HYPOTHESIS - 3: There is no significant difference in metacognitive abilities between Arts and science students of sr. secondary school.

Table No. 3

Comparison of metacognitive abilities between Arts and Science students of sr. secondary school

S. No.	Group	N	Mean	S.D.	d.f.	"t" Value	Level of Significance
1	**Arts**	124	89	10.03	246	3.30	Significant difference
2	**Science**	124	85	9.04			

Analysis: From the table – 3.0 it can be observed that the mean score of Arts students is 89 with an S.D. of 10.03, while mean of Science students is found to be 85 with an S.D. of 9.04. The calculated t-value is 3.30 and't-table' that the critical value of t with 246 degrees of freedom (df) at a 0.05 level of significance is 1.96 and the 0.01 level of significance is 2.58.

Interpretation: Since, the calculated t-value is greater than tabulated t value which is significant at both levels. Hence, the null hypothesis is rejected. It indicates that there is a significant difference in metacognitive abilities between Arts and Science students of sr. secondary school.

Findings of the study:

- There is a significant difference in metacognitive abilities between urban and rural students of sr. secondary school.
- There is no significant difference in metacognitive abilities between boys' and girls' students of sr. secondary school.
- There is significant difference in metacognitive abilities between the arts and science stream students of sr. secondary school.

Conclusion:

Metacognitive abilities play a pivotal role in enhancing students' learning processes, academic performance, and lifelong problem-solving skills. This research highlights the importance of students being aware of and actively managing their cognitive processes through planning, monitoring, and evaluating their understanding. While many students demonstrate strong metacognitive strategies during pre-reading activities, the underutilization of supportive strategies during reading itself suggests a gap in application that needs to be addressed. Strengthening metacognitive instruction in educational settings can empower learners to become more self-regulated and independent, ultimately leading to deeper comprehension and improved retention. Future studies should explore practical interventions and training methods to foster these skills across diverse learning environments and age groups.

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Transforming Higher Education in the Digital Era: Exploring the Possibilities of Virtual Reality and Augmented Reality

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Abstract

The use of VR and AR is quickly becoming an integral part of the digital transformation taking place in higher education. These technological advancements allow for more dynamic and immersive learning environments, which in turn improves student engagement and retention. Virtual reality (VR) transports users to entirely digital worlds, while augmented reality (AR) superimposes digital data on top of real-world learning. In this paper, we take a look at the ways virtual reality and augmented reality are changing the face of higher education, from engineering and medical simulations to online history classes and virtual classrooms. All while cutting expenses, these technologies enhance student engagement, comprehension, and accessibility. But we need to solve problems like high prices, technical issues, and ethical considerations. This article explores the potential of virtual reality and augmented reality to transform education by looking at current university practices and predicting future trends. Educators and legislators can also find suggestions for effective technology integration in the document. Virtual and augmented reality will be essential in determining how universities operate in the years to come as digital learning develops.

Keywords: *Virtual Reality, Augmented Reality, Higher Education, Digital Learning, Immersive Technology, Experiential Learning.*

Introduction:

As digital technologies proliferate, higher education is fast changing. Interactive and creative tools are now improving—or perhaps substituting—traditional teaching approaches including lectures and textbooks. Among these, augmented reality (AR) and virtual reality (VR) are becoming somewhat well-known as effective teaching tools. Originally designed for entertainment and gaming, these technologies are now finding usage in education to provide interesting, practical learning opportunities. Students can enter a completely realistic digital world where they may interact with virtual items, run experiments, or even perform safe medical operations by VR. Medical students, for instance, can do virtual procedures; engineering students can create and test designs without ever utilising actual materials. Conversely, AR improves the actual world by layering digital knowledge onto tangible objects. Applications where history students use AR to view ancient ruins or scientific students investigate 3D models of molecules via their tablets or smartphones clearly show this. VR and AR's greatest benefit is their capacity to increase interactive and interesting learning opportunities. Students can personally experience a subject rather than only learn about it. This enhances comprehension as well as facilitates improved memory of facts. Furthermore, these technologies enable students from all around the

world to join virtual classrooms and engage in practical training without requiring costly resources, hence increasing accessibility of education.

Even with its many advantages, including VR and AR into education present difficulties. VR headsets and AR-enabled gadgets can be expensive, and many teachers might lack the technical know-how necessary to operate them properly. Students spending too much time in virtual worlds raises other issues related to their health and social contacts. This paper investigates, considering their present uses, advantages, and difficulties, the possibilities of VR and AR in higher education. It also looks at actual instances of how colleges are leveraging these technologies and explores future possibilities. Understanding these opportunities will help teachers and legislators to maximise VR and AR, so changing the way students learn in the digital era.

Understanding Virtual Reality and Augmented Reality:

Advanced digital technologies called virtual reality (VR) and augmented reality (AR) alter human interaction with information and environment. These immersive tools are growingly popular in the classroom since they make learning more practical, interactive, and interesting.

Users of virtual reality (VR) can interact with items and scenarios as though they were real within a totally digital world. Users of VR wear specialised headsets and occasionally operate controllers to traverse and change virtual environments. Education employs this technology extensively for training courses, virtual labs, and simulations. Medical students might practise procedures in a risk-free virtual environment; engineering students might test designs in 3D environments; and history students might virtually visit past civilisations without leaving their classroom.

Conversely, augmented reality (AR) overlays digital images, text, or animations onto real-world things so enhancing the surroundings. AR combines virtual components with reality, unlike VR, which generates a separate digital environment, therefore increasing the participatory nature of education. One can access AR via means of tablets, smartphones, or AR glasses. AR finds use in the classroom for interactive anatomy courses, 3D visualisations of difficult scientific ideas, or even historical site reconstructions shown on a student's screen as they aim their device at a particular point.

Because VR and AR increase involvement, creativity, and knowledge, they are becoming rather popular in higher education. Students can see a topic personally rather than only study about it. Particularly in disciplines like medicine, engineering, and science that call for practical application, these tools help to make learning more efficient. VR and AR are projected to become more important in education as they develop since they provide students fresh approaches to learn, discover, and engage with the surroundings.

Applications of VR and AR in Higher Education

By means of immersive, hands-on experiences, virtual reality (VR) and augmented reality (AR) are revolutionising student learning. These technologies are applied in several fields, so education is becoming more interactive, interesting, and efficient.

1. Medical and Healthcare Education: By giving students realistic simulations and interactive learning tools, VR and AR are transforming medical instruction. Before working on actual patients, medical students can practise surgeries and complicated procedures in a totally safe virtual environment with VR. This lowers hazards and lets repeated practice help to develop accuracy and confidence. Conversely, AR improves anatomical investigations by overlaying digital 3D images of human organs onto physical models. This clarifies for pupils the structure and purpose of the human body more successfully than conventional textbooks.

2. Engineering and Technical Training: By designing and testing prototypes in a digital environment using virtual reality, engineering students help to lower the need for expensive physical resources. This lets them test several designs, spot possible defects, and polish their projects before they are ever put to use. By giving interactive guidance and real-time digital overlays that enable students to grasp complicated machinery and systems, AR may also support technical training by streamlining learning and increasing its practicality.

3. Humanities and Social Sciences: Through digital reconstructions, AR is enabling students to engage with ancient objects and settings thereby bringing history and archaeology to life. AR apps let pupils experience how ancient civilisations appeared, how conflicts played out, or how archaeological digs find objects in real-time rather than merely reading about past occurrences. This gives social sciences and history more interesting and immersive quality.

4. Remote Learning and Distance Education: By building virtual classrooms, VR is enabling a bridging between conventional and online learning. Attending lectures, working on projects, and interacting with teachers as though they were in a physical classroom, students from all around the globe can gather in a common digital area. This makes online learning more interesting and interactive, therefore lowering the isolation sometimes associated with distance learning.

5. STEM Education (Science, Technology, Engineering, and Mathematics):Virtual reality-powered virtual labs let science students run experiments in a physical environment that would be too costly, unsafe, or unrealistic. In a virtual lab, for instance, chemistry students can safely mix compounds without running the danger of explosions; physics students can replicate tests like gravity, motion, and energy. While guaranteeing safety, this practical approach improves learning.

Institutions are giving students richer, more engaging learning opportunities that equip them for real-world difficulties by including VR and AR into education. Higher education will only become more interesting, accessible, and efficient as these technologies develop since their influence on it will only rise.

Benefits and Challenges of VR and AR in Higher Education

Higher education's combined use of augmented reality (AR) and virtual reality (VR) has many advantages that improve learning environments. Rising student involvement and drive is one of the main benefits. These tools let students actively participate instead than only receive knowledge, therefore making learning more dynamic and immersive. Especially in disciplines like medicine, engineering, and science that call for practical application, this interactive method

enhances knowledge retention and comprehension. Additionally a safe and reasonably priced approach for running simulations, tests, and training activities is VR and AR. For instance, engineering students can test prototypes digitally before building actual models and medical students can practise operations in a virtual setting free of any real-world hazards. By enabling remote learning, which lets students from all over attend virtual classes, work on projects, and interact dynamically with course materials, VR and AR also help to make education more accessible.

Notwithstanding these advantages, issues have to be resolved if implementation is to be successful. The significant cost of VR headsets, AR devices, and the required software raises serious issues for many organisations trying to widely use these technologies. Including VR and AR into current courses also calls for a lot of time and effort since teachers need appropriate knowledge to make good use of these instruments. Technical problems include device compatibility, software upgrades, and maintenance can present difficulties that could throw off educational opportunities. Moreover, too much use of VR might cause health issues including motion sickness, eye strain, and less social contacts among students. Important issues also include privacy and data security since these technologies gather user information that has to be safeguarded. Although VR and AR could transform higher education, successful integration of these technologies depends on addressing certain difficulties. Institutions have to figure out ways to lower expenses, equip teachers, and create rules guaranteeing moral and responsible behaviour. As technology develops, VR and AR should become more easily available and efficient, so opening the path for a more interesting and successful learning environment in higher education.

Successful Integration of VR and AR in Higher Education: Case Studies

Several educational institutions have effectively included Virtual Reality (VR) and Augmented Reality (AR) into their courses, therefore improving the learning opportunities in several fields. Among the noteworthy case studies are these:

Virtual Labs Project: Starting under the National Mission on Education via Information and Communication Technology, the Virtual Labs project seeks to give remote access to laboratory activities in scientific and engineering sectors under the Ministry of Education. Under coordination by IIT Delhi and with support from institutions including IIT Bombay, IIT Kanpur, and Amrita VishwaVidyapeetham, this project lets students conduct virtual environment experiments, therefore circumventing the constraints of real lab infrastructure. This method has democratised useful science instruction, therefore enabling students all around to access it.

1M1B's AR and VR Training Programs: United Nations-accredited nonprofit the 1M1B (One Million for One Billion) Foundation works on arming Indian young people with AR and VR capabilities among other upcoming technologies. By means of collaborations with over 500,000 schools and 100 universities, 1M1B has attracted more than 500,000 students, therefore offering them practical experience in producing and using AR and VR content. These initiatives seek to raise digital literacy and equip pupils for environments of future technology.

Universal AI University's Metaverse-Based Admissions: Using metaverse and artificial intelligence technology in its admissions procedure, Mumbai's Universal AI University has set the standard. Candidates interact with interactive materials highlighting the university's offers, negotiate a virtual campus utilising avatars, and attend AI-driven interviews. This creative method not only simplifies the admissions process but also gives future students a virtual reality immersive preview of university life, therefore establishing a standard for the use of VR in administrative purposes.

Virtual Reality in Medical Training: Several Indian medical institutes have embraced VR simulations in response to the difficulties presented by the COVID-19 epidemic to keep clinical training under progress. These simulations let medical students practise surgeries in a risk-free virtual environment, therefore guaranteeing the continuity of hands-on learning despite limitations on physical contacts. Maintaining educational standards throughout until unheard-of periods has been much aided by this change.

AR-Enhanced Learning Modules in Engineering Education: Developing modules that overlay digital data over physical components, an Indian engineering college included AR into its mechanical engineering program. AR applications let students replicate operating procedures, see interior machinery structures, and grasp difficult mechanisms. This practical method has helped to clarify and remember difficult engineering ideas.

Stanford University's Virtual Reality Lab: For medical and engineering students, Stanford University has created VR-based learning courses allowing them to practise difficult operations in a controlled environment. Virtual surgeries let medical students practise before working on actual patients, therefore boosting their confidence and sharping their skills. Conversely, VR allows engineering students to develop and test buildings, therefore lowering the risks and expenses connected with actual prototypes. These immersive events give hands-on practice free from real-world implications, hence improving knowledge.

University of Oxford's Virtual Classrooms: Virtual reality-based virtual classrooms established by the University of Oxford let students from all around to participate in interactive lectures and debates. These VR classrooms generate a shared digital environment where students may interact with teachers and peers as though they were physically there. For remote students especially, this strategy helps them to receive top-notch education free from geographic restrictions.

These cases show how top colleges are using VR and AR to improve instruction, therefore transforming learning into a more dynamic, immersive, and easily available process. More universities are probably going to embrace these ideas as technology develops in order to increase student involvement and instruction. Oxford has set up VR classrooms so that students from all around the world may join in interactive lectures and debates.

Future Directions and Recommendations

As Virtual Reality (VR) and Augmented Reality (AR) keep developing and get more available, their futures in higher education seem bright. Widespread acceptance of VR and AR among colleges in the next years will help to create more engaging and immersive learning

environment. Personalised learning experiences are created by combining artificial intelligence (AI) with VR and AR, one of main directions is Customised feedback and support provided by AI-driven virtual tutors and adaptive learning environments helps to meet the demands of each student. Furthermore, as hardware and software prices drop, more colleges will be free to apply these technologies without regard to budget. Also very important will be cloud-based VR and AR solutions, which let students access immersive learning opportunities from any device without requiring costly equipment. The extension of VR and AR applications outside conventional topics will also be a major change. These technologies have the power to completely change disciplines including law, business, and social sciences even while they are already revolutionising medical, engineering, and history teaching. Law students might take part in virtual courtroom simulations, for instance, while business students might use AR-powered data visuals in interactive case studies. Moreover, multidisciplinary uses of VR and AR will promote cooperation between several disciplines, thereby enhancing the whole learning process.

Some suggestions have to be taken into account to guarantee the effective fusion of VR and AR in higher education. First, colleges should fund faculty development initiatives to provide teachers with the tools they need to properly apply these technologies. The whole promise of VR and AR in education might not be realised without appropriate training. Second, universities should give top priority to creating excellent, curriculum-aligned materials instead of turning to VR and AR as novelty tools. Working with technology developers and business leaders will assist produce pertinent and interesting instructional resources. Third, by means of grants and funding possibilities for educational institutions, legislators and educational leaders should endeavour to make VR and AR more accessible. This will assist close the distance between well-funded colleges and smaller institutions maybe struggling with implementation expenses. Finally, ethical issues have to be taken under account to guarantee responsible use. Guidelines developed by universities should help to prevent too much screen time, safeguard student data privacy, and encourage good digital behaviour. Overcoming these obstacles will help VR and AR to become effective instruments for determining the direction of higher education. These technologies have the ability to transform learning by means of constant improvements and careful integration, therefore enabling more inclusive, interesting, and efficient education for kids all around.

Conclusion :

By enabling more interactive, interesting, and efficient learning, the combination of Virtual Reality (VR) and Augmented Reality (AR) in higher education is revolutionising conventional teaching approaches. Particularly in disciplines such medicine, engineering, and history, these technologies provide students immersive experiences that improve their grasp of difficult ideas. Through realistic simulations, controlled environment practice, and digital material interaction, VR lets students participate in ways that traditional learning environments cannot offer. AR, meantime, enhances real-world education by overlaying digital knowledge onto actual objects, hence giving abstract topics more concrete and understandable form. Though

there are many advantages, using VR and AR in the classroom presents difficulties. Among the obstacles universities have to go past are high expenses, technical restrictions, and faculty development requirements. Furthermore under serious thought are issues of data security, ethical behaviour, and the possibility of too much screen time. But as technology develops and gets more reasonably priced, these difficulties should fade and more colleges will be able to use VR and AR as accepted teaching aids.

Looking forward, VR and AR in higher education have great possibilities. Artificial intelligence, cloud-based solutions, and multidisciplinary applications taken together will keep improving the learning environment. Universities have to be aggressive in training teachers, creating top-notch materials, and funding infrastructure to enable these ideas. Moreover, legislators should aim to make these instruments available to every kind of institution so that students from many backgrounds may gain from immersive learning opportunities. Ultimately by closing the gap between theoretical understanding and actual application, VR and AR have the ability to transform higher education. Although problems still exist, the long-term advantages exceed the difficulties hence educational institutions should welcome thesenewtechnology. Effective use of VR and AR will help colleges build a more inclusive, interesting, and future-ready learning environment ready for the challenges of the digital age. The opportunities for innovation in education will only grow as research and development in this subject go, so defining a new era of digital learning and instruction.

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A Study of Attitude towards E-learning among Researcher in the Field of Education

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Abstract

E-learning means application of ICT or digital technology to access vast variety of educational content and instruction remotely, promoting flexible and self-paced learning experiences. It uses various electronic devices as computers, internet, mobile devices, tablets, smart phones, interactive whiteboards, projectors, E-readers, VR headsets, microphones and webcams. E-learning empowers researchers by enabling flexible access to vast global academic content, online databases, exper insights, collaboration tools, digital libraries, online courses & trainings, specialized training, dat analysis tools, Webinars, innovations for advancing research quality and impact. Proper use of E- learning requires not only fair amount of knowledge & skill but also positive attitude towards its application for academic purposes, as attitude certainly influences our behavior at some extent.This paper is an attempt to explore the attitude of researchers in the field of Education towards E-learning .The present study is descriptive in nature and carried out through Survey method. The findings reported that the subjects did not posses positive attitude towards E-learning. Hence, the researcher recommends some sort of intervention as self-learning, skill training, Seminars,Workshops and Conferences to improve their attitude towards E-learning, so that they can be benefitted by it for their academic purposes.

Key Words: *Attitude towards e-learning, Information and Communication Technology (ICT), Researchers in the field of Education.*

Introduction:

The advancement of ICT has been continuously reported in the educational area, resulting into significant transformation to the local education system. It consists of adopting modern teaching techniques and technology in higher education, but, of creating educational programs tailored to the consumer, the student. Given that the Internet facilitates remote interaction, providing dissemination of all kinds of knowledge required for learning, including systems for testing and evaluation of knowledge gained, is becoming more prominent the concern to integrate e-learning as common learning environment of students. E-learning is defined by some experts ,as any teaching process integrating technology, while in other's view it is meant to a teaching solution for distance education, that uses internet as a form of communication. The concept of E-learning is described by Nichols (2003) as the use of different technological tools as Web-based, Web-distributed or Web-capable in order to serve the purpose of education.

E-learning is a type of learning in which electronic technologies are being used to access curriculum of edification outside of a conventional classroom. In some situations, it denotes a program, course, or degree provided online entirely. E-learning is a method of accelerating and

advancing learning by using Information and Communication Technology (ICT).E-learning is vital for today's educational world. It has potential to change the whole education system and due to this very reason e-learning's usefulness and application has been increased day by day among learners. E-learning attracts systematic methods through inter- related theories in technology, psychology and education to develop its bases, principles, and applications for higher education. Under E-learning a wide range of techniques and uses are included, as- Computer aided learning, Web-based learning, Virtual classrooms and digital collaboration. Precisely it is meant by learning being powered by various digital technologies like Web pages, Video conference systems and CD-ROMS. It incorporates delivering content across Internet, Intranet, Extranet, Internet Televisions, CD-ROM, audio-video tapes, Satellite broadcast and other technologies. E-learning provides speedy cost-effective education, Enhances access of learning and leads to complete responsibility of every learner in the process of learning. Various applications of computer are introduced in the course structure of teacher education and all the prospective teachers are foreseeable to incorporate computer applications in their learning, teaching and research process. Various institutions of higher education put in Web-based learning systems for their E-learning courses. Though, there is an insufficient experimental study of the characteristics underlying the application of web based learning systems (Abbad, 2009). Successful application of a system and approval by learners demands for better understanding of user acknowledgement practices and ways of fortification to engage learners with these technologies. Assessing attitude has a key role in investigating user's behaviour as it is a well-known fact that there is a firm association between attitude and behavior. Experts have established that person's attitude indicates the chance of embracing definite behavior to some extent.

Hazendar (2012) views E-learning as a comprehensive concept of multimedia and electronic equipments training. E-learning experiences provide a valuable opportunity to educational institutions in accessing innovative and modern areas of education in long run. With the implementation of E-learning educational institutions facilitated their students to access varied content irrespective of place and time, enabling them to take control on their learning experiences. With the help of E-learning the students put together the educational material of their needs and study as per the availability of time (Bhatia, 2011). Lu and Chiou (2010) indicated the impact of gender, learning style, job status and self-efficacy on attitude and decisions concerning E-learning among students. Positive correlation was found between E-learning system use intention and self-efficacy (Chiu, 2008) ; E-learner satisfaction, perceived usefulness and self-efficacy (Womble, 2008).E-learning in India is estimated to have remarkable growth. It may be operated through corporates and direct adoption followed by government initiatives. In India internet operators has been upto 500 million by 2016 end, 2/3rd of them are using mobile. The developments are predictable to occur in the network set-up and content delivery. Much like e-commerce, India does certain innovations to proliferation significance of content, delivery and access throughout the country.

The New Education Policy (NEP) 2020 released by the Education Ministry has emphasised on the growing need of online education in India. The Policy is designed to maximize the benefits of digital and online education in India while mitigating the downsides. The new education policy has come with some initiatives comprising Pilot studies and installation of virtual labs.

Review of Related Literature:

Sanders & Alison (2001) examined the attitude of undergraduate students towards the web-based learning in reference to the course of biology. The findings revealed that there is a positive influence of web-based learning on critical thinking skills and problem solving skills of the students.

Dhamija (2016) assessed attitude of undergraduate students towards the academic utilization of E-learning by using self made attitude scale. The results shown difference in attitude between Commerce and Arts students as well as Arts and Science students, while no difference observed between students of Commerce and Science. The study also reported significant difference of attitude among students on the basis of gender and residence (rural and urban). Contrary to these findings Varsney (2016) found no difference between rural and urban students as well as male and female students at undergraduate level of Aligarh Muslim University.

Another study by Rhema & Iwona (2014) examined perception and experience of students in two different Lybian Universities about technology enabled learning. The findings reported that various demographic variables like Gender, Locality, Current enrollment year and Age of the students have no significant effect on students' attitude towards E-learning.

Krishnakumar & Rajesh (2011) evaluated higher education teachers' attitude towards E-learning. The findings showed that higher education teacher possess positive attitude towards E-learning as study outcome. The teachers familiar with computers and technology showed favorable attitude as comparison to technologically novice teachers.

Thakkar & Joshi (2017)studied the attitude of engineering students towards E-learning and found differences in students' attitude towards the use of E-learning in terms of gender, locality (Rural/Urban) and cast category (General/ Reserved).

Khan,N.(2017) analysed the attitude of 200 engineering students towards E-learning in Bijnor city by using ATELS Scale of Dimpal Rani, and found that most of the engineering students had Average attitude towards E-learning. The study, concluded that gender and locality had no impact on engineering students' attitude towards E-learning.

Jan & Mattoo (2018), conducted study with title Attitude towards E-learning among research scholars of University of Kashmir in Jammu and Kashmir. They took 450 research scholars (225 Male and 225 Female)of 3 different streams which were Science, Social Science and Arts as sample, selected through stratified proportionate random sampling technique and used Attitude towards e-learning Scale (ATELS-RD) by Dimpal Rani to study

impact of different demographical variables, and revealed that gender, residential background and their interaction had no significant influence on attitude towards e-learning among research scholars.

Due to vast applicability of E-learning and E-learning tools for the researchers in the field of education, they also need to have proper knowledge, training and attitude towards E-learning, so that they can access vast variety of knowledge and data in their researches through the use of various E-learning tools as well as can learn to develop good quality e-content, and as future teacher educators can help their students to learn proper knowledge, skills and attitude towards E-learning,which can in turn be useful for other subsequent levels of education.There are very few studies on researchers' attitude towards E-learning and no study was found on measuring the attitude of researchers in the field of education towards E-learning. Thus, the researcher felt the need to assess the attitude of researchers of education field towards E-learning.

Statement of the Problem :

A Study of Attitude towards e-learning among Researchers in the Field of Education

Objectives of the Study:

1. To study the attitude of researchers in the field of Education towards E-learning.
2. To study the difference in attitude of researchers in the field of Education towards E- learning on the basis of following demographic variables:
   (a) Gender: Male and Female
   (b) Institution/University: Central and State

Hypotheses of the Study:

1. As the objective1 is exploratory in nature, thus, no hypothesis was formulated for it.
2. (a) There is no significant difference in the attitude of Male and Female researchers in the field of Education towards E-learning.
   (b) There is no significant difference in the attitude of researchers in the field of Education enrolled in central and state institution towards E-learning.

Methodology:

Research design- The type of research used to serve the purpose of the present study is descriptive research and the method used is Survey method.

Variables of the study- Variables of the present study were-

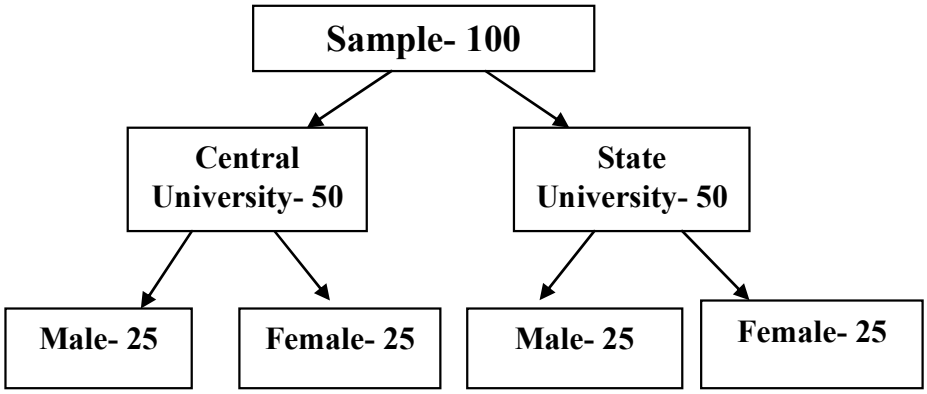
(a) Attitude towards e-learning
(b) Gender: Male and Female
(c) Institution/University: Central and State

Population and Sample-

Population- The population of the present study constitutes all the researchers in the field of education in the Varanasi district.

Sample and Sampling technique- The sample of the present study consists of 100 researchers, equal from Central and State University in Varanasi district. For this, first the universities or institutions in Varanasi running PhD in education were selected purposively and then the sample of 100 researchers was selected through stratified proportionate random sampling technique.

Details of the sample- Sample-100



Tool of the study- Attitude towards e-learning Scale (**ATELS**) by **Dimpal Rani** was used to collect the relevant data. It had four major areas (comprising of 65 items) as: 1. E-learning, 2.Usefulness, 3.Ease of E-learning, 4.E-learning confidence. The scale was a five pount scale viz. Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. Scoring was done separately for the positive and negative terms. A positive item carries the weights of 5,4,3,2,1 respectively for the categories of Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree. The scoring for negative item is reversed of positive items. The minimum and maximum possible scores are 325.

Results and Findings:

The results or findings of the study according to the objectives are as follows (in tabular form):

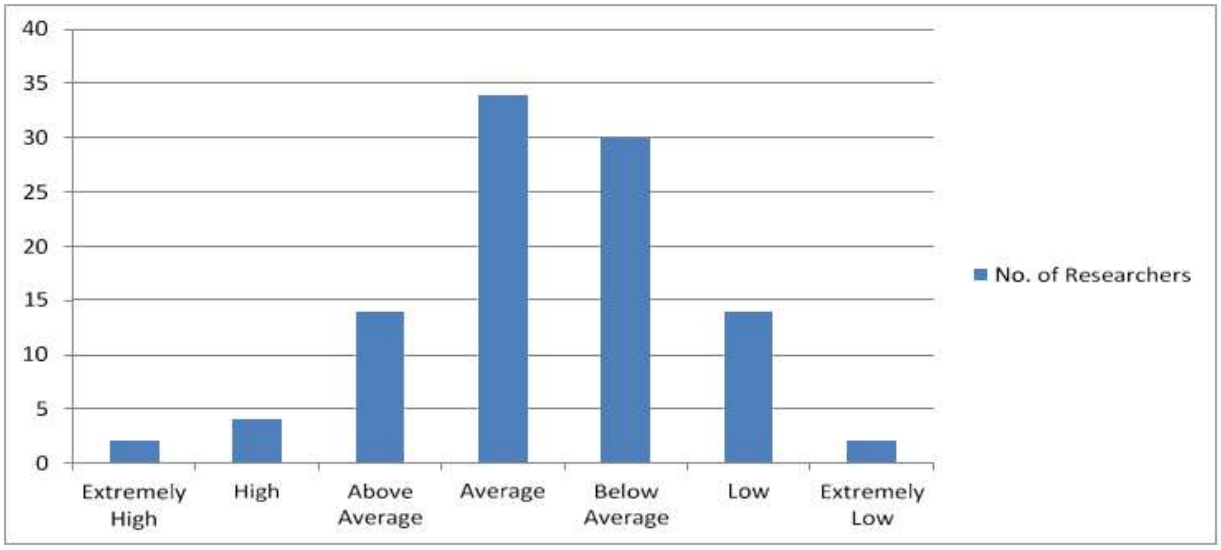
1. To study the attitude of researchers in the field of Education towards E-learning.

Table no. - 1

Distribution of subjects according to their level of Attitude towards E-learning

S.No.	Level of Attitude towards E-learning	No. of Researchers
1	Extremely High	2
2	High	4
3	Above Average	14
4	Average	34
5	Below Average	30
6	Low	14
7	Extremely Low	2
	Total	**100**

From the table no. 1, it is revealed that the researchers in the field of education did not have good or positive attitude towards E-learning as, from the total 100 subjects, only 2 came in Extremely High, only4 in High, 14 in Above Average and 34 in Average category of attitude level towards E-learning, while 46 shown poor Attitude as 30 came in Below Average, 14 in Low and 2 in Extremely Low category of Attitude towards E-learning.



Graph-1 (Showing distribution of Researchers according to their Level of Attitude towards E-learning)

2. Comparison of Attitude of Research Scholars in the field of Education towards E-learning on the basis of following Demographic Variables-

2.a-Gender(Male/Female)

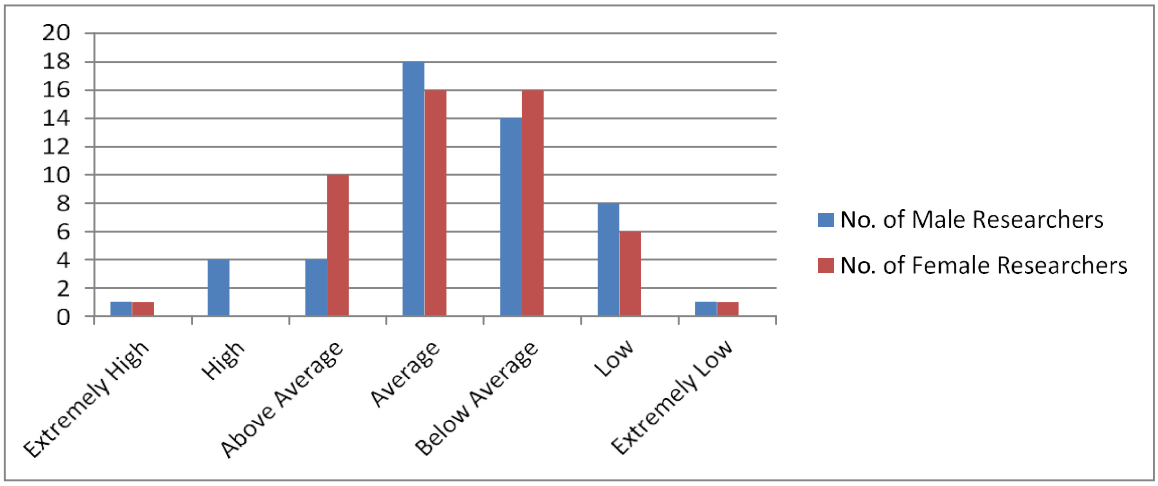
2.b-Type of Institution (Central/State)

(2.a) Comparison of attitude of research scholars in the field of Education towards E-learning on the basis of their Gender (Male/ Female):

Table no. 2.a

Category of Level of Attitude	No. of Male Researchers	No. of Female Researchers
Extremely High	1	1
High	4	0
Above Average	4	10
Average	18	16
Below Average	14	16
Low	8	6
Extremely Low	1	1
Total	**50**	**50**

From the table 2.a, it is observed that there is no considerable difference in attitude level of Male and Female research scholars in the field of Education, as the no. of researcher with good or positive attitude in both Male and Female category was almost equal i.e.- 27 (In Male group-1 in Extremely High, 4 in High, 4 in Above Average and 18 in Average category, and in Female group- 1 in Extremely High, 0 in High, 10 in Above Average and 16 in Average category of Attitude towards E-learning) and no. of Male and Female researchers with Poor attitude was also equal, i.e.-23 (In Male group- 14 in Below Average, 8 in Low, and 1 in Extremely Low, In Female group- 16 in Below Average, 6 in Low, and 1 in Extremely Low category of Attitude towards E-learning).



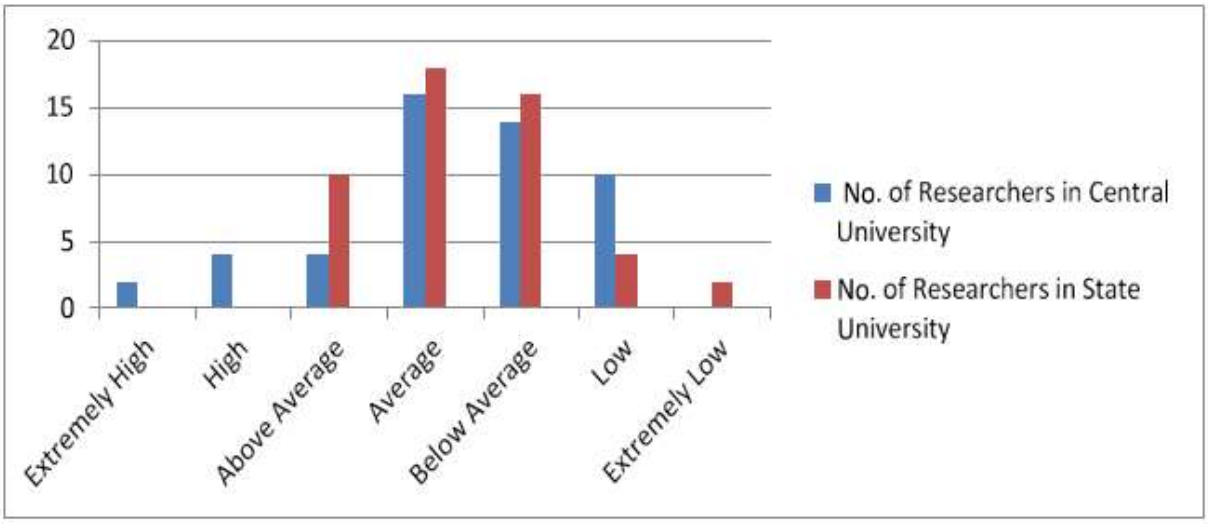
Graph 2.a (Showing distribution of Male and Female Research scholars in the field of Education according to their Attitude towards E-learning)

(2.b) Comparison of attitude of research scholars in the field of Education towards E-learning on the basis of Type of their Institution (Central/State):

(Table no.-2.b)

Category of Level of Attitude	**No. of Researchers in Central University**	**No. of Researchers in State University**
Extremely High	2	0
High	4	0
Above Average	4	10
Average	16	18
Below Average	14	16
Low	10	4
Extremely Low	0	2
Total	**50**	**50**

From the Table no. 2.b, it is shown that as compared to no. of research scholars of Central University the no. of research scholars of State University were high in in Average and Above Average category, as there were 4 researchers in Above Average and 16 researchers in Average category from Central University, while from State University, there were 10 in Above Average and 18 in Average category of Attitude towards E-learning. There were 2 researchers in Extremely high and 4 in High category from Central University, while there were no researcher from State University in High and Extremely High category of Attitude towards E-learning. In below Average category, 14 were from Central University, while 16 were from State University, in Low category, 10 were from Central University, while 4 were from State University. And in category of Extremely Low Attitude towards E-learning, there were 2 researchers from State University, while no one was from Central University.



Graph 2.b –(Showing the distribution of Research Scholars of Central and State University in the field of Education according to their Attitude level towards E- learning)

Discussion:

The present study was carried out to study the attitude level of researchers in the field of Education towards E-learning. A total of 100 researchers working the field of Education were taken as the sample for the study. On referring Table no.- 1, it is observed that a fair percentage of researchers i. e. 46 % did not have good or positive attitude towards E-learning, as from the total100 subjects, only 2 came in Extremely High, only 4 in High, 14 in Above Average and 34 in Average category of attitude level towards E-learning, while 46 shown poor Attitude as 30 came in Below Average, 14 in Low and 2 in Extremely Low category of Attitude towards E-learning. The Reason behind it may be the lack of knowledge or proficiency in E-learning, absence of exposure of E- learning or lack of skills to use E-learning. This finding was contradictory to other studies **(Jan,H. & Mattoo, M.I.(2018).**

With reference to Table no. 2 (a) (Comparison of attitude of research scholars in the field of Education towards E- learning on the basis of their Gender (Male/ Female), it has shown that there was no difference in attitude of male and female researchers towards E-learning as, the no. of researcher with good or positive attitude in both Male and Female category was almost equal i.e.-27 (In Male group- 1 in Extremely High, 4 in High, 4 in Above Average and 18 in Average category , and in Female group- 1 in Extremely High, 0 in High, 10 in Above Average and 16 in Average category of Attitude towards E-learning) and no. of Male and Female researchers with poor Attitude was also equal, i.e.- 23 (In Male group- 14 in Below Average, 8 in Low, and 1 in Extremely Low, In Female group- 16 in Below Average, 6 in Low and 1 in Extremely Low category of Attitude towards E-learning). This finding was similar to other studies which shown that gender makes no impact on attitude of subjects, students or researchers towards E-learning.(**Jan,H. & Mattoo, M.I.(2018), Dhamija (2016), Rhema & Iwona (2014)**) and contrary to findings of studies which revealed that gender cause impact on Attitude towards E-learning **(Varsney,(2016).**

Table no. 2(b), showing the comparison of Attitude of researchers on the basis of type of institution they are enrolled in, explores that type of institution (Central University/ State University) shown difference in attitude of researchers towards E-learning, as there were 4 researchers in Above average and 16 researchers in Average category from Central University while from State University, there were 10 in Above average and 18 in Average category of attitude towards E-learning. There were 2 researchers in Extremely high and 4 in High category from central University, while there were no researcher from State University in High and Extremely High category of Attitude towards E-learning. In below Average category, 14 were from Central University, while 16 were from State University, in Low category , 10 were from Central University while 4 were from State University. And in category of Extremely low attitude towards E-learning, there were 2 researchers from State University while no one was from Central University. The probable cause behind this may be the institutional policy regarding E-learning, Exposure to E-learning, and access to E-learning.

Conclusion:

1. The considerable no. of researchers in the field of Education had shown poor Attitude towards E-learning.
2. (a) No significant difference was found in attitude of Male and Female researchers towards E-learning.

   (b) Significant difference was found in attitude towards E-learning between the researchers of Central University and State University. Researchers of State University shown better level of Attitude towards E-learning than the researchers of Central University.

Suggestions for Attitude towards E-learning:

- The researchers should gain proper knowledge and skills of E-learning tools.
- The researchers should understand the importance of E-lraning for their own research and study as well as for their profession of teaching and learning.
- The researchers should use E-learning tools.
- The researchers should attend Seminars, Conferences and Workshops to keep themselves updated about technology and E-learning.
- The researchers should get training to use the E-learning tools.

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