regarding e-learning should be exposed more during lecturing and communicating. This is important since e-learning could benefit them more in searching for information and upgrade their knowledge and skills.

### **Gender and Technology Usage**

**Table:4. 9.1. Symmetric Measures for Gender and Technology usage**

	Value	Asump. Std. Error <sup>3</sup>	Sig.Approx. T <sup>b</sup>	Approx.
Interval by Pearson's R Interval	.058	.027	.823	.412 <sup>c</sup>
Ordinal by Spearman OrdinalCorrelation	.058	.027	.823	.412 <sup>c</sup>
N of Valid Cases	199			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and usage of technology in learning and the learning process.

H1=There is correlation between gender and usage of technology in learning and the learning process

As a conclusion, at the significance level  $\alpha = 0.05$  since the p-value = 0.412  $\geq$  0.05, we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and usage of technology in learning and the learning process.

### **Gender and Affect to Self-Efficacy**

**Table:4.9.2. Symmetric Measures for Gender and impact to self-efficacy**

	Value	Asump. Std. Error <sup>3</sup>	Sig.Approx. T <sup>b</sup>	Approx.
Interval by Pearson's R Interval	-.028	.072	-3.94	.693 <sup>c</sup>
Ordinal by Spearman Ordinal Correlation	-.027	.071	-3.87	.698 <sup>c</sup>
N of Valid Cases	194			

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and the quality in using e-learning.

H1 = There is correlation between gender and the quality in using e-learning.

As a conclusion, at the significance level  $\alpha = 0.05$  since the p-value = 0.698  $\geq$  0.05, we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and the e-learning impacts to self-efficacy. This study

has shown that students' e-learning system plays an important role in influencing the students. In this study, students have been examined by identifying their awareness towards technology usage. The result shows that there is no difference between male and female students where each of them are aware with the e-learning system in their study life.

**Table:4.10 Table of P-value**

<b>Comparison</b>	<b>p-value</b>
Gender and e-learning resources usage	0.412
Gender and usefulness of e-learning resources	0.591
Gender and quality of easy to use	0.185
Gender and self-efficacy	0.698

Table 4.10 shows the p-value measure between Gender and e-learning resources usage, the usefulness of e-learning, quality in using e-learning and affect to self-efficiency. The correlation is done is to test the hypotheses. It shows that differences were not to be statistically significant.



*Summary and  
Conclusions*

## CHAPTER -5

### SUMMARY AND CONCLUSIONS

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The present study entitled “**Urban and Semi-urban High School students: comparison in Respect to E-learning resources, their Dependency and Effect on Academic Performance**” focused on exploring the effect of e-learning education (blended learning) on academic performance on the students living in Urban and Semi-urban areas. The present research was carried out with the following objectives-

1. **Demographic profile of the respondents**
2. **To study about awareness and usefulness of e-learning resources among the student.**
3. **To study the productivity and quality of information retrieved through e-learning resources by the student.**
4. **To identify the problems faced by the student while using e-learning resources.**
5. **To study the impact of level of engagement (hours online/offline) on academic performance.**
6. **To study the impact of e-learning (blended learning) on the academic performance of the student.**

### CHAPTER WISE SUMMARY

The study has been completed in five chapters. The introduction has been presented in first chapter. Chapter two dealt with review of literature. Methodology has been presented in chapter third. Chapter four dealt with analysis of primary data. This is the last chapter which provides summary and conclusion of the research. The summary, chapter wise is presented under-

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In Chapter 1, the introduction of the study, its objectives, research problems, sources of data have been outlined. This chapter begins with a short background of e-learning, e-learning education, need of e-learning, concept of e-learning, advantages and disadvantages of e-learning, information and communication technology in learning, ICT in school, use of e-learning in education, approaches to e-learning, blended learning, blended learning environment, technology and blended learning and outlined the objectives of the present research.

Chapter 2 dealt with the major studies related to impact of e-learning (blended learning) on the academic performance of the student. This chapter also dealt with awareness and usefulness of e-learning resources, productivity and quality of information retrieved through e-learning resources, impact of level of engagement (hours online /offline), problems faced by the students using e-learning resources.

Chapter 3 dealt with the methodology of the study, which provides a short introduction of the research design, sampling procedure, tool and techniques, study area and sample procedure, data collection, data analysis and design of the prototype. It helps in preparing a framework for the further study. Conceptual Model of the research work and operational definition of terms of research also has been presented in this chapter. Identified dependent and independent variables have been discussed in this chapter.

Chapter 4 is concerned with detailed discussion of the obtained result pertaining to each objective. Frequency distribution was used to calculate percentage of male and female. Various statistical methods were used to obtain the result. ANNOVA was used to assess the awareness, productivity and level of engagement. Levene's test was used to assess the impact of e-learning on the academic performance.

## **MAJOR FINDINGS OF THE RESEARCH**

The present research was carried out in the following phases -:

### **SELECTION OF PLACES**

In the first phase, a survey was conducted in Faizabad and Varanasi city. In this phase urban and semi-urban schools were selected.

### **SELECTION OF SAMPLE**

Respondents were selected from the schools of urban and Semi-urban areas 150 respondents from Urban schools and 150 students from semi-urban schools to make total of 300 respondents, it was based on the availability and the willingness to respond/participate in the study.

## **SUMMARY OF FINDINGS**

### **Major findings**

- It was found that the number of total respondents was 300 in which 96 (64.0%) male from urban, 92(61.3%) from semi-urban school and 54 (36.0%) female from urban and 58(38.7%) from semi-urban school.
  - The findings of the study show that majority of students (55.3%) from urban and (61.3%) from semi-urban were 15-16 year-old and 56(37.3%) from urban and 49(13.5%) from semi-urban were 13-14 year-old.
  - The findings show that majority of students (40.0%) from urban and (38.7%) from semi-urban belongs to nuclear family and minimum (11.3%) from urban and (6.0%) from semi-urban belongs to single parenting family.
  - The findings show that majority of student's family (36.7%) from urban and (48.7%) from semi-urban monthly income was 25,001-50,000 and minimum (7.3%) from urban student's family monthly income was 100001 and above and (6.0%) from semi-urban monthly income was 75,001- 100,000 Rs.
  - The findings show that majority of student's (69.3%) urban and (62.7%) from
-

semi-urban were computer literate.

- The finding show that majority of students (96.0%) from urban using mobile phone for internet and (90.0%) from semi-urban was using tablet.

### Awareness of e-learning resources among students

- Awareness about internet in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.90 \pm 0.421$ ).
- Awareness about e-journal in subject of semi-urban students ( $0.47 \pm 0.449$ ) were found to be significantly higher than that of urban students ( $0.39 \pm 0.490$ ).
- Awareness about computer in subject of urban and semi-urban ( $0.80 \pm 0.401$ ) were found to be significantly highly significant.
- Awareness about laptop in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.83 \pm 0.386$ ).
- Awareness about Smart phone in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.82 \pm 0.385$ ).
- Awareness about video tutorial in subject of urban students ( $0.68 \pm 0.468$ ) were found to be significantly higher than that of semi-urban students ( $0.59 \pm 0.493$ ).
- Awareness about e-books in subject of semi-urban students ( $0.52 \pm 0.501$ ) were found to be significantly higher than that of urban students ( $0.63 \pm 0.432$ ).
- Awareness about electronic devices in subject of semi-urban students ( $0.73 \pm 0.444$ ) were found to be significantly higher than that of urban students ( $0.80 \pm 0.401$ ).
- Awareness about video conferencing in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.67 \pm 0.467$ ).
- Awareness about close circuit TV in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.41 \pm 0.488$ ).
- Awareness about web based learning (e-lessons) in subject of semi-urban students

( $0.59 \pm 0.493$ ) were found to be significantly higher than that of urban students ( $0.60 \pm 0.494$ ) highly significant.

### Availability of e-learning material in school for curriculum implementation

- Availability of off line/ordinary computer in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.91 \pm 0.292$ ).
- Availability of On line/internet computer in subject of semi-urban students ( $0.81 \pm 0.396$ ) were found to be significantly higher than that of urban students ( $0.73 \pm 0.444$ ).
- Availability of Smart class in subject of urban students ( $0.76 \pm 0.429$ ) were found to be significantly higher than that of semi-urban students ( $0.32 \pm 0.468$ ).
- Availability of E-mail facilities in subject of urban students ( $0.69 \pm 0.465$ ) were found to be significantly higher than that of semi-urban students ( $0.59 \pm 0.493$ ).
- Availability of Multimedia projector in subject of urban students ( $1.00 \pm 0.00$ ) were found to be significantly higher than that of semi-urban students ( $0.88 \pm 0.326$ ).
- Availability of Readymade courseware: CD-ROM, etc. in subject of urban students ( $0.75 \pm 0.436$ ) were found to be significantly higher than that of semi-urban students ( $0.57 \pm 0.496$ ).

### Role of e-learning education (blended learning)

- Mean score of e-learning education (blended learning) provides better option for curriculum study ( $4.37 \pm 2.58$ ) from semi-urban school as higher than the urban school with the mean score ( $0.65 \pm 0.478$ ), the difference as found statistically significant.
- Mean score of e-learning (blended learning) improves knowledge better than traditional knowledge ( $0.57 \pm 0.497$ ) as found higher in urban school than the semi-urban school ( $0.37 \pm 0.21$ ), the difference as found statistically significant.

- Mean score of e-learning (blended learning) improves in-depth and practical learning than traditional knowledge ( $1.97 \pm 1.56$ ) was found higher in semi-urban school as compare to urban school ( $0.49 \pm 0.502$ ), the difference was found statistically highly significant.
- Mean score of e-learning (blended learning) helps you to study more effectively to perform in class task ( $1.53 \pm 1.07$ ) was found higher in semi-urban school as compare to urban school ( $0.75 \pm 0.436$ ), the difference was found statistically significant.

#### Perception about the benefits to the school learners with access to e-learning (Blended learning)

- Mean score of e-learning gives independent and personalized learning as found to be higher in semi-urban student ( $1.86 \pm 1.215$ ) as compare to urban student ( $1.97 \pm 0.965$ ), the difference was found statistically highly significant.
- Mean score of Help in access to information, resources and experts around the world was found to be higher in urban student ( $2.99 \pm 1.010$ ) as compare to the semi-urban students ( $2.19 \pm 1.073$ ), the difference was found to be statistically highly significant.
- Mean score of Improves basic skill of literacy was found to be higher in urban student ( $1.69 \pm 0.865$ ) as compare to the semi-urban students ( $1.99 \pm 1.226$ ), the difference was found to be statistically highly significant.

#### Effect of e-learning on the academic achievement of student

- mean score of e-learning gives multiple choice of formats to study the curriculum found to be higher in the urban school ( $0.72 \pm 0.451$ ) as compare to semi-urban school ( $0.57 \pm 0.497$ ), the difference was found statistically significant.
- mean score of e-learning gives positive and effective information about your subject/content/syllabus as found to be higher in urban school ( $0.71 \pm 0.454$ ) as compare to semi-urban school ( $0.65 \pm 0.478$ ), the difference was found statistically significant.

- mean score of Feeling of confidence, self-esteem and renewed motivation in the e-learning environment to be higher in the semi-urban school ( $2.61 \pm 0.402$ ) as compare to urban school ( $0.67 \pm 0.473$ ), the difference was found statistically highly significant.

#### Distribution of methods and medias used for school assignments

- Mean score online videos used for school assignments found to be higher among the students from urban of schools ( $4.10 \pm 2.38$ ) as compare to semi-urban schools ( $1.93 \pm 1.20$ ), the differences was found to be statistically highly significant.
- Mean score of YouTube used for school assignments found to be higher among the students from urban of schools ( $4.73 \pm 3.03$ ) as compare to semi-urban schools ( $3.73 \pm 1.34$ ), the differences was found to be statistically highly significant.

#### Exploration of the quality of e-learning in a way of usefulness and productivity

- Mean score of quality of e-learning (blended learning) that met student's expectation to provide you useful information was found to be higher in urban school ( $1.77 \pm 0.765$ ) as compare to semi-urban school ( $1.76 \pm 1.295$ ), the difference was found to statistically highly significant.
- Mean score of quality of e-learning (blended learning) helped you to examine issues to evaluate new ideas, and to apply what you have learned was found to higher in semi-urban school student ( $2.59 \pm 1.034$ ) as compare to urban school student ( $2.49 \pm 1.030$ ), the difference was found to be statistically highly significant.
- Mean score of quality of e-learning (blended learning) helps you to reduce classroom workload was found to higher in urban school student ( $1.59 \pm 0.765$ ) as compare to semi-urban school student ( $1.49 \pm 1.326$ ), the difference was found to be statistically highly significant.

### Exploration of the problems faced by respondents in the utilization of e-learning resources

- Mean score of Lack of internet facilities at school and home to be found higher among the semi-urban school student ( $2.71 \pm 1.251$ ) as compare to the urban school student ( $2.38 \pm 1.179$ ), the difference was found to be statistically significant.
- The mean score of Inadequate e-learning resources in school to be found higher among the semi-urban school student ( $2.87 \pm 1.641$ ) as compare to the urban school student ( $2.501 \pm 0.655$ ), the difference was found to statistically highly significant.
- The mean score of Inadequate training of staff in institutions especially related to educational technology to be found higher among the semi-urban school student ( $2.01 \pm 0.855$ ) as compare to the urban school student ( $1.89 \pm 0.790$ ), the difference was found to statistically highly significant.
- The mean score of face problems with accessing suitable software to be found higher among the semi-urban school student ( $1.49 \pm 1.326$ ) as compare to the urban school student ( $1.43 \pm 0.496$ ), the difference was found to statistically highly significant.

### Study hours its impact on academic performance

- The findings Hours dedicated for online studies per day show that majority of student's (32.0%) from urban spend 2hr-3hr and majority of student's (36.0%) from semi-urban spend 1hr-2hr for online studies.
- The findings Impact of study hours (e-learning) on grade score reveals that majority of student's (32.0%) from urban was having excellent impact of study hours and majority of students (36.0%) from semi-urban was having good impact of study hours.

### Impact of e-learning (blended learning) on the academic performance of the student

- The result shows that on the average, the reported variability of the Mean between
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the first test and the second test was significantly higher for the Experimental Group from urban ( $M=15.6607$ ,  $SD=1.20268$ ) and experimental Group from semi-urban ( $M=15.5406$ ,  $SD= 1.20156$ ) than for the Central Group from urban ( $M=14.1889$ ,  $SD=1.50480$ ) and Control Group form semi-urban ( $M=14.1788$   $SD=1.50350$ ) This finding offers evidence that e-learning has a significant influence on the performance of student.

- On comparing the study correlation among academic performance, hour spent online, gender, location setting and subjects indicates that there was a significant and positive correlation with one another also.

## **CONCLUSION**

The study was an effect to find the effect of e-learning resources on the academic performance of the students'. Academic performance of the urban and semi-urban school students and the dependency on the e-learning resources. The finding revealed that e-learning (blended learning) and e-learning resources had a positive effect on the academic performance, problem solving, skill development of the students'. Learning style have influence on the experimental group students', academic performance, problem solving, skill development after being exposed to e-learning (blended learning) environment.

To summarize, the study found that, by effectively blending online learning with face to face instructions or traditional classroom setups, higher order of thinking and learning among high school can be improved more effectively. e-learning (blended learning) strategy can be considered as one of the new initiatives of pedagogical approaches for integrating e-learning (blended learning) in school education for better learning environment.

## **RECCOMENDATIONS**

This research study analyzed a number of various extraordinary purpose of perspective about the effect of e-learning (blended learning) on the academic performance of high school students. In spite of the fact that it was found that

specific issues have not been properly addressed to e-learning (blended learning) usage forms. The following are the recommendations of the study:

- Critical factors, for example, institutional issue, administration issue, educational variables, mechanical issue, interface configuration issue, assessment issue, and resource support issue and the factors within each issue have not yet been investigated with detail coverage.
- The need to do detail research including contextual investigations based on surveys questionnaire including different learning organizations which will ultimately give a better understanding of impact of e-learning education (blended learning) aspects within implementation process.
- government should, in collaboration with the education resource center, organize workshops and seminars on the application of e-learning resources in curriculum delivery.
- The state government should provide internet facilities in all the secondary schools, provide, alternative source of power supply, for example, solar energy in all secondary schools and take care of the internet access subscription.

## **FUTURE DIRECTIONS OF THE RESEARCH**

1. Studies can be undertaken with increased sample size and with more sophisticated experimental designs to arrive at even more dependable conclusions.
2. A study could be undertaken by incorporating various other online components to check the impact on their academic achievements.
3. The study can be extended to investigate the effect of e-learning (blended learning) strategy on other variables such as decision making, attitude towards e-learning and social skills of students.
4. It could be further investigated whether similar studies conducted over a longer period could produce better results.

5. A study could be undertaken to explore the challenges and constraints in the implementation of blended learning strategy.
6. A similar study can be carried out with other private and government schools.



*Bibliography*

## **Bibliography**

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Akkoyunlu, B., & Soylu, M.Y. (2008). A Study of Student's Perceptions in a Blended Learning Environment Based on Different Learning Styles. *Educational Technology & Society*, 11(1):183-193.

Aldrich, C. (2005). *Simulations and the future of learning: An innovative (and perhaps revolutionary) approach to e-learning*. San Francisco: Pfeiffer.

Al-Hasan, Idris Kamatur. (2013). The Effectiveness of Using the Blended Learning on the Academic Achievement in the Biology Course among the Second Graders in the Private Secondary Schools in Um Aldurman and their Trends towards it, *Psychological and Educational Research Journal*, (36):59-85.

Ali, Naushad & Faizul, Nisha (2011). Use of e-journals among research scholars at Central Science Library, University of Delhi. *Collection Building*, 30(1):53-60.

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

Alonso, F., López, G., Manrique, D., & Viñes, J.M. (2005). An instructional model for web-based e-learning education with a blended learning process approach. *British Journal of Educational Technology*, 36(2), 217-235.

Al-Rimawi, Firas Tharwat. (2014). The Effect of Using Blended Learning in Teaching English Language on the Direct and Delayed Achievement among the Sixth Graders, Unpublished Master Thesis, Faculty of Educational Sciences, Middle East University, Jordan.

Alsahhi R.N., Eltahir E.M. & Al-Qatawneh S.S. (2019). The effect of blended learning on the achievement of ninth grade students in science and their attitude towards its use. *Heliyon*, 5(9).

American Library Association (1989). *Presidential Committee on Information*

**Deepthi Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

*Literacy: Final report.* Chicago. Retrieved from <http://news.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm>

Ammons-Stephens, S., Holly, J. C., Keisha, J. G., Catherine, F. R. & Weare (2009). Developing Core Leadership Competencies for the Library Profession. *Library Leadership & Management*, 23 (2),63-74.

Anshu. (2006). Comparative effectiveness of single medium and multimedia on learning gains of 9th graders in Chemistry at different level of academic achievement and intelligence.

Aragon, S. R., Johnson, S. D., & Shaik, N. (2002). The influence of learning style preferences on student success in online versus face-to-face environments. *The American Journal of Distance Education*, 16(4),227-244.

Arbaugh, J. B. (2000). How Classroom Environment and Student Engagement Affect Learning in Internet-based MBA Courses. *Business Communication Quarterly*, 63(4), 9-26.

Arnold, J., Lisa, T. N. & Lisa, W. (2008). Creating the Next Generation of Library Leaders. *New Library World*, 109 (9/10),444-456.

Ashish Kumar Roy. "The New Learning Environment" 2009. [Online][http://ezinearticles.com/?Expert=Ashish\\_Kumar\\_roy](http://ezinearticles.com/?Expert=Ashish_Kumar_roy)

Ashraf,Tariq(2003). New informationen vironment: a challenges for librarianship. *University News*, 41 (19), 9-15.

Atkinson,M.&Kydd, C. (1997).Individual characteristics associated with WorldWide Web use: An empirical study of playfulness and motivation. *The Data Base for Advances in Information Systems*, 28(2),53-62.

Barker, K., & Wendel, T. (2001). E-Learning: Studying Canada's Virtual Secondary Schools. Kelowna, BC:Society forthe Advancement of Excellence in Education. Onlineat<http://www.excellenceineducation.ca/pdfs/006.pdf>.

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Bath, D. & Bourke. (2010). *Getting started with blended learning*. Australia: Griffith Institute for Higher Education.

Battye, G., & Carter, H. (2009). *Report on the review of online and blended learning*. Retrieved from University of Canberra website: <http://www.canberra.edu.au/tlc/asd/attachments/pdf3/Online-and-Blended>

Bawden, David (2007). Towards curriculum 2.0: Library/Information education for web 2.0 world. *Library Information Research*, 31(99),14-25.

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

Best, W.J., & Kahn, V.J. (2006). *Research in Education*. New Jersey: Pearson Education, Inc.

Bharati, M. S. Z. & Zaidi, S. Mustafa (2008). Use of e-journals and e-databases of UGC-Infonet Consortium by faculty members and research scholars of Aligarh Muslim University; Proceedings of the 6<sup>th</sup> *International Caliber-2008*, Allahabad University, Allahabad, 28th -29th Feb and 1st March, 2008 Ahmedabad: INFLIBNET Centre, pp. 341-346.

Blomeyer, R. (2002). Virtual schools and e-learning in K–12 environments: Emerging policy and practice. *NCREL Policy Issues*, 11, p.1-11. Naperville, IL: North Central Regional Educational Laboratory

Blum, K. D. (1999). Gender differences in asynchronous learning in higher education: Learning styles, participation barriers and communication patterns. *Journal of Asynchronous Learning Networks*,3(1).

Bond, A. (2002). *Learning Music Online: An Accessible Program for Is*

Bonk, C. J., Graham, C. R. (2006). *The handbook of blended learning: Global perspectives, local designs*. San Francisco: Pfeiffer.

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Borrego, A. & Urbano, C. (2007). Analysis of the behavior of the users of a package of electronic journals in the field of chemistry. *Journal of Documentation*, 63 (kahigii2), 243-258.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2002). *How people learn* (6<sup>th</sup> ed.). Washington, D.C: National Academy press. (Original work published 2000)

Breuleux, A., Laferrière, T., & Lamon, M. (2002, May). *Capacity building within and accross countries into the effective uses of ICTs*. Paper presented at the 2002 Pan-Canadian Education Research Agenda Symposium, Montreal, QC.

Bryson, M., Petrina, S., & Braundy, M. (2003). Conditions for success? Gender in technology-intensive courses in British Columbia secondary schools. *Canadian Journal of Science, Mathematics and Technology Education*, 3(2), 185–193.

Bucy, M. C. (2003). Online classes: The student experience (Doctoral Dissertation). *Dissertation Abstracts International*, 64(7), p.2455.

Budd, J. M. & Cannaway, L. S. (1997). University faculty and networked information: result of a survey. *Journal of the American Society for Information Science*, 48(9), 843- 52.

Burns R B 2000 introduction to research methods. Sage publications pp.336-352.

Carini, R. M., Kuh, J. D. & Klein, S. P. (2006). Student Engagement and Student Learning: Testing the Linkages. *Research in Higher Education*, 47, 1-32.

Carroll, B. (2003). Going hybrid: Online course components increase flexibility of on campus courses. *Online Classroom*, 4-7.

Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, Business and Society*. New York, NY: Oxford University Press.

Cavanaugh, C. S. (2001). The effectiveness of interactive distance education technologies in K-12 learning: A meta-analysis. *International Journal of Educational Telecommunications*, 7(1), 73–88.

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Chacon-Duque, F. J. (1985). Building academic quality in distance higher education. Monograph in higher education evaluation and policy, PennsylvanianPSU.

Chambers, E. A. (2003). *Efficacy of educational technology in elementary and secondary classrooms: A meta-analysis of the research literature from 1992–2002*. Ph.D. dissertation, Southern Illinois University at Carbondale. Retrieved November 8 2005, from ProQuest Digital Dissertations database. (Publication No. AAT3065343).

Chowdhury,S.&Anwarul,IslamM.(2009).LISeducationine-learningenvironment: problems and proposal for Bangladesh. A paper presented at theAsia-PacificConferenceonLibraryEducationandPracticeheldattheUniversityofTsukuba,Japan, p. 521.

Clark, I., & Patrick, J. (2005). *Blended learning: An approach to delivering science courses online*. Paper presented at Uniserve science blended learning symposium, University of Sydney. Retrieved from[http://sydney.edu.au/science/uniserve\\_science/pubs/procs/wshop10/2005Clark.I.pdf](http://sydney.edu.au/science/uniserve_science/pubs/procs/wshop10/2005Clark.I.pdf)

Cuneo,C.J.,&Harnish,D.(2002).*The lost generation in e-learning: Deep and surface approaches to online learning [Report]*. Hamilton, ON: McMaster University. (ERIC Document Reproduction Service No. ED466646).

Cuneo , C. J., Campbell, B., &Harnish, D. (2002, May). *The integration and effectiveness of ICTs in Canadian postsecondary education*. Paper presented at the 2002 Pan-Canadian Education Research Agenda Symposium, Montreal, QC.

Dalwadi N. (2001). Development of computer assisted instruction in science for the students of standard 9th. M.S. University of Baroda.

Davies, D., & Graff, M. (2005). Performance in e-learning: online participation and student grades. *British Journal of Education Technology*, 36,657-663.

Dean, P., Stahl, M., Sylwester, D., & Pear, J. (2001). Effectiveness of combined delivery modalities for distance learning and resident learning. *Quarterly Review of Distance Education*, 2(3),247-254.

Dewar,T.,&Whittington,D.(2000).Onlinelearnersandtheirlearningstrategies.*Journal of Educational Computing Research*, 23(4), 385–403.

Douglas E. Comer (2001). Computer networks and internet networks. Online at<http://www.stem-edu.com/wp-content/uploads/2017/02/Computer-Networks-5th-douglas-comer.pdf>

Dziuban, C., Hartman, J., & Moskal, P. (2004). *Blended Learning*. *Educause Centre for Applied Research Bulletin*. Retrieved from <http://net.educause.edu/ir/library/pdf/ERB0407.pdf>

Educause.(2010).*Blendedlearning:AreportontheELIFocusSession*.Retrievedfrom<http://net.educause.edu/>

Eduviews. (2009). *Blended Learning: Where Online and Face-to-Face Instruction Intersects for 21st Century Teaching and Learning*. Retrieved from[http://www.blackboard.com/resources/k12/Bb\\_K12\\_WP\\_BlendedLearning.pdf](http://www.blackboard.com/resources/k12/Bb_K12_WP_BlendedLearning.pdf)

Ela Goyal, Seema and Bhaga, M. P. (2011). “Study of Satisfaction and usability of the Internet on student’s performance”. *International Journal of education and Development using Information and Communication Technology*,7(1):119.

Ela Goyal, SeemaPurohit and ManjuBhaga, (2011). “Study of Satisfaction and Usability of the Internet on Student’s Performance”, *International journal of Education and Development using information and Communication Technology(IJEDICT)*,2011, Vol.7, Issue 1, pp.XX

Ellis, R. A., Ginns, P., & Piggott, L. (2009). E-learning in higher education: Some key aspects and their relationship to approaches to study. *Higher Education*

**Deepthi Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

*Research & Development*, 28(3), 303. Retrieved from <http://www.informaworld.com/10.1080/07294360902839909>.

Emerson, T.L.N., & Taylor, B.A. (2004). Comparing Student Achievement across Experimental and Lecture-Orientated Sections of a Principles of Microeconomics Course. *Southern Economics Journal*, 70,672-693.

Ergul, H. (2004). "Relationship between student's characteristics and academic achievement in distance education and application to students of Anadolu University in Turkish Online Journal of Distance Education.5(2)

Finn, A. &Bucceri, M. (2004). *A case study approach to blended learning*. Los Angeles: Centra Software. Retrieved March 3rd, 2013 from [http://www.conferzone.com/resource/wp/CaseStudy\\_BlendedLearning.pdf](http://www.conferzone.com/resource/wp/CaseStudy_BlendedLearning.pdf).

Garrison, D., & Vaughan, N. (2008). *Blended learning in higher education: Framework, principles and guidelines*. San Francisco, CA: John Wiley & Sons.

Garrison, R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education*, 7,95-105.

Gibson, C. C. (1998). The distance learner's academic self-concept. In C. C. Gibson (Ed.) *Distance learners in higher education: institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood Publishing.

Gibson, C. C. (1998). The distance learner's academic self-concept. In C. C. Gibson (Ed.) *Distance learners in higher education: institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood Publishing.

Gomathi Viswanathan. (2008). "Impact of internet on Children's Attitude and Behaviour" 2008. [Online] [http://ezinearticles.com/?Expert=Gomathi\\_Viswanathan](http://ezinearticles.com/?Expert=Gomathi_Viswanathan)

González-Videgaray, M. (2007). Evaluación de la reacción de alumnos y

docentesen un modelomixto de aprendizaje para educación superior. *RELIEVE*, 13(1) Retrieved from [http://www.uv.es/RELIEVE/v13n1/RELIEVEv13n1\\_4.htm](http://www.uv.es/RELIEVE/v13n1/RELIEVEv13n1_4.htm).

Governors State University, Center for Online Learning and Teaching. (2008). E-learning glossary. Retrieved from [www.govst.edu/elearning/default.aspx](http://www.govst.edu/elearning/default.aspx).

Graham, C. R., & Robinson, R. (2007). Realizing the transformational potential of blended learning. In *Blended Learning Research Perspectives (83-110)*. Needham, MA: The Sloan Consortium.

Graham, C.R. (2006). Blended Learning Systems: Definition, Current Trends, and Future Directions. In Curtis J. Bonk and Charles R. Graham. *The Handbook of Blended Learning: Global Perspectives, Local Designs*. San Francisco: Pfeiffer, 1-4.

Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. *Higher Education*, 49(4), 467-493.

Haddad Wadi D, Jurich. (2002). "ICT for Education: Potential and Potency", in Haddad W. Drexler A.(eds), *Technologies for Education: Potentials, Parameters, and Prospects* (Washington DC: Academy for Educational Development and Paris: UNESCO).2002,34-37.

Haddad, W. D. & Drexler, A.D. (2002). The dynamics of technologies for education. In W. Haddad & Drexler, A. D. (Eds.) *Technologies for education: Potentials, parameters, and prospects*. Washington DC: Academy for Educational Development.

Harding, A., Kaczynski, D., & Wood, L. (2005). Evaluation of blended learning: Analysis of qualitative data. In proceedings of the *Uniserve Science Blended Learning Symposium, 30 September, 2005* (pp.56-61). Sydney, Australia: The University of Sydney. Retrieved from <http://wenku.baidu.com>

Heterick, B., & Twigg, C. (2003). The learning market space [Online]. *The national Centre for Academic Transformation*. Retrieved March 16th, 2013

from <http://www.thencat.org/Newsletters/Feb03.html>

Huang, L. K. (2010). Planning and implementation framework for a hybrid e-learning model: the context of a part-time LIS postgraduate programme. *Journal of Librarianship and Information Science*, 42 (1),45-69.

Huang, R. H., Zhou, Y. L., & Wang, Y. (2006). *Blended Learning: Theory into Practice*. Beijing: Higher Education Press.

Jaju, A., Kwak, H., & Zinkham, G. M. (2002). Learning styles of undergraduate business students: A cross-cultural comparison between the US, India and Korea. *Marketing Education Review* 12(3),49-60.

Jereb, E., & Šmitek, B. (2006). Applying multimedia instruction in e-learning. *Innovations in Education & Teaching International*, 43(1), 15-27

Johnson, G. M. (2005). Student Alienation, Academic Achievement, and Web CT use. *Educational Technology and Society*, 8, 179-189.

Johnson, J. (2002). Reflections on teaching a large enrolment course using a hybrid format. *Teaching with Technology Today*, 8(6), p.152.

Kearsley, G. (2000). *Online education: learning and teaching in cyberspace*. Belmont, CA.: Wadsworth.

Kearsley, G., Shneiderman, B. (1998). Engagement Theory: A framework for technology based teaching and learning. *Educational Technology*. 20-37.

Khan, B. (2005), *Managing E-learning Strategies: Design, Delivery, Implementation and* Klob, D. A. (2000). *Facilitator's Guide to Learning*. Boston: Hay/McBer Training Resources Group.

Kim, W. (2007). Towards a definition and methodology for blended Learning. In J. Fong., & F. L. Wang (Eds.), *Blended Learning* (pp.1-8). Edinburgh: Pearson/Prentice Hall.

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Klob, D.A. (2000). *Facilitator's Guide to Learning*. Boston: Hay/McBer Training Resources Group.

Korgen, K., Odell, P., & Schumacher, P. (2001). Internet Use Among College Students: are there differences by Race/Ethnicity. *Electronic Journal of Sociology*. 5(3).  
Online at <http://www.sociology.org/content/vol005.003/korgen.html>

Kothari, C.R., & Garg, G. (2014). *Research methodology methods and techniques*. Third edition, Published by New Age International (P) Limited, Publishers New Delhi. <https://en.wikipedia.org/wiki/Quasi-experiment#Design> accessed on October 2019.

Kulik, J. (2003). *Effects of Using Instructional Technology in Elementary and Secondary Schools: What Controlled Evaluation Studies Say*. SRI International.

Kumaresen, S. C. (2002). Quality training for library and information professionals. *University News*, 40 (23), 1-4.

Lai, H.L. (2003). *Sense of community in computer-mediated learning environments: From the learners' perspective (Doctoral Dissertation)*. *Dissertation Abstracts International*, 64(10), p.3583.

Laurillard, D. (2004). *E-learning in higher education*. Changing Higher Education.

Lenhart, Amanda, Simaon, Maya, Graziano, & Mike. (2001). *The internet and education: findings of the Pew Internet & American Life Project*. Online at <https://files.eric.ed.gov/fulltext/ED457849.pdf>

Levin, D., & Arafah, S. (2002). *The digital disconnect: The widening gap between Internet-savvy students and their schools [Report]*. Washington, DC: Pew Internet & American Life Project. Retrieved September 6, 2005, from <http://www.pewinternet.org>

Lewis, Albert & Gordia, Gautam (2005). *Future of e-learning in India*. *Express computer*. Retrieved from [www.expresscomputeronline.com](http://www.expresscomputeronline.com).

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Linda Carswell, Pete Thomas, Marian Petre, Baine Price and Mike Richards (2000), Distance education via the Internet: the student experience. *British journal of educational technology* ,31(1):29-46.

Looker,D.,&Thiessen,V.(2002,May).*The digital divide in Canadian schools: Factors affecting student access to and use of information technology*. Paper presented at the 2002 Pan-Canadian Education Research Agenda Symposium, Montreal, QC.

Looker,D.,&Thiessen,V.(2002,May).*The digital divide in Canadian schools: Factors affecting student access to and use of information technology*. Paper presented at the 2002 Pan-Canadian Education Research Agenda Symposium, Montreal, QC.

Lumadi, W.M. (2013). E-learning's impact on the Academic Performance of Student-teachers: A Curriculum Lens, *Mediterranean Journal of social science*. 4(14);695-703.

Mann, D., Shakeshaft, C., Becker, J., & Kottkamp, R. (1999). West Virginia's basic skills/computer education program: An analysis of student achievement. Santa Monica, CA: Milken Family Foundation.

Mann, D., Shakeshaft, C., Becker, J., & Kottkamp, R. (1999). *West Virginia's basic skills/computer education program: An analysis of student achievement*. Santa Monica, CA: Milken Family Foundation.

Mason, R. & Rennie, F. (2006). *E-learning: The key concepts*. London: Routledge.

McKenzie,B.K.,Mims,N.,Bennett,E.,&Waugh,M.(2000).Needs,concerns and practices of online instructors. *Online Journal of Distance Learning Administration*, 3.

McCampell, B. (2001). Blending the basics. *Principal Leadership*,71–73.

MCEETYA. Learning in an Online World: Research Strategy, 2003 <http://www.curriculum.edu.au/mctyapdf/16aagenda.pdf>

McLean, S., & Morrison, D. (2000). Sociodemographic characteristics of learners and participation in computer conferencing. *Journal of Distance Education* 15(2). Available online[HREF6].

Mertens, M.D. (1998). *Research Methods in Education and Psychology: Integrating Diversity with Quantitative and Qualitative Approaches*. CA: Sage Publications.

Ministry of Communication and Technology of New Zealand. (2008). *Digital strategy of the ministry of communication and technology*. Retrieved from [www.digitalstrategy.govt.nz/Resources/Glossary-of-Key-Terms/](http://www.digitalstrategy.govt.nz/Resources/Glossary-of-Key-Terms/).

Muhammad S. Saud, YahyaBuntat, Asnul D. Minghat and KamalulsubariSubari (2010): "Importance and Educational Needs of Online Learning Technology (OLT) Competencies Perceived As Needed by Technical and Vocational Teacher in Malaysia", *European journal of Social Sciences*, Volume 14, November 4(2010).

Munro,R.,&Rice-Munro,E.(2004).Learningstyles,teachingapproachesand technology. *The Journal for Association for Quality and Participation*, 27(1):26.

Naidu, S. (2003). *E-Learning: A guidebook of principles, procedures and practices*. New Delhi, India: Commonwealth Educational Media Center for Asia (CEMCA) and the Commonwealth of Learning, 25.

NASSP (2004). *Technology and instruction*. Retrieved March 16th, 2013 from <http://www.sagepub.com/journals/Journal201773>

Neuhauser, C. (2002). Learning style and effectiveness of online and face-to- face instruction. *The American Journal of Distance Education* 16(2),99-113.

NisreenSalehKhaderKhader(2016),TheEffectivenessofBlendedLearningin Improving Students' Achievement in Third Grade's Science in BaniKenana, *Journalof Education and Practice* [www.iiste.org](http://www.iiste.org) ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.7, No.35,2016

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

North American Council for Online Learning (NACOL). (n.d). Blended learning: The convergence of online and face to face education. Retrieved from [http://www.inacol.org/research/promisingpractices/NACOL\\_PP-Blended Learning- lr.pdf](http://www.inacol.org/research/promisingpractices/NACOL_PP-Blended_Learning- lr.pdf) folated Students. Kensington Park, SA: Australian National Training Authority. Online at <http://www.ncver.edu.au/research/proj/nr1013.pdf>.

Osguthorpe, R. T. and Graham, C. R., (2003). Blended learning environments: Definitions and directions. *The Quarterly Review of Distance Education*, 4( 3):227-233.

Palloff, R. M., and Pratt, K. (1999). *Building Learning Communities in Cyberspace: Effective strategies for the online classroom*. San Francisco: Jossey-Bass.

Papp, R. (2001). Student learning styles and distance learning. *Proceedings of the 16th Annual conference of the International Academy for Information Management – International Conference on Informatics Education & Research*, New Orleans, Louisiana, USA, 14-20.

Patel. R. (2001), “A study of learning through computer assisted learning material in relation to select production variables and contiguity.” M. S. University of Baroda as a part of the M.Ed. degree.

Pierce, K. M. (2005). *Posing, pretending, and waiting for the bell: Life in high school classrooms*. Pittsburg, PA: University of North Carolina Press.

Powell, R., Conway, C., & Lynda, R. (1990). “Effects of students’ predisposing characteristics on students’ success.” *Journal of Distance Education*. 4.2.26-39.

Reay, J. (2001). Blended Learning-a fusion for the future. *Knowledge18. Management Review*, 4 (3): 6. Retrieved from <http://www.cesc.ca/pcera2002E.html>

Roblyer, M. D. (1999). Is Choice Important in Distance Learning? A study of student motives for taking Internet-based courses at the high school and community

**Deepthi Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

college levels. *Journal of Research on Computing Education*, 32(1), 157 –171.

Roblyer, M.D. & Edwards, J. (2008). *Integrating Educational Technology into Teaching* (second edition). New Jersey: Merrill/Prentice-Hall.

Rodgers, T., & Ghosh, D. (2001). Measuring the determinants of quality in UK higher education: A multinomial logit approach. *Quality Assurance in Education*, 9, 121-126.

Romiszowski, A. (2004). How's the e-learning baby? Factors leading to success or failure of an educational technology innovation, *Educational Technology*, 44(1), 5- 27.

Rosenberg, H., Grad, H. A., & Matear, D. W. (2003). The effectiveness of computer-aid, self-instructional programs in dental education: A systematic review of the literature. *Journal of Dental Education*, 67(4), 524–532.

Rossett, A., & Frazee, R.V. (2006). *Blended learning opportunities*. Retrieved from American Management Association website: <http://www.tjtaylor.net/research/Blended-Learning-Opportunities-American-Management-Association-Rossett-Frazee-2006.pdf>

Rotter, J. B. (1989). Internal versus external control of reinforcement: A case history of a variable. *American Psychologist*, 45, 489-493.

Ruche Sapra. "Focus on Increasing Craze of Google Book and Declining Book Reading Habits Among Youth" 2008. [Online] [http://ezinearticles.com/?Expert=Mathew\\_Simond](http://ezinearticles.com/?Expert=Mathew_Simond)

Säljö, R. (2000). *Lärande i praktiken: ett sociokulturellt perspektiv*. Stockholm: Norstedts.

Schollie, B. (2001). *Student Achievement and Performance Levels in Online Education Research Study*. Edmonton, Alberta: Alberta Online Consortium. [http://www.albertaonline.ab.ca/pdfs/AOCresearch\\_full\\_report](http://www.albertaonline.ab.ca/pdfs/AOCresearch_full_report)

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Shahin, Suad Ahmed. (2008). The Effect of Blended Learning on Achievement and the Development of Science Operations among the Students of the Elementary Level and their Trends towards it. Faculty of Education, Tanta University.

Sharma, Pete & Barrett, Barney (2007). *Blended Learning: Using technology in and beyond the language classroom*. London: Macmillan Publishers Limited.

Sharpe, R., Benfield, G., Roberts, G., & Francis, R. (2006). *The undergraduate experience of blended learning: A review of UK literature and practice*.

Shraim, K., & Khlaif, Z. N. (2010). An e-learning approach to secondary education in Palestine: opportunities and challenges. *Information Technology for Development, 16*(3), 159–173.

Singh, H. (2003). Building effective blended learning programs. *Issue of Educational Technology, 43*(6): 51-54.

Smith, D., & Hardaker, G. (2000). E-learning innovation through the implementation of an internet supported learning environment. *Educational Technology and Society, 3*, 1-16.

Somekh, B. (2007). *Using Information Technology in Teaching and Learning*. London: Routledge Publication.

Srivastava, Deepak K. & Bajpai, Naval (2005). E-learning: a new way of education. *University news, 43* (26), 12-15.

Statham, D.S & Torell, C.R. (1996). *Computers in the Classroom: The Impact of Technology on Student Learning*. Boise: U.S. Army Research Institute and Boise State University.

Suman, Aparajita. E-learning @ RGHUS: A self-learning tool. *Slide presentation, pp.1-5*.

Tabor, S. (2007). Narrowing the distance: Implementing a hybrid learning model

for information security education. *The Quarterly Review of Distance Education*, 8(1):47-57.

Taneja, V. &Parashar, S. (2011). E-Learning. Alfa Publications, New Delhi, 101-103.

Thomas, L., Ratcliffe, M., Woodbury, J., &Jarman, E. (2002). Learning styles and performance in the introductory programming sequence. *SIGCSE Bulletin*, 34(1), 33-37.

Thorn, K. (2003). Blended Learning: How to integrate online and traditional. London, KoganPage.

Thornburg, D. (2002). *The new basics: Education and the future of work in the telematics age*. Alexandria, VA: Association for Supervision and Curriculum Development.

Tubaishat, A. and Lansari, A. (2011). Are Students Ready to Adopt E-learning? A Preliminary E-readiness Study of a University in the Gulf Region. *International Journal of Information and Communication Technology Research*.1(5):210-215.

Ugwu,DanielAleke,Ohimekpen,BenjaminAkaniyere,(2015).Anassessment of awareness and use of e-learning resources by secondary school teachers in thenorth eastern state of yobe, Nigeria, *International Journal of Technical Research and Applications*, Issue 22, PP.49-54

Valiathan, P. (2002). *Blended Learning Models*. ASTD Learning Circuits August 2002. retrieved from<http://www.elearningcircuits.org/2002/valiathan.html>

Vanfossen,P.J.(2001). DegreeofInternet/wwwuseandbarrierstouseamong secondary social studies teachers”, *International Journal of Instructional Media*.28(1), 57-74.

Veccho, Kristy Del &Loughney, Megan (2006). E-learning Concepts and Technique. Institute for Interactive Technologies, Bloomsburg University of Pennsylvania, USA. pp5-6.

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Wang, A. Y. & Newlin, M. H. (2002). "Predictors of web student performance: the role of self-efficacy and reasons for taking online class. *Computers in Human Behaviours*, 8(2).151-163.

Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: An empirical study. *International Journal of Service Industry Management*, 14, 501–519.

Wedemeyer, C.A. (1981). Learning at the back door: Reflections on non-traditional learning in the lifespan. Madison: University of Wisconsin Press.

Welker, J. and Berardino, I. (2006). Blended learning: understanding the middle ground between traditional classroom and fully online instruction. *The Journal of Educational Technology Systems*, 34(1):33-55.

Wiersma, W., & Jurs, G.S. (2009). *Research Methods in Education*. New Delhi: Dorling Kindersley (India) Pvt. Ltd.

Wingard, R.G. (2004). Classroom teaching changes in web-enhanced courses: A multi-institutional study. *EDUCAUSE Quarterly*, 27(1), 26-35 Retrieved from <http://net.educause.edu/ir/library/pdf/eqm0414.pdf>

Woodley, A. & Parlett, M. (1983). "Students dropouts" in teaching at a distance, No. 23, summer.

Yang, (2003). Shi-Wen. Internet Use by Pre-Service Teachers in Elementary Education Instruction. Dissertation, Idaho State University, DAI-A64/06(2003):189.7, July 2004 <http://www.ub.uni.com/dissertations/fullcit/3094895> (accessed on 20/5/11)

Yang, N. & Arjomand, L. H. (1999). "Opportunities and Challenges in Computer-Mediated Business Education: An Exploratory Investigation of Online Programs," *Academy of Educational Leadership Journal*, 3 (2), 17-29.

Yasin, K. & Lubers, Y. (1997). Meeting the Needs of a New Democracy:

**Deepti Singh and Prof. Sunita Mishra, Urban and Semi-urban High School Students:  
Comparison in Respect to E-learning Resources their Dependency and Effect on Academic  
Performance**

Multichannel Learning and Interactive Radio Instruction in Haiti: A Case Study.  
Washington, DC: USAID. Online at <http://ies.edc.org/pubs/book11.htm>.

Yukawa, J. (2005). Hearts and minds through online: A narrative analysis of learning through co-reflection in an online action research course (Doctoral Dissertation), *Dissertation Abstracts International*, 66(4), p.1332.

Zimmerman, B. J., and Risemberg, R. (1997). Self-regulatory dimensions of academic learning and motivation. In G. D. Phye (Ed.) *Handbook of Academic Learning: Construction of knowledge* (p. 105-125). San Diego, CA.: Academic Press.

Zywno, M. S., &Waalén, J.K. (2002). The effect of individual learning styles on student outcomes in technology-enabled education. *Global Journal of Engineering Education*, 6(1), 35-44.



*Annexure*

**Urban and Semi-Urban High School Students’  
Comparison; in Respect to E-Learning Resources Their  
Dependency and Effect on Academic Performance**

**Questionnaire**

Student’s demographic

Dated.....

**A. General information**

**Name of the student-.....**

Full time student- Part time student- Academic division-

1. Age (in years).....

2. Gender

Male  Female

3. Address.....

.....

**Where do you live?**

• In a city: -

• In a semi urban area: -

4. Do you own a smart phone? Y  N

5. You or anyone in your family uses internet  Y  N

**6. If yes than what gadget you use for internet?**

**Computer**

**Mobile phone**

**Laptop**

**iPod**

**7. Employment of family:**

Unemployed  Retired  Housewife  Professional

Self – employed

Nature of employment.....

**8. Monthly Income of the family:**

**9. Type of family:**

Nuclear  Joint or extended family  Single parenting  Childless  
 Stepfamily  Grandparent family

➤ How many online courses are you registered in:-

- 1
- 2
- 3
- 4
- 5

➤ Are you computer literate?

○ Yes

➤ No Are you comfortable with technology?

- Yes
- No
  
- Do you consider yourself to be technologically savvy?
  
- Yes
- No
  
- Do you use e-learning for your curriculum studies?
  
- Yes
- No
  
- Do you use e-learning as a primary resource or a secondary resource for your studies?
  
- Primary
- Secondary
  
- Is e-learning a cost effective learning?
  
- Yes
- No
  
- Can e-learning tools keep you engaged and motivate you to study?
  
- Yes
- No
  
- Does it have positive impact on a learning environment?
  
- Yes
- No
  
- Do you think that ICT (Information Communication technology) tools help you in increasing the ability to build the knowledge that other student has created, but also make link to the wider learning community of which they are apart?
  
- Yes

- No
- Have you ever received any training from the school to study in the e-learning environment?
- Yes
- No
- **Are you aware of following e-learning resources: -**

<b>e-learning resources</b>	<b>Yes</b>	<b>No</b>
Laptop		
Computer		
Smartphone		
Close circuit T.V		
Electronic devices		
Internet		
e-journal		
Digital library		
Video tutorial		
E-books		
E-mail		
Video conferencing		

- **What are the e-learning material available in your school for curriculum implementation?**

<b>Availability of material</b>	<b>Available</b>	<b>Not available</b>

Off line/ ordinary computer		
Telephone / wireless applications		
On line / internet computer		
e-mail facilities		
Multimedia television		
Multimedia projector		
Digital library		
Readymade courseware: CD-ROM, etc		

- Do you receive curriculum delivery from any above e-learning resources, if yes than through what media?
- .....

➤ **Role of e-learning education**

<b>Role of e-learning</b>	<b>Yes</b>	<b>No</b>
E-learning resources provides you better options for curriculum study?		
E-learning improves knowledge better than traditional knowledge?		
E-learning help you to improve in-depth and practical learning than traditional knowledge?		
Can e-learning brings social change in India?		
E-learning facilities helps you to study more effectively to perform in class tasks		

**3) Benefits to school learners with access toe-learning**

<b>S.No.</b>	<b>Benefits</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor</b>	<b>agree</b>	<b>Strongly agree</b>

				<b>disagree</b>		
1.	Motivation and engagement					
2.	Independence and personalized learning					
3.	Critical thinking and multi-literacies					
4.	Access to information, resources and experts					
5.	Collaboration in wide contexts, including international ones.					
6.	E-learning leads to positive outcomes.					

➤ **Effects of e-learning among student**

<b>EFFECT</b>	<b>Yes</b>	<b>No</b>
Do you think e-learning gives you positive and effective information about your subject/Content/syllabus?		
It gives you multiple choice of formats		
Does e-learning provides you faster and reliable communication?		
Do you feel confident and renewed motivation in e-learning environment?		

➤ **Quality of e-learning in a way of usefulness and productivity**

<b>Usefulness and Productivity</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
Does searching through e-learning resources met your personal and professional goals?					
Does e-learning resources met your expectations to provide you useful information?					
Does e-learning provides you complete list of required and recommended learning and reference material?					
The e-learning materials were accurate clear and understandable to you.					
The e-learning materials were at an appropriate language level for you					
E-learning activities helped you to examine issues to evaluate new ideas, and to apply what you have learned.					

E-learning encouraged you to communicate and exchange ideas for your personal enhancement.					
Does e-learning helps you to reduce classroom workload.					

\*5-point Likert Scale

➤ Do you believe that improving knowledge through e-learning is better than traditional learning?

- Yes
- No

➤ Do you have any social media group?

- Facebook
- WhatsApp
- Twitter
- Other

➤ Do you receive useful information's for the academic performance through these Medias?

- Yes
- No

➤ Do you prefer any other method to study except the class room method?

- Yes
- No

➤ Through what media or resources, you do your assignment or craftwork?

- Video conferencing
- Gmail
- Learning applications

- Online videos
- Smart classes
- It helps you in class performance?
  - Yes
  - No
- Does it keeps you updated in day-to-day school activities?
  - Yes
  - No
- Do you prefer You Tube for learning?
  - Yes
  - No
- How would you summarize the accuracy of data found on the e-learning websites?
  - Bad
  - Average
  - Good
  - Excellent
- Do you think face to face learning is more important for in depth & practical Learning?
  - Yes
  - No
- What is the percentage of effective data you retrieve on that site which you use fore-learning?
  - 0-30%
  - 31%-60%
  - 61%-90%
  - 90%+

➤ **Problems faced by student's in the utilization of e-learning resources for curriculum study?**

<b>Problems</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree nor disagree</b>	<b>Agree</b>	<b>Strongly agree</b>
Lack of internet facilities at school and home					
Lack of fund in your school					
Inadequate e-learning resources in school					
High cost of computers, laptop, smart phone etc.					
Poor electricity supply					
Low level of computer literacy of teacher/students					
Inadequate training of staff in institutions especially related to educational technology.					
Low literacy level in computer technology among personnel.					
Do you face problem to lack of availability of suitable personal computers					

and bandwidth?					
Do you face problems with accessing suitable software?					
Lack of information about how to use internet					
Lack of support from the library staff					
Are you able to solve your problem through e-learning?					

\*5-point Likert Scale

- Do you agree that e-learning improving the basic skill of literacy and numeracy leading to improved products of learning such as written reports, visual or oral presentation?
  - Yes
  - No
  
- Do you believe that the information which are provided by the digital media is suitable and accurate for the given curriculum?
  - Yes
  - No
  
- If you could get a chance to select the method then would you prefer to study through e- learning?
  - Yes
  - No
  
- Do you believe that improving knowledge through e-learning is better than traditional learning?

Yes

No

➤ Can e-learning bring social change in India?

Yes

No

➤ In your opinion how you define scope and future of e-learning?

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Do you think it can be improved by time?

Yes

No

➤ On an overall view, has e-learning helped you in your academic performance?

Yes

No

➤ Mention the websites or applications you visit more often.

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Name the subjects you used to read through the internet.

Mathematic

English

General knowledge

Science Social

Science

Environment Science

Art & Craft

- Commerce
- Does it help you to solve your problems related to subjects?
  - Yes
  - No
- How many hours you spend daily fore-learning?
  - 30 min-1hr
  - 1-2hrs
  - 2-3hrs
  - more than 3hrs
  - Do not use
- Do you think e-learning helps you to improve your result and class performance?
  - Yes
  - No
- From where you received current or new information about your subject?
  - Traditional method
  - Internet
  - Both
- Should e-learning be converged with the educational modules?
  - Yes
  - No
- Does it impact the learning procedure of understudy?
  - Yes
  - No
- Would you recommend e-learning to every student?

- Yes
- No

**Study hours its impact on academic performance**

➤ **Hours dedicated for online studies per day**

<b>S.No.</b>	<b>Hours dedicated for online studies per day</b>	<b>Yes</b>	<b>No</b>
1.	30 min-1hr.		
2.	1hr-2hr		
3.	2hr-3hr		
4.	More than 3hr		
5.	Do not use online studies		
	Total		

➤ **Distribution of ease in keeping up with reading hours required for online studies**

<b>S.No.</b>	<b>ease in keeping up with reading hours required for online studies</b>	<b>Yes</b>	<b>No</b>
1.	Disagree		
2.	Neutral		
3.	Agree		

4.	Strongly Agree		
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**Ease in finding time to complete online course**

S.No.	ease in finding time to complete online studies	Yes	No
1.	Disagree		
2.	Neutral		
3.	Agree		

➤ **Impact of study hours (e-learning) on grade score**

S.No.	Impact of study hours on grade score	Yes	No
1.	Excellent		
2.	Good		
3.	Fair		
4.	Bad		
5.	No Impact		
	Total		

# Effectiveness Of An Adoptive E-Learning Resources; Intervention On School Going Students' Learning In Comparison To Traditional Instruction

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## Abstract

The study highlights the effect of e-learning on student's academic learning performance at school level. The objective of the study was to find out the effects of e-learning on students interest and learning through e-learning resources. Responses were taken from the 150 high school students aged 12 to 15 years old from Varanasi and Ayodhya City Uttar Pradesh, India. e-learning is the employment of technology to aid and enhance learning. it can be as simple as High school students attaching a video documentary in class or as complex as an entire course provided online. The classes were divided in two subgroups with group one receiving the classes through traditional classroom method and with group two receiving the class using online method and traditional classroom method (Blended method). It is unquestionable that online learning, additionally known as distance learning, is here to stay. This study involves intact high school classes utilizing a Quasi-experimental design. The lesson content was identical except in the method of delivery of lessons. The first group was taught the classes in a traditional lecture-based way. The second group received exactly the same amount and structure of learning using blended method of learning. The sample was comprised of 150 students.

**Keywords:** Online learning, Distance learning, Blended learning, Internet, Traditional learning, Effectiveness.

## Introduction

E-learning began decades ago with the introduction of television and over-head projectors in classrooms and has advanced to include interactive computer programmes, 3D simulations, video and telephone conference and real-time online discussion groups comprised of students from all over the world. with technological advances, e-learning has limitless possibilities. Electronic learning is gaining popularity the world over. The world wide web has left no stone unturned in making e-learning reach out to the masses. lot enabled learning is paving ways to extend traditional

earning methods reach out to students and make learning affordable and boundary less.

Online learning classes consist of classes that are delivered fully via the internet, or a amalgamation of internet delivered classes and periodic meetings in a traditional classroom as blended learning. Students are spending plenty of time using several gadgets surfing various web pages, websites, learning apps, Whats app, Facebook, Google search engine which help students to learn beyond the traditional classroom. An in progress and necessary discussion within the education community queries whether or not online learning is as effective as traditional classroom learning.

With the amount of time, various resources, use of internet and technology usage dedicated to online learning. The extent of learning students reach is an important factor in determine online learning effectiveness. Recent technological developments have produced distance learning easier (McBrien et al. 2009). Most of the terms used like (online learning, open learning, web-based learning, computer-mediated learning, blended learning, and m-learning).

The synchronous learning platform is structured because students attend live lectures, live streaming on various platforms and real-time communication among teachers and students by the use of different e-learning resources. The benefits of e-learning is that it has possibility of instant feedback, whereas asynchronous learning platforms are not properly structured. Learning content is not presented in live classes; it is presented at different learning systems and mediums. Immediate feedback and instant response are not possible under such a platform (Littlefield 2018). Synchronous learning offers many opportunities for social communication (McBrien et al. 2009).

The physical “brick and mortar” classroom is beginning to lose its monopoly as the place of learning. The Internet and different e-resources has made online learning possible and convenient to the students to learn not only in the traditional classroom setup, and plenty of researchers and educators are interested in online learning now a days to enhance and improve student learning outcomes while combating the reduction in resources, particularly in higher education. It is imperative that researchers and educators consider the effectiveness of online learning compared to traditional face-to-face format layout and the elements that impact the effectiveness of on-line courses. Transitioning classes into electronic gadgets, The thought behind using of digital technologies to teach students from homes was introduced to continue with education and overcome mental stress and anxiety. Use of information and communication technology (ICT) for learning

process is called E-learning. E-learning is a term which is used to describe the online education and web based training etc. (Oye, Salleh, and lahad, 2010).

E-learning is a process of using information and communication technology (ICT) to enhance and facilitate teaching and learning. Actual use of e-learning has significant effect in student’s academic performance. E-learning use is associated with increased student’s academic performance. In these days technology is a tool used to remove geographical barriers and facilitates everybody to learn anytime and anywhere in the world without the presence of the lecturer ( Saleem & Rasheed 2014).

With the passage of time the use of internet is increasing rapidly that’s why the training and learning institutions have devoted great efforts and large sum of money to develop e-learning progress for use because it saves our time and increase our skills. (Chiu, Sun, et al., 2007).

### Methodology

This study involved 10<sup>th</sup> grade school students from urban and semi-urban schools to examine the Student Awareness and Engagement Towards E-Learning Using E-Learning Resources and Its Impact On the Academic Performance. A set of questionnaire was prepared to gather some demographic information. Questions were divided into sections which consists demographic profile, technology usages, availability of resources, awareness among students, engagement of the student and role of e-learning resources in the e-learning studies. The design of the program account unit covering all 12 weeks of the 2017-2018 academic sessions. The t-test, one way ANNOVA, correlation coefficient was used to determine the result. Data was logged into the computer and analysed using the statistical package for social sciences (SPSS) version 20.

### Result and Discussion

**Table 1: Study hours its impact on academic performance**

**Table 1.a: Coefficient of Correlation**

	Academic Performance	Hours spent online	Gender	Location setting	Subject

<b>Academic Performance</b>	Pearson Correlation	1				
	Sig. (2-tailed)					
<b>Hours spent online</b>	Pearson Correlation	0.589	1			
	Sig. (2-tailed)	0.3079				
<b>Gender</b>	Pearson Correlation	0.562	.310	1		
	Sig. (2-tailed)	0.1855	0.0183			
<b>Location setting</b>	Pearson Correlation	0.582	0.1836	0.1208	1	
	Sig. (2-tailed)	0.0023	0.1859	0.4200		
<b>Subject</b>	Pearson Correlation	0.568	0.0072	0.2345	0.1038	1
	Sig. (2-tailed)	0.0432	0.9491	0.0936	0.4682	

To compute the correlation between the study variables and their findings in the study the Karl Pearson's coefficient of correlation ( $r$ ) as used. The findings as shown in Table 8 revealed that there was a positive correlation between academic performance and hours spent online as shown by a correlation figure of 0.589, even though the correlation is positive, the connection between academic performance and hours spent online isn't significant. It was also clear that there was a positive correlation between academic performance and gender with a correlation figure of 0.562, even though the correlation is positive, the relationship between academic performance and gender is not significant. It was also revealed that there was a positive correlation between academic performance and location of setting with a correlation figure of 0.582, likewise even

though the correlation is positive, the connection between academic performance and site setting isn't significant. Finally, a positive correlation between academic performance and subject with a correlation value of 0.568 was realized. Even though the correlation is positive, the connection between academic performance and subject isn't significant. This clearly depicts that there was a moderate correlation between academic performance and hours spent online, gender, location setting and subject. The lack of significance in the individual relationships could be due to interactive effects with the other variables. Rodgers and Ghosh (2001) identified that 'effort' (or engagement) levels were highly significant in determining student examination performance. (Muhammad, A., Saleem & Iqra, R)

**Table:2.1 intergroup comparison of impact of e-learning (blended learning) on the academic performance of the student**

### TEST ONE

#### T-test

**Table:2.1. (a) Description of first test results in relation to mean and Standard Deviation**

	Group	N	Mean	Std. Deviation	Std. Error Mean
--	-------	---	------	----------------	-----------------

<b>Marks for first test in urban School</b>	<b>Experimental Group</b>	56	15.2679	1.77345	0.23699
	<b>Control Group</b>	94	14.1259	1.78028	0.15260
<b>Marks for first test in Semi-urban School</b>	<b>Experimental Group</b>	55	15.1567	1.66334	0.23589
	<b>Control Group</b>	95	14.1368	1.78029	0.15261

Table: 2.1(b) Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Marks for first test in urban School</b>	<b>Equal variance assumed</b>	0.006	0.940	3.869	148	0.000	1.14193	0.29519
	<b>Equal variance not assumed</b>			3.972	109.115	0.000	1.14193	0.28746
<b>Marks for first test in semi-Urban School</b>	<b>Equal variance assumed</b>	0.006	0.941	3.879	148	0.000	1.14184	0.29519
	<b>Equal variance not assumed</b>			3.983	108.124	0.000	1.14186	0.28856

The result shows that on the average, the reported variability of the, marks in the first test was significantly higher for the experimental Group from urban (M=15.2679, SD= 1.77345) and experimental Group from semi-urban (M=15.1567, SD= 1.66334) Control Group form urban (M=14.1259, SD=1.78028) and Control Group form semi-urban (M=14.1368, SD=1.78029),  $t(150) = 3.869$ ,

$p < 0.001$ ,  $r = 0.27$  in urban Schools and from semi-urban Schools  $t(150) = 3.879$ ,  $p < 0.001$ ,  $r = 0.26$ . the estimated size of the effect indicates that the difference in performance in the test created by group was small and thus representing a substantial effect.

### TEST TWO

#### t-test

Table: 2.2(a) Description of Second test results in relation to mean and standard deviation

	Group	N	Mean	Std. Deviation	Std. Error Mean
--	-------	---	------	----------------	-----------------

Marks for second test in urban School	Experimental Group	56	16.0536	1.34055	0.17914
	Control Group	94	14.2519	1.35337	0.11648
Marks for second test in Semi-urban School	Experimental Group	55	16.0525	1.34043	0.17902
	Control Group	95	14.2508	1.35325	0.11636

Table: 2.2(b) Independent sample test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Marks for second test in urban School	Equal variance assumed	0.368	0.0545	8.399	148	0.000	1.80172	0.21453
	Equal variance not assumed			8.432	102.728	0.000	1.80172	0.21368
Marks for second test in semi-urban School	Equal variance assumed	0.355	0.533	8.289	148	0.000	1.80172	0.21453
	Equal variance not assumed			8.332	103.728	0.000	1.81162	0.22456

The results show that on the average, the reported variability of the marks in the second test was significantly higher for the Experimental Group from urban (M=16.0536, SD=1.34055) and experimental Group from semi-urban (M=16.0525, SD=1.34043) than for the Control Group from urban (M=14.2519, SD=1.35337) and Control Group from semi-urban (M=14.2508, SD=1.35325), From urban

student t (150) = 8.399,  $p < 0.001$ ,  $r = 0.5214$  and from semi-urban Schools  $t(150) = 8.289$ ,  $p < 0.001$ ,  $r = 0.5213$ . the estimated size of the effect indicates that the difference on the performance in the second test created by group was significant and thus represents a substantial effect.

#### 4.6.3 Test one and test two T-TEST

Table: 2.3(a) Description of mean marks in relation to Group for test One and Two

	Group	N	Mean	Std. Deviation	Std. Error Mean
Mean Marks for the two tests in urban	Experimental Group	56	15.6607	1.20268	0.16071
	Control Group	94	14.1889	1.50480	0.12951

School					
Mean Marks for the two tests in Semi-urban School	Experimental Group	55	15.5406	1.20156	0.16051
	Control Group	95	14.1788	1.50350	0.12840

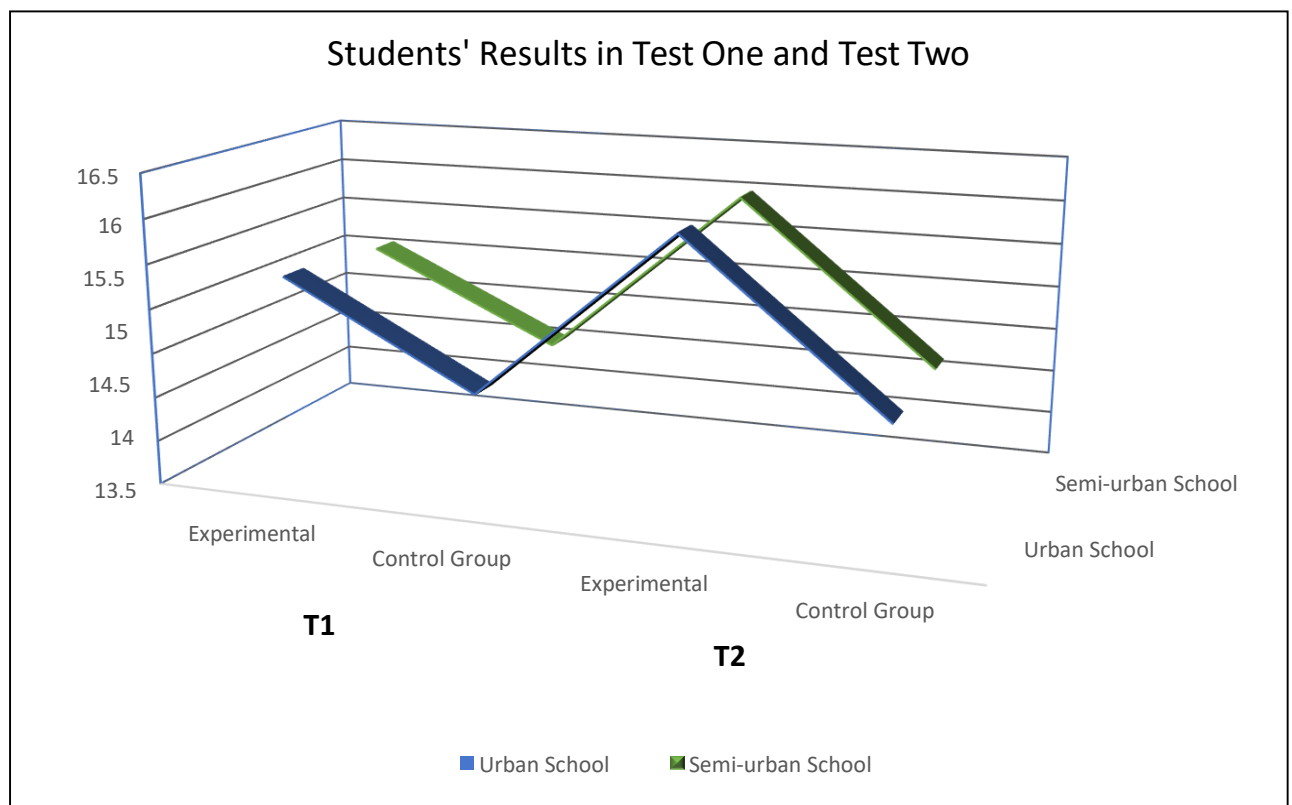
Table: 2.3(b) Independent sample test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean Marks for the two tests in urban School	Equal variance assumed	3.412	0.066	6.505	148	0.000	1.47183	0.22626
	Equal variance not assumed			7.131	122.551	0.000	1.47183	0.20640
Mean Marks for the two tests in semi-urban School	Equal variance assumed	3.211	0.064	6.303	148	0.000	1.44053	0.22423
	Equal variance not assumed			7.101	122.561	0.000	1.47162	0.20530

The result shows that on the average, the reported variability of the Mean between the first test and the second test was significantly higher for the Experimental Group from urban ( $M=15.6607$ ,  $SD=1.20268$ ) and experimental Group from semi-urban ( $M=15.5406$ ,  $SD=1.20156$ ) than for the Central Group from urban ( $M=14.1889$ ,  $SD=1.50480$ ) and Control Group from semi-urban ( $M=14.1788$ ,  $SD=1.50350$ ). From urban student  $t(150)=6.505$ ,  $p<0.001$ ,  $r=0.4280$  and from semi-urban Schools  $t(150)=6.303$ ,  $p<0.001$ ,  $r=0.4270$ . the estimated size of the effect indicates that the difference in performance between the two groups was significant, and

therefore represents a substantial effect. The magnitude of the effect showed that the difference in performance between the two groups of students was significant. This finding offers evidence that e-learning has a significant influence on the performance of student.

Result of the similar study conducted by **Lumadi, M., (20130)** highlighted that students from experimental group were showing significant improvements in the test results as compare to the control group. E-learning (Blended learning) has a significant influence on the academic performance of the student.



**Fig. 2.3 Students' Results in Test One and Test Two**

### **Conclusion**

E-learning is the need of the hour, helps effective time management and motivates students to do their work independently. E-learning provides access to unlimited resources anytime anywhere while making it of fordable too.

E-learning is utilizing electronic technologies to get access educational curriculum. Presently, e-learning is inspiring the world societies at large. In this perturbed era, it is hard to get education in formal mode due to social economic or interconnected problems because there is no limitation of time and space. So, e-learning makes learning easier to learn. The evolution of technology is drastically changing the social norms. Educated and uneducated masses use technology frequently for enjoyment and benefits. It is observed that different social media like Facebook, what's app and Twitter plays an important role in education. These applications introduce them a variety of new terms of education, one of them

is e-learning. E-learning resources helps students to improve academic performance as well as increase their knowledge beyond the set classroom tradition curriculum.

### **References**

1. Chiu, C. M., Sun, S. Y., et al. (2007). An empirical analysis of the antecedents of web based learning continuance. *Computers and education*, 49(4), 1224-1245
2. Cojocariu VM, Lazar I, Nedeff V, Lazar G (2014) SWOT anlysis of e-learning educational services from the perspective of their beneficiaries. *Procedia-Soc Behav Sci* 116:1999–2003.
3. Littlefield J (2018) The difference between synchronous and asynchronous distance learning. Retrieved May 4, 2020.
4. Lumadi, W.M. (2013). E-learning's impact on the Academic Performance of Student-teachers: A Curriculum Lens, *Mediterranean Journal of social science*. 4(14);695-703.

5. McBrien JL, Cheng R, Jones P (2009) Virtual spaces: Employing a synchronous online classroom to facilitate student engagement in online learning. *Int Rev Res Open Distrib Learn*.

<https://doi.org/10.19173/irrodl.v10i3.605>

6. Muhammad, A., Saleem & Iqra, R. (2014). Use of E-learning and its Effect on students. *New Media and Mass Communication*, ISSN 2224-3267(.26),47-51.

7. Oye , N. D., Salleh, M., and Iahad, N.A. (2010). Holistic E-learning in Nigerian Higher

Education institutions. *Computing*, 2(11), 20-26.

8. Rodgers, T., & Ghosh, D. (2001). Measuring the determinants of quality in UK higher education: A multinomial logit approach. *Quality Assurance in Education*, 9, 121-126.

9. Singh V, Thurman A (2019) How many ways can we define online learning? a systematic literature review of definitions of online learning (1988–2018). *Am J Distance Edu* 33(4):289–306.



**Deepti Singh And Prof. Sunita Mishra, Urban and Semi-urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance**

to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. E-learning is basically the pc and network-enabled transfer of skills and data. E-learning applications and processes embody internet-based mostly learning, computer-based learning, virtual room opportunities, and digital collaboration. Content is delivered via the web, intranet/extranet, audio or videotape, satellite television, and CDROM.

Technology Changing Education is a constantly evolving sector. With it, the challenges come in bountiful. But the best part is, there is always room for improvement. In fact, the education sector has been witness to a sea of changes that have washed over it, making it more improved and accessible. One such predominant integration has been that of technology, which has given the traditional classroom model a dizzying spin. This initiated a shift in the learning paradigm, dissolving the hindrances posed and making way for a better future. It has given rise to one of the most popular forms of education of recent times that's e-learning.

Anshu (2006), stated, much has been said and reported about the impact of technology, especially computers, in education. Students using a computer to prepare for laboratories makes greater conceptual gains, and are more capable of integrating knowledge.

E-learning is vital for education as a result of it will improve the standard of the training expertise, and extend the reach of each lecturer and tutor. E-learning will facilitate take away barriers to accomplishment, by providing new and inventive ways in which of motivating and interesting pupils and learners of all talents, enabling and galvanizing everybody to realize their educational potential. It can support learning by offering differentiated learning, particularly for those who need support in literacy, numeracy, and ICT. E-learning offers a good vary of tools to change lecturers and learners to be innovative, creative and resourceful in all learning activities. Teachers and learners will simply customize digital learning resources to suit pace and level, appropriate to any learning style and ability. E-learning creates on-line communities of practice. The Internet will bring learners, teachers, specialist communities, experts, practitioners, and interest groups together to share ideas and good practice. This learning will offer associate personalized learning expertise for all learners, including those who are disadvantaged, disabled, exceptionally gifted, have a special curriculum or learning needs or who are remote or away from their usual place of learning. It will facilitate wider participation and fairer access to any and better education by making the chance to start out learning and to decide on courses and support in step with the learners' desires. E-learning provides personalized learning support through data, advice, and guidance services. It will facilitate learners to notice the course they have, with a seamless transition to the next stage of their learning, including online application or enrolment and an electronic portfolio of their learning to take with them. E-learning provides virtual learning worlds wherever learners will participate in active and inventive learning with others through simulations, role-play, a device of real-world tools and devices, online master classes, or collaboration with other education providers. In the words of Kirsh, (2002), e-learning can improve retention, provide immediate feedback and allows learners to customize learning materials to meet individual needs. In addition to the above, access to online journals is made possible through e-learning. Students and teachers get a better chance of reaching out to books, journals made available on the internet. A broader interaction is gotten from the outside world through interaction on the internet (Edna, 2013). "An abbreviation for electronic learning, e-learning signifies the use of computer and similar other devices to impart education. This type of learning mostly employs technology and Internet to access educational material or sources, contrary to traditional classroom methods."

### **Benefits**

- It is cost-effective and saves time
- The self-paced aspect of e-learning shines through all obstacles
- E-learning results in a higher knowledge retention
- Tracking Course Progress becomes Easier
- E-learning provides ample room to be discreet
- E-learning encourages sharing
- The target audience base for e-learning is quite large

**METHODOLOGY**

This study involves 10th-grade school students from Urban and Semi-urban areas. A set of the questionnaire has been distributed to obtain demographic information and examine the role and level of awareness of e-learning education and resources. Questions are divided into sections consisting of Demographic profile, technology usages, benefits and effect of e-learning resources.

**Table1: Distribution of the gender and age of the respondents**

S.No.	Gender	Frequency (%) (Urban Areas) N=150	Frequency (%) (Semi-Urban Areas) N=150
1.	Male	96 (64.0)	92(61.3)
2.	Female	54 (36.0)	58(38.7)
	Total	150 (100.0)	150(100.0)
S.No.	Age group	Frequency (%) (Urban Areas) N=150	Frequency (%) (Semi-Urban Areas) N=150
1.	13-14 year	56(37.3)	49(13.5)
2.	15-16 years	83(55.3)	92(61.3)
3.	17-18 years	11(1.3)	9(6.0)
	Total	150 (100.0)	150 (100.0)

From the above table can be seen that the number of total respondents was 300 from urban and semi-urban areas in which most of respondents 96 (64.0%) were male and 54(36.0%) were female from urban areas and 92 (61.3%) respondents were male and 58(38.7%) were female belongs to semi-urban areas. 56(37.3%) respondents belong to 13-14 year age group, 83(55.3%) respondents belongs to 15-16 year age group and minimum 11(1.3%) respondents belongs to 17-18 year age group in urban areas, in semi-urban areas 49(13.5%) respondents were belongs to the age group of 13-14 years, most of 92(61.3%) respondents belongs to 15-16 year age and minimum 9(6.0%) respondents belongs to 17-18 year age group.

**Table 2: Distribution of respondents' they comfortable with the ICT technology.**

S.No.	Are you comfortable with ICT technology	(Urban Area) Frequency (%) N=150	(Semi-Urban Area) Frequency (%) N=150
1.	No	56 (37.3)	100(66.6)
2.	Yes	94 (62.7)	50(33.3)
	Total	150 (100.0)	150 (100.0)

Above table shows that 50(37.3%) students from urban and 100(66.6%) students from semi-urban areas were not comfortable with the ICT technology whereas 94(62.7%) students from urban and 50(33.3%) students from semi-urban areas were comfortable with the ICT technology, it can be seen that students who belong to the urban areas were more comfortable with the ICT technologies than the semi-urban areas.

**Table 3: distribution of computer literacy among the students.**

S.No.	Are you a computer literate	(Urban Area) Frequency (%) N=150	(Semi-Urban Area) Frequency (%) N=150
1.	No	46 (30.7)	56 (37.3)
2.	Yes	104 (69.3)	94 (62.7)
	Total	150 (100.0)	150 (100.0)

Above table reveals the computer literacy among the students of urban and semi-urban areas, 104(69.3%) students from urban and 94(62.7%) from semi-urban were computer literate while 46(30.7%) students from urban and 56(37.3%) students from semi-urban were not computer literate. Students from semi-urban areas were having less literacy about the computer as compared to the urban areas students.

**Table 4: Distribution of student consider themselves to be technologically savvy**

S.No.	Do you consider yourself to be technologically savvy	(Urban Area) Frequency (%) N=150	(Semi-Urban Area) Frequency (%) N=150
1.	No	59 (39.3)	90(60.0)
2.	Yes	91 (60.7)	60(40.0)
	Total	150 (100.0)	150 (100.0)

Above table depicts that 91(60.7%) students from urban and 60(40.0%) from semi-urban areas were considering themselves to be technologically savvy whereas 59(39.3%) students from urban and 90(60.0%) students from semi-urban areas were not considering themselves to be technologically savvy, so it can be clearly seen that students from semi-urban areas were not technologically savvy as compared to urban areas students.

**Table 5: Distribution of use of e-learning resources for curriculum studies among the respondents**

S.No.	Do you use e-learning resources for curriculum studies	(Urban Area) Frequency (%) N=150	(Semi-Urban Area) Frequency (%) N=150
1.	No	35(23.3)	53(35.3)
2.	Yes	115(76.7)	97(64.7)
	Total	150 (100.0)	150 (100.0)

Above Table reveals the distribution of use of e-learning resources for curriculum studies among the respondents 115(76.7) from urban and 97(64.7%) from semi-urban were using e-learning resources for their curriculum study while 35(23.3%) respondents from urban and 53(35.3%) respondents from semi-urban areas were not using e-learning resources for their curriculum study. A maximum number of students from urban areas were using e-learning resources for their curriculum study.

**Table 6: distribution of ICT tools help in increasing the ability to build the knowledge that other student created, make link to the wider learning community**

ICT tools help in increasing the ability to build the knowledge that other student created, make link to the wider learning community			
S.No.		(Urban Area) Frequency (%) N=150	(Semi-Urban Area) Frequency (%) N=150
1.	No	43(28.7)	62(41.3)
2.	Yes	107(71.3)	88(58.7)
	Total	150(100.0)	150(100.0)

Above table shows ICT tools help in increasing the ability to build the knowledge that other student-created, make link to the wider learning community 107(71.3%) students from urban and 88(58.7%) students from semi-urban were agree that ICT tools helped them in increasing the ability while 43(28.7%) from urban and 62(41.3%) students from semi-urban were not agreed that ICT tools can help them to increase their ability to build the knowledge that other students created and make link to the wider learning community.

Table 7: Benefits to school learners with access to e-learning

S.No.	(Urban Area) Frequency (%) N=150	strongly agree	agree	Disagree	strongly disagree	Neither agree nor disagree	Total
	Benefits to school learners with access to e-learning						
1.	<b>motivation and engagement</b>	36(24.0)	74(49.3)	11(7.3)	17(11.3)	12(8.0)	150(100.0)
2.	<b>e-learning gives independent and personalized learning</b>	80(53.3)	42(28.0)	8(5.3)	9(6.0)	11(7.3)	150(100.0)
3.	<b>critical thinking and multiliteracies</b>	39(26.0)	72(48.0)	17(11.3)	17(11.3)	5(3.3)	150(100.0)
4.	<b>collaboration in wide contexts including international ones</b>	51(34.0)	88(58.7)	2(1.3)	9(6.0)	0(0.0)	150(100.0)
5.	<b>e-learning leads to positive outcomes</b>	37(24.7)	75(50.0)	19(12.7)	10(6.7)	9(6.0)	150(100.0)
6.	<b>Help in access to information, resources and experts around the world</b>	43(28.7)	73(48.7)	25(16.7)	8(5.3)	1(0.7)	150(100.0)
7.	<b>have positive impact on learning environment of the student</b>	80(53.3)	42(28.0)	8(5.3)	9(6.0)	11(7.3)	150(100.0)
	<b>(Semi-Urban Area) Frequency (%) N=150</b>	<b>strongly agree</b>	<b>agree</b>	<b>disagree</b>	<b>strongly disagree</b>	<b>Neither agree nor disagree</b>	<b>Total</b>
1.	<b>motivation and engagement</b>	89(59.3)	3(2.0)	31(20.7)	27(18.0)	0(0.00)	150(100.0)
2.	<b>e-learning gives independent and personalized learning</b>	60(40.0)	47(31.3)	31(20.7)	12(8.0)	0(0.00)	150(100.0)
3.	<b>critical thinking and multiliteracies</b>	6(4.0)	36(24.0)	64(42.0)	44(29.3)	0(0.00)	150(100.0)
4.	<b>collaboration in wide contexts including international ones</b>	15(10.0)	37(24.7)	61(40.7)	37(24.7)	0(0.00)	150(100.0)
5.	<b>e-learning leads to positive outcomes</b>	11(7.3)	58(38.7)	35(23.3)	37(24.7)	9(6.0)	150(100.0)
6.	<b>Help in access to information, resources and experts around the world</b>	38(25.3)	52(34.7)	28(18.7)	16(10.7)	16(10.7)	150(100.0)
7.	<b>have positive impact on learning environment of the student</b>	60(40.0)	47(31.3)	31(20.7)	12(8.0)	0(0.00)	150(100.0)

Above table shows the benefits to school learners with access to e-learning which was measured as strongly agree, agree, disagree, and strongly disagree and neither agree nor disagree. The result from the benefits of e-learning to the urban and semi-urban areas school learners with access to e-learning shows that, e-learning system is beneficial in their studies where the percentage of strongly agree from urban 36(24.0%) and 89(59.3%) from semi-urban areas and agree 74(49.3) from urban and 3(2.0) form semi-urban areas. Meanwhile, only 11(7.3%) form urban and 31(20.7%) from semi-urban areas were disagree and 17(11.3%) from urban and 27(18.0%) from semi-urban areas were strongly disagreed. Only 12(8.0%) students from urban areas neither agree nor disagreed. These results show that the students are feeling motivated and engaged through e-learning study. The result for the question on e-learning gives independent and personalized learning to the student shows that 80(53.3%) students form urban and 60(40.0%) form semi-urban areas strongly agreed, 42(28.0%) from urban and 47(31.3%) from semi-urban areas agreed. 8(5.3%) from urban and 31(20.7%) from semi-urban areas have disagreed, 9(6.0%) from urban and 12(8.0%) from semi-urban areas were strongly disagreed. From urban areas, only 11(7.3%) of students were neither agree nor disagreed. 39(26.0%) from urban and 6(4.0%) from semi-urban areas were strongly agree, 72(48.0%) from urban and 36(24.0%) from semi-urban areas agreed. Whereas 17(11.3%) students from urban and 64(42.0%) from semi-urban areas have disagreed, 17(11.3%) students from urban and 44(29.3%) from semi-urban areas were strongly disagreed. 5(3.3%) students only from urban areas neither agreed nor disagreed. It can be seen that the maximum number of students from semi-urban areas did not agree that e-learning can help the students in critical thinking and multiliteracies as compared to urban areas students. E-learning is beneficial in collaboration in wide contexts including international one's results shows that 51(34.0%) students from urban and 15(10.0%) form semi-urban areas strongly agree, 88(58.7%) students from urban and 37(24.7%) from semi-urban areas agreed. 2(1.3%) students form urban and 61(40.7%) from semi-urban areas were disagree, 9(6.0)

students from urban and 37(24.7) from semi-urban areas were strongly disagreed. the number of students from semi-urban areas did not agree that collaboration in wide contexts including international ones helps in the improvement in grades and class performance as compared to the urban areas students. Meanwhile, e-learning leads to positive outcomes in school learning 37(24.7%) students from urban and 11(7.3%) from semi-urban areas were strongly agree, 75(50.0%) students from urban and 58(38.7%) from semi-urban areas were agreed. Disagree students from urban shows 19(12.7) and 35(23.3%) from semi-urban areas, 10(6.7%) students from urban and 37(24.7%) from semi-urban areas were strongly disagreed. 9(6.0%) form both the areas neither agree nor disagree. 43(28.7%) students from urban and 38(25.3%) from semi-urban were strongly agreed, 73(48.7%) students from urban and 52(34.7%) from semi-urban were agreed. Disagree students from urban shows 25(16.7%) and 28(18.7%) from semi-urban areas, 8(5.3%) students from urban and 16(10.7%) from semi-urban areas were strongly disagreed. 9(6.0%) form both the areas 1(0.7%) and 16(10.7%) were neither agree nor disagree. The above result it can be seen that maximum students agreed from both the areas that e-learning resources helps them to access to information, resources, and experts around the world. E-learning has a positive impact on the learning environment of the students learning the result shows that students from urban 80(53.3%) and 60(40.0%) from semi-urban were strongly agreed, 42(28.0%) students from urban and 47(31.3%) from semi-urban were agreed. Disagree students from urban shows 8(5.3%) and 31(20.7%) from semi-urban areas, 9(6.0%) students from urban and 12(8.0%) from semi-urban areas were strongly disagreed. 11(7.3%) from urban areas neither agree nor disagreed. from the above results, it can be concluded that e-learning education and e-learning resources are providing benefits to both the areas students.

**Table 8: Effect of e-learning on the academic career of student**

S.No.	Effect of e-learning on your academic career	(Urban Area) Frequency (%) N=150		Total	(Semi-Urban Area) Frequency (%) N=150		Total
		Agree	Disagree		Agree	Disagree	
1.	gives positive and effective information about your subject/content/syllabus	107(71.3)	43(28.7)	150 (100.0)	78(52.0)	72(48.0)	150 (100.0)
2.	give multiple choice of formats to study the curriculum	108(72.0)	42 (28.0)	150 (100.0)	98(65.3)	52(34.7)	150 (100.0)
3.	provide faster and reliable communication	93(62.0)	57(38.0)	150 (100.0)	94(62.7)	56(37.3)	150 (100.0)
4.	Feeling of confidence, self-esteem and renewed motivation in the e-learning environment	100(66.7)	50(33.3)	150 (100.0)	87(58.0)	63(42.0)	150 (100.0)

Above table depicts the effect of e-learning on the academic career of the student, 107(71.3%) respondents from urban and 78(52.0%) from semi-urban areas agreed that e-learning gives student positive and effective information about the subject/content/syllabus. 108(42.0%) respondents from urban and 98(62.7%) from semi-urban areas agreed that e-learning gives multiple choices of formats to study the curriculum, meanwhile, 93(62.0%) respondents from urban and 94(62.7%) from semi-urban areas were agree that e-learning provides faster and reliable communication to study. Whereas 100(66.7%) respondents from urban and 87(58.0%) from semi-urban areas agreed that it gives a feeling of confidence, self-esteem and renewed motivation in the e-learning environment. So it can be concluded that e-learning is having a great positive effect on the students' academic performance as well as personal behaviour.

**Table 9: Summary of overall question on e-learning**

Question	Strongly Agree	Agree	Disagree	Strongly Disagree	Neither Agree Nor Disagree
Overall, e-learning system is beneficial for the student	32.20%.	46.80%	3.20%	2.70%	15.30%
Overall, quality in using e-learning resources is easy to use for curriculum study	25.50%	53.00%	4.50%	1.00%	15.40%.
Overall, the e-learning effects self-efficiency of the student	27.90%	47.90%	2.50%,	3.20%	18.60%.

The result from the implementation e-learning and e-learning resources shows that e-learning system is beneficial in their study where the percentage of agree shows 46.80% and strongly agree 32.20%. Meanwhile, only 2.70% strongly disagree and 3.20% disagree. Neither Agree nor Disagree 15.30%. These show that the students are receiving benefits from the implementation of e-learning and prefer to use the technology in their

study. Due to the use of e-learning, the quality also should put under consideration. The result for the question on overall the quality in using e-learning resources is easy to use for curriculum study shows that 53.00% agree, 25.50% strongly agree. Disagree shows 4.50%, strongly disagree 1.00% and Neither Agree nor Disagree 15.40%. There also questions related to self-efficacy in the questionnaire. The result for question overall, the e-learning affects students self-efficacy shows that 47.90% agree, 27.90% strongly agree. While disagreeing 2.50%, strongly disagree 3.20% and Neither Agree nor Disagree 18.60%. The implementation of e-learning has built the students relies on the importance of e-learning in their study. Meanwhile, for the student that still do not aware or perceive regarding e-learning should be exposed more during lecturing and communicating. This is important since e-learning could benefit them more in searching for information and upgrade their knowledge and skills

In order to differentiate the data, Spearman correlation measure was used to measure the data. Table shows the P-value measure between Gender and e-learning resources usage, the usefulness of e-learning, quality in using e-learning and affect to self-efficiency. The correlation is done is to test the hypotheses which were studied in this paper.

Table 10: Table of P-value

Comparison	p-value
Gender and e-learning resources usage	0.412
Gender and usefulness of e-learning resources	0.591
Gender and quality of easy to use	0.185
Gender and self-efficacy	0.698

### **Conclusion**

The result of the study shows that the strategy of implementing e-learning will be the best way for students to be aware of new technology and willing to study in various concepts. The used of new technology will make them interested in searching and upgrading their knowledge. The school management should maintain the technology in school in order to ensure e-learning could be useful and beneficial to the students. This is because the students are teenagers and they interested in interactive concepts of learning. Moreover, the interactive concept that can be used in e-learning will make the study more interesting. Nowadays, the concepts of e-learning should be wider since technology today provide many opportunities for the students in gathering their knowledge. By using e-learning student also confess that this concept is very useful for them in their study. Related to this result showing that e-learning affects and benefits their self-efficacy especially in upgrading their knowledge and skills.

### **REFERENCES**

- Goold, A., Craig, A. & Coldwell, J. 2007. Accommodating culture and cultural diversity in online teaching: Australasian Journal of Educational Technology, 23(4), pp. 490-507.
- Holmes, B., & Gardner, J., 2006. E-learning concept and Practice. London: SAGE.
- Kirsh, D. 2002. E-learning, Meta cognition, and Visual design. A paper presented at the International conference on Advances in Infrastructure for e-business, e-education, e-science and e-medicine on the Internet. L'Aquila, Italy.
- Landry, B. J., Payne, D. & Koger, M. S. 2008. From 'chalk and talk' to online offerings: keeping pace with technology in education: International Journal of Management Education, 2(3), pp. 300-317.
- Lapointe, L., & Reissetter, M., 2008. Belonging online: Students' perceptions of the value and efficacy of an online learning community: International Journal on ELearning, 7(4), pp. 641-65.
- Rosenberg, M., J., 2001. E-Learning: Strategies for Delivering Knowledge in the Digital Age. McGraw-Hill, New York.
- Tavangarian, Djamshid; Leybold, Markus E.; Nölting, Kristin; Röser, Marc; Voigt, Denny, 2004. Is e-Learning the Solution for Individual Learning: *Electronic Journal of e-Learning*, 2(2), pp. 273-280.
- Williams, M., & Williams, J., 2010. Evaluating a model of business school students' acceptance of web-based course management systems. The International Journal of Management Education, 8(3), pp.59-70.

**Role of e-Learning education and e-Resources; Its Impact on Academic Performance of the Students**

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**Role of e-Learning education and e-Resources; Its impact on Academic Performance of the Students**

**Abstract**

This study was planned to examine the impact of E-learning on the academic performance of students that involves students from urban and semi-urban areas of Varanasi and Faizabad district of Uttar Pradesh. Students have been exposed to E-learning studies in school, and home as an approach to gathering more information from the students (total 300) participated in the study. The researcher's concern with E-learning education was sanctioned by the requirement for learning strategy that may facilitate student's institution/school of learning to address their issues and improvement on their outcome. In this respect, the researchers experimented to find out whether a student learns using the method of E-learning (blended learning) performs better than students using the traditional method of learning. Findings offer new evidence that E-learning has a significant influence on the performance of students as student learning using E-learning resources consistently performed better than students taught using the traditional method. Based on this result, recommendations are made to provide training to the institutions/schools to support ICTs and become more flexible by adopting learning approaches that are dynamic and multidimensional as issues in education are becoming more complex.

Keywords: E-learning, Blended learning, Academic Performance, Competencies

**Introduction**

E-learning refers to the utilization of net technology to deliver a broad array of solutions that enhance data and performance. The world is quickly changing into a world village because of the interconnectivity that exists between countries, organizations, governments, and alternative bodies as a result of the event of data and Communication Technology (ICT). In E-learning info content is that kind of texts, visuals, e.g., pictures, posters, videos, audio/sound, painted pictures, maps, and graphics, which is at the same time given on-line to students in each immediate location (classroom model of e-learning) and varied geographical distances (Distance Education model of e-learning).

In the present day, ICTs are taking centre stage in almost every segment of life. They help to provide a solution to most of the problems troubling educational systems. There

is a growth in understanding ICTs in governance, business, and in the development process, still less known about e-learning, particularly about “Blended Learning” in the institution of learning. Digital delivered content, network-based services and tutoring support E-learning is any technologically mediate learning mistreatment of computers whether or not from a distance or in face to face room setting (computer-assisted learning), it's a shift from ancient education or coaching to ICT-based personalized, flexible, individual, self-organized, collaboration learning supported a community of learners, teachers, helper, experts.

E-learning as a new strategy for teaching and learning is multi-dimensional and dynamic, changing according to context, circumstances, and interest. (Naidu, 2003:8) defines E-learning as “the systematic use of networked information and communication technology in teaching and learning.” According to C.O.L (2006), E-learning and online learning are terms that have emerged to describe the application of Information and Communication Technologies (ICTs) to enhance distance education, implement open learning policies, create learning activities additional versatile and enable those learning activities to be distributed among several learning venues. On his part, (Perkinson, 2005:104) defines E-learning as “instructional content or learning experiences delivered or enabled by electronic technology.” E-learning that is online or Web-based can be utilized in conjunction with ‘face-to-face’ teaching. (Noe, 2002:263). This mode of E-learning is commonly called Blended Learning.

Furthermore, (Latchem, 2012:13) asserts that Blended learning combines the traditional “classroom” or “face-to-face” methods of teaching and learning with CD-ROM, Internet-based or mobile-learning (m-learning) to achieve the most appropriate mix of presentation, interaction and “hands-on” learning. In fact, blended learning is the

preferred type of form of E-learning delivery nowadays. A survey of traditional and blended learning at the National University of Rwanda administered by (Rotherham, 2009) Notwithstanding, Blended learning is emerging at a time institutions of learning are faced with a multiplicity of challenges such as insufficient pedagogic resources; and most importantly ineffective strategies and methods of teaching and learning; huge classroom size; the introduction of latest disciplines like ICTs within the set of courses without a corresponding employee to show amongst others. Students as well as teachers experiencing such difficult learning conditions find education a very frustrating activity and do not cope with its enormous demands. It is imperative to note that the problems in education today are becoming more complex and multi-dimensional due to the incessant penetration of ICTs in education. The direct result is poor and average academic performance and academic wastage. Thus, ways to handle these issues should be viewed in a very multi-dimensional manner with respect to the context and the accessibility of means. It is on this note that this study sought to find out the impact of E-learning on the academic performance of students.

E-learning ought to guarantee effective pedagogy and information implementation within the laptop age. According to (Nicholls and Nicholls, 1980), (Offorma, 2002), information implementation is the designing and execution of the contents of information so as to bring on sure changes in the behaviour of the learners and the assessment of the extent to which the changes take place. E-learning is

a tutorial medium that allows various approaches to information implementation in an ICT age.

The advent information and communication technology (ICT) among the recent decades drives the varsity of education sector to try for desegregation ICT into information delivery across entirely different subject domains. E-Learning that refers to the utilization of ICT for learning functions becomes a crucial space of stress in school education. (Chan 2010; Condie and Munro 2007). To benefit from the method of E-learning, students need 21st century skills to support them to select and process useful and reliable information from varying sources for learning, as well as to communicate and collaborate with their peers to finish tasks and share outcomes (Hoffman 2010; Rotherham and Willingham 2009).

It is, therefore, advocated that E-learning in class education within the coming ten years has the training goal of supporting students on developing each domain data and twenty first century skills under ICT-supported education practices within the ICT-rich learning environments (Gut 2011; Kong et al. 2014).

The impact of technology, especially computers, in education: Students using a computer to prepare for laboratories make greater conceptual gains and are more capable of integrating knowledge. Studies shows comparative effectiveness of single medium and multimedia system on learning gains of ninth graders in chemistry at completely different level of educational accomplishment and intelligence. The result is that the multimedia is as effective as traditional method of teaching in chemistry to develop the knowledge and understanding domain of the students.

Effectiveness of instruction, in the words of (Duckett, 2012) lies within the use of tangible teaching aids where young people learn most promptly regarding things that are directly accessible to their senses via visual, auditory tactile and kinaesthetic. The relevance of E-

learning resources to the teacher as the curriculum implementer is much. (Nwokike, 2011) Articulated the following usefulness of E-learning resources to the teacher: they facilitate the task of the teacher by promoting performance, teachers and students can study at their own pace; e-learning reduces the stress inherent in the conventional classroom work for both teachers and students, and it saves for the learners and the teachers huge amount of energy and time.

E-learning resources have great importance to the learners. The introduction of E-learning facilities into the education system is aimed at improving educational delivery and preparing students for a role in an information age (Amedu, 2014). As a future leader, the students need a sound educational foundation in order to cope with the ever-changing world in the words of (Krish, 2002) E-learning can improve retention, provide immediate feedback, and allow learners to customize learning materials to meet individual needs.

#### **RESEARCH METHODOLOGY**

This study involves 10th grade school students from Urban and Semi-urban areas. The study was conducted in two phases, Phase I and Phase II. In Phase I, a set of questionnaires was distributed to obtain demographic information and examine the role and level of awareness of E-learning education and resources. Questions were divided into sections consisting of demographic profile, technology usages, availability awareness, and role of E-learning resources. Phase II was designed on the premise that the initial professional development of students was very important for learning with ICTs. The design of the program took into account units covering all 12 weeks of the 2017 and 2018 academic sessions. Each unit had a duration of two hours of tutoring each week in school (face-to-face learning). It is essential to note that this study was directed by two assignments (20 marks each) that comprised Test One and Test Two. The test I was t, constructed of an instructional media or platform, and

describes how it can be used in teaching a specific concept or topic in their field of study.

Test II was a total of 20 marks (assignments, presentation, and description).

There were some useful resources for the success of the study:

- The right study environment;
- Internet access;
- Online Learning Platform

### **Description of the Experiment**

The purpose of the experiment was to find out whether students who are taught using the method of E-learning (Blended Learning) perform better than the student who is taught using the traditional method of teaching. The independent variables are E-learning, which created conditions for learning, while the dependent variable was the academic performance of the student in educational technology. This was represented in terms of scores (results). The dependent variables also represented professional competences (knowledge, skill, and attitude) to be developed.

### **Experimental Group**

In this group, students were given access to an electronic platform. The blended learning mode (a combination of face-to-face and internet-based learning) was adopted in learning. In this group, students had the opportunity to meet “face-to-face” with the lecture during normal class time. In order to proceed, the researcher created a website through which they can learn online. The class agreed that this activity carried two points on continuous assessment. Students were instructed on how to join the website by accepting an invitation. A time limit was fixed for every activity. Assignments were given by the teacher to the students. Students had the opportunity to use E-learning resources to complete their assignments. It was submitted to the teacher for the final evaluation.

### **Control Group**

Unlike in the experimental group, students in the control group had no access to an electronic platform. Students received their lessons following the face-to-face mode of delivery. In this group, the lecture, demonstration, and illustration method dominated most of the lessons. This group helped the researcher to determine whether the use of E-learning had an effect on the academic performance of the student. However, both groups followed the same program with similar activities taking into account the need and expectations of the student, the expectations of the course. The course was taught in a way that students could acquire the basic knowledge and skills needed for effective learning.

### **Method of Data Analysis**

It is worthy to note the experiment generated data in terms of scores (First and Second Tests). Both descriptive and inferential statistics were used to analyse the data. The experiment was conducted with two independent groups. This necessitated the use of the student t-test to compare the experimental effect between the two groups. The t-test and the One way-ANNOVA were used to determine the variability of the marks of the students by personal or socio-demographic characteristics (gender, age, field of study). Data was logged into the computer and analysed using the Statistical Package for Social Sciences (SPSS) version 20.

**Results**

**Table 1: Respondent’s use of internet in the family**

S.No.		Frequency (%) (Urban Areas) N=150	Frequency (%) (Semi-Urban Areas) N=150
	<b>You or any one in your family use the internet</b>		
1.	No	10(6.7)	22 (14.7)
2.	Yes	140(93.3)	128 (85.3)
	Total	150 (100.0)	150 (100.0)
<b>Do you own a smartphone</b>			
1.	No	55 (36.7)	102(68.0)
2.	Yes	95(63.3)	48(32.0)
	Total	150 (100.0)	150(100.0)

Source: Authors’ analysis

Above Table 1, shows that maximum 140 (93.3%) respondents’ families were using internet at their houses and 95 (63.3%) respondents were having their own smartphone whereas only 10 (6.7%) respondent’s families were not using internet and 55 (36.0%) respondents were not having their own smartphones in urban areas. In semi-urban areas maximum 128 (85.3%) respondents' families were using the internet. Only 22 (14.7%) families were not using the internet at their houses. Maximum 102 (68.0%) respondents were not having their own smartphone, and only 48 (32.0%) respondents were having their own smartphones. So, it clearly shows that respondents from urban areas are more technologically sound and using ICT technologies.

**Table 2: Distribution of gadgets used by respondents for internet use to study**

S.No.	Gadgets used for internet study	(Urban Areas) Frequency (%) N=150		Total	(Semi-Urban Areas) Frequency (%) N=150		Total
		Yes	No		Yes	No	
1.	Computer	60 (40.0)	90 (60.0)	150 (100.0)	24(16.0)	126(84.0)	150 (100.0)
2.	Mobile phone	144 (96.0)	6 (4.0)	150 (100.0)	101(67.3)	49(32.7)	150 (100.0)
3.	Laptop	78 (52.0)	72 (48.0)	150 (100.0)	49(32.7)	101(67.3)	150 (100.0)
4.	Tablet	22 (14.7)	128 (85.3)	150 (100.0)	15(10.0)	135(90.0)	150 (100.0)

Source: Authors’ analysis

Above Table 2, reveals the distribution of gadgets used by respondents for internet use to study. In urban areas 60 (40.0%) respondents were using computers, 144 (96.0%) respondents were using mobile phones, 78 (52.0%) respondents were using laptops, and 22 (14.7%) respondents were using the tablets for the study, wherein semi-urban areas 24 (16.0%) respondents were using computers, 101 (67.3%) were using mobile phones, 49 (32.7%) were using laptops, and only 15 (10.0%) were using tablets for curriculum study through internet.

**Table 3: Distribution of respondents on the basis of registration of the students in online courses**

S.No.	online courses you are registered in	(Urban Areas) Frequency (%) N=150	(Semi-Urban Areas) Frequency (%) N=150
1.	None	29 (19.3)	34(22.7)
2.	One	19(12.7)	64(42.7)
3.	Two	31 (20.7)	34(22.7)
4.	Three	20 (13.3)	14(9.3)
5.	more Than Three	51 (34.0)	4(2.7)
	Total	150 (100.0)	150 (100.0)

*Source: Authors' analysis*

Above Table 3, depicts the distribution of respondents on the basis of the registration of the respondents in online courses, Result showed that maximum 51 (34.0%) respondents from urban areas were registered in more than three online courses for their curriculum study where only 4 (2.7%) respondents were registered in more than three online courses for the curriculum study from semi-urban areas. 29 (19.3%) respondents were not registered in any online course, 19 (12.7%) respondents were registered in one online course, 31 (20.7%) were registered in two and 20 (13.3%) registered in three online courses in urban areas, whereas 34 (22.7%) respondents were not registered in any online courses, 64 (42.7%) were registered in one online course, 34 (22.7%) were registered in two online courses, 14 (9.3%) were registered in three online courses. Results showed that the maximum number of urban areas

students were actively participating in the online courses for the curriculum study as compared to the semi-urban students.

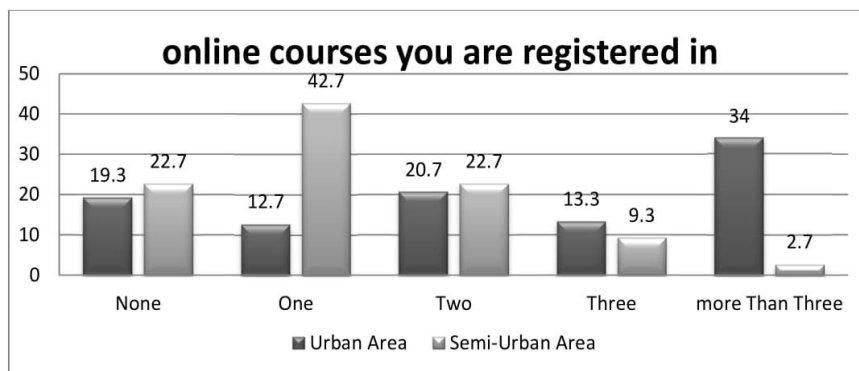


Fig. 1: Distribution of respondents on the basis of registration of the students in online courses

Table 4: Role of E-learning education and resources in the curriculum study.

S.No	Role of E-learning education	(Urban Areas) Frequency (%) N=150		Total	(Semi-Urban Areas) Frequency (%) N=150		Total
		Yes	No		Yes	No	
1.	provides better options for curriculum study	98(65.3)	52(34.7)	150(100.0)	80(53.3)	70(46.7)	150(100.0)
2.	improves knowledge better than traditional knowledge	85(56.7)	65(43.3)	150(100.0)	75(50.0)	75(50.0)	150(100.0)
3.	improves in-depth and practical learning than traditional knowledge	74(49.3)	76(50.7)	150(100.0)	80(53.3)	70(46.7)	150(100.0)
4.	brings social changes in India	92(61.3)	58(38.7)	150(100.0)	89(59.3)	61(40.7)	150(100.0)
5.	helps to study more effectively to perform better in class task	112(74.7)	38(25.3)	150(100.0)	104(69.3)	46(30.7)	150(100.0)

Source: Authors' analysis

Above Table 4, shows the role of E-learning education and resources in the curriculum study of the students 98 (65.3%) from urban and 80 (53.3%) students from semi-urban area says that E-learning education provides better options for curriculum study, 85 (56.7%) students from urban and 75 (50.0%) students from semi-urban says that it improves knowledge better than traditional learning, 74 (49.3%) from urban and 80 (53.3%) from semi-urban agreed that E-learning improves in-depth and practical learning than traditional learning, 92 (61.3%) from urban and 89 (59.3%) from semi-urban agreed that it brings social changes in India, 112

(74.7%) from and urban and 104 (69.3%) from semi-urban said that E-learning helps to study more effectively to perform better in class tasks. From the result, it can be seen that E-learning is playing a commendable role in education, class performances, and also in social change.

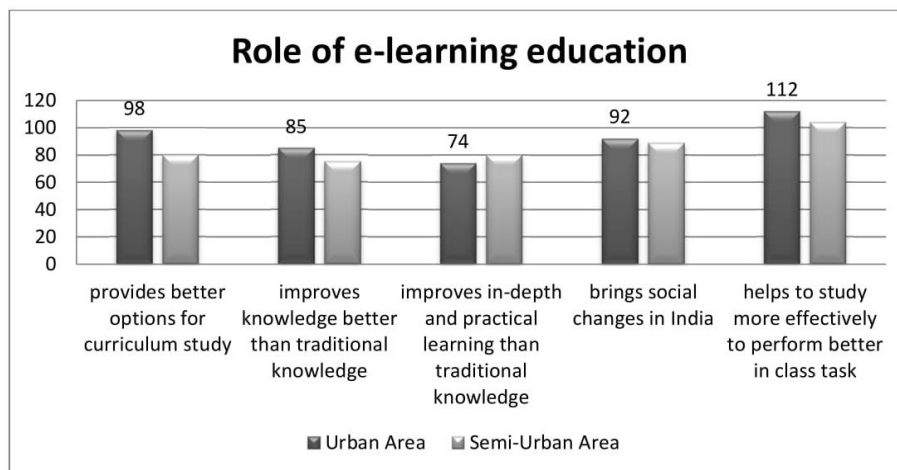


Fig. 2: distribution of the role of E-learning education and resources in the curriculum study

Table 5. Table of P-value

Comparison	P-Value
1. Gender and technology usage	0.413
2. Gender and awareness	0.594
3. Gender and quality of easy to use	0.187
4. Gender and self-efficacy	0.688

Source: Authors' analysis

Above Table 5 shows the P-value measure between genders with technology usage, usefulness of e-learning, quality in using E-learning and affect to self-efficiency. The correlation being done is to test the hypotheses.

### Gender and Technology Usage

Table 6.1. Symmetric Measures for Gender and Technology usage

	Value	Asump. Error <sup>3</sup>	Std. T <sup>b</sup>	Sig.Approx.	Approx.
Interval by Pearson's R Interval	.058	.027		.823	.412 <sup>c</sup>
Ordinal by Spearman Ordinal Correlation	.058	.027		.823	.412 <sup>c</sup>
N of Valid Cases	199				

Source: Authors' analysis

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and usage of technology in learning and the learning process.

H1 = There is correlation between gender and usage of technology in learning and the learning process

As a conclusion, at the significance level  $\alpha = 0.05$  since the p-value =  $0.412 \geq 0.05$ , we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and usage of technology in learning and the learning process.

### Gender and Affect to Self-Efficacy

Table 6.2. Symmetric measures for gender and impact to self-efficacy

	Value	Asump. Error <sup>3</sup>	Std. T <sup>b</sup>	Sig.Approx.	Approx.
Interval by Pearson's R Interval	-.028	.072		-3.94	.693 <sup>c</sup>
Ordinal by Spearman Ordinal Correlation	-.027	.071		-3.87	.698 <sup>c</sup>
N of Valid Cases	194				

Source: Authors' analysis

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation

H0 = There is no actual correlation between gender and the quality in using e-learning.

H1 = There is correlation between gender and the quality in using e-learning.

As a conclusion, at the significance level  $\alpha = 0.05$  since the  $p\text{-value} = 0.698 \geq 0.05$ , we shall not reject the null hypothesis and conclude that there is no actual correlation between gender and the E-learning impacts to self-efficacy. This study has shown that students' E-learning system plays an important role in influencing the students. In this study, students have been examined by identifying their awareness towards technology usage. The result shows that there is no difference between male and female students where each of them is aware with the E-learning system in their study life.

**Effect on the academic performance of the student in Urban and Semi-urban area**

**Test One**

**T-test**

**Table 7. Description of first test results in relation to mean and Standard Deviation**

	Group	N	Mean	Std. Deviation	Std. Error Mean
Marks for first test in Urban	Experimental Group	56	15.2679	1.77345	0.23699
	Control Group	94	14.1259	1.78028	0.15260
Marks for first test in Semi-Urban	Experimental Group	55	15.1567	1.66334	0.23589
	Control Group	95	14.1368	1.78029	0.15261

Source: Authors' analysis

**Table 7.1 Independent Sample Test**

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	T	Df	Sig. (2-	Mean	Std. Error

						<b>tailed)</b>	<b>Difference</b>	<b>Difference</b>
<b>Marks for first test in Urban area</b>	<b>Equal variance assumed</b>	0.006	0.940	3.869	148	0.000	1.14193	0.29519
	<b>Equal variance not assumed</b>			3.972	109.115	0.000	1.14193	0.28746
<b>Marks for first test in semi-urban area</b>	<b>Equal variance assumed</b>	0.006	0.941	3.879	148	0.000	1.14184	0.29519
	<b>Equal variance not assumed</b>			3.983	108.124	0.000	1.14186	0.28856

Source: Authors' analysis

The result shows that on the average, the reported variability of the, marks in the first test was significantly higher for the experimental Group from urban (M=15.2679, SD= 1.77345) and experimental Group from semi-urban (M=15.1567, SD= 1.66334) Control Group form urban (M=14.1259, SD=1.78028) and Control Group form semi-urban (M=14.1368, SD=1.78029),  $t(150) = 3.869$ ,  $p < 0.001$ ,  $r = 0.27$  in urban areas and from semi-urban areas  $t(150) = 3.879$ ,  $p < 0.001$ ,  $r = 0.26$ . the estimated size of the effect indicates that the difference in performance in the test created by group was small and thus representing a substantial effect.

**Test two**

**t-test**

**Table 8. Description of Second test results in relation to mean and standard deviation**

	<b>Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Marks for second test in Urban</b>	<b>Experimental Group</b>	56	16.0536	1.34055	0.17914
	<b>Control Group</b>	94	14.2519	1.35337	0.11648
<b>Marks for second test in Semi-Urban</b>	<b>Experimental Group</b>	55	16.0525	1.34043	0.17902
	<b>Control Group</b>	95	14.2508	1.35325	0.11636

Source: Authors' analysis

Table 8.1 independent sample test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Marks for first test in Urban area	Equal variance assumed	0.368	0.545	8.399	148	0.000	1.80172	0.21453
	Equal variance not assumed			8.432	102.728	0.000	1.80172	0.21368
Marks for first test in semi-urban area	Equal variance assumed	0.355	0.533	8.289	148	0.000	1.80172	0.21453
	Equal variance not assumed			8.332	103.728	0.000	1.81162	0.22456

Source: Authors' analysis

The results show that on the average, the reported variability of the marks in the second test was significantly higher for the Experimental Group from urban (M=16.0536, SD=1.34055) and experimental Group from semi-urban (M=16.0525, SD= 1.34043) than for the Control Group form urban (M=14.2519, SD=1.35337) and Control Group form semi-urban (M=14.2508, SD=1.35325), From urban student  $t(150) = 8.399, p < 0.001, r = 0.5214$  and from semi-urban areas  $t(150) = 8.289, p < 0.001, r = 0.5213$ . the estimated size of the effect indicates that the difference on the performance in the second test created by group was significant and thus represents a substantial effect.

**Test one and test two**

**T-TEST**

Table 9. description of mean marks in relation to Group for test One and Two

	Group	N	Mean	Std. Deviation	Std. Error Mean
Marks for second test in Urban	Experimental Group	56	15.6606	1.20258	0.16073
	Control Group	94	14.1879	1.50470	0.12952
Marks for	Experimental	55	15.5406	1.20156	0.16051

second test in Semi-Urban	Group				
	Control Group	95	14.1788	1.50350	0.12840

Source: Authors' analysis

Table 9.1 independent sample test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Marks for first test in Urban area	Equal variance assumed	3.422	0.067	6.506	148	0.000	1.47185	0.22636
	Equal variance not assumed			7.133	122.561	0.000	1.47185	0.20650
Marks for first test in semi-urban area	Equal variance assumed	3.211	0.064	6.303	148	0.000	1.44053	0.22423
	Equal variance not assumed			7.101	122.561	0.000	1.47162	0.20530

Source: Authors' analysis

The result shows that on the average, the reported variability of the Mean between the first test and the second test was significantly higher for the Experimental Group from urban (M=15.6606, SD=1.20258) and experimental Group from semi-urban (M=15.5406, SD=1.20156) than for the Control Group from urban (M=14.1879, SD=1.50470) and Control Group from semi-urban (M=14.1788 SD=1.50350), From urban student  $t(150) = 6.505$ ,  $p < 0.001$ ,  $r = 0.4280$  and from semi-urban areas  $t(150) = 6.303$ ,  $p < 0.001$ ,  $r = 0.4270$ . the estimated size of the effect indicates that the difference in performance between the two groups was significant, and therefore represents a substantial effect.

The results of the experiment revealed that on the average, the reported variability of the Mean marks between the first test and the second test was significantly higher for the Experimental Group from urban (M = 15.660, SD = 1.202) and experimental group from

semi-urban ( $M=15.5406$ ,  $SD= 1.20156$ ) control group than for the Control Group from urban ( $M = 14.188$ ,  $SD = 1.504$ ) and control group from semi-urban ( $M=14.1788$   $SD=1.50350$ ),  $t(150) = 6.505$ ,  $p < 0.001$ ,  $r = 0.4280$  and from semi-urban areas  $t(150)=6.303$ ,  $p<0.001$ ,  $r = 0.4270$ . The magnitude of the effect showed that the difference in performance between the two groups of students was significant. This finding offers new proof that eLearning contains a vital influence on the performance of student. This result is consistent with previous research by the behaviourists, cognitivists and the socio-constructivists whose research indicates that the use of technology in a defined environment or context facilitates the acquisition of competences.

### **Conclusion**

The result of the study from Urban and Semi-urban Schools shows that the strategy of implementing E-learning will be the best way for students to be aware of new technologies and willing to study in various concepts. E-learning more specifically blended learning has a significant impact on the performance of student. The use of new technology will make them interested in searching and upgrading their knowledge. The management should maintain the technology in campus in order to ensure that E-learning could be useful for the students. This is because of the students are still teenagers and they are interested in interactive concepts of learning. Moreover, the interactive concept that can be used in E-learning will make the study more interesting. Nowadays, the concept of E-learning should be wider since the technology today provides many opportunities to the academicians and students to enrich their wisdom. By using E-learning students also confessed that this concept is very useful for them in their studies. Results showed that E-learning affects their self-efficacy and academic performance especially in upgrading their knowledge and skills. They need to become more flexible by adopting more flexible learning approaches.

## REFERENCES

- Amedu, S. O. (2014). Assessment of the Uses of E-learning Facilities by Home Economics Teachers in Teachers in Delta state, Nigeria. *Journal of Education and Practice*. 5 (16), 207-212.
- Chan, T. W. (2010). How East Asian classrooms may change over the next 20 years. *Journal of Computer Assisted learning*, 26(1), 28-52.
- COL (2006) Open and Distance Learning for Development. Connections. COL, Vancouver, Canada. June 2006, 11(2), 1-16
- Condie, R., Munro, B. (2007). The impact of ICT in schools: A landscape review. *Becta Research*. Retrieved June 12, 2014, from [http://www.teindia.nic.in/e9-tm/Files/ICT\\_Documents/ImpactICT\\_Becta.pdf](http://www.teindia.nic.in/e9-tm/Files/ICT_Documents/ImpactICT_Becta.pdf).
- Duckett, I. and Tatarzkowski, M. (2012). Learning Styles and their application for Effective Learning. Retrieved from [https://www.itslifejimbutnotasweknowit.org.uk/files/learningstyles/pdf].
- Gut, D. M. (2011). *Integrating 21st century skills into the curriculum*. In G. Wan & D. M. Gut (Eds.), *Bringing schools into the 21st Century* (pp. 137–157). Dordrecht; New York: Springer.
- Hoffman, J. (2010). What we can learn from the first digital generation: Implications for developing twenty-first century learning and thinking skills in the primary grades. *International Journal of Primary, Elementary and Early Years Education* 3-13, 38(1), 47–54.
- Kirsh, D. (2002). E-learning, Meta cognition, and Visual design. A paper presented at the International conference on Advances in Infrastructure for e-business, e-education, e-science and e-medicine on the Internet. L'Aquila, Italy.
- Kong, S. C., Chan, T.-W., Griffin, P., Hoppe, U., Huang, R., Kinshuk, L. C. K. (2014). E-learning in school education in the coming 10 years for developing 21st century skills: Critical research issues and policy implications. *Educational Technology and Society*, 17(1), 70–78.
- Latchem, C. (2012) Quality Assurance Toolkit for Open and Distance Non-Formal Education. C.O.L
- Mkpa, M.A. (1987). *Curriculum development and implementation*. Owerri: Totan Publishers, Ltd.

- Naidu, S. (2003) *e-Learning: A Guide Book of Principles, Procedures and Practice*. CEMCA (Commonwealth Educational Media Centre for Asia)
- Nicholls, A & Nicholls, H. (1980). *Developing curriculum: A practical guide*. London: Ge Offorma
- G.C (2002). *Curriculum implementation and instruction*. Onitsha: Uni-World Educational Publishers. orge Allen.
- Noe, R. (2002). *Employee Training and Development*. (2nd edition), McGraw-Hill. New York,
- Nwokike, F. O. (2011). *Optimizing E-learning for effective Delivery of Business Education in Tertiary Institutions*. In *The 21st Century in Onyegegbu, N. and Eze, U. (eds) Optimizing E-learning Opportunities for Effective Education Service Delivery*. Publication of Institute of Education (UNN).
- Perkinson, R. (2005) *Beyond Secondary Education: The promise of ICT for higher education and lifelong learning*, In World Bank (Ed). *E-Development: From Excitement to Effectiveness*. (The World Bank, Washington), 101-125
- Rotherham, A. J., & Willingham, D. (2009). *21st Century Skills: The challenges ahead*. *Educational Leadership*, 67(1), 16–21.
- Rwagasana, G., and Stucki, P. (2009) *Strategic options and Results of Introducing Blended Learning at the National University of Rwanda*. *eLearning Africa 2009: 4th International conference on ICT for Development, Education and Training*. ICWE GmbH: 6669

# Student Awareness and Engagement Towards E-Learning Using E-Learning Resources and Its Impact On the Academic Performance

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## Abstract

This paper examines the student's awareness and engagement towards e-learning using e-learning resources and its impact on the academic performance that involves high school students from urban school and semi-urban school as a respondent. Students who were having exposure to e-learning studies in school and at their homes also compare the results of various ways of learning and student engagement towards the e-learning as an approach to collect more information. Statistical tools used for the study were mean, standard deviation, correlation coefficient, analysis of variance (ANOVA). The findings revealed that awareness among students from both urban and semi-urban schools was significant and the impact of student engagement (hours spent daily) for e-learning as also significant. It revealed that engagement in e-learning studies positively impacts on academic performance of the student.

**Key words:** e-learning, engagement, awareness, e-learning resources, academic performance.

## I. INTRODUCTION

E-learning refers to the use of advanced information communication technology in the learning process, where advanced technology consists of electronic media (Thomas & Graham, 2019). It is a new pattern of education imposed by the new scientific and technical changes taking place in the world today due to the inability of traditional teaching strategies and teaching methods to keep pace with these changes, given the changing role of both teacher and student (Harandi, 2015; Gorbi, 2013). According to Zare et al. (2016), e-learning is now considered one of the most important educational environments in the information age. Over the present century, the world has witnessed revolution and rapid changes in information technology (ICT) and the internet in all aspects, particularly in the education sector. This has prompted educational institutions and experts in curricula to introduce radical changes in their policy and academic getting to respond and align with this alteration and development (Choshin and Ghaffari, 2017; Lim and Morris, 2009; Vella- Brodrick and Klein, 2010).

E-learning is all about using electronic technologies for educational curriculum outside the boundaries of a typical classroom and, of course, it's gaining popularity especially among the younger generation over the past decade. (Singh & Mishra, 2019). E-learning is commonly referred to as the international use of networked information and communication technology in teaching and learning. These include online learning virtual learning, distributed learning networks, and web-based learning. As the letter "e" in e-learning stands for the word "electronic", e-learning would incorporate all educational activities that are administered by individuals or groups working online or offline and synchronously or asynchronously via network or standalone computer and other electronic devices the current era is characterized by rapid changes resulting from scientific and technological advances, including information technology. Keeping up with these changes is important within the education system to deal with problems which will arise from them, like the massive volume of data and increase in the number of learners, including teacher shortages. e-Learning is defined as learning that's provided electronically through the web, an indoor network (intranet, or multimedia, like CDs or DVDs, Bosman (2002). It is considered among the foremost modern learning methods and has been related to many advantages. Among these advantages are its ability to resolve the matter of data explosion and growing demand for education; Abadi (2002) address the matter of overcrowded lecture halls, if used as a way for distance; and supply opportunities for acceptance of diversity in education.

There is a substantial body of evidence to suggest that different teaching delivery styles can have different degrees of success; as measured in terms of educational results, Emerson & Taylor (2004). In reference to online teaching, some studies indicate that this medium of delivery features a positive impact on

performance for instance, Smith and Hardaker (2000). This is due to the numerous benefits that digital learning offers including acquired lifelong skills, improved knowledge creation abilities, enhanced collaboration skills, improved independent learning capabilities, increased geographical reach, and reduced costs in the delivery of teaching and learning (Hu and Hui, 2012, Al-Gahtani, 2016, Niemi and Multisilta, 2016). Several researches suggests that academic performance of the student may be affect by engagement effect and learning-style effects. Carini et al (2006) found that, although generally, the connection between engagement and performance is complex, engagement is positively correlated with student performance. Their conclusion is supported by variety of empirical studies: Rodgers and Ghosh (2001) identified that 'effort' (or engagement) levels were highly significant in determining student examination performance.

## II. METHODOLOGY

The present study involved 10<sup>th</sup> grade school students from urban and semi-urban schools to examine the Student Awareness and Engagement Towards E-Learning Using E-Learning Resources and Its Impact On the Academic Performance. A set of questionnaire was prepared to gather some demographic information. Questions were divided into sections which consists demographic profile, technology usages, availability of resources, awareness among students, engagement of the student and role of e-learning resources in the e-learning studies. The design of the program account unit covering all 12 weeks of the 2017-2018 academic sessions. The t-test, one ay ANNOVA, correlation coefficient was used to determine the result. Data was logged into the computer and analysed using the statistical package for social sciences (SPSS) version 20.

## III. RESULT

**Table 1: Distribution of the area profile**

N=300

S.No.	Area profile	Frequency (%)	Total
1.	Urban	150 (100.0%)	150 (100.0%)
2.	Semi-urban	150 (100.0%)	150 (100.0%)

Above table 1 depicts that study population (n=300) was divided in two groups Urban and Semi-urban areas comprising equal number of subjects 150 school students from Urban and 150 school students from Semi-urban school.

**Table 2: Intergroup comparison of gender among students**

N=300

S.No.	Gender	Frequency (%) (Urban Areas) N=150	Frequency (%) (Semi-Urban Areas) N=150
1.	Male	96 (64.0%)	92(61.3%)
2.	Female	54 (36.0%)	58(38.7%)
		$\chi^2=16.521$ (df=2);	p<0.001

Form the above table 2 can be seen that the number of total respondents was 300 from urban and semi-urban areas in which most of respondents 96 (64.0%) were male and 54(36.0%) were female from urban areas and 92 (61.3%) respondents were male and 58(38.7%) were female belongs to semi-urban areas. 56(37.3%). Difference in gender of above two groups was found to be statistically highly significant (p<0.001).

**Table 3: Intergroup comparison of use of e-learning resource**

N=300

S.No.	Use of e-learning resource as	(Urban school) Frequency (%) N=150	(Semi-Urban School) Frequency (%) N=150
1.	Primary	78 (52.0%)	38(25.3%)
2.	Secondary	72 (48.0%)	112(74.7%)
Total		150 (100.0%)	150 (100.0%)

Table 3 explains the use of e-learning resources among the students on the bases of priority 78 (52.0%) students from urban and 38(25.3%) from semi-urban areas were using e-learning resources as a primary resource for their curriculum study whereas 72 (48.0%) students from urban and 112(74.7%) from semi-urban were using e-learning resources as secondary resource for their curriculum study, it can be seen that students from urban school were using eLearning resources more as compare to semi-urban school students for their curriculum study.

Table 4: Awareness of e-learning resources among students for the curriculum studies

S.No.	Are you aware of following e-learning resources	(Urban Area) Frequency (%) N=150		Mean	S.D.	(Semi-Urban Area) Frequency (%) N=150		Mean	S.D.	ANOVA	
		Yes	No			Yes	No			F	'p'
1.	Internet	150 (100.0%)	0 (00.0%)	1.00	0.00	134(89.3)	16(10.7)	0.90	0.421	6.82	0.002
2.	E-journal	59(39.3%)	91(60.7%)	0.39	0.490	69(19.0)	81(54.0)	0.47	0.449	3.997	0.022
3.	Computer	120(80.0%)	30(20.0%)	0.80	0.401	121(80.7)	29(19.3)	0.80	0.401	0.745	0.001
4.	Digital library	54(36.0%)	96(64.0%)	0.36	0.482	79(52.7)	71(47.3)	0.52	0.501	2.776	0.478
5.	Laptop	150 (100.0%)	0 (00.0%)	1.00	0.00	126(84.0)	24(16.0)	0.83	0.386	1.641	0.040
6.	Smart phone	150 (100.0%)	0 (00.0%)	1.00	0.000	123(82.0)	27(18.0)	0.82	0.385	2.825	<0.001
7.	Video tutorial	102(68.0%)	48(32.0%)	.68	0.468	90(60.0)	60(40.0)	0.59	0.493	3.339	0.001
8.	E-books	78(52.0%)	72(48.0%)	0.52	0.501	95(63.3)	55(36.7)	0.63	0.432	3.441	0.040
9.	E-mail	123(82.0%)	27(18.0%)	0.82	0.385	118(78.7)	32(21.3)	0.74	0.445	3.013	0.054
10.	Electronic devices	110(73.3%)	40(26.7%)	0.73	0.444	116(77.3)	34(22.7)	0.80	0.401	7.300	0.001
11.	Video conferencing	150 (100.0%)	0 (00.0%)	1.00	0.000	109(72.7)	41(27.3)	0.67	0.467	3.203	0.045
12.	Close circuit TV	150 (100.0%)	0(00.0%)	1.00	0.000	61(40.7)	89(59.3)	0.41	0.488	13.423	<0.001
13.	Web based learning (e-lessons)	89(59.3%)	61(40.7%)	0.59	0.493	91(60.7)	59(39.3)	0.60	0.494	18.684	<0.001

The above table 4 describes the distribution of the awareness of e-learning resources among the students, it can be seen that the mean score of privy to the role of internet in curriculum studies was found to be higher in students from urban areas (1.00±0.00) as compared to students from semi-urban school (0.90±0.421), the difference was found to be statistically significant. Mean score of awareness about e-journals among students of urban school (0.47±0.449) and semi-urban school student (0.47±0.449) was found statistically significant. According to mean score students were aware about e-journals. Mean score of awareness about digital library among students were found to be higher in semi-urban school (0.52±0.501) as compare to urban school (0.36±0.482), the difference as found to be statistically not significant. Mean score of awareness about laptop as e-learning resources among students were found to be higher in urban school (1.00±0.00) as compare to semi-urban school (0.83±0.386), the difference as found to be statistically significant. Mean score of awareness about smart phone as e-learning resources among students were found to be higher in urban school (1.00±0.00) as compare to semi-urban school (0.82±0.385), the difference as found to be statistically highly significant. Mean score of awareness about video tutorials as e-learning resources among students were found to be higher in urban school (0.68±0.468) as compare to semi-urban school (0.59±0.493), mean difference found to be statistically significant. Mean score of awareness about e-books as e-learning resources among students were found to be higher in semi-urban school (0.63±0.432) as compare to urban school (0.52±0.501), the mean difference as found to be statistically significant. Mean score

of awareness about e-mails as e-learning resources among students were found to be higher in urban school ( $0.82 \pm 0.385$ ) as compare to semi-urban school ( $0.74 \pm 0.445$ ), the difference as found to be statistically not significant. Mean score of awareness about electronic devices as e-learning resources among students were found to be higher in semi-urban school ( $0.80 \pm 0.401$ ) as compare to urban school ( $0.73 \pm 0.444$ ), the difference as found to be statistically highly significant. Mean score of awareness about video conferencing as e-learning resources among students were found to be higher in urban school ( $1.00 \pm 0.00$ ) as compare to semi-urban school ( $0.67 \pm 0.467$ ), the difference as found to be statistically significant. Mean score of awareness about close circuit TV as e-learning resources among students were found to be higher in urban school ( $1.00 \pm 0.00$ ) as compare to semi-urban school ( $0.41 \pm 0.488$ ), the difference as found to be statistically significant. Mean score of awareness about web based learning (e-lessons) as e-learning resources among students were found to be higher in semi-urban school ( $0.60 \pm 0.493$ ) as compare to urban school ( $0.60 \pm 0.494$ ), the difference as found to be statistically highly significant. It can be seen that maximum number of students from urban school were more aware about the e-learning resources as compared to the semi-urban school students.

**Table 5: Summary of overall question on e-learning**

Question	Strongly Agree	Agree	Disagree	Strongly Disagree	Neither Agree Nor Disagree
Overall, e-learning system is beneficial for the student	34.25%	45.70%	3.25%	2.70%	15.25%
Overall, quality in using e-learning resources is easy to use for curriculum study	26.30%	52.20%	4.80%	1.30%	15.40%
Overall, the e-learning effects academic performance of the student	37.80%	37.70%	2.70%	3.15%	18.55%

The result from the implementation e-learning and e-learning resources shows that e-learning system is beneficial in their study where the percentage of agree shows 45.70% and strongly agree 34.25%. Meanwhile, only 2.70% strongly disagree and 3.25% disagree. Neither Agree nor Disagree 15.25%. These show that the students are receiving benefits from the implementation of e-learning and prefer to use the technology in their study. Due to the use of e-learning, the quality also should put under consideration. The result for the question on overall the quality in using e-learning resources is easy to use for curriculum study shows that 52.20% agree, 26.30% strongly agree. Disagree shows 4.80%, strongly disagree 1.30% and Neither Agree nor Disagree 15.40%. There also questions related to academic performance in the questionnaire. The result for question overall, the e-learning affects student's self-efficacy shows that 37.70% agree, 37.80% strongly agree. While disagreeing 2.70%, strongly disagree 3.15% and Neither Agree nor Disagree 18.55%. The implementation of e-learning has built the students relies on the importance of e-learning in their study. Meanwhile, for the student that still do not aware or perceive regarding e-learning should be exposed more during lecturing and communicating. This is important since e-learning may benefit them more in checking out information and upgrade their knowledge and skills.

**Table 6: Study hours it's impact on academic performance**

**Table 6.1: hours you spend daily for e-learning**

S.No.	How many hours you spend daily for e-learning	(Urban school) Frequency (%)	(Semi-Urban school) Frequency (%)
		N=150	N=150
1.	30 min-1hr.	8(5.3%)	50(33.3%)
2.	1hr-2hr	40(26.7%)	54(36.0%)
3.	2hr-3hr	48(32.0%)	17(11.3%)
4.	More than 3hr	40(26.7%)	21(14.0%)
5.	Do not use internet	14(9.3%)	8(2.2%)
	Total	150(100.0%)	150(100.0%)

Above table 6.1 Hours dedicated for online studies per day reveals that 8(5.3%) respondents from urban and 50(33.3%) respondents from semi-urban schools were spending 30 minutes per day for online studies, 40(26.7%) respondents from urban and 54(36.0%) respondents from semi-urban schools were spending 1hr-2hr per day for

online study, 48(32.0%) respondents from urban and 17(11.3%) respondents from semi-urban schools were spending 2hr-3hr daily for online studies, whereas 40(26.7%) respondents from urban and 21(14.0%) respondents from semi-urban schools were spending more than 3hr per day for online studies, only 14(9.3%) respondents from urban and 8(2.2%) respondents from semi-urban schools were not using online platform for studies. It can be seen that from both urban and semi-urban school's students were spending good amount of hours in studying through online. So this can impact on their academic performance.

**Table 6.2: Ease in keeping up with reading hours required for online studies**

**N=300**

S.No.	Ease in keeping up with reading hours required for online studies	(Urban Area) (%) N=150	(Semi-Urban Area)(%) N=150
1.	Disagree	32%	45%
2.	Neutral	16%	21%
3.	Agree	42%	30%
4.	Strongly Agree	10%	4%

The study sought to establish whether the students in e-learning mode of study found it easy studying online; table 6.2 reveals that 32 percent of the respondents from urban and 45 percent respondent from semi-urban school indicated that they found difficulty studying online, 16 percent of the respondents from urban and 21 percent respondent from semi-urban school were not sure, while 42 percent of the respondents from urban 30 percent respondent from semi-urban school indicated that they found no difficulty studying online, only 10 percent of the respondents from urban and 30 percent respondent from semi-urban school on e-learning strongly agreed that studying online was easy to keep-up with. This can be inferred to mean that the performance of e-learning students may be affected by the fact that not so many easily adhere to the study hours required.

**Table 6.3: Ease in finding time to complete online course**

**N=300**

S.No.	Ease in finding time to complete online studies	(Urban Area) (%) N=150	(Semi-Urban Area)(%) N=150
1.	Disagree	37%	52%
2.	Neutral	10%	13%
3.	Agree	53%	35%

The study sought to establish whether the students found time to do their studies online; above table 6.3 shows that 37 percent of respondents from urban and 52 percent respondents from semi-urban schools reported that it was not easy finding time for online studies, 10 percent from urban and 13 percent from semi-urban were undecided while only 53 percent respondent from urban and 35 percent respondents from semi-urban schools indicated that they found time to study online. It can be assumed that not so many e-learning students find study time; this may be reflected in their academic performance.

**Table 7: Impact of study hours on grade score**

**N=300**

S.No.	Impact of study hours on grade score	(Urban Area) (%) N=150	(Semi-Urban Area)(%) N=150
1.	Excellent	32.0%	14.0%
2.	Good	26.7 %	36.0%
3.	Faire	26.7 %	33.3%
4.	Bad	9.3%	11.3%
5.	No Impact	5.3%	2.2%
	Total	100.0%	100.0%

Table Above table 7 Impact of study hours (e-learning) on grade score reveals that 32 percent respondents from urban and 14.2 percent respondents from semi-urban school were having excellent impact on their grade scores, 26 percent respondents from urban and 36 percent respondents from semi-urban school were having good impact on their grade score, 26 percent respondents from urban and 33.3 percent respondents from semi-urban schools were having fair impact on the grade score of the student, while 9.3 percent respondents from urban and 11.3 percent respondents from semi-urban schools were having bad impact on their grade score, only 5.3 percent respondents from urban and 2.2 percent respondents from semi-urban schools were having no impact on their grade score.

**Table 8: Coefficient of Correlation**

		Academic Performance	Hours spent online	Gender	Location setting	Subject
Academic Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
Hours spent online	Pearson Correlation	0.589	1			
	Sig. (2-tailed)	0.3079				
Gender	Pearson Correlation	0.562	.310	1		
	Sig. (2-tailed)	0.1855	0.0183			
Location setting	Pearson Correlation	0.582	0.1836	0.1208	1	
	Sig. (2-tailed)	0.0023	0.1859	0.4200		
Subject	Pearson Correlation	0.568	0.0072	0.2345	0.1038	1
	Sig. (2-tailed)	0.0432	0.9491	0.0936	0.4682	

To compute the correlation between the study variables and their findings in the study the Karl Pearson's coefficient of correlation ( $r$ ) as used. The findings as shown in Table 8 revealed that there was a positive correlation between academic performance and hours spent online as shown by a correlation figure of 0.589, even though the correlation is positive, the connection between academic performance and hours spent online isn't significant. It was also clear that there was a positive correlation between academic performance and gender with a correlation figure of 0.562, even though the correlation is positive, the relationship between academic performance and gender is not significant. It was also revealed that there was a positive correlation between academic performance and location of setting with a correlation figure of 0.582, likewise even though the correlation is positive, the connection between academic performance and site setting isn't significant. Finally, a positive correlation between academic performance and subject with a correlation value of 0.568 was realized. Even though the correlation is positive, the connection between academic performance and subject isn't significant. This clearly depicts that there was a moderate correlation between academic performance and hours spent online, gender, location setting and subject. The lack of significance in the individual relationships could be due to interactive effects with the other variables. **Rodgers and Ghosh (2001)** identified that 'effort' (or engagement) levels were highly significant in determining student examination performance.

#### IV. CONCLUSION

The results of the study showed that the implementation of e-learning in the School will be the best way for students to aware of new technologies and e-learning resources. The use of new ICT Technologies and e-resources will increase interest in searching new concepts and upgrade their knowledge. Management of time is also an important factor in the academic performance of the student. Now a day's technology provides many opportunities for the student for knowledge gathering. By using e-learning students also confess that this concept is very useful for them in their study. Related to this result showing that e-learning affects their learning efficiency especially in upgrading their knowledge and skills which help them to improve their grade points.

## V. REFERENCES

- [1] A. Mousa and A. Mubarak, 2005. *E-learning, Foundations and Applications*, Data Network Corporation, Riyadh, Saudi Arabia.
- [2] Al-Gahtani, S. S. 2016. Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*, 12, 1, 27-50.
- [3] Carini, R.M., Kuh, J.D. & Klein, S.P. (2006). Student Engagement and Student Learning: Testing the Linkages. *Research in Higher Education*, 47, 1-32.
- [4] Choshin, M., Ghaffari, A., 2017. An investigation of the impact of effective factors on the success of e-commerce in small-and medium-sized companies. *Comput. Hum. Behav.* 66, 67–74.
- [5] Emerson, T.L.N., & Taylor, B.A. (2004). Comparing Student Achievement across Experimental and Lecture-Orientated Sections of a Principles of Microeconomics Course. *Southern Economics Journal*, 70, 672-693.
- [6] Gorbi, A., 2013. The Investigation of Relationship between Information Communication and Technology (ICT) and Critical and Creative Thinking Skills. Master's Thesis. Islamic Azad University, Tehran, Iran.
- [7] Harandi, S., 2015. Effects of e-learning on students' motivation. 3rd International Conference on Leadership, Technology and Innovation Management. *Procedia – Soc. Behav. Sci.* 181, 423–430. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S1877042815031985>.
- [8] Hu, P. J.-H. & Hui, W. 2012. Examining the role of learning engagement in technology-mediated learning and its effects on learning effectiveness and satisfaction. *Decision support systems*, 53, 4, 782-792.
- [9] K. Bosman, 2002. *Simulation-based e-learning*, Syracuse University, ASTD Presentation, Syracuse, NY, USA. <http://home.stny.rr.com/bosman/ide600presentation.html>.
- [10] Lim, D.H., Morris, M.L., 2009. Learner and instructional factors influencing learning outcomes within a blended learning. *Educ. Technol. Soc.* 12 (4), 282–293.
- [11] M. Abadi, 2002. "E-learning and traditional education: what is the difference?," *Al Maerefah*, 36(91),18-23,.
- [12] Niemi, H. & Multisilta, J. 2016. Digital storytelling promoting twenty-first century skills and student engagement. *Technology, Pedagogy and Education*, 25, 4, 451-468.
- [13] Rodgers, T., & Ghosh, D. (2001). Measuring the determinants of quality in UK higher education: A multinomial logit approach. *Quality Assurance in Education*, 9, 121-126.
- [14] Singh, D., & Mishra, S. (2019). Benefits and Effect of e-learning resources on the academic performance of the student. *International Journal of Research and Analytical Reviews (IJRAR)*, 6(2),533.
- [15] Smith, D., & Hardaker, G. (2000). E-learning innovation through the implementation of an internet supported learning environment. *Educational Technology and Society*, 3, 1-16.
- [16] Thomas, J., Graham, C., 2019. Online teaching competencies in observational rubrics: What are institutions evaluating? *Distance Educ.* 40 (1), 114–132.
- [17] Vella-Brodrick, D., Klein, B., (2010). Positive psychology and the internet: a mental health opportunity. *Electron. J. Appl. Psychol.* 6 (2), 30–41.
- [18] Zare, M., Sarikhani, R., Salari, M., Mansouri, V., (2016). The impact of e-learning on university students' academic achievement and creativity. *J. Tech. Educ. Train. (JTET)* 8 (1), 25–33.

## Curriculum vitae

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### ACADEMIC QUALIFICATION

Year of passing	Degree	Name of Institution	Aggregate %
2015	Pursuing Ph.D	Babasaheb Bhimrao Ambedkar University, Lucknow	-
2015	NET	University Grant Commission	61.14
2014	M.Sc.	CSA University of Agriculture and Technology , Kanpur	87.3
2012	B.Sc.	N.D. University of Agriculture and Technology, Faizabad	79
2008	Intermediate (U.P. BOARD)	B K H A I C Sariyanvan, Faizabad	66.6
2006	Matriculation (UP BOARD)	S V M H S S Ramnagar, Faizabad	60.5

### AWARDS AND HONOURS

1. 2016 2<sup>nd</sup> position in poster presentation in National Conference on “Nutritional, functional and safety challenges of food and health issues in the current scenario” entitled “Food Security & Its Impact on Malnutrition status in India”.
2. CBSE UGC Net qualified.
3. 2014 gold medallist in MSc. (Home Science) Dept. of Extension Education and communication management.
4. 2014 Awarded the university book prize for obtaining first position in M.Sc. (Home Science) Dept. of Extension Education and communication management.
5. 2010-11 and 2011-12 University vice-champion in athletics in University sports meet.

### RESEARCH ARTICLE PUBLISHED

1. Singh, D. & Mishra, S. (2022). " Effectiveness Of An Adoptive E-Learning Resources; Intervention On School Going Students' Learning In Comparison To Traditional Instruction". Journal of Positive School Psychology, Scopus, vol. 6(5), 4029-4036.
2. Singh, D. & Mishra, S. (2020). “Students Awareness and engagement Towards E-learning using E-learning Resources and its impact on the Academic performance”.

**Deepti Singh And Prof. Sunita Mishra, Urban and Semi-urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance**

BULLETIN MONUMENT JOURNAL, Web of science journal, Volume-21, Issue-8, August 2020.

3. Singh, D. & Mishra, S. (2020). "Role of E-learning Education and E-Resources; its impact on Academic Performance of the students". AEGAEUM JOURNAL. Volume-8, Issue-7, July 2020.
4. Research paper titled "Benefits and Effect of e-learning resources on the academic performance of the student" published in "International Journal of Research and Analytical reviews".
5. Paper (A Case Study) titled "College Student's perspective on the effectiveness of e-learning practices as compare to traditional practices" published in "Advance Research Journal of Social Science".
6. Research paper titled "Enforcement of Sarva Shiksha Abhiyan: a lead to uphold the supremacy of education" published in "International Journal of Current Research".
7. Research paper titled Quantify Effect of Sarva Shiksha Abhiyan Among Stakeholdres (children) research paper published in "International Journal of Family and Home Science".
8. Research paper titled "Awareness level about Sarva Shiksha Abhiyan among children" published in "Research link journal".

### **BOOK CHAPTER**

1. Book Chapter Titled "Assessment of Nutritional Status" has been published in Book "Advances in Nutrition" Akinik Publication, New Delhi.

### **CONFERENCES/ WORKSHOP ATTENDED**

1. Participated in National Conference on "Impact of Social Change and Technology on Family and Community" given oral presented on "Role of e-Learning education; It's Impact on Society" organised by Banaras Hindu University sponsored by Indian Council of Social science Research New Delhi.
2. Participated in two-week workshop on "Research Methodology and Research Tools" organised by The Teaching Learning Centre, Ramanujan College, University of Delhi, Sponsored by Ministry of Human Resource Development.
3. Attended International conference on "Sustainable Development: Strategies and Emerging Trends" and Presented a Paper titled "Future of Education; Dependency and Effect of e-Learning Education among Student's: A Review, Organised by Netaji Subhash Chandra Bose Govt. P.G. College, Lucknow.
4. Participated in 1<sup>st</sup> North Indian Science Congress International Conference on Science & Technology for Sustainable future and given oral presentation on "Advancement in e-learning Industry; It's effect on the student's Academic Performance" organised by Babasaheb Bhimrao Ambedkar University, Lucknow.
5. Participated in National Food Conference on Agriculture and Technology Innovation for Nutritional Security presented a poster presentation on "Globalization of food system food security and its impact on malnutrition status in India organized by Centre of Food technology, University of Allahabad.

**Deepti Singh And Prof. Sunita Mishra, Urban and Semi-urban High School Students: Comparison in Respect to E-learning Resources their Dependency and Effect on Academic Performance**

6. Attended National conference on “Tourism and Green spaces: healthier Lifestyle approaches from nature” and presented a poster entitled “healthy lifestyle tourism: a true need for today’s challenging society” Organized by Babasaheb Bhimrao Ambedkar University, Lucknow. 15-16 July 2017.
7. Attended national conference and presented a paper entitled “Empowerment opportunities for Adolescent Girls through education in India” organized by Khwaja Moinuddin Chishti Urdu, Arabi Farsi University, Lucknow. 22-23 feb. 2017.
8. Presented a paper entitled “Child Labour in Unorganized Sector: A Hindrance in the Development of India” in 4<sup>th</sup> Lucknow Science congress LUSCON-2017.
9. Attended workshop cum awareness campaign on “consumption of foods high in fat, salt and sugar (HFSS) for young and adolescents organized by National institute of public cooperation and child development regional centre, Lucknow and School for Home Sciences, BBAU, Lucknow” 31st march 2017.
10. Attended Pre-Congress Symposium People Health and Quality of Life in Uttar Pradesh and presented a paper on the topic “Life Style Health Challenges for Elderly People and Its Precautions”
11. Attended National Conference on “Nutritional, functional and safety challenges of food and health issues in the current scenario” presented a poster presented on the topic “Food Security & Its Impact on Malnutrition status in India” 6 & 7 October 2016 organized by SHIATS, Allahabad.
12. Participated in a national workshop on “life cycle approaches for better nutrition” 01-07 September 2016 organized by school for home sciences, BBAU, lucknow.
13. Attend National seminar and presented a paper on the “Effective Use of ICT in Including the Ethical Knowledge to School Children” 20 & 21 February 2016 Organized by Gautam Buddh Degree College Lucknow.
14. Presented oral paper in national conference on technology empowerment of women at grass roots on the topic “problems faced by stakeholders under sarva shiksha abhiyan (Children)”
15. Participated in International Women’s day organized by School for home sciences C.S.A. University of agriculture and technology, Kanpur. 8<sup>th</sup> march 2014.

### **MEMBERSHIP**

1. Life time membership in Home Science Association of India. Membership Id-HSAI-2018-UP-267-LF.
2. Life time membership in Indian Society of Extension Education.

### **TRAINING EXPERIENCES**

1. 2 months impart training in CHETNA, Lucknow
2. 3 months Impart training in Institute of entrepreneurship development, Lucknow

## **DECLARATION**

I solemnly declare that all the above information is correct to the best of my knowledge and belief.

**Date:**

**(Deepti Singh)**

**Place: Lucknow**