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A Study on the Role of ICT in the Digitalization of Education

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ABSTRACT
ICTs (Information and communication technologies) are now prevalent in many facets of daily life. Throughout the last 25 years, the usage of ICT has fundamentally altered the practices and processes of almost every type of corporate and governmental enterprise. Education is a profoundly social activity, and good instructors who spend a lot of time getting to know their students personally have historically been connected with effective education. Technology in education allows for a more student-centered learning environment. Yet as the world quickly transitions to digital media and information, the relevance of ICT in education is only going to increase throughout the course of the twenty-first century. This study provides research on the application of ICTs in education. ICT usage in education that is effective, as well as ICT use in the learning process, educational quality and accessibility, and learning motivation a setting for learning. Moreover, a summary of academic performance and ICT.
Keywords: Information communication technology, Education, E-learning.

I. INTRODUCTION

ICTs, according to Daniels (2002), have quickly evolved into one of the fundamental tenets of contemporary civilization. Understanding ICT and mastering its foundational skills and ideas are now widely seen as being essential components of education, alongside reading, writing, and arithmetic. ICTs, however, seem to be misunderstood to mean "computers and computing related activities" in general. Fortunately, this is not the case, as other technologies or systems also make up the phenomena that is often considered as ICTs, despite the fact that computers and their applications play a key part in modern information management.
According to Pelgrum and Law (2003), the word "computers" was superseded by "IT" (information technology) by the end of the 1980s, suggesting a change in emphasis from computing technology to the ability to store and retrieve information. After this, the term "ICT" (information and communication technology) was coined around 1992, when the general public first had access to e-mail (Pelgrum, W.J., Law, N., 2003). In accordance with a United Nations report from 1999, ICTs include network-based information services, commercial information providers, media and broadcasting, libraries and documentation centres, information technology equipment and services, Internet service providers, and other related information and communication activities. Information and communication technology (ICT), according to UNESCO (2002), can be thought of as the fusion of "Informatics technology" with other related technologies, notably communication technology. A

variety of ICT products, including teleconferencing, email, audio conferencing, radio broadcasts, interactive radio counselling, interactive voice response systems, audiocassettes, and CD-ROMs, among others, have been utilized in education for a variety of reasons.

The use of ICTs has clearly had an impact on teaching, learning, and research in the field of education (Yusuf, 2005). ICTs offer the potential to increase education, speed skill development, deepen knowledge, engage students, assist students connect their schoolwork to real-world situations, help future employees become economically viable, and more (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005). Basic education is necessary for someone to be able to obtain and use knowledge in a world that is changing quickly. ICTs must be a part of this ability in the global village.

Technology improving educational quality and accessibility

Technology makes education delivery more flexible, enabling students to access information from any location and at any time. When procedures are increasingly learner-driven and not Research Scholars-driven, it may have an impact on how students are taught and how they learn. In turn, this would enhance the learning experience for the students and better prepare them for lifetime learning. Technology-enabled educational programmes also eliminate many of the time restrictions that affect students with special needs in addition to geographic flexibility (Moore & Kearsley, 1996). Students are beginning to recognize how convenient it is to pursue education at any time, in any location.

Easy Access to Learning is one of ICT's most important contributions to education. Students now have easy access to resource people, mentors, experts, researchers, professionals, and peers throughout the world thanks to ICT, including e-books, sample examination papers, previous year papers, and more. Due to this increased availability of just-in-time learning, many more students who previously had other obligations were given the opportunity to learn (Young, 2002). Better teaching may result from more readily available best practises and best course materials in education that can be shared via ICT. ICT enables academic institutions to connect with underserved populations and brand-new global educational marketplaces.

Along with the ability to educate at any moment, instructors are discovering that it is opportunistic and can be utilized to their advantage. Mobile and seamless communication technology assist learning around-the-clock. Future instructors will have to make decisions about how much time will be used inside the 24x7 envelope and at what periods of time (Young, 2002). Thus, education that is supported by ICT will eventually become more democratic. Effective ICT usage in education has the potential to close the digital divide, particularly in emerging nations like India.

India has a population of over a billion people, a substantial percentage of whom are young, and a sizable formal education system.In emerging nations like India, where education is still seen as a crucial stepping stone for social, economic, and political mobility, demand for education has soared (Amutabi and Oketch, 2003).

Technology improving education Environment

ICT offers students a whole new learning environment, necessitating the development of new skills. Skills in critical thinking, investigation, and assessment are becoming more and more crucial as students must navigate through expanding amounts of information from many sources (New Media Consortium, 2007). By bringing life to learning settings, including virtual worlds for the purpose, ICT is altering the processes of learning. Using ICT to provide educational opportunities has the potential to be very effective.

Future learning settings that are not assisted in some manner by information and communication technologies are difficult, if not impossible, to envisage (ICT). ICT makes it possible to obtain a wealth of information from many sources and examine it from a variety of viewpoints, promoting the authenticity of learning settings. IT may also facilitate the comprehension of complicated processes through simulations, which again provide genuine learning settings. Therefore, ICT could help promote active learning and higher-order thinking (Alexander, 1999; Jonassen, 1999). The usage of ICT may promote collaborative learning and content reflection (Susman, 1998).

Moreover, ICT may be used as a tool for curriculum modification, offering chances to modify the learning objectives and assignments to each student's requirements and skills as well as delivering individualized feedback (Mooij, 1999; Smeets &Mooij, 2001). ICT may be included into a spectrum of teaching methodologies, ranging from conventional to cutting-edge, as noted by (Stoddart and Niederhauser 1993). Of course, access to technology is another factor that might have an impact on how ICT is used (Kennewell, Parkinson, & Tanner, 2000; OTA, 1995). This relates to both the quantity of computers as well as where they are located, such as in a classroom or a computer room, in order to optimize the chances for instructional activities, computers must be placed in the classroom.

Technology improving academic achievement

Due to the widespread use of ICTs in education, it became apparent that there was a need to dispel the misconception surrounding ICT use as a tool for learning and its effect on students' academic performance. ICTs are credited with enhancing educational quality, enhancing the relevance of education to the increasingly digital workplace, and extending access to education. The introduction of various ICTs into classrooms and other educational settings throughout the world during the past few decades, nevertheless, implies that the full potential of ICT for improving education has not yet been fully realised. In-depth research has been done over the past 20 years on the relationship between ICT use and students' academic achievement. Technology facilitates learning for pupils by enhancing interaction between them and their Research Scholars.

II. RESEARCH METHODOLOGY

the logical & scientific investigation of a topic called Research methodology. The objective of research method is simply to collect, analyze and systematically interpret facts.

III. OBJECTIVES

- To study role of Information Communication Technology in developing Education.
- To examine by which ways the Technology influence the educational behavior.
- To analyse that the use of Digitalization in education is improving learning experience of Research Scholars and students or not.

IV. DATA COLLECTION

Descriptive method was used for research in this research paper. As the area of research is vast and wide spread it is hard to collect data so survey method is adopted for this study.

Sampling Method: -

The process of sampling is selecting units from a set of peoples who are interested in studying the sample we may fairly generalize the results back to the population from the area that they have chosen. Data was collected from the Research Scholarsand Students in Amravati city.

Primary Data: -

Primary data was acquired by online questionnaire. For online questionnaire Google forms was use as tool. Total 174 responses are collected, after scrutinization it becomes 168. From that 168 respondents 31 are Research Scholars and 168 are Students.

Secondary Data:

For study also use secondary data. The term "secondary data" refers to information that is acquired or retrieved from secondary sources of research data, including studies that have previously been conducted on the same or similar topics by multiple authors, or that can assist in achieving the goals and objectives of the researcher. While making comparison assessments to address research goals and study questions, secondary data is essential (Saunders et al, 1997). It can be gathered from sources like books and journals that have already been published, government annual reports as well as numerous privately published works by authors, research papers, newspapers, literature reviews, interactions and conversations with experts and people, and various Google websites.

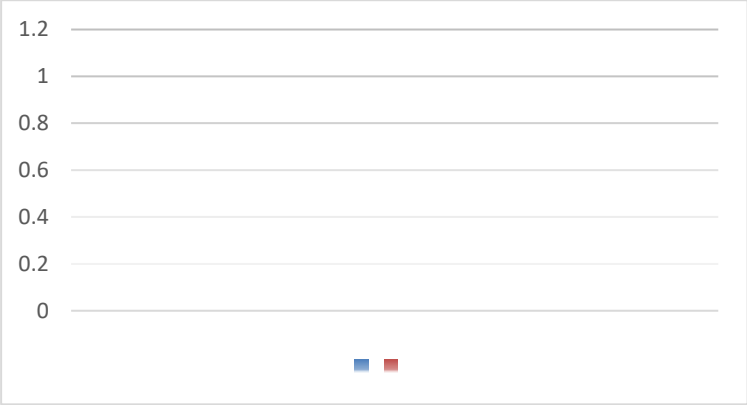
Sample Size:

Respondents	**Frequency**
Research Scholars	31
Students	137
Total	168

Questions:

1) After the use of digital technology in education is there any improvement in your teaching and learning experience?

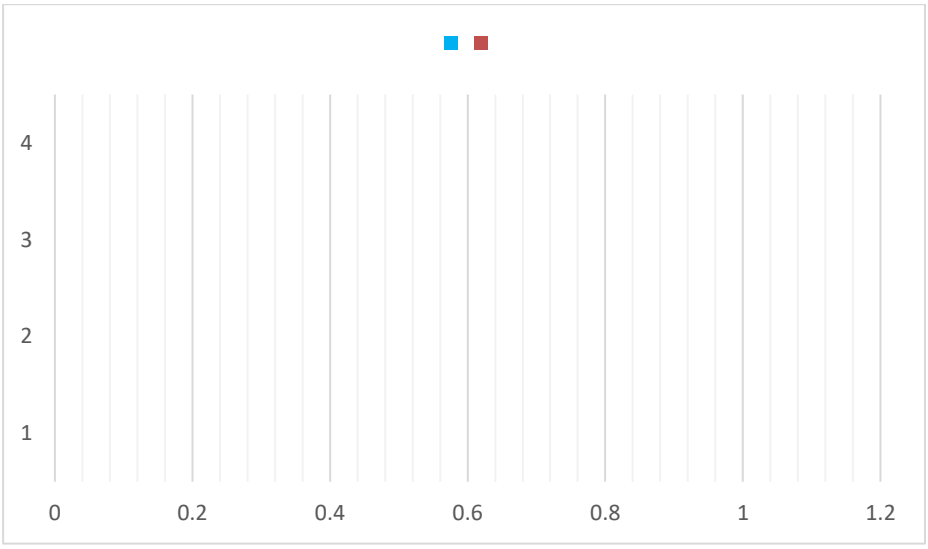
		Response	
		No	Yes
Respondents	Students	23	114
	Research Scholars	7	24



From the total 168 respondents 139 respondents are students and remaining 31 are research scholars. From total 139 students 23 students' opinion is that, after the use of digital technology in education they don't experience any improvement in their learning experience. And the remaining 114 students' opinion is that, after the use of digital technology in education they experience an improvement in their learning experience.
From the 31 Research scholars 7 says that the, after the use of digital technology in education they don't experience any improvement in their learning experience. And remaining 24 says that the, after the use of digital technology in education they experience an improvement in their learning experience.

2) For what purposes you use Digital technology in education?

Description	Yes	No
To collect information for academic purpose	142	26
To update yourself with current information	107	61
To collect information for research purposes	93	75
To explore the new opportunities	70	98



From the all 168 respondents 142 respondents says yes that they use digital technology to collect information for academic purpose or 26 says no, 107 respondents says yes that they use digital information to update themselves with current information and remaining 61 says no, 93 respondents says yes that they use digital

information to collect information for research purposes and 75 says no, and 70 respondents says yea that they use digital information to explore new opportunities and remaining 98 says no.

Hypothesis Testing:

H0: There is no association between the use of digital technology in education and the improvement in learning experience of Research Scholarsand students.

Ha: There is association between the use of digital technology in education and the improvement in learning experience of Research Scholarsand students.

Crosstabulation				
Count				
		Response		Total
		No	Yes	
Respondents	Students	23	114	137
	Research Scholars	7	24	31
Total		30	138	168

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.578[a]	1	.447
Continuity Correction[b]	.251	1	.617
Likelihood Ratio	.551	1	.458
Fisher's Exact Test			
N of Valid Cases	168		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.54.

b. Computed only for a 2x2 table

Interpretation of the Pearson Chi-Square measure.

The chi square statistic appears in the Value column immediately to the right of “Pearson Chi-Square”. In the study the value of the chi square statistic is 0.578. The p-value (.447) appears in the same row in the “Asymptotic Significance (2-sided)” column. The result is significant if this value is equal to or less than the designated alpha level (normally .05). In this case, the p-value is greater than the standard alpha value, so here accept the null hypothesis that asserts the two variables are independent of each other. To put it simply, the result is insignificant – the data suggests that the variables use of digital technology in education and the improvement in learning experience of Research Scholars and students are not associated with each other. It means from here it is concluded that

There is no association between the use of digital technology in education and the improvement in learning experience of Research Scholars and students.

V. FINDINGS

By giving users access to interactive exercises and simulations, rich multimedia information, and collaborative learning possibilities, technology may improve learning experiences. Also, it can make it easier for students to collaborate with one another and with Research Scholarss. Students can benefit from tailored learning experiences using technology, which can increase their learning effectiveness and efficiency. By bridging the digital divide, technology can give all pupils access to educational possibilities. Efficiency gains and administrative cost savings can be achieved with the use of technology. Students can study both online and in-person by utilising technology to facilitate blended learning. Technology has made it possible for Research Scholars to develop more dynamic and interesting lessons for their pupils as well as to more accurately evaluate their progress.

Research students now have more access to a variety of materials and information thanks to information and communication technology technologies, which has expanded their research opportunities and helped them develop their independence as learners.

VI. CONCLUSION

The learning process in higher education and research has been completely transformed by technology. In addition to giving students additional opportunity to explore and advance their knowledge, it has allowed Research Scholars to design more dynamic and interesting learning experiences for their pupils. In-depth study may now be done by research students because to technology's expanded access to resources and data. In the end, technology use in education has enhanced the quality of learning for both instructors and students.

Teaching, learning, and research are all benefited by ICT acceptance and application in education. Technology has the potential to change how education is delivered and increase access to it. Also, it will provide flexibility so that students may access the education despite limitations related to time and location.It may have an impact on how pupils are taught and learn. It would give a rich atmosphere and incentive for the learning process, which appears to have a significant influence on the educational process by opening up new opportunities for students and Research Scholars. The performance and accomplishment of students may be impacted by these factors. In a similar vein, more accessibility to best practices and course materials in education, which may be shared via ICT, can support better higher student academic attainment. The body of research indicates that ICT integration in education has been successful.

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