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Role of ICT in Enhancing the Quality of School Education in India

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ABSTRACT

ICT is one of the major components in education for enhancing the quality education because quality education is the back bone of every country. Information communication technologies (ICT) at present are influencing every aspect of human life. They are playing salient roles in work places, business, education, and entertainment. Moreover, many people recognize ICTs as catalysts for change; change in working conditions, handling and exchanging information, teaching methods, learning approaches, scientific research, and in accessing information. Therefore, this review article discusses the roles of ICTs, the promises, limitations and key challenges of integration to education systems. The review concludes that regardless of all the limitations characterizing it, ICT benefits education systems to provide quality education in alignment with constructivism, which is a contemporary paradigm of learning.

KEYWORDS ICT, Quality of Education

Introduction

School Education is the foundation of country. Any type of failure in this stage may result in a country's backwardness. In modern society ICT plays a remarkable role in School Education. ICT in schools provide lots of opportunities to teachers to transform their practices by providing the learners with improved educational content and more effective teaching and learning methods. ICT improves the learning process through the provision of more interactive educational materials that increase learner's motivation and facilitate the easy acquisition of basic skills. In Primary and Secondary level the use of various multimedia devices such as computer application, OHP, videos, television, smart classes etc. offer more challenging and engaging learning environment for students. In twenty first century teaching learning skills underscore the need to shift from traditional teacher centered pedagogy to more learner-centered method. Active collaborative and cooperative learning environment is facilitated by ICT and its gadgets. Not only teaching learning system but administrative system also can be improved by the use of ICT.

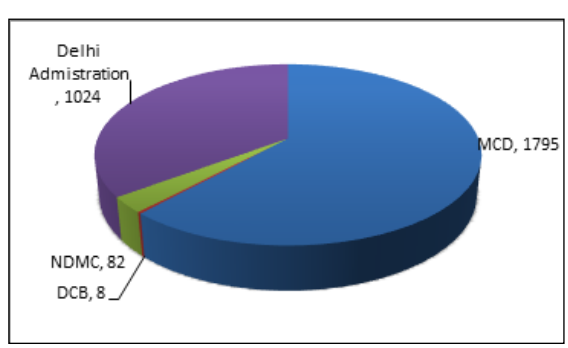
What is ICT - Information Communication Technology

Information: The nature of information (the ''I" in ICT) covers topics such as the meaning and value of information; how information is controlled; the limitations of ICT; legal consideration. Management of information covers how data is captured, verified and stored for effective use; the manipulation processing and distribution of information; keeping information secure; designing networks to share information.

Communication: The C part of ICT refers to the communication of data by electronic means, usually over a distance. This is often achieved via networks of sending and receiving equipment, wires and satellitesoftware applications and data. The type of network is invaluable in the office environment where colleagues need to have access to common data or program. External Networks- Often you need to communicate with someone outside your internal network; in this case you will need to be part of a Wide Area Network (WAN). The internet is the ultimate WAN – it is a vast network of networks. Internal Networks- Usually referred to as a Local Area Network (LAN), this involves linking a number of hardware items together within an office, institute or building. The aim of a LAN is to be able to share hardware facilities such as printers or scanners

Technology: Technologies the making, modification, usages, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization in order to solve a problem, improve a pre-existing solution to a problem, achieve a goal, handle an applied input/output relation of perform a specific function. It can also refer to the collection of such tools, including machinery, modifications, arrangements and procedures. Technologies significantly affect human as well as other animal species' ability to control and adapt to their natural environments. The term can eitherbe applied generally or to specific areas.

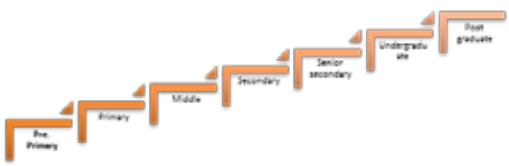
Present School Education System in India- School education provides the base for the future education of a country. There are various schools in India and many new ones are also coming up. Different types of schools like residential schools, boarding schools, government schools, day schools, private schools, aided schools, primary schools and secondary schools operate in the country. Most of the schools these days have world-class facilities including the best teachers to provide quality education to children. There are so many schools that are running in the country, but parents still find it difficult to choose bestschools for their children due to the huge numbers. All the schools in the country are governed by the rules of the respective boards under which they run. Besides the state boards the Central Board of Secondary Education (CBSE), Council for Indian School Certificate Examination (CISCE) and National Institute of Open schooling (NIOS) are some of the boards that look after school examination in India. These boards conduct school leaving certificate examinations across the country.



North Delhi Municipal Corporation- Education department (Research & Extension Branch) established smart classes in30-Utkrisht Vidyalaya for quality education out of 718

schools for primary students in 2015. In this department,approx. 1.25 lac employees are working in the department in various branches, all the employees of the department are connected through Employee Information System (EIS). Education department also launched SIMS (School Information Management System) programme and successfully implemented this programme in all schools. The launch of SIMS has resulted in saving of time of teachers and hence their workload has been reduced by leaps and bounds which in return has enabled them to invest their time towards betterment of their teaching pedagogy. It has also made the teachers aware about technology.

Education in India is provided by the public sector as well as the private sector, with control and funding coming from three levels: central, state, and local bodies. As per the Annual Status of Education Report (ASER) 2014, 96.7% of all rural children between the ages of 6-14 were enrolled in schools. This is the SIXTH annual survey to report enrollment, which is above 96 %.



India's education system is divided into different levels such as pre-primary level, primary level, middle level, secondary, senior secondary, undergraduate and postgraduate level. The National Council of Education and Research (NCERT) is the apex body for curriculum related matters for school education in India. The NCERT provides support and technical assistance to a number of schools in India and oversees many aspects of enforcement of education policies in India, the various curriculum bodies governing school education system are:

The state government boards, in which the majority of Indian children are enrolled.

The Central Board of Secondary Education (CBSE).

The central and most state boards uniformly follow the "10+2+3" pattern of education. In this pattern, 10 years are further divided into 5 years of primary education, 3 years of upper primary and 2 years of high school. The next 2 years for Senior Secondary School and 3 years for bachelor's degree. This pattern originated from the recommendations of the KOTHARI Commission (1964–66). National Curriculum Framework 2005 has also been highlighted the significant role of ICT in school education.

Secondary education- The National Policy on Education (NPE), 1986, has emphasized on environment awareness, science and technology education, and introduction of traditional elements such as Yoga into the Indian secondary school system. Secondary education covers children of 14–18 yrs of age which covers 88.5 million children according to the Census, 2011. A significant feature of India's secondary school system is the emphasis on inclusion of the disadvantaged sections of the society. Professionals from established institutes are often called to support in vocational training. Another feature of India's secondary school system is its emphasis on profession based vocational training to help students attain skills for finding a vocation of his/her choice. A significant new feature has been the extension of SSA to secondary education in the form of the Rashtriya Madhyamik Shiksha Abhiyan.

A special Integrated Education for Disabled Children (IEDC) programme was started in 1974 with a focus on primary education but, which was converted into Inclusive Education at Secondary Stage. Another notable special programme, the KendriyaVidyalaya project, was started for the employees of the central government of India, who are distributed throughout the country. The government started the Kendriya Vidyalaya project in 1965 to provide uniform education in institutions following the same syllabus at the same pace regardless of the location to which the employee's family has been transferred.

Role of ICT in School Education of India-Like India, all developing countries in the world, are using ICTs largely to increase access to and improve the relevance and quality of education. ICTs have demonstrated potential to increase the options, access, participation, and achievement for all students. Even though computers have been introduced in schools in India, the education system has largely not been influenced by the potential for pervasive change intrinsic to ICTs. Hence, a proposed increase in the spending on ICTs in school education from less than Rs 1,000 crore in the 10th Five-Year Plan to more than Rs 6,000 crore in the 11th Plan (working group draft report), by the Ministry of Human Resource Development (MHRD) could reflect an urgency to harness ICTs for systemic change in the education sector. To guide such huge spending, the ministry has initiated a process to draft a National Policy on ICT in School Education (NPISE). Though the draft is not yet published and is being discussed in a group with non-governmental and business representatives, the basic direction that it is taking, raises some misgivings and concerns. The unprecedented speed and general availability of diverse and relevant information due to ICT in India have the potential to enhance the education experience for children who:

have dropped out or have kept themselves out of school for various reasons.

have physical disabilities constraining their access to schools.

have special learning needs.

live in rural and remote areas.

In India, various ICTs have been employed over the years to promote primary and secondary education. These include radio, satellite, one-way and interactive television, and the Internet. However, there have been enormous geographic and demographic disparities in their use. Some states in the country currently have an enabling environment in place that allows for a greater use of ICTs for education, whereas other states lack such an environment making the use of ICTs for this purpose very sporadic. The Government of India's flagship education programme at the primary level - the Sarva Shiksha Abhiyan (SSA) - has streamlined its focus on quality.

ICTs in Indian school education focus on the following areas are most likely to successfully contribute to meeting the Millennium Development Goals Increasing access through distance learning. In India, distance learning has been an important component of the education policy. It is probably in this domain that traditional ICTs like radio, television, and audio cassettes were first deployed in the education space. In India, distance learning offered by institutions like National Institute of Open Learning (NIOS) and Indira Gandhi National Open University have used a combination of print and audio-visual material as well as traditional face-to-face interactions to deliver their content.

Enabling a knowledge network for students – With knowledge as the crucial input for productive processes within today's economy, the efficiency by which knowledge is acquired and applied determines economic success. Effective use of ICTs can contribute to the timely transmission of information and knowledge, thereby helping education systems meets this challenge.

Enhancing teacher training –The use of ICTs for teacher training has been recognized by the governments of India. Microsoft Shiksha in India; is focused on using ICTs for training teachers. This includes training in applying ICTs in their teaching practices as well as using ICTs as a mode of delivery for these trainings.

Broadening the availability of quality education materials- In India, several initiatives are ongoing for creating digital repositories and learning objects; the Sakshat Portal of Government of India, initiatives like National Program of Technology Enhanced Learning (NPTEL), the Multimedia Educational Resource for Learning & Online Teaching (MERLOT) seek to create quality digital content for different levels of education.

Enhancing the efficiency and effectiveness of educational administration and policy – the Delhi government has set a leading example in using ICTs for better administration of the education system. The Department of Education, Government of Delhi, with 39892 employees, 1024 schools, and more than 9,35,938 students under its administrative jurisdiction has developed a comprehensive and functionally effective Web-based and GIS-based Management Information System (MIS). (Year 2016)

Motivating to Learner: ICT such as videos, television, and multimedia computer software that combine text, sound, and colorful, moving image can be used to provide challenging and authentic content that will engage the student in learning process. Interactive radio likewise makes use of sound effect, songs, comic skits and other performances convention to compel the student to listen and become involved in lesson being delivered. More so than any other type of ICT, networked computer with Internet connection can make the learner more motivate to his\her learning. One type of ICT combines the media richness and interactive to other ICT with the opportunity to connect with real people and to participate to real world events.

Benefit of ICT in School Education: Like other developing countries, India uses ICT as a teaching tool. Its potential for improving the quality and standards of pupils' education is significant.

General benefit: (i) Enable grater learner autonomy, (ii) Enable tasks to be tailored to suit individual skills, (iii) Enable students to demonstrate achievement in ways which might not be possible with traditional methods, (iv) Unlocks hidden potential for those with communication difficulties.

ICT benefits for students: (i) Students using voice communication aids gain confidence and social credibility at school in their communities, (ii) Increased ICT confidence amongst students motivates them to use the Internet at home for schoolwork and make their curiosity fulfill, (iii) Computer can improve independent access for students to education, (iv) Students with profound and multiple learning disabilities can easily communicate more, (v) Visually impaired students using the Internet can access information along their sighted peers.

ICT benefits for teachers and non-teaching staff: (i) Using the ICT gadgets teachers can easily represent their lecture, (ii) Teachers make interesting and fruitful their teaching by using ICT. (iii) Non-teaching staff easily store the recodes in computers, (iv) Reduces isolation of teachers working in special Educational needs by enabling them to communicate electronically with colleagues, (v) Enhances professional development and the effectiveness of the use of ICT with students through collaboration with peers, (vi) Improving the skills of staff a greater understanding of access technology used by students.

ICT benefits for parents: (i) Not only learners, teachers, non-teaching staffs but also parents to have higher expectations of children's sociability and potential level participation may occur by ICT, (ii) Parents also have updated themselves by using ICT.

Barriers: In Indian school education system ICT have a great role to enhance the quality of education. Out of 150 smart schools 63 smart schools have so far been approved in 12 States and 3 UTs under ICT in Schools Scheme. But, unfortunately there are some barriers to make the school education completely ICT based. They are as follows-

Lack of teacher's competency to handle ICT equipments, is one of the biggest barrier in Indian school education system for making it ICT based,

Lack of infrastructure and equipments is another problem for backwarding Indian school education than other countries,

Lack of interest in teachers and learners keep the Indian school education to its past place,

Lack of fruitfulschemes of ICT.

Conclusion: Quality in education through ICT and its awareness among stakeholders will have positive impact on the society. ICT can be helpful in improving quality and standards of education by implementing it in various phases of education. ICT can be employed in formal and Non-formal types of education and would eventually make the learners employable and socially useful part of the society. By employing ICT in teacher training, a lot of money of the Government can be saved. Moreover, a lot of qualitative improvement can be seen as resource persons for the training can be best of the world. By employing ICT in administration, it can help in solving the problem of Absenteeism of students and teachers. Good quality content is one of the major issues and directly affects the standards of education and quality. For overcoming certain challenges involved in the process of education,ICT can help a lot. Conclusively,a lot of quality improvement is possible after careful and planned implementation of ICT in school education by various stakeholders.

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