ICT AND INTEGRATION IN EDUCATION: A META-ANALYSIS

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Abstract

The integration of technology in education gives a new paradigm in teaching learning methods. A new global economy has been emerged with the power of technology. All organizations has been modernized and changed and education is not the exception. Regardless the assumption that the ICT integration influence the entire education system. The study aims to bring together the key points and findings from a significant part of the previous literature associated with ICT integration to overall education system. By reading the available literature, this article affirmed that integrating ICT in education will have positive effects on both the educational administrations, teachers and learners with the help to follow up the modernized world which is full of new demands of technology. Furthermore, it is anticipated that this study provides insights on ICT integration to education and motivate educational administrators, subordinates and teachers to integrate ICT into the teaching and learning process in order to nurture overall development of the students.

Introduction

ICT is the acronym for information and communication technology and it has become an important part of most business and organizations in today's era (Zhang & Aikman, 2007). Thus, educational is not an exception. ICT is changing many ideas of education as well. In today's education most of teaching and learning is based on second hand experiences in the form of information received by us about the objects, places, persons, ideas or events. In order to understand how to acquire learning as an information, both educators and learners is required to make themselves familiar with this art. They will be able to store, convey and make the information useful when needed. These become possible when ICT integrates to education. Integration of the ICT in education mean to make ICT part of teaching learning process. On the other hand, Integration ICT is to understand ICT tools, manage them and use them as per requirement. To begin with, first we need to understand what ICT really means and later on the effects and importance of ICT in education system.

ICT stands for Information and Communication Technology which employed in the form of tools and application which helps in the collection storage, use, and transmission of information as accurately and efficiently as possible for the purpose of enriching the knowledge and develop communication, decision making as well as problem solving ability of the user, (Mangal).

ICT helps to transform the learning prototype and provide knowledge to people who were not able to access to education (CEC 2000). This has linked the world via computer network. People who were unable to get quality education and did not have access to various learning materials, now became eligible to enhance their any type knowledge of their interested field anytime anywhere. ICT enables people to enhance technical and communication skills.

ICT brings the changing of relationship within education. Traditional models of education turning into modern and analogue ways of communication are replacing to digital media, mobile learning, e-learning and computerized system through ICT. Along these more applications of ICT have included for reinforcement of education and these will continue to include up more to take out education from traditional model to modern model. The classes has become visual, time saving and student-centered which highly motivate the learners to engage in learning. Whereas in traditional model students are less engaged in learning process.

ICT Integration in Education

In development countries, the governments have spent a lot to promote the integration of ICT in teaching and learning process. Why they do so? What benefits they get in return by investing tremendously on ICT in education. Many investigators have given their opinions and viewpoints about the ICT advantages and pointed out how ICT can be integrated to the process of teaching learning and curriculum.

1. The effect of ICT in Classroom

Related literature provides evidence for the successful integration of ICT in the classrooms. It realizes the leaners' engagement in the class and provide them many competencies. In the viewpoint of Solanki D. Shyamlee (2012) it's a requirement of using multimedia sources in classrooms particularly in a language learning classroom. By using multimedia, it nurtures the interest of students in the study. In other ways, this promote the communication capacity of the students, students' interest in study, promotes students' capacity in communication, broadens students' knowledge to understand western culture, makes good interaction between students and teacher and helps to provide good settings for language teaching.

The ICT integration in the classroom implies that it could reform some adjustments of many teachers and students in terms of teaching and learning a certain subject. It requires the appropriate selection of technological tools in such a way that it bends to a certain lesson and is an effective tool to improve the concrete learning of the students. Dawes (2001) as cited by Bingimlas (2009) is of the view that ICT has the best source to support both teachers and learners across the curriculum and provides opportunities for effective communication that have not been possible in traditional classes.

Hayes (2007) observed the use of technology in Australian classrooms. The study goal was to examine the ways in which teachers are utilizing ICT in teaching practices for mediating students' learning experiences.

They observed that ICT is being largely integrated to their classrooms and it largely supplement and support classroom practices. Upon observation, they believed that the successful integration of technology in the classrooms require fundamental shift in the core activities of the schools.

In new methodologies of teaching, the instructors are no longer the center of attention in the class. They don't play much as a source of information. They only play a role of facilitators. Therefor integrating ICT tools in the class give a chance to students to be more active and allow them to be more communicative. By being communicative and active, the students are likely to generate own choices for obtaining information and share among themselves. By this way the students achievements become more and this provide them more confidence.

2. The effect of ICT on learners

In traditional model of education where a teacher is the only person who has all the knowledge and gives rarely rights to the learner to contribute. Today information and communication technology provide learners to develop themselves and take their own responsibility for their own learning.

Passey et. al. (2004) found out the effect of ICT on students' motivation. The study further examined the students' behaviors toward learning and learning outcome with the relation of ICT usage. They employed 17 schools in England. After measuring of the degree of motivation, the study revealed that there was high level of intrinsic motivation, learning goal and Academic efficacy among students with the integration of ICT tools in learning process. The study further reported that ICT had motivational impact upon both genders. Initially boys' level of motivation was more than girls, however overall there was no big difference between genders. The study concluded that ICT has greater positive effect on pupils' in all aspects .

Providing education to disable children was a dream of their parents and for them as well. The reason behind this was there was not broadly access to the ICT. The disables were hardly able to get proper education as other did. Now ICT enable disables to come learning and bring their dreams come true. It has provided many tools for disable pupils to acquire education.

Lindstrand (2003) conducted a study and focused on special educators who working along children in learning. The study evaluated National State Program in Sweden intended to train special educators in the field of ICT for disable pupils. Majority of educators about 78% consider that ICT could prove efficiently better for disable learners. Many student with disabilities like DAMP, Blind and more multiple disabilities would benefit from ICT tools. For instant, DAMP assist from visual and animated tools and blind assist from Audios, music and much related tools. Although ICT made it possible for disables to stand and enrich their skills and knowledge as other do.

Course, S. T. (2006) suggested ICT the special needs for education. They concluded that ICT evaluation and monitoring becomes the key instruments in special education. These activities not only necessary to implement, support and influence people with disabilities but to support of human rights also.

Cabrera et. al. (2006) found the evidence for the positive influences of ICT on educational achievements. The study revealed that ICT doesn't have influence on education only at schools, however the learner are required to practice ICT tools at home, in particular using computer is much important for student to get access out of the school. This can create social, institutional and learning environment change and innovative.

3. The Effect of ICT on Teachers

Teachers strongly influence from ICT. It makes their work more easy and comfortable. With the help of ICT the students become in partnership with teachers in classroom because the ICT engage students in the class and they both work interdependently. Furthermore, teachers use different software and hardware tools to manage the teaching process accordingly and comfortably. Furthermore, teachers develop their teaching career through ICT. However, ICT integration into teaching and learning, largely depends on motivation and creativity of the teacher. Teachers who access to ICT tolls and bring them their class often has more

Marshall (2007) conducted a study to find out solutions for the effective use of ICT to effect on teaching learning process. The study revealed that on the first hand the government policies are very important to direct teacher education programs. The studied identified the implication for government policies regarding the involvement of ICT in education. It showed that learning and students' acting may limited if the government programs don't include ICT in education. Secondly, teachers' instruction strategies are seen important. They should understand what ICT tools can enhance the student learning. Third national curricula has a fundamental impact on ICT use in learning process. Those who create national curricula and examinations require professional development.

Bocconi (2011) called ICT as universal access to education. The study explained that ICT spread, document and evaluate information worldwide. The study revealed that the main reason behind these is concretely support of e-inclusion and universal access to education. Educators and teachers have possibilities to access and adopt digital educational resources that are fully accessible. The study further pointed ICT as a culture of accessibility for teachers and students to step onwards.

3. The effect of ICT on Education Management and Administration

There are some noticeable trends in the deployment of ICT in educational management and administration. A vital example is the big picture of reputed private universities today in the globe. They run management and administration wisely with the help of single application and control overall practices within and outside campus. Using application for managerial activities contributed much more to their management

and administration policy. First of all, with the help of ICT they use 21st century curriculum across all streams in their respective institutions. They build students with 21st skills and provide students problem solving skill in all areas of learning. They adjust their management and administration policies with the help of ICT according to their context. On the other hand, a single application is used to promote cooperation within administration, faculties and students. It help them to interact comfortably and build their capacity building. In compare to educational institutions which don't use ICT tools in their administration and management policies, left behind and work less in much time, whereas institutions with ICT integration work more in less time. Thus, ICT has very much innovative practices in the administration of education.

Flanagan (2003) suggested that if the administrators of any school or educational organization lead and inspire their staff in integrating ICT in curriculum, first there will be professional development available in the staff and second the learning environment will be more effective and comfortable. So the administrators has the key role for brining change into current education settings.

Dawson et. al. (2008) pointed ICT as increased opportunity for both administrators and teachers to monitor students and have comfortable interactions with course content. The study revealed that online students' engagement and efforts demonstrated to afford teachers with opportunities for giving additional learning assistance and mediation. The study further pointed that ICT contributes more for administrator, educators and learners in teaching learning journey.

Educational leadership and administration has the important role to integrate ICT in schools and educational organizations. The ICT will be effectively integrated to teaching and learning if the administration and leaders of educational organizations support them. They should learn the ICT usage in their administration tasks and provide their teachers and students opportunity to access and implement in their lessons.

The study of Afshari et. al. (2012) indicated that professional development activities and ICT use by principals totally take leadership role of principals into goal-oriented. The study further revealed that with lack knowledge of computer and ICT, the principals will have uncertainty for influencing toward goal and no any chance about the innovation will be there in educational organization. So the decision maker should provide professional development programs for principles to understand the ICT implementation in schools.

Summary and Conclusion

In the era of education today ICT integrates a lot. ICT is generally introduced as the collections of technological equipment and tools as well as instructional resources use to communicate, disseminated, develop and manage information. ICT includes Internet, mobiles, computers, tablets, broadcasting technological skills, like television, radio, Pod-casting, Wi-Fi and much more software. The article argued that ICT effects on almost all aspects of educational practices. The literature in this study found remarkable improvements that ICT brings in many areas of education. Learning outcomes becomes more targeted by ICT. The available literature also

marked ICT as interrelated and interdependent effects with teaching learning process. However the proper understanding of the usage of ICT is equal important for both teachers and learners. Finally the educational administration and leaders are responsible to understand the importance of ICT in education and provide appropriate ICT tolls in schools for the professional development of educator in order to make learning more effective and resourceful.

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