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The Impact of ICTs on Teaching, Learning and Progressing

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Abstract: *Globally, the importance of information and communication technology (ICT) in education is unquestionable. ICT has the potential to be an extremely effective tool for expanding educational opportunities. ICT's have the potential to increase access to and quality of education by increasing its relevance and relevance. The impact of ICT on the teaching and learning process is critical because it facilitates teaching and learning, creates a conducive learning environment, and assists learners in developing creative thinking and self-confidence. ICT has created new barriers to high-quality education. It has altered numerous facets of people's lives. The purpose of this paper is to discuss the benefits of using information communication technology (ICT) in education, specifically how it can be used to enhance teaching and learning. Effectively integrating ICT into the teaching and learning process is critical for its improvement. It emphasises the advantages and disadvantages of ICT in education.*

Keywords: ICT, impact of ICT, roles of ICT, teaching and learning process

I. INTRODUCTION

ICT stands for Information and Communication Technologies, which are defined in this primer as "a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information." According to the United Nations Development Programme (UNDP), information and communication technologies are defined as follows: "ICTs are essentially information-processing tools—a diverse set of goods, applications, and services used to create, store, process, distribute, and exchange information..."

Quality education is contingent upon the advancement of information technology in several areas, including increasing learner motivation, enhancing fundamental skills, and increasing teacher technology training. When information communication technology is used effectively as a tool for curriculum/subject transformation, it can be used to create a learner-centered environment. Teachers use information and communication technologies to teach students about and access to new pedagogy. The use of information and communication technologies (ICTs) in education is becoming an increasingly integral part of the system. It has altered numerous facets of people's lives. These changes have compelled educational institutions, administrators, and teachers to reconsider their roles, teaching methods, and long-term visions. ICT has created new challenges for ensuring the quality of education for learners.

Tinio (2002) discusses the potential for ICTs to improve education in developing countries by increasing access and increasing the relevance and quality of education. ICTs significantly facilitate the acquisition and absorption of knowledge, providing developing countries with unprecedented opportunities to improve educational systems, policy formulation and implementation, and the range of business and poor opportunities. One of the greatest hardships endured by the poor and many others living in the world's poorest countries is their sense of isolation, and ICTs can open access to knowledge in ways previously unimaginable.

ICTs are a force that have altered numerous facets of our way of life. When comparing fields such as medicine, tourism, travel business, business, law, banking, engineering, and architecture over the last two or three decades, the impact of ICT has been enormous. These fields operate in significantly different ways today than they did in the past. However, when one examines education, there appears to have been an uncanny lack of influence and change in comparison to other fields. Numerous individuals have attempted to investigate this dearth of activity and influence (eg. Soloway and Prior, 1996; Collis, 2002)

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According to Watson (2001), ICTs have transformed how people work today and are now transforming education systems. As a result, if schools continue to train children in yesterday's skills and technologies, they may be unable to function effectively and adapt to the world of tomorrow. This alone is reason enough for ICTs to garner global recognition and attention. For example, ICTs are effective tools for achieving one of the Millennium Development Goals (MDGs), which is universal primary education by 2015. Kofi Anan, the former United Nations Secretary General, emphasises the importance of ensuring that information and communication technologies (ICTs) unlock the door to education systems in order to achieve Universal Primary Education by 2015. This demonstrates the growing demand for and increasing importance of (ICTs) in education. Because ICTs enable students and teachers to tailor learning and teaching to individual needs, society is compelling schools to respond appropriately to this technological innovation.

II. OBJECTIVES OF INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION

1. Acceleration of learning and achievement.
2. Individuals' increased acquisition of knowledge and skills necessary for a better life and sustainable development.
3. To foster and facilitate the interaction of humans and their environment.
4. To carry out the principle of lifelong education.
5. To diversify educational methods and services and to increase literacy rates through distance education.
6. To increase citizen technology literacy and to emphasise the importance of both slow and gifted children.

III. IMPACT ON ACADEMIC ACHIEVEMENT OF STUDENTS

1. The beneficial effect of ICT use in education has not been established. By and large, and despite thousands of impact studies, the impact of ICT use on student achievement continues to be difficult to quantify and subject to considerable reasonable debate.
2. When connected to pedagogy, a positive impact is more likely. When ICTs are used appropriately to complement a teacher's existing pedagogical philosophies, it is believed that specific uses of ICT can have a positive effect on student achievement.
3. In some areas, 'Computer Aided Instruction' has been shown to improve student performance on multiple choice, standardized tests.
4. Computer Aided (or Assisted) Instruction (CAI), which generally refers to student self-study or tutorials on PCs, has been shown to slightly improve student test scores on certain reading and math skills, although the extent to which this improvement correlates with actual student learning is debatable.
5. The requirement for well-defined objectives: When the objectives for their use are unclear, ICTs are perceived to be less effective (or ineffective). While this statement appears self-evident, the specific goals for ICT use in education are frequently very broad or rather vaguely defined in practise. There is a significant tension between traditional pedagogies and standardised testing and 'new' pedagogies.
6. Traditional, transmission-based pedagogies are deemed to be more effective in preparing students for standardised testing, which is frequently used to assess the effectiveness of such teaching practises, than more 'constructivist' pedagogical styles.
7. Incompatibility between the methods used to quantify effects and the type of learning facilitated
8. Numerous studies have revealed a disconnect between the methods used to assess effects and the nature of the learning facilitated by specific ICT uses. For instance, some studies examined only traditional teaching and learning processes and knowledge mastery, rather than examining new processes and knowledge associated with the use of ICTs. Perhaps more useful analysis of ICT's impact will emerge only when the methods for measuring achievement and outcomes are more closely linked to the learning activities and processes promoted by ICT use.
9. ICTs are used in a variety of ways across the curriculum: The use of ICTs for simulations and modelling in science and math, as well as word processing and communication software (e-mail), has been shown to be effective in the development of students' language and communication skills.
10. Outside of school, access has an effect: The relationships between student computer use in class, student computer use outside of class, and student achievement are unknown. However, students in OECD countries

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with the highest levels of computer use outside of school have been found to have lower than average achievement in some studies (the presumption is that high computer use outside of school is disproportionately devoted to computer gaming).

11. Users believe that ICTs have a beneficial effect: According to studies that rely heavily on self-reporting, the majority of users believe that ICTs help them be more effective learners.

Recognize the importance of connecting ICT policies to education policies. Education policies should emphasise the following major points to reflect the importance of technology (UNDP, 2004):

1. Education policies must reflect the alternative and novel teaching paradigms that ICT can offer in terms of providing a more effective, relevant, and flexible mode of learning for the underprivileged and general population.
2. Policies must consider teacher retraining to incorporate the use of ICTs in education. Teachers should reimagine learning environments in such a way that students can apply newly acquired ICT skills to other applications in an ICT-rich environment.
3. While the majority of educational policies recognise the importance of ICT infrastructure, they overlook the importance of local educational content. The development of instructional content-ware continues to be neglected, eroding hardware investments and resulting in significant economic and educational losses.
4. The focus for developing countries should be on how they use ICTs to compensate for education's deficiencies, including well-trained teachers and the financial means to purchase expensive equipment. The objective is to focus on technological alternatives that bring the imagination and creativity of a few exceptional teachers to students at a low cost.

IV. IMPACT ON STUDENT MOTIVATION

1. Teachers and students are motivated by ICTs. There appears to be widespread agreement that ICT use significantly contributes to student motivation for learning, both among teachers and students.
2. Outside of school, access has an effect on user confidence (Not surprisingly) Students who have access to a computer at home also use them more frequently and with greater confidence in school than students who do not have access to a computer at home.
3. The location of computers has an effect: Placing computers in classrooms enables significantly more use of ICTs for 'higher order' skills than separate computer laboratories (indeed, fewer computers in classrooms may enable even more use than greater numbers of computers located in separate computer labs). This is reflected in a growing emphasis on the use of laptop computers by teachers and students (and, in some places, 'computers-on-wheels'), as well as, to a much lesser extent, on the use of personal digital assistants and other mobile devices.
4. Models for integrating ICT use successfully during and after school hours are still emerging: There are only a few successful models for integrating student computer use at home or in other 'informal settings' outside of school with school-based computer use.
5. The appropriate age for students to be introduced to computers is a point of contention: On a broad level, the appropriate ages for student ICT use are unknown. However, certain uses are clearly more or less appropriate depending on the students' ages and abilities. Recent research cautions against widespread use in children and adolescents.
6. ICTs have the potential to increase learner autonomy: There is evidence that the use of ICTs can increase a learner's autonomy in certain circumstances.
7. Gender has an effect on impact: The way ICTs are used in education is frequently influenced by the learner's gender.
8. The 'pilot effect' has the potential to be a significant driver of positive change: Dedicated ICT-related interventions in education that introduce a new tool for teaching and learning may demonstrate improvements simply because the efforts associated with such interventions motivate teachers and students to do'more' (potentially diverting energies and resources from other activities).

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V. CONCLUSION

National boundaries have been reduced to meaningless lines drawn on maps due to the revolution in information and communication technologies. Education has been identified as one of the services that must be liberalized to allow for free trade between countries in this scenario. The use of ICTs in modern education has the potential to save the government a lot of money. Additionally, considerable qualitative improvement is possible because the resource persons for the training can be the best in the world. By incorporating ICT into various phases of education, it can help improve the quality and standards of education. However, a lack of resources within the educational sector is impeding the implementation of ICT in developing countries in the twenty-first century. The task of employing and integrating ICT into modern education faces numerous obstacles. The challenges include the lack of ICT facilities in educational institutions, a lack of knowledge regarding the proper use of ICT equipment, language barriers, insufficient funding, and a lack of trained personnel. However, we can overcome the obstacles by raising awareness about ICT Education, developing policies that promote broad access to skills and competencies for learning and adopting ICT, increasing community participation in ICT application self-sustainability, and developing supportive infrastructure such as electricity and internet. Governments should take an active role. Responsible authorities must work to overcome these obstacles in order to benefit modern education and also to assist teachers and institutions in becoming more modern and dynamic. Eventually, the use of ICT will improve students' learning experiences. It also aids in the development of a successful career in today's technologically advanced world.

REFERENCES

[1]. Agarwal, J. P (2013) Modern Educational Technology, Black print, Delhi.
[2]. Anu Sharma, Kapil Gandhar and Seema, (2011). Role of ICT in the Process of Teaching and Learning. Journal of Education and Practice, Vol.,2, No 5, pp.1-6.
[3]. Becta, (2003). A review of the research literature on barriers to the uptake of ICT by teachers. Retreived from
[4]. Burden, K., Hopkins, P., Male, T., Martin, S. and Trala, C. (2012). iPad Scotland Evaluation. Hull: University of Hull
[5]. Das, Koushik. (2019). Integration of ICT in Education: Key Challenges, International Journal of Research Analytical Review, June 2019, Volume 6, Issue 2, E-ISSN 2348-1269, P- ISSN 2349-5138.
[6]. Neelam Yadav (2003). A Hand book of Educational Technology. New Delhi: Anmol Publications Pvt.Ltd.
[7]. Newhouse P., (2002). The impact of ICT on Learning and Teaching, Perth, Western Australia: Department of education.
[8]. Tinio, V.L. (2002). ICT in Education: UN Development Programme. (Retrieved from http:www.eprmers.org on December 2009)
[9]. UNDP. (2004). Promoting ICT for Human Development. A Pioneering Regional Human Development
[10]. UNESCO (2002). Open and Distance Learning Trends, Policy and Strategy Considerations, UNESCO.