



## QUALITY OF EDUCATION: ICT AS A TOOL

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**ABSTRACT** ICT has become a part and parcel of life. The discoveries and inventions in science and technology have led to improvement in the speed of communication. With the help of existing tools, ICT helps common man in fulfilling his needs. It has become integral part of new era. Be it the primary education where children are taught through the utilization of highest possible number of senses to embark a deep impression on their minds through smart classes, or the arena of evaluation and record keeping which simplified the tasks of assessment to the touch of a single key, ICT has made a revolutionary progress in all the fields. Having been placed as an essential component of the curriculum at all level in education, ICT not only provides global connectivity where we can share the knowledge with the whole world, but also opens our minds to the great endeavors in the field of education. One cannot think about learning only through the traditional method of reading and cramming of textbooks today. The students have a hunger for in-depth knowledge which compels the teachers to regularly update themselves through the latest knowledge available at the click of a finger on GOOGLE. In the present paper, Author have enumerated various aspects of ICT which enhance the quality learning at all ends of education.

**KEYWORDS :** ICT, Curriculum, Assessment, Competencies.

### Concept of ICT

Information and Communication technology refers to the technology which is employed in the shape of tools equipments and application supports. It involves collection, use, storage, retrieval, transmission, manipulation and dissemination of information. ICT includes the use of hardware and software for efficient management of information. ICT makes use of certain tools to represent our knowledge and express our ideas. Besides it leads to enhanced learning. The term Information Technology (IT) has commonly been used synonymously with “computer technology”, which include the use of hardware and software for efficient management of information. ICT refers to the forms of technology that are used to transmit, store, create, share or exchange particular task. They are of immense value in a world of “information explosion”, where knowledge is complex, ever-changing and cross-disciplinary in nature.

According to Reeves (1998): “Computers in particular, have positive effects on learning and are motivating for learners. They are accepted by more teachers than other technologies and are widely supported by administrators, parents, politicians, and the public in general. Computers increase equity of access, and reduce the time needed to accomplish a given set of objectives.” According to Reeves computer-based cognitive tools like databases, spreadsheets, communication software, etc. have been intellectually developed to function as intellectual partners to enable and facilitate critical thinking and higher order learning. When using these tools learners are able to represent and express what they know. They function as designers using the tools for analyzing the world, accessing and interpreting information, organizing their personal knowledge, and representing what they know to others.

According to Education Review Office, 2000: “The phrase Information and communication Technology is now being used, to include telecommunications equipment through which information can be sought and accessed through the Internet, television, phones, faxes, modems and computers.”

### Importance of ICT in Education

ICT can lead to improvement in teaching and learning. It assists different teaching methodologies. ICT curriculum integration has a significant and positive impact on student achievement. Some of the prominent areas of student learning affected by ICT are “Knowledge comprehension”, “Practical Skills” and “Presentation skills”. These are of vital significant in the areas of Mathematics, Science and Social Science etc.

**1. Development of Skills among learners:** Integration of ICT with education leads to enhancement of skills among learners. Some of the prominent skills like collaborative and independent learning are significantly improved by ICT. Besides, it provides sufficient knowledge that helps in developing the communication skills of the learners.

**2. Economical and Effective Learning:** ICT provides virtual learning environment which reduces the cost of materials besides travelling and accommodation costs. In addition, it enables mass learning which makes it cost effective.

**3. Flexible Learning:** ICT provides the ease of learning to students, as students can learn at their own pace. Contents available through ICT can be repeated and revised as per the speed and convenience of the learner. It helps learners in assessing the information as per their convenience and provides ease of learning of students. Learners can easily download/review important information and assignments and complete their projects in time.

**4. Reduction in Administrative workload:** ICT enables the easy access and multiple use of same information through various software. The attendance, evaluation and assessment of students has been made easier and effective with the help of certain ICT based tools and software.

**5. Transparency:** ICT brings transparency in the whole system of education. ICT provides proper information to all the concerned people through the click of a finger. Important circulars, notices, and other relevant information about policies and regulations can be uploaded and downloaded from various Educational Sites and Links. This makes the whole educational system transparent.

### Effective Use of ICT in Curriculum Transaction

ICT as a medium of Curriculum transaction refers to the integration of teaching of school subjects with ICT. This includes integration of technologies of digital learning platforms, conversation media and tools, Pedagogies for a new generation, Open Access to Educational Resources, international standards, cloud computing nurturing teacher's competence, and open networking, policy making to meet societal changes etc.

**1. Integrating Curriculum in the classroom** Curriculum developers are led to consider the possibilities from alternative perspectives. Subjects are not necessarily kept as discrete. ICT facilitates a cross curricular, multi-disciplinary approach.

**2. Training of teachers to use ICT effectively** Updating teachers about the various new software and applications appended in the field of ICT is urgently required. Teachers need to be trained about the various procedures of applying the different ICT technologies in their teaching methods.

**3. Fostering Creativity, Collaboration, Communication and Cultural diversity for personal development of learners:** Through the use of ICT, learners can get an interface to the vast possibilities of constructing new avenues of knowledge. This helps in enhances their communication skills. Besides, ICT integration in education enables dissemination of information to different learners irrespective of cultural diversity. This adds to the personal development of learners.

#### 4. Assessment of student learning and increasing learner

**activeness:** ICT based assessment tends to be more accurate, precise and objective. There can be no bias in the learning strategies when ICT is used. Besides, as ICT enables utilization of multiple senses of the learner, it increases learner activeness and make learning more fruitful.

#### ICT in Assessment and Evaluation

Assessment refers to the practice of collecting students learning evidence, with the aim of recognizing student achievements and to improve learning and teaching. It is an important and integral part of classroom instruction, and serves several objectives and audiences. Most importantly, it provides feedback to students, teachers, school and parents on the effectiveness of teaching and highlights students' strengths and weaknesses in learning. Besides, it provides relevant information for decision making and planning to schools, school systems, government, educational boards and employers.

The assessment and recording of ICT capability are reliable and consistent. They are informed by the use of ICT in other curriculum areas and by moderation within the school. Statutory requirements of reporting to parents are met. Pupils regularly assess their own and other pupil's ICT capabilities based on criteria they have identified and developed. This contributes to their understanding of what constitutes good quality and helps them to improve.

#### ICT Based Teaching Learning

Schools have been using e-learning or ICT in learning for a long time now. Learning technology includes the use of computers, multimedia materials and networks and communications systems to support learning. Learning technology covers all aspects of the use of computers or ICT in teaching and learning.

According to Cox et al., (2003) : "Teachers require more knowledge of, and confidence with ICT, and better understanding of its potential to help pupils' learn. This suggests that further substantial support for continuing professional development is necessary in order that teachers integrate these technologies and infuse ICT issues in the teaching to improve pupils attainment." The most effective uses of ICT are those in which the teacher and the software can challenge pupils' understanding and thinking, either through whole-class discussions using an interactive whiteboard or through individual or paired work on computer. If the teacher has the skills to organize and stimulate the ICT-based activity, then whole-class and individual work can be equally effective.

Hunt (2004) argues that because of the phenomenal rate at which the volume of available information is increasing, and access to an increasing range of sources, it is becoming clearer than ever that the ability to find appropriate information and use it effectively is of greater value than being able to remember facts. The skills of locating, evaluating and using information effectively from a range of sources constitute the Information Skills which are needed for people to become Information Literate, enabling them to engage in effective decision making, problem-solving and research.

**Role of ICT For Quality Learning:** The rationale and guiding principles for effective use of ICT in learning and teaching can be summed up as follows:

**1. Using a Variety of Pedagogies:** A variety of learning and teaching approaches and activities should be planned through various computerized software and programs to suit different purposes and individual styles of learners. This will help in achievement of effective learning.

**2. Optimum Utilization of Resources:** The curricula shall promote the full utilization of infrastructure and resources, integrating it with the ICT based program. Universal access and fostering of a sense of ownership shall be encouraged to ensure maximum impact. Innovative ways of reaching the unreached shall be promoted.

**3. Integration with Learning Objectives:** For the whole-person development, a range of assessment practices should be used for assessing the achievement of different learning objectives. These cover practical tasks, written tests, projects as well as oral questioning. Weightage allocated to different areas in assessment should be agreed among teachers. Project work can be assigned to students to assess their practical skill in use of ICT. E.g. Project for integration of the use

of office automation software that processes and presents different types of information appropriately.

**4. Teachers' Observation or Oral Questioning:** Teachers' observation or Oral questioning can be used to assess the development of values and attitudes among students. For instance oral questioning can help in identifying students' appreciation about advances in ICT to foster the emergence and development of the information age and its impact on society.

**5. Diverse Assessment Modes:** The assessment practices should cater for the range of student ability and aptitudes. It helps in ensuring that more able students are motivated to develop their full potential and weak students are encouraged to sustain their interest in learning ICT.

**6. Tracking Pace of Learning:** Assessment is a continuous exercise aimed at tracking learning progress over time. ICT allow students in establishing their own incremental targets and control their own pace of learning, which positively impacts their commitment to learning.

**7. Timely and Encouraging Feedback:** ICT can be used for keeping timely feedback through various objective type computerized tests. A variety of encouraging feedback means can be utilized by a teacher like, constructive verbal comments during classroom activities and written remarks on assignments, along with an indication of areas for improvement. This helps in sustained momentum of learning through identification of students' strengths and weaknesses. Besides should be a provision for peer assessment and self-assessment in student learning. It enables students to learn among themselves and promotes reflective thinking.

**8. Knowledge:** Knowledge is available in different forms and contexts. While some knowledge is established, some is undergoing dynamic changes with time. To be useful, construction of knowledge by the learner should take place. ICT provides infinite opportunities and resources for the construction of new knowledge and reconstruction of existing concepts. The pedagogic methods that encompass the use of ICT should be chosen to enhance student's understanding rather than rote memorization.

**9. Promoting Integration and Independent Learning:** Interaction with students to explore their existing knowledge and notions should be used. Open-ended questions that make students think and offer views will assist students in learning from each other. Learning activities should be planned to nurture generic skills and reflection in appropriate contexts of the curriculum. Students should be encouraged for taking self responsibility of their learning. ICT enables these learning activities where students can learn at their own pace without any confined limits.

**10. Considering Diversity of Learners':** Students have different characteristics and strengths. A variety of strategies are employed under ICT that provide ease of learning for catering to learner diversity.

**11. Creative Learning:** The focus of the curricula shall be on learning to compute, which includes learning to create using a variety of hardware and software tools. ICT literacy, defined as the knowledge and ability to wield tools and devices, shall be an incidental outcome of this learning.

**12. Shared Learning:** The curricula shall provide adequate opportunity for hands on learning and open ended exploration of ICT applications. Sharing of learning and critical evaluation of the learning shall be integral to the strategy.

**13. Increased Awareness:** Healthy ICT environment requires heightened awareness of the social, ethical and legal aspects of its use. Software piracy and plagiarism shall be explicitly denounced and discouraged. Creation of original content, taking pride in the creation and duly recognizing others' contributions shall be promoted.

#### Conclusion:

Development of a high level of competence in the use of ICT has been the need of the hour. The recent movement of Demonetization in India makes us think of the immense possibilities of Information Technology that can help in making our life much easier. The vast differences in the CCE results of various school who have created an ICT conducive teaching learning environment is an indicator that the

time has come when we move on to the next step where education is not limited to the four walls of the classroom, nor can it be contained in few books. Let's provide our students with the vast universe of knowledge, to boost up their innate capabilities, to utilize and provoke their hidden potentials by providing them with the revolution called Information and Communication Technology.

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