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An Empirical Study of Contribution of ICT in Making Teaching Learning Effective

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ABSTRACT

In the past few decades, the growth and development of ICT has gained a lot of importance. Lot of scholars are discussing about it. This is mainly because of its efficiency in creating a proactive and a dynamic learning and teaching ecosystem. In sync with the present digital age, teachers need to integrate Information Communication Technology in the day to day teaching. They replace the conventional techniques through modern facilities as well as tools. The focus of the paper is mainly on the effectiveness and contribution of ICT in the process of learning and teaching system. According to researches, maximum number of teachers are general users and a lot of teachers use ICT tools frequently for the regular work. Also, the results of the studies show that it is important for the teachers to be ready and equipped with ICT competencies and a positive attitude. It would help in providing ICT based opportunities of learning for the students and help them improve their quality of learning. A sample of 217 respondents was surveyed to know that how ICT helps in making teaching learning more effective and the level of effectiveness of ICT in teaching and learning process. Mean and t-test was applied to get the appropriate results. The study concludes that there are so many ways in which the ICT is contributing in making the process of teaching and learning more effective and it is also found that the ICT is significantly effective in the process of teaching and learning.

Keywords: ICT, ICT for learning, ICT tools, contribution of ICT in learning

INTRODUCTION:

In the modern era, "technology" is considered to be important in various segments including education. It's mainly because technology is acting like a highway for knowledge transfer in different countries. Integration of technology these days has undergone innovation. It has completely transformed the societies which has completely changes people's thinking, their work and their lives. Thus, the schools, colleges, universities and all other institutions that are expected to prepare the students to become a part of a "knowledge society" need to prepare them for the same. They need to equip the students in such a way that they are able to consider integration of ICT in the curriculum (Ratheeswari, 2018).

Integration of ICT in education comprises of using computer aided communication. This communication incorporates in the day to day process of classroom instruction method. Apart from preparing the students for present day digital age, the teachers are considered as key players for using ICT in the day to day classrooms. This is because of the efficiency of ICT for providing proactive and dynamic environment of teaching and learning. While, aim of integrating ICT is improving and increasing the accessibility, quality as well as cost efficient of instructions delivery to the students, it even refers to the benefits of networking the communities of learning. It helps them in facing the challenges of present globalisation. The process of adopting ICT isn't easy and is not just one step process. It's a continuous and an ongoing process. It supports the method of learning and teaching and also information resources.

Integration of ICT in education usually signifies technology based learning and teaching methods. It closely relates to utilisation of the learning methods in institutions. Since the students are already familiar and used to technology, they would learn better in a technology driven environment. The problem of integration of ICT in institutions, specifically in classrooms is important. This is mainly because, using technology for education helps in contributing to a great extent in pedagogical aspects. For this applying ICT would cause effective learning through assistance from the components and elements of ICT.
It would not be wrong to say that all subjects including science, arts, mathematics, languages, etc. may be easily learned through technology based equipment and tools. In fact, they may be learned more efficiently with the help of these technology based equipment and tools (Anna, 2015).

LITERATURE REVIEW:

ICT or Information Communication Technology is the electronic means to capture, process, store and communicate information. Use of the ICT tools in classroom learning and teaching is important. It offers opportunities to the students and the teachers to store, operate, retrieve and manipulate information. It encourages active and independent learning, self- responsibility like distance learning, etc. It motivates the students and the teachers for continuing the use of learning outside the college or school hours, it helps them to prepare and plan their lessons, design the study material like delivery of course content. It facilitates in sharing of different resources, advice and expertise. It is a versatile tool which has the efficiency of not just engaging the students in the instructional activities for increasing their learning, but it even helps them in solving complex issues. This in turn enhances their cognitive capabilities (Ghavifekr & Rosdy, 2015).
Researchers define ICT as technology which is used for communicating for creating, managing and distributing information. The broader definition of ICT includes use of computers, telephones, internet, radio, audio-visual tools and equipment and television. ICT is a device or an application which is used for accessing, managing, integrating, evaluating, creating and communicating knowledge and information (Baishakhi and Kamal, 2016). Digital technology and tools that have been included in the definition are being considered as application and service. It is used to communicate and process information related to these devices.
ICT is a part of the process of teaching and learning. Here one if the "Tool" and other is the "Medium" and third is the "Goal". In first form, it's used for schools, management and organisations, second form doesn't comprise of ICT related to the process of learning. However, using ICT helps the process of learning in classroom. An example is directed at management and organisation in the student oriented system of supervision. In 3rd form, application of information technology seems to be the goal in these special lessons comprising of computer education and informatics. Here the students get accustomed to most of the important technological input and output of information (Moomal & Masrom, 2015).

Usually 3 main objectives for using ICT for education have been defined:
1) Use of ICT in the form of an object for studying, it refers to getting knowledge about ICT and enables the students for using ICT in the day to day life.
2) Using ICT as a significant aspect of profession or discipline and refers to development of the ICT skills for vocational and professional purpose.
3) Using ICT as a medium for learning and teaching and focusses on using ICT to enhance the process of learning and teaching.
4) It's a fact that the instructors or the teachers at centre of the curriculum change. They also control the process of learning and teaching (Habiburrahim, 2015).

Thus, they should have the capability of preparing young students for the global world wherein competencies of using ICT for acquiring and processing information is important.
Researchers also suggest that with emergence and an expansion of IT in education, some of the primary changes in quality are achieved with performance of teachers and classroom interaction. ICT is being considered to be an industrial revolution and it'sbrought a new age of information and communication. It is being followed by an informed society with ICT being the main element. Therefore, training in ICT related technologies and skills and way they're used are some of the most crucial necessities here. The job of educational system is planning training of the ICT system while keeping the acquaintance with info skills in mind (Madlela, 2015).
A meritorious entry for establishments and institutions is information. A bunch of valuable information causes an increase in the confidence of the human resource.
The current data in the institutions are gathered, process and stored by the IT department. Formerly, the

information used to be recorded in the documents. Therefore, it may appear in one of the locations and used to available for one person because that time, assets and the data were limited. But, today, IT has easily removed this barrier and resolved this issue (Naresh & Rajalakshmi, 2017).

The basic factors which influence the usage of ICT in learning and teaching have been stated by the researchers. They have identified 5 characteristics and attributes of technology. These characteristics have an influence over the decision of adopting innovation. They have also identified the characteristics of content, users, technological considerations as well as organisational capability as factors influencing the adoption and implementation of ICT into teaching. Studies have also identified factors as school level, teacher's level and system level (Wonseok andAlessandro, 2018).

The integration of the process of ICT for teaching is mainly influences by the organisational factors, attitude towards technology, etc. The studies claim that individual, technological, institutional and organisational factors which need to be considered while assessing adoption as well as integration of ICT. Several other factors have also been identified which influence the use of these tools for making the process of learning and teaching effective. These are computer motivation, relation between behaviour and attitude, self-efficiency, computer attitude, constructivist belief, technology integration, ICT motivation, attitude for ICT in learning and education, infra and resources, organisational climate, educational beliefs, background of teachers teaching experience, attitude of teachers, technology self-efficacy, school culture, school support, level of education, age, pressure for using technology, proximity from the town centre, etc. (Abdullah and Farrukh, 2016).

These factors help the educators and the instructors in using ICT in the process of learning and teaching and adopt technology successfully. There are a lot of factors which influence use of these tools for making learning and teaching process effective in the institutions. These include some of the important components.

Attitude of teachers is the predisposition for responding in a favourable or an unfavourable manner towards an individual, object or an event. For successfully initiating and implementing the educational technology in the program of schools depends mainly on the attitude and support of the teachers. Amongst other factors which influence a successful integration of the ICT tools into teaching are the beliefs and attitude of teachers for technology. When the attitude of the teachers is positive towards use of technology, they can give helpful insights about adopting and integrating ICT into the process of learning and teaching. A strong relation between technology driven attitude and use of computer for education has been focused in different studies. The attitude towards computers influence the acceptance of teachers for the use of technology. It also influences the integration of ICT by teachers in their classrooms (Benkosi, 2015).

Different theorists have stated that the attitudinal factors of the teachers strongly impact the integration of technology in institutions. They also state that the factors relating to nature of the personality of teachers are considered to be important for integration as well as development of ICT in education. The attitude towards technology is expected to impact use of technology. Therefore, the attitude towards technology or computer has been the most researched domain. It's also considered to be one of the major predictors of use of technology by teachers for the process of teaching. These studies clearly mention that likeliness of the integration of technology by teachers and its efficient use as well as implementation was related to the attitude of users towards technology or computer. Some of the researchers also find that instructors who focussed on the positive aspects of computers used them more frequently for instructions (Ferk, 2017).

OBJECTIVE OF THE STUDY:

1. To find how ICT helps in making teaching learning more effective.
2. To find the level of effectiveness of ICT in teaching and learning process.

RESEARCH METHODOLOGY:

The present study was conducted with the help of survey method in which the sample of 217 respondents were surveyed to know that how ICT helps in making teaching learning more effective and the level of effectiveness of ICT in teaching and learning process. Teachers and students from schools and colleges were considered to collect the primary data. The study is empirical in nature and the sampling method is random. Mean and t-test was applied to get the appropriate results.

FINDING OF THE STUDY:

Table 1 shows the demographic profile of the respondents. It is seen that in the total number of 217 respondents 54.8% are male and 45.2% are female. Among them 31.8% are below 20 years of age, 35.5% are 21-30 years of

age group and rest 32.7% are above 31 years of age group. 55.8% of the total respondents are teachers and rest 44.2% are students from different schools and colleges.

Table 1: Demographic profile of the respondents

Variable	No. of respondents	Percentage
Gender		
Male	119	54.8
Female	98	45.2
Total	**217**	**100**
Age		
Below 20years	69	31.8
21-30 years	77	35.5
Above 31 years	71	32.7
Total	**217**	**100**
Occupation		
Teachers	121	55.8
Students	96	44.2
Total	**217**	**100**

Table 2: Contribution of ICT in making teaching learning effective

SI. No.	Contribution of ICT	Mean Score	t Value	Sig
1.	ICT helps teachers and students to interact with each other from distant places	4.23	19.69	0.00
2.	ICT helps teachers to prepare their teacher material	3.97	12.88	0.00
3.	The software and hardware of ICT are making the process of teaching and learning very convenient	4.03	15.44	0.00
4.	The teachers are improving their Teaching skills with the help of ICT	3.98	13.99	0.00
5.	ICT is helping in making the process of Teaching more innovative	4.11	14.33	0.00
6.	ICT is providing access to more and better educational content	3.89	14.25	0.00
7.	Students are widening their learning horizons with the help of ICT	4.09	14.47	0.00
8.	ICT is providing models and recreations of effective teaching practices	4.19	17.84	0.00
9.	ICT is very effective in enabling learner's support networks face to face and from distance also	4.07	15.27	0.00
10.	ICT is very helpful and effective in providing Digital field trips	3.83	10.72	0.00

Table 2 shows the Contribution of ICT in making teaching learning effective. It is seen that ICT is contributing in making teaching and learning more effective as ICT helps teachers and students to interact with each other from distant places with the mean score 4.23, ICT helps teachers to prepare their teacher material with the means score 3.97. The software and hardware of ICT are making the process of teaching and learning very convenient with the mean score 4.03 and the teachers are improving their Teaching skills with the help of ICT with the mean score 3.98. It is also found from the table that ICT is helping in making the process of Teaching more innovative with the mean score 4.11 and ICT is also providing access to more and better educational content with the mean score 3.89.Studentsarewidening their learning horizons with the help of ICT with the mean score 4.09. ICT is providing models and recreations of effective teaching practices with the mean score 4.19 and ICT is very effective in enabling learner's support networks face to face and from distance also with the mean score 4.07. ICT is also very helpful and effective in providing Digital field trips with the mean score 3.83. It is seen that there are so many ways in which the ICT is contributing in making teaching and learning more effective. One sample t-test was applied to find whether the responses to the statements are significant or not. It was found that for all the statements the value under significance column is below 0.05 hence, all the mean values for the statements

have been found significantly more than the test values (3.5) hence the ICT is significantly effective in the process of teaching and learning.

CONCLUSION:

ICT could be used in different ways. It helps the students as well as teachers in learning about the respective areas of their subject. The technology based learning and teaching provides a number of interesting ways that include educational videos, storage of information, stimulation of data, use of database, guided discovery, music, mind-mapping, WWW (World Wide Web), etc. They make the process of learning more meaningful and fulfilling. On the contrary, the students benefit from integration of ICT where they're not bound to limited resources and curriculum. Instead, hand on activities in the technology driven course are designed for helping them stimulate their knowledge about their subject. It even helps the teachers in designing their lessons in a creative, interesting and effective manner. This results in active learning of the students.

The study concludes that there are so many ways in which the ICT is contributing in making the process of teaching and learning more effective as ICT helps teachers and students to interact with each other from distant places, The software and hardware of ICT are making the process of teaching and learning very convenient, ICT is providing access to more and better educational content, ICT is very effective in enabling learner's support networks face to face and from distance also and the Students are widening their learning horizons with the help of ICT. It is also found that ICT is significantly effective in the process of teaching and learning.

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