EXHAUSTIVE REVIEW ON PERCEPTIONS OF TEACHERS WITH SPECIAL REFERENCE TO E- LEARNING IN TEACHING LEARNING PROCESS

SOMNATH MISRA
AR19BPHDED008
Enrollment No.
EDUCATION
DR. JAI NATH YADAV
Supervisor
SARDAR PATEL UNIVERSITY, BALAGHAT

Abstract:

Information and communication technology (ICT) has grown quickly over the past few decades, having an impact on the reach and power of many of our institutions. The impact of ICT on educational institutions, particularly at the elementary and secondary levels, is unparalleled and definitely global. The methods used in primary and secondary schools for teaching and learning have been significantly impacted by ICT. Although the degree of ICT's impact on elementary and secondary institutions appears to vary from one country to the next, there is a global commitment to use ICT and provide access to the best education everywhere. The development of movie cameras, film technology, projectors, telephone and telegraph networks, and copying machines were all made possible by scientific advancements in physics, chemistry, materials science, applied sciences, and engineering. These advancements laid the foundation for information and communication technology as we know it today. Film technology can be used to distribute and preserve photographs that were taken in the real world. A huge audience could be informed thanks to the projectors and sound system**s**. In this article, exhaustive review on perceptions of teachers with special reference to e- learning in teaching learning process has been discussed.

INTRODUCTION:

Telegraph and telephone networks were part of the first generation of ICT systems, which facilitated long-distance communication. Because of printing and copying technology, a substantial amount of knowledge was disseminated to a sizable population. The internet and the introduction of digital technologies like computers and smartphones, we are currently living in an era dominated by information and communication technologies. Even though we take the existence of electricity in present-day ICT for granted, power management and power sources play a critical role in how ICT will develop in the future. A review of the literature is a summary of the writings produced by renowned subject-matter specialists. It aids in familiarizing a researcher with what is understood, what is still unknown, and what has not been attempted in a particular area. Educational research is a task intended to provide a structured body of scientific knowledge. An essential initial step in this direction is the review of the literature. The survey offers the researcher the ability to consider their problem carefully and in depth. The fresh investigator can more carefully design their own by evaluating the designs and methods used by the earlier researchers. For any worthwhile research on that issue, one must have a sufficient understanding of the previous work. The accumulation of previously recorded knowledge is the only method a researcher may use to use prior discoveries to develop a potent study plan. The researcher finds comparative information that aids in interpreting the findings, learns how to construct reasonable hypotheses, clarifies concepts, expands his own expertise, and stays away from repeating studies. Prior work that may be directly or indirectly related to the subject that the researcher proposes cannot be separated from research. It expands an investigator's perspective and gives them information about past research. Knowing the pertinent literature keeps the researcher up to date on the work that others have done, allowing them to simply and effectively state their objectives.

RELATED REVIEW OF LITERATURE:

According to S. Tariq (2019), the most important technology at the moment is information and communication technology (ICT). Due to its impact on other technologies. A significant source of strength is having the ability to influence every facet of human existence. The global

economy, social structures, and educational systems have all been significantly impacted by integration, much like Darwin's theory of evolution had an impact on biology. Without a skilled workforce, which is reliant on a superior education, we will be unable to meet the demands of our clients. ICT was developed through education, even though it primarily benefited corporations. All endeavors in business, society, governance, and education have greatly modified how these things are done as a result of these changes in practices and approaches. Sophisticated learning methods, including instructional strategies, scientific inquiry, and information accessibility, quickly replaced traditional education. In this study, the researcher looked into the role, problems, and effects of ICTs in more detail. He also made an effort to think about potential directions for future expansion and improvement.

According to P. Dwivedi (2019), ICT has contributed to industry reforms in a number of industries, including education. Students' ideas about learning are changing quickly as a result of the environment's ongoing change and business demands. The days of lecturing in front of a chalkboard in a classroom are long gone. There are no further outcomes that might be possible. ICT in the classroom helps students' collaboration, creativity, and exchange of ideas, but these advantages shouldn't be confused with actual learning. Can these goals be met in an online learning environment, though? The purpose of this study is to examine how e-learning is altering the education sector. We must consider the student's perspectives and e-learning experiences in order to accomplish this. The data indicates that the government is funding a sizeable amount of the platform's growth and improvement. Students continue to be skeptical about the benefits of online education in spite of government measures. Additionally, students are perplexed about which platform to use due to the variety of platforms available. The authors have identified management implications based on their findings. These new findings may have an effect on educators, students, and educational institutions as a whole.

Apparently, S. Sareen (2019), the objective of the current study was to look at how school teachers felt about their personal ICT self-efficacy in relation to their attitudes about ICT. Participants in the study included a sample of 250 teachers from public and private schools in the Chandigarh region. 120 teachers came from privately managed schools and 130 from public schools. Cavas Bulent's (2003) Attitude toward ICT Scale and Gulbahar Yasemin and Guven's (2008) Perceptions on Self-Efficacy in the Use of ICT were used to collect data. The findings

revealed that there was no appreciable difference between the views of school teachers or their perceived levels of self-efficacy. Private school teachers were shown to have much higher levels of perceived self-efficacy and a more optimistic outlook than educators employed by public schools. Furthermore, it was found that teachers with high levels of self-efficacy had more upbeat attitudes than those with low levels. It is advised that the authorities take steps to provide teachers with pre-service and in-service training to enhance their ICT skills so they can develop a favourable attitude toward using ICT in their classrooms based on the study's findings.

M. Vijayudu et al. (2019) one of the most important advantages of teaching children to use their minds is that it allows them to scale new heights. ICT has begun to have a big impact on education all across the world. It is both advantageous and expensive in countries with insufficient human resources. India is unquestionably included. Its widespread use and significance indicate that children are developing all around the country. To what extent ICT resources in rural high schools affect students' cognitive capacities is the study's main objective. Finding out how teachers think ICT integration affects students' learning and behavior is the main objective of this study. Another key objective is to monitor how students' understanding of learning concepts and their ability to improve their knowledge and behavior are affected by ICT-based instruction. The study was conducted in fully equipped ICT classrooms in the Telugu States of India, Telangana, and Andhra Pradesh (through observation and field research) using ethnographic research methods. The questionnaire is used to acquire information from the population under study through structured questioning and observational data collection. Government employees and private school administrators who use ICT resources in their institutions serve as examples for students and teachers. Researchers discovered some surprising relationships between instructors' and students' views of learning and behavior change. The work's novelty comes from the researchers' attempt to explain the data surrounding how students and teachers view ICT tools in the classroom and how well they work to change student and teacher behavior.

According to K. Manpreet (2019), the purpose of this study is to determine how Indian teachers' views and attitudes concerning ICT and ICT usage affect their instructional strategy. A total of 120 secondary school teachers from North India have agreed to take part in the study.

Surveying was used to acquire information. One of the study's key findings states that interviews were performed to learn more about teachers' attitudes and motivations toward using technology. Although it was demonstrated that Indian teachers were open to embracing ICT, it was also found that they were not making the most of it in the classroom. Underdeveloped modern infrastructure, inflexible timetables and curricula, limited technical assistance, inadequate training, rigid timetables, and underdeveloped modern methods of evaluation were found to be the most common problems that teachers encounter while implementing ICT technologies. This study discovered that ICT is used similarly by teachers of both sexes. This study presents evidence in support of the need for new teacher training programs that will assist Indian classroom teachers in developing their ICT skills.

Apparently, M. Kaur (2019) conducted this study with the intention of determining how Indian teachers' views and opinions toward ICT usage affect their pedagogical practices. A survey of 120 secondary school teachers in North India provided the information. Surveying was used to acquire information. The results of semi-structural interviews, which were used to better understand teacher motivations and beliefs, were validated using data. Despite having a good attitude toward adopting ICT, Indian instructors do not utilize it to its full potential in the classroom, according to the study's findings. Inadequate modern infrastructure, rigidity in the teaching schedule and curriculum, low technical support, inadequate training, and a preference for diplomas over competencies were among the major problems and issues with teachers using information and communication technologies that were identified in this study. The findings of this study demonstrate that there are no gender disparities in how instructors use technology when compared to lecturers of other genders. According to the research, new teacher training approaches are required to facilitate the use of ICT in Indian classrooms more effectively.

According to Anil Kumar Malik et al. (2019), information and communication technologies (ICTs) are used in higher education nowadays in a very creative and effective way. ICTs increase listener retention in addition to making learning interesting and captivating. They provide teachers and students with opportunities to learn while also making studying and teaching more entertaining. Through the use of various technologies, education becomes more targeted, learner-centric, and two-way. Looking at how well ICTs are used to make teaching and learning more interesting can help determine how effective they are. The lack of subject-

specific ICT materials makes it difficult for teachers and students to use ICTs to their full potential in a variety of activities. The class can interact digitally with the course material and context thanks to the ability to collect, combine, and manipulate data from a number of sources, making ICT more interactive and less didactic. The purpose of this review paper is toemphasize the benefits of ICT use in education for enhancing teaching and learning. Additionally, it highlights the benefits and impacts of ICT on education as well as its shortcomings and challenges for existing educational institutions.

Information and communication technology has changed traditional learning methods into modern, interactive environments, claim Abdullah M. Al-Ansi et al. (2019). The ICT revolution in education is being driven by these technologies. For the purposes of this study, ICTs were divided into five categories: theory and practice, infrastructure, techniques and procedures, tools and equipment, and educational applications. The learning process was assessed at three different levels, including secondary schools, undergraduate institutions, and postgraduate institutions. This study's main objective was to investigate how ICT influences learning in various learning contexts in underdeveloped countries. ICT applications used in this study have been described. Surveys were used as a quantitative tool in this investigation. As study participants, 137 postgraduate students, 155 undergraduate students, and 144 high school students (junior and senior levels) were chosen at random. Data from several surveys were evaluated using SPSS. The study's findings indicate that ICT has a favourable and significant impact on high school students' learning processes. ICT elements have a favourable and significant impact on the learning process at the undergraduate and postgraduate levels, with the exception of devices and tools, which were negative at the undergraduate level and insignificant at both levels. The infrastructure of higher education was likewise minor, in addition to the beneficial but unimportant methods and approaches employed at the undergraduate level. There is a strong correlation between ICT use and learning. Due to a range of elements, such as learning policies, ability variations, capacity for absorption, study specifications, degree of need, and complexity, ICT application use and benefits are more successful at higher educational levels.

S. Wael et al. (2018) explained to ascertain how the usage of information and communication technologies influences university students' academic performance. Another important finding

of the study is that characteristics like gender, GPA, and student majors modify the association between ICT and academic accomplishment. Information on the usage of information and communication technology (ICT) at universities as well as the relative academic success of four Saudi institutions was gathered through a quantitative research study with a sample size of 1,000 students. Structural equation modelling was employed to guarantee the accuracy of the study model. AMOS, a program designed specifically for path analysis and structural equation modelling, was used to carry out the research. A recent study found that as ICT adoption increases, academic achievement among kids in traditional settings climbs. Another study suggested that the use of ICT helped female students outperform male students in academic performance. However, students' decision to major in computer technology had little impact on their academic success. The article discusses the study's findings, limitations, and potential future research areas. This final conclusion also creates a connection between the findings of the inquiry and previously known information.

Apparently, M.Tahir et al. (2018), India's higher education system (ICT) is evolving with information and communication technologies. In order to ensure that students obtain a high-quality education, ICT is crucial in higher education. In numerous educational institutions around the world over the past twenty years, advances in information and communication technology have evolved. As society has become more globally connected, there has been an increase in the demand for certified and talented workers. From kindergarten through higher education, students in India receive financial aid from the government, but the country's bigger problem is a lack of technology literacy. A good education is the most crucial factor in economic development and prosperity. Programs for open, remote, and online learning are becoming more and more popular as a means of expanding access to higher education and disseminating knowledge in the country's most remote areas. The modern educational system in India has undergone a significant change as a result of the introduction of information and communication technology (ICT). Additionally, it meets the requirements of lifelong learning and does so at a cost that is affordable for practically everyone. The use of information and communications technologies in higher education has many potential benefits, but it also has some risks and challenges.

Offering ICT-based educational services to the general populace in India is, in opinion, the biggest challenge. Lack of technology, internet connectivity, and skilled educators, according to A. Kedar (2018). In India, 30% of students in their first year of school are under the age of 15, while 75% of the population lives in rural areas. One-third of the population in rural India lacks literacy. An innovative way to give effective instruction and increase rural labor participation is through ICT-enabled rural education. This study examines a range of concerns regarding the use of information and communication technologies (ICTs) for teaching and learning as well as potential solutions to make ICT implementation as simple and efficient as possible in the nation's rural education sector. Participants came from both the public and private sectors of India.

Olofsson, A.D. et al. (2018) state that the purpose of this paper is to learn more about upper secondary school students' perceptions of how information and communication technology (ICT) could shape and benefit their everyday lives and school time. In total, 46 students from three upper secondary schools participated in 11 groups of interviews. Using NVivo Pro 11, we performed a qualitative content analysis. The results show that ICT, not "state-of-the-art" technology, is more important to students' education since it makes peer support, the writing process, and digital documenting and archiving possible. The relatively small student population in three different programs at three different colleges makes generalizations difficult. The study may help researchers better understand how kids use ICT at school and in their daily lives, as well as their expectations for it, and may also help teachers better understand how to use ICT in the classroom, their professional development activities, and the creation of an in-school ICT infrastructure. The focus on student ideas about how basic ICT functionality and use could organize and support their regular classroom activities gives this article its individuality.

In their scholarly piece, In India's higher education system, the effectiveness of ICT was assessed by D. Chakraborty et al. (2018). According to the report, higher education institutions all around the world are now severely impacted by information and communication technology (ICT). India is being used as the test site to determine whether ICT can successfully lay the groundwork for higher education there. Four factors—availability, usage, knowledge, and

cost—have been precisely determined from a variety of secondary sources. The study attempts to better understand how ICT has impacted society by looking at these four elements. The survey included a number of colleges and institutes in the Indian state of West Bengal. 386 examples were collected through a standardized survey, and a 5-point Likert scale was utilized to guide the summary. The convenience sample method was used to collect the examples from various institutions and colleges. Multiple regression analysis and exploratory factor analysis have both been used to test the hypothesis and forecast the outcomes. The survey's findings indicate that one of the major variables affecting ICT performance is cost.

Information and communication technology (ICT) is currently affecting every aspect of human existence based on K. Ratheeswari (2018). They play significant roles in the workplace, in commerce, in education, and in entertainment. The fact that ICTs are change agents that influence everything from working conditions to how information is handled and exchanged to how it is taught and learned to how it is accessed for scientific research is also widely acknowledged. In the current digital age, using ICT in the classroom is essential for giving students the chance to learn and use essential 21st century skills. ICT improves education, and teachers must play a role in creating effective learning environments. With the use of ICT, educators can create engaging and understandable lessons for students at all levels of educational programs. In India nowadays, educational training programs are made more engaging and relevant by the use of ICT. Information and communication technologies (ICTs), such as the Internet and interactive multimedia, are unquestionably important for future education and must be successfully incorporated into formal teaching and learning, especially at a teacher education institution.

Information and communication technologies (ICTs) are growing in importance within the educational system in our rapidly evolving digital age, claims K. Namita (2017). It has had a profound effect on people's lives in a number of ways. These changes have caused academic institutions, administrators, professors, and instructors to rethink their various roles in instruction as well as their long-term goals. ICT use has created new difficulties for the educational system. The purpose of this article is to describe the numerous ways that information and communication technology (ICT) could enhance educational outcomes for

students. This graphic demonstrates the various implications and benefits of ICT in education as well as the substantial constraints and difficulties that educational institutions face.

In order to ascertain how Information and Communication Technology (ICT) affects the research initiatives of the institutes selected by the Council for Scientific and Industrial Research, this research was done by K.A. Bugyei (2017). The case study methodology was extensively used in this study. Data for this study were gathered through interviews and questionnaires at five CSIR research institutes. Information and communication technology (ICTs) reportedly facilitate research. The CSIR has benefited from the use of ICT tools by researchers and other non-core staff by aiding research trips, enhancing work performance, and facilitating information access. The study's findings indicate that the CSIR's researchers and senior staff are limited by a lack of ICT financial allocations as well as a lack of sufficient computer gear and software. To improve the efficacy of ICT-based applications, the study recommends a more robust ICT infrastructure, the hiring of qualified IT workers, and adequate training and mentoring.

The instruction and learning go hand in hand. The heart and spirit of education, according to S.D. Mulay et al. (2017). For the benefit of the students, instruction needs to be more dynamic, and the teacher needs to be technically skilled. ICT plays a significant role in the modern educational environment. We can see that there is a global trend toward the use of ICT in the teaching and learning process. To achieve the goals of education, ICT should be used to strengthen the teaching-learning process. Teachers use ICT to enhance their instruction. Numerous studies in this area have led us to the conclusion that ICT improves education, especially the teaching-learning process. Applications for ICT are thus essential for use in the classroom. In this study, the researcher sought to comprehend the attitudes of Savitribai Phule Pune University student teachers toward the use of ICT in the classroom. 100 B. student teachers were chosen as a sample. A self-created attitude scale with 20 statements about using ICT in teaching was used to collect the data.

The study looks at possible risk factors for the instructional self-efficacy beliefs held by Norwegian student instructors enrolled in a secondary school teaching program based on E. Elstad and K.A. Christophersen (2017). The key finding was that there was a significant

relationship between the student teachers' perceptions of their instructional self-efficacy, which was measured along two dimensions: (1) self-efficacy for upholding discipline and (2) self-efficacy for influencing students' use of ICT in the service of learning, and their perceptions of digital competency to address issues relating to information and communication technology (ICT) in schools. Practice implications are examined. It is shown that to maintain instructional self-efficacy in classrooms that incorporate technology, student teachers must be technologically literate.

The use of information and communication technology (ICT) in English language training has turned into a need in the contemporary teaching and learning environment, claim Akpabio, Effiong, and Ogiriki, Ivy Bubaraye (2017). This is due to the widespread acceptance of ICT's significance in language learning. The key reason for this is its essential role in broadening people's knowledge of English language teaching and learning. ICTs play critical roles in increasing teaching and learning because they have made studying the English language interactive and collaborative, in contrast to the conventional teaching and learning process where the teacher is the only embodiment of knowledge. This study sought to ascertain both the availability of ICTs and the frequency with which instructors in senior secondary schools in Akwa Ibom State used them to give lectures. The proficiency of instructors in using ICT technologies such as computers, multimedia systems, language labs, and the internet was also assessed.

Apparently, D. Ponmozhi and A. Ramya (2017), a study was undertaken in the Cuddalore District of Tamil Nadu to assess the effectiveness of information and communication technology (ICT) vs. the traditional method of teaching computer science at the college level. A post-test equivalent group design experimental study was used for the statistical analysis of the investigation at significance levels of 0.05. A sample of 64 students was selected so that 32 students were available for each category because college students were the target audience. Undergraduate students studying computer science and computer applications were evenly divided into two equal groups based on their achievement in the previous year's grades. The control group and the treatment group are both made up of 32 students each. Students in the experimental group were exposed to teaching through ICT, while those in the control group got traditional instruction. The curriculum for the B.Sc. Computer Science and Bachelor of

Computer Application programs of Thiruvalluvar University in Vellore, Tamil Nadu, was used to teach C++ to both groups. ICT has been shown to be more effective than conventional methods for teaching computer science at the college level.

According to J.M. Fernandez-Batanero and M.J. Colmenero-Ruiz (2016), employment of information and communication technology (ICT) in contemporary society has generated a lot of scholarly attention, according to Colmenero-Ruiz (2016). In this case, the teachers' perspectives on ICT are quite important. Finding out how teachers would use and incorporate "Information and Communication Technologies" (ICT) in inclusive classrooms was the aim of the study, which is outlined in this article. This will aid in identifying the components that enable successful ICT-supported educational practices. We developed a case study using numerous cases in order to do this. The questionnaire and group discussions are the approaches used to acquire the required data. The questionnaire was validated using the "K coefficient" method, also referred to as the "coefficient of expert competence" procedure. The Cronbach's alpha method determined the reliability with a result of 0.87. The results show that instructors generally have a positive attitude toward information and communication technologies, particularly male teachers who have more opportunities to contact ICT. This will support the promotion of inclusive and cultural policies among networks of schools as a crucial element in developing good educational practices with the use of ICT.

According to S. Madhu (2016), ICT has a significant impact on teaching and learning because it promotes positive learning environments, facilitates creative thinking, and boosts students' self-confidence. The purpose of this study is to examine how academic assignments are assisted by professors and students using information and communication technology (ICT). Teachers are urged to make computer systems easier for kids to use in order to help them advance. Governments and educational systems around the world encourage information and communication technology (ICT) in schools because it allows students to access a variety of knowledge sources, makes it easier to write reports, and schedules activities. The findings indicate that an effective integration of information and communication technologies into the teaching and learning process is crucial.

According to M. Pandolfini (2016), the demand for innovative educational methodologies will only grow as more people become aware of the immense potential of information and communication technology (ICT) to solve it (European Commission, 2015; Eurydice, 2011; OECD, 2010). ICT adoption in formal school settings is thought to be a challenging task, and opposition is frequently seen. Although there is no evidence to support this claim and it is challenging to quantify the impact, investments in information and communication technologies (ICTs) and the growing digitization of educational processes are frequently thought to benefit education at all levels (Bocconi et al., 2013; UNESCO, 2009). This paper lays out an approach for assessing how information and communication technologies affect education. It asks questions about what should be studied, measuring methods, and the most effective performance indicators while highlighting numerous factors. The findings of an Italian case study emphasize both the methodological difficulties involved in developing indicators for research on technology-based innovations in schools as well as the complexity of ICT advances in the educational system.

To create a conceptual framework for use in education, according to K. Harsangeet (2016). The author of the study contends that it is challenging to innovate or enhance anything without teachers. Teachers need to be trained as soon as possible in the use of ICT programs and abilities because the majority of courses still rely on chalk and talk in today's classrooms. To prepare them to use modern tools, the teachers ought to acquire the training. Digital technology and other learning tools are revolutionizing education because they enable anytime, anywhere access to well-designed, learner-centred, interactive, and supported learning environments.

Many impaired children in the Republic of Kazakhstan deal with physical restrictions that impair their capacity to move, talk, and study, according to Aliya K. Oralbekova et al. (2016). Additionally, they struggle to learn new computer skills. Computer technologies are especially useful for children with disabilities. The use of information and computer technologies has allowed these children to engage, move around, and receive a full education. Unfortunately, Kazakhstan is now experiencing tremendous conflict when it comes to integrating information and communication technology (ICT) in the context of inclusive education. Many primary school teachers lack the training required to use contemporary technologies.

According to P. Singh and S. Singh (2016), the use of ICT has fundamentally changed the practices and procedures of practically all categories of commercial and governmental activity during the past 20 years. Organizations, especially educational institutions, are using information and communication technology (ICT) more and more to support all aspects of organizational activity, from group cooperation to individual teaching, training, and learning. In addition to delivering lectures and course materials, ICT is also utilized for management and administrative functions. Traditional libraries have evolved into resource hubs with the use of ICT. Universities must avoid using the traditional teaching methods that students were used to in high school. Despite the fact that high schools may offer ICT, university-level instruction uses ICT in a variety of ways to meet the demands of mature students; therefore, its application in higher education is very different.

ICT is a scientific, technological, and engineering discipline and management approach utilized in handling information, its utilization, and its association with social, economic, and cultural concerns, according to Baishakhi Bhattacharjee and Kamal Deb (2016). Information and communication technology, or ICT, ICT has affected society and individuals since it first entered our lives. ICT is becoming more prevalent in the educational setting. Everyone involved—teachers, students, administrators, and others—constantly uses ICT. ICT is used by teachers to simplify and make learning interesting. A proficient teacher possesses a variety of abilities and teaching methods. Therefore, understanding of ICT, science, and technology was required for the growth and improvement of teacher competencies and skills. ICT also facilitates communication between parents, teachers, and children. For the benefit of the future generation, Continuous and Comprehensive Evaluation (CCE) enables teachers and students to use more technology to make teaching and learning more engaging. If they wish to help students learn more efficiently, teachers must be knowledgeable about how to use ICT in their subject areas. Therefore, a thorough understanding of ICT is required for both aspiring and current teachers. Teachers may benefit from learning how to incorporate technology into their lessons. The purpose of this study was to examine how ICT helps prepare teachers for the twenty-first century.

Negin Barat Dastjerdi (2016) claims that the most obvious and important aspect of the information era is the ubiquitous impact of ICT across all industries. The study makes an effort

to evaluate how well ICT is employed during the teaching and learning process. The research methodology is descriptive survey research. The instructors of Isfahan's elementary schools made up the study's statistical population. The cluster sampling strategy was used to select a sample size of 350 individuals in accordance with the Kokeran formula. After its validity and reliability were verified, the research tool—a questioner designed by the researcher for use with ICT in the teaching-learning process—was used. The SPSS 19 program was used to analyze the data. The findings showed a substantial relationship between ICT availability in schools, students' information literacy (or "e-readiness"), and instructors' attitudes about adopting ICT in the teaching-learning process.

In line with Verma C. and Dahiya S. (2016), technology and communication technologies play a significant role in the current Indian educational system. In order to enable e-learning in universities, information and communication technology (ICT) is essential. Several experts discussed increasing student, teacher, and researcher ICT expertise as a way to integrate ICT into their teaching and learning approaches. Numerous academic institutions, both public and commercial, support the use of various ICT tools for instruction and learning. It's critical to comprehend how educators employ ICT in order to enhance and increase their learning capacity. Both teachers and students must understand that using technology services requires ICT literacy. This essay focuses on ICT-aware faculty and students at Indian universities. The pertinent research examines student and instructor perceptions toward ICT awareness in connection to their gender using statistical methods. More than 900 samples have been given by six Indian colleges. The results of this study will help the administration of Indian universities by educating them about the current condition of ICT integration in the country's educational system.

The use of information and communication technology (ICT) in mathematics learning and teaching has had an effect on educators' teaching methods, according to Nur Afiqah Zakaria and Fariza Khalid (2016). The objective of this methodical investigation is to look into the benefits and downsides of ICT that educators have encountered during the teaching and learning of mathematics. A review of various pertinent studies found that utilizing ICT to teach mathematics has the following advantages: it increases students' motivation and performance, awakens their interest in the topic, encourages lifelong learning, and fosters pleasant relationships and connections. Math educators have, however, run into several restrictions

while using ICT to teach the subject. The following problems and limitations have been identified: inadequate technical support and a minimal chance for instructors to learn about ICT. The literature suggests that mathematics educators should receive additional training in ICT and computer usage for pedagogical purposes. Technical support should also be a priority if math educators are to be encouraged to employ ICT in their classes. This might prevent students' opinions of math instruction from improving.

According to Marina (2015), this study identifies the role of ICT in approaches used to evaluate educational programs. One of the key factors that schools and teachers should consider is the benefits it can provide to boost and improve evaluation. What functions may ICT perform to support educational assessment? This is the primary focus of this essay. ICT performs a number of functions and supports methods used in educational assessment. This study emphasizes its roles in two aspects: testing and tasks. ICT can be used for test administration, scoring, result analysis, and teacher assessment of learning outcomes. Additionally, students can use ICT to accomplish projects like portfolios and project-based evaluations. Students have the opportunity to create digital versions of their portfolios thanks to ICT. ICT can also assist students in completing their tasks. It is critical for teachers to comprehend that the technology-related criteria used to assess student projects and e-portfolios must take that into account.

Sogol Talebian (2014) asserts that the use of ICT in education has had a substantial impact on how learning and teaching are carried out. Beyond what was previously feasible, it has increased access to new educational resources and learning opportunities. In this case, the e-learning training strategy is a result of the integration of ICT into education. The advantages, disadvantages, conveniences, and limitations of using ICT in conjunction with online learning for agricultural students are examined in this study. The study focuses in particular on how ICT has affected Iranian students enrolling in agricultural higher education.

Meenakshi (2013) observed that one of the main problems that developing countries are currently facing is preparing society and governments for globalization and the information and communication revolution. Policymakers, educators, non-governmental organizations, intellectuals, and everyday individuals are all concerned about how to make their country competitive in the burgeoning information economy. Technology improvements and

globalization have increased ICT use in a variety of sectors, including education. ICTs are being employed in education more often all around the world. ICTs may empower teachers and students, considerably boosting student learning and accomplishment, according to the general view. The majority of the educators whose thoughts on ICT in education were solicited concurred that its adoption and sensible application would greatly raise students' academic achievement. According to current studies on the effects of ICTs on student achievement, there aren't many strong arguments for or against the use of ICTs in education. Even at the most technologically equipped schools in industrialized countries, ICTs are not often seen as being fundamental to the teaching and learning process, according to studies. However, it appears that the methodologies used to measure results and the kind of learning that is promoted are at odds with one another. For instance, rather than the new knowledge and skills associated with the use of ICTs, standardized testing frequently examines the results of conventional teaching methods. It is clear that further study is needed to completely understand the complex connections between ICTs, learning, and achievement.

Jo Shan Fu (2013) claims that this study offers an overview of the relevant studies on the use of information and communication technology (ICT) in education. It looks at studies that have looked at the benefits of ICT integration in schools, challenges or difficulties encountered when using ICT, factors influencing successful ICT integration, attitudes, perceptions, and confidence of in-service and pre-service teachers in using ICT, as well as the significance of school culture in the use of ICT. The review discusses the gaps in the literature and potential directions for further study to close these gaps.

It is claimed by Yieng, L. P., and Saat, R. M. (2013), ICT use in secondary school and its impact on students' learning outcomes were the main topics of a Malaysian study conducted at the University of Malaya. It looked at how ICT was used in math and science classes and compared the outcomes of the final exams to those of 44 other countries. The study used both publicly available data and questionnaires that were done on paper to determine the extent of ICT use. It was discovered that access to ICT systems was less widespread in Malaysia than it was generally, and that students there had profited from using the system to improve their learning and performance on final exams. It was also recognized that expanding access to ICT through additional efforts would greatly enhance the result.

According to D. Agarwal and S. Ahuja (2013), Agra-based student-teachers' views toward using ICT and how that affected their academic performance. Utilizing the Computer Attitude Scale, it was determined how the student-teachers felt about utilizing ICT. Random sampling was used to select the desired sample, whereas deliberate sampling was used to select the college. According to the study's findings, student teachers had a positive attitude toward utilizing ICT, and their sentiments did not appear to have any bearing on how well they were doing academically. In order to stay up-to-date on new technologies and eventually incorporate them into their professional lives in accordance with demand, the study emphasizes the necessity for student instructors to maintain a positive attitude toward using ICT.

CONCLUSION:

ICT's role in education is always evolving. ICT, however, has the potential to dramatically revolutionize education in the upcoming years at every level, if the past two decades are any indication. From young children learning to write the alphabet in kindergarten classes to senior citizens pursuing their literary or other interests in their retirement years to working professionals interested in gaining advanced skills to supplement their career needs, ICT seems to offer the best solution for everyone. ICT is an enabler, an extraordinary set of tools, and may be a game changer for civilizations that are hungry for knowledge, marketable skills, and the capacity to provide mass education at a low cost. The review of the literature provided the researcher with recommendations on how to formulate precise objectives and hypotheses for an important investigation. After analysing the necessary literature, the researcher decided on learning style, attitude, and perspective as the study's variables since they are essential components of instructors' overall professional growth. Furthermore, none of the previous study inquiries included these three qualities. The investigator made the decision to research these three aspects in order to shed light on the importance of learning style, attitude, and perspective toward information and communication technology (ICT), as well as to ascertain the association between these three variables. Based on a review of prior studies on the variables of learning styles, Attitudes, and Perceptions, it was found that the majority of the studies employed the survey approach. The survey research has shown that there is a relationship between attitudes and anxiety with regard to ICT. A few other studies that also employed the experimental method showed how the usage of ICT by instructors affected their

efficacy. Furthermore, it has been found that background elements, including gender, subject, and computer literacy, were consistently taken into account in the majority of studies. It was found that science professors had a favourable opinion of ICT. According to a review of related studies, no one has made an attempt to evaluate the attitudes, views, and learning preferences of student teachers regarding ICT.

REFERENCES:

Akpabio, Effiong and Ogiriki, Ivy Bubaraye, Teachers Use of Information and Communication Technology (ICT) in Teaching English Language in Senior Secondary Schools in Akwa Ibom State (May 20, 2017). Equatorial Journal of Education and Curriculum Studies, 2 (2): 28 - 33, 2017.

Aliya K. Oralbekovaa, Sholpan Zh. Arzymbetovab, Saule B. Begalievaa, Meirgul N. Ospanbekovaa , Gulvira A. Mussabekovac , Ainash S. Dauletova, Application of Information and Communication Technologies by the Future Primary School Teachers in the Context of Inclusive Education in the Republic of Kazakhstan, International Journal Of Environmental & Science Education, Vol. 11, No. 9, pp. 2813-2827, 2016.

Baishakhi Bhattacharjee, Kamal Deb, Role of ICT in 21st Century's Teacher Education, International Journal of Education and Information Studies, Vol. 6, No. 1, pp. 1-6, 2016.

D. Agarwal, S. Ahuja, "Attitude of Student-Teachers towards the Use of ICT and its Impact on their Academic Achievement", Indian Journal of Applied Research, Vol. 3, Issue 7, Page No. 186-187, 2013.

D.Ponmozhi, A.Ramya, Effectiveness of Information and Communication Technology (ICT) In Teaching Computer Science at College Level, IOSR Journal Of Humanities And Social Science, Volume 22, Issue. 7, pp. 11-14, 2017.

Debarun Chakraborty, Soumya Kanti Dhara & Adrinil Santra, "Effectiveness of ICT in Strengthening the Process of Higher Education System in India ", Amity Journal of Management Research, Vol. 3, Issue 1, pp. 40-53, 2018.

J.M. Fernandez-Batanero, M.J. Colmenero-Ruiz, "ICT and Inclusive Education: Attitudes of The Teachers in Secondary Education", Journal of Technology and Science Education, Vol. 6, Issue 1, Page No. 19-25, 2016.

Jo Shan Fu, ICT in Education: A Critical Literature Review and Its Implications, International Journal of Education and Development using Information and Communication Technology, Vol. 9, Issue 1, pp. 112-125, 2013.

K. Harsangeet, "Impact of ICT in Higher Education: Opportunities and Challenges", International Journal of Advance Research in Science and Engineering, Vol.7, Issue 4, Page No. 1503- 1509, 2016.

K. Namita, "Role of ICT in Education System in India", Journal of Educational Practice; Vol. 2, Issue 3, Page No. 347-351, 2017.

K. Ratheeswari, Information Communication Technology in Education, Journal of Applied and Advanced Research, Volume 3, Issue 1, pp. 45-47, 2018.

K.A. Bugyei, "Role of ICT in Quality Enhancement of Higher Education", International Journal of Engineering Research & Technology, Vol. 6, Issue 4, Page No. 27-39, 2017.

M. Pandolfini, "Role of ICT in Quality Enhancement of Higher Education", International Journal of Engineering Research & Technology, Vol. 8, Issue 10, Page No. 111-122, 2016.

M. Tahir, "Use of ICT in Higher Education", International Journal of Indian Psychology, Vol. 3, Issue 3, Page No. 219-228, 2016.

Marina, Information and Communication Technology (ICT) and Its Role in Educational Assessment, Englisia, Vol. 3, No. 1, pp. 23-37, 2015.

Meenakshi, Importance of ICT in Education, IOSR Journal of Research & Method in Education, Volume 1, Issue. 4, pp. 3-8, 2013.

Negin Barat Dastjerdi, Analyzing the Opportunities and Challenges to use of Information and Communication Technology Tools in Teaching-Learning Process, Indian Journal of Science and Technology, Vol. 9, No. 6, pp. 1-8, 2016.

Nur Afiqah Zakaria, Fariza Khalid, The Benefits and Constraints of the Use of Information and Communication Technology (ICT) in Teaching Mathematics, Creative Education, Volume 7, Issue. 11, pp. 1-8, 2016.

Olofsson, A.D., Lindberg, O.J. and Fransson, G., "Students' voices about information and communication technology in upper secondary schools", International Journal of Information and Learning Technology, Vol. 35, No. 2, pp. 82-92, 2018.

P. Dwivedi, "Information and Communication Technology in Higher Education in India, Challenges and Opportunities", International Journal of Information and Computation Technology, Volume 4, Issue 5, Page No. 513-518, 2019.

P. Singh, S. Singh, Study of ICT (Information and Communication Technology) In Context of Indian Higher Education, The Communications, Vol. 24, No. 1, pp. 93-98, 2016.

S. D. Mulay, S. Tawade, M. Uplane, "Student Teacher's Attitude Towards Using Ict in Teaching", Scholarly Research Journal for Interdisciplinary Studies, Vol. 4, Issue 30, Page No. 4741-4746, 2017.

S. Madhu, "ICT and Digital Divide in Indian School System", International Journal of Interdisciplinary and Multidisciplinary Studies, Vol 2, Issue 2, Page No. 34-38., 2016.

S. Sareen, "Attitude of School Teachers Towards ICT in Relation to Their Perceived Self-Efficacy In ICT", Research and Reflections on Education, Vol. 17, Issue 4, Page No. 1-6, 2019.

S. Tariq, "ICT Based Education for Literacy in India", International Journal of Information and Education Technology, Vol. 6, Issue 5, Page No. 210–221, 2019.

S. Wael, H. Hadiya, B. Ghulam, S. Badsha. "Role of ICT in Higher Education", International Journal of Creative Research Thoughts, Vol. 5, Issue 4, Page No. 2810- 2813, 2017.

Sogol Talebian, Information and Communication Technology (ICT) in Higher Education: Advantages, Disadvantages, Conveniences and Limitations of Applying E-learning to Agricultural Students in Iran, Procedia - Social and Behavioral Sciences, Volume 152, No. 7, pp. 300-305, 2014.

Verma C, Dahiya S. Gender difference towards information and communication technology awareness in Indian universities. Springerplus, 24;5:370, 2016.

Yieng, L. P., Saat, R. M., 'Use of information communications technology in Malaysian science teaching; A microanalysis of TIMSS 2011, Procedia-Social and Behavioral Sciences 103, 1271-1278, 2013.

Author's Declaration

I as an author of the above research paper/article, hereby, declare that the content of this paper is prepared by me and if any person having copyright issue or patentor anything otherwise related to the

content, I shall always be legally responsible for any issue. For the reason of invisibility of my research paper on the website/amendments/updates, I have resubmitted my paper for publication on the same date. If any data or information given by me is not correct, I shall always be legally responsible. With my whole responsibility legally and formally I have intimated the publisher (Publisher) that my paper has been checked by my guide (if any) or expert to make it sure that paper is technically right and there is no unaccepted plagiarism and hentriacontane is genuinely mine. If any issue arises related to Plagiarism /Guide Name /Educational Qualification /Designation /Address of my university/college/institution/Structure or Formatting/ Resubmission / Submission /Copyright / Patent/Submission for any higher degree or Job/Primary Data/Secondary Data Issues. I will be solely/entirely responsible for any legal issues. I have been informed that the most of the data from the website is invisible or shuffled or vanished from the data base due to some technical fault or hacking and therefore the process of resubmission is there for the scholars/students who finds trouble in getting their paper on the website. At the time of resubmission of my paper I take all the legal and formal responsibilities, If I hide or do not submit the copy of my original documents (Aadhar/Driving License/Any Identity Proof and Photo) in spite of demand from the publisher then my paper may be rejected or removed from the website anytime and may not be consider for verification. I accept the fact that as the content of this paper and the resubmission legal responsibilities and reasons are only mine then the Publisher (Airo International Journal/Airo National Research Journal) is never responsible. I also declare that if publisher finds any complication or error or anything hidden or implemented otherwise, my paper maybe removed from the website or the watermark of remark/actuality maybe mentioned on my paper. Even if anything is found illegal publisher may also take legal action against me

SOMNATH MISRA
DR. JAI NATH YADAV