


## ICT NEED, IMPORTANCE AND USE IN LEARNING OF MATHEMATICS

ICT stands for Information and Communication Technology. ICT helps to store, process, disseminate, retrieve and transmit information with the aid of technological medium.

ICT in educational process is mainly employed in four ways, namely; teaching learning, evaluation, administration and professional development. Generally, teaching is primarily focused on transaction of subject contents through lecture method, but with the emergence of technology, many technological tools are employed for the same. For example, virtual experiments, power point presentation, video conferencing, internet, etc are used during the teaching-learning process. Thus, ICT is widely adopted in teaching-learning processes. Similarly, in the case of assessment and evaluation, multiple tools and software are used. For example, online testing, computer tests, e-portfolios, etc., are used to assess learners's progress. ICT also finds application in administration and management. Storing learners' data in excel sheet, management information system (MIS) etc., are some among them. ICT are used in professional development programmes.

### Need and Importance of ICT

- The emergence of various learning resources has made the process of learning easy for learners. Apart from that, teacher can succeed in developing interest and motivation among learners with the aid of ICT learning resources. The black boards, charts, models, etc. are the learning resources of pre-digital era. In addition, teachers can also use digital learning resources. Some of the digital learning resources are computer, ebooks, educational software's, etc.
- The shift in learning styles of learners proves the relevance of ICT in teaching learning. today's learners are tech savvy and prefer to use multiple digital devices for learning.
- Today constructivist approach of learning is practiced that help learners to develop their own understanding of subjects based on their previous experiences. In such a scenario, learners need to be supplied with multiple sources (preferably digital in nature) as a supplement to build their own knowledge and experiences of learning.
- ICT access helps learners to obtain latest information/knowledge in different subjects.
- Multiple channels of communication are available that help learners to interact, communicate and share information. Thus, flow of information and knowledge is achievable that consumes less time.
- Learners can access various online repositories, online libraries, online books, etc. Thus, ICT provides opportunity for extra reading and rectifying abstractness of concepts.



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- ICT offers various devices and learning sources that support the learning needs of learners with learning disabilities.
- ICT integrated education prepares learners to develop adequate skills and all-round development.
- The efficiency and smartness of learning is enhanced with the use of ICT. Learners learn better, comprehend knowledge with ease, retain the learned contents and easily apply them in practical situations. It helps in development of multiple skills both cognitive and physical.

### Use of ICT in Learning of Mathematics

The National Policy on Information and Communication Technology (ICT) in School Education published in the year 2012 and National Mission on Education through ICT (NMEICT)-2009, have advocated the adoption of ICT at school and higher education level. The National Policy on ICT in School Education (2012) recommended web-based digital repositories to host a variety of digital content, appropriate to the needs of different levels of learners and teachers. The National Repository of Open Education Resource (NROER) is one among them. NROER is a collection of videos, audio files, images, documents and interactive modules for all school subjects and grades in multiple languages. Similarly, “e-Pathshala” (Web-site containing approximately 364 eBooks, 137 videos and 100 audios this number is increasing day by day) is another major initiative of e-learning for school education.

### SELECTION AND USE OF APPROPRIATE MEDIA

**Task Factors:** It refers to the nature of job in hand i.e. what are the learning objectives? What are the behavioral changes that the teacher wishes to develop in learners? What are the pedagogical approaches going to be followed for transacting the curricular content? What time should be devoted to the process? , etc.

**Learner Factors:** Learner factors include learners’s age level, motivational characteristics, personality and individual differences, willingness for learning, etc. Today, inclusion is emphasized in classrooms. In such classrooms, learners with special needs are taught along with normal learners. Thus, while selecting the media/learning resource for teaching, care must be taken to meet the learning demands of both normal and learners with special needs.

**Economic/Availability Factors:** It includes the cost of learning resources/media, availability of media, working conditions of the media and so on. As we know, a calculator is less costly compared to a computer. So, if a mathematics teacher wish to teach concepts related to arithmetic calculations, she/he may prefer simple calculators in place of computer. This saves energy, time, complexities, etc. Similarly, situations that require a camera, may utilize mobile cameras which are handy and mostly available with teachers.

