The Role of ICT in improving the Quality of School Education in India

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Introduction: - School Education has a great role for a country. It is the grass root level for any country. Any type of failure in this stage may become a country backward. It is considered only two or three goals in this level of education. Among them Universal Primary Education and Gender Equality are main. Government of India has taken many programmes and schemes for Universalizing the Primary and Elementary Education. 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 e. t. c. 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 facilitated by ICT and its gadgets. Not only teaching learning system but also administrative system can be improved by the use of ICT

What is ICT?- ICT is an acronym that stands for

- 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 or building. The aim of a LAN is to be able to share hardware facilities such as printers or scanners

Technology-Technology is the making, modification, usage, 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 or 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 either be applied generally or to specific areas.

Technology has affected society and its surroundings in a number of ways. In many societies, technology has helped develop more advanced economies (including today's global economy) and has allowed the rise of a leisure class. Many technological processes produce unwanted by-products, known as pollution, and deplete natural resources, to the detriment of Earth's environment. Various implementations of technology influence the values of a society and new technology often raises new ethical questions.

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, 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 schools 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 and National Institute of Open schooling are some of the boards that look after school examination in India. These boards conduct school leaving certificate examinations across the country.

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. As per the Annual Status of Education Report (ASER) 2012, 96.5% of all rural children between the ages of 6-14 were enrolled in school. This is the fourth annual survey to report enrollment above 96%. 83% of all rural 15-16-year olds were enrolled in school. However, going forward, India will need to focus more on quality.

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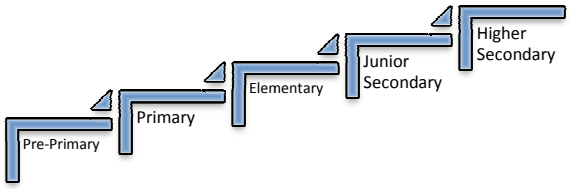

India's education system is divided into different levels such as pre-primary level, primary level, elementary education, secondary education, undergraduate level and postgraduate level. The National Council of Educational Research and Training (NCERT) is the apex body for curriculum related matters 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). CBSE conducts two examinations, namely, the All India Secondary School

Examination, AISSE (Class/Grade 10) and the All India Senior School Certificate Examination, AISSCE (Class/Grade 12).

- The Council for the Indian School Certificate Examinations (CISCE). CISCE conducts three examinations, namely, the Indian Certificate of Secondary Education (ICSE - Class/ Grade 10); The Indian School Certificate (ISC - Class/ Grade 12) and the Certificate in Vocational Education (CVE - Class/Grade 12).
- The National Institute of Open Schooling (NIOS) conducts two examinations, namely, Secondary Examination and Senior Secondary Examination (All India) and also some courses in Vocational Education..

The central and most state boards uniformly follow the "10+2+3" pattern of education.In this pattern, 3 years of college education for bachelor's degree. The 10 years is further divided into 5 years of primary education and 3 years of upper primary, followed by 2 years of high school.This pattern originated from the recommendation the Education Commission of 1964–66.

80% of all recognized schools at the elementary stage are government run or supported, making it the largest provider of education in the country. Figures released by the Indian government in 2011 show that there were 5,816,673 elementary school teachers in India. As of March 2012 there were 2,127,000 secondary school teachers in India. Education has also been made free for childrenfor 6 to 14 years of age or up to class VIII under the Right of Children to Free and Compulsory Education Act 2009. There have been several efforts to enhance quality made by the government. The District Education Revitalization Programme (DERP) was launched in 1994 with an aim to Universalize Primary Education in India by reforming and vitalizing the existing primary education system. 85% of the DERP was funded by the central government and the remaining 15 percent was funded by the state.

The DERP, which had opened 160000 new schools including 84000 alternative education schools delivering alternative education to approximately 3.5 million children, was also supported by UNICEF and other international programmes. This primary education scheme has also shown a high Gross Enrollment Ratio of 93–95% for the last three years in some states of India. Significant improvement in staffing and enrollment of girls has also been made as a part of this scheme. The current scheme for Universalization of Education for All is the Sarva Shiksha Abhiyan which is one of the largest education initiatives in the world. Enrollment has been enhanced, but the levels of quality remain low.

Secondary education- The National Policy on Education (NPE), 1986, has provided for environment awareness, science and technology education, and introduction of traditional elements such as Yoga into the Indian secondary school system. Secondary education covers children 14–18 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 choosing. A significant new feature has been the extension of SSA to secondary education in the form of the RashtriyaMadhyamikShikshaAbhiyan.

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 KendriyaVidyalaya 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-LikeIndia, 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,ICTs in India have the potential to enhance the education experience for children who:

- have dropped out and/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-rural locations.

In India, various ICTs have been employed over the years to promote primary and secondary education. These include radio, satellite based, 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 SarvaShikshaAbhiyan (SSA) - has streamlined its focus on 'quality.

Country	Appreciation Technology	Availability Technology
India	High	Low

Source: Strategy Framework for Promoting ICT Literacy in the Asia–Pacific Region, UNESCO Bangkok Communication and Information Unit, 2008,

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 Government of India in Delhi,, has been a pioneer in using ICTs for better administration of the education system. The Department of Education, Government of Delhi, with 40,000 employees, 928 schools, and more than 120,000 students under its administrative jurisdiction has developed a comprehensive and functionally effective Web-based and GIS-based Management Information System (MIS).

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-

- Enable grater learner autonomy,
- Enable tasks to be tailored to suit individual skills,
- Enable students to demonstrate achievement in ways which might not be possible with traditional methods,
- Unlocks hidden potential for those with communication difficulties.

ICT benefits for students-

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

ICT benefits for teacher, non-teaching staff-

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

ICT benefits for parents-

- 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,
- 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 equipment's, is one of the biggest barrier in Indian school education system for making it ICT based,
- ➢ Lack of infrastructures and equipment's are another problems for back warding Indian school education than other country,
- ➢ Lack of interest in teachers and learners keep the Indian school education to his past place,
- ➢ Lack of investigation for fruitful the schemes 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 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 can save a lot of money of the Government. 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 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. By overcoming the certain challenges involved in the process of education can help a lot in this side. 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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