ICT Pedagogy for Effective Learning, Education and Quality Evaluation

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ABSTRACT
The technology is moving rapidly in recent times than our ability so we need to adapt and adopt the new way of technology to improve to gather information in our daily affairs to save our money, energy and large amount of time. Nowadays, Information and Communication Technology (ICT) play a vital role to reduce mass illiteracy and help to overcome the educational problems faced during development of Digital India. IT is a discipline deals with Science, Technology, Engineering and Management in handling information, its applications associated with social, economic and cultural matters. Currently, 90% of the world’s population depends on internet technology and related gadgets to fulfill their basic needs of their routine life. This technological revolution is very important for all over human development in this smart world, especially in educational field. It makes the process of teaching-learning and evaluation more fascinating, easy to understanding and all involving with a smoother application. Even the government also promotes ICT based learning tools from primary level to degree level courses for practically sound knowledge and expanding expertise in their specific field. Students from any corner of the world can share their knowledge and solve their difficult experiments, problems with other researcher. In many fields of study, ICT based learning is useful to improve understanding of practical knowledge. There are so many applications based on ICTs. This paper focuses on methodologies of ICT in 21st Century’s, recent challenges of ICT in outcome based teaching and learning Pedagogy, Different Strategies for teachers to apply ICTs, various tools for different purpose like accessibility of distance learning, evaluation, scholastic performance, e-courses and virtual classroom for qualitative and productive educational culture.

Keywords  
Quality education, Teaching-learning pedagogy, inclusive education, Challenges and applications, ICT tools.

INTRODUCTION
Information and Communication Technologies are combined with forums, services, tools, technologies, information, knowledge, etc. which can be used for achieving goals of teaching learning pedagogy, also enhancing performance. ICT has contributing to whole universe. To access to education, impartiality in education, quality in Education, efficient education, also governance and administration. In the paper the holistic approach is defined to promote ICT in field of education in which we address some the challenges of ICT. To use ICT technology one can focus on some major part of it: Information, communication, quality, efficiency, effectiveness, reusability, easy to understand, science and education. The increasing interests in learning Sciences and Technologies in the present era is increasing day by day and the suitable practice has also changed positively from the stage of “technology driven” to “service driven”. The entire education system has transformed into an innovative learning system. However, keeping in mind the practical aspects of teaching through ICT, especially in schools of rural and remote areas, it is assumed that the desired goals would be achieved once the computer technology, local area networks and the information management system are develop. As a result, there are clear and detailed planning, design and well-built technical support system, yet the desired outcomes have not been achieved.
The major reasons behind the failure are not integrating the purpose, functions and procedure of functional system adequately. That is why ICT fails to function in assisting; spreading information and knowledge, hence, the applications and effects of ICT are not obtained. In paper there are so many techniques and so many tools are defined to use ICT very effective way. There are countries which incited one step towards to ICT learning. They are allowed you to do online course for the learner and experience about ICT in different sectors. PRAGATI is a very elegant example of use of ICT technology. PRAGATI is a unique integrating and interactive platform. The platform is aimed at addressing common man’s grievances, and simultaneously monitoring and reviewing important programmes and projects of the Government of India as well as projects flagged by State Governments.

**OBJECTIVES**
The main aim to use ICT technology is to serve better education to whole world, providing high quality education with world class facilities to the youth of India and the earth, so that they can compete with the students all over the world.

- To enhance the efficiency of teachers developing expression power and improve the learning experience.
- To implement the lifelong learning.
- The proper understanding and application of the concepts.
- Elaboration reasoning and critical thinking abilities, also develop proper study habits.
- To increase judgment and decision making ability.
- To encourage for risk taking, scientific temper, etc.
- To keep up with rapid changes.
- To encourage equal opportunities to achieve better education.
- To automatically and dynamically adjust the learning delivery.
- Enable the learners to perform a complete self-assessment that will help them identify their strengths and weaknesses.
- To understand learners’ grasping power, help with changing the complexity, efficiency, idea, speed, and other characteristics of the course to suit the learner.

In accordance with the present classroom size, laboratory size, infrastructure facilities available and qualities of teachers, training and adaptation of the latest technologies gathering skills in teacher, etc. it is difficult to achieve all the mentioned objectives. The objectives are multidimensional in nature, so for their achievement...
multiple methods can be used in a combined manner. In 21st century ICT plays major role in education system and also play vital role in filling up the gap between current and past trends because it provides access of different sources like internet, mobilize-governance of information but policymakers and educators have to define some guidelines to achieve education or any other goal through ICT technology.

LITERATURE REVIEW

The impact of ICT and the related synergy effects and increased efficiency "have influenced the numbers and structure of the workforce and significantly changed working conditions and occupational patterns. This is relatively a new development affecting the status of workers, especially in recent years. In the medium term, hardly any jobs will remain unaffected by it" by Federal Ministry of Labor and Social Affairs: 1999[1]. The effects of ICT in all the areas of education increases challenges for policymakers, administrators, teachers and students. ICT has two key qualities. First, it supports active learning experiences and second, it supports access to varied range of media and learning chances. The challenge is that developing worthy active learning experience is more expensive. The main aim is to devote teachers’ time in designing learning activities that really increase the productivity of learners stated by Daniel, John S.,2001[2]. In 2004, Bottino, Rosa Maria discussed some main characteristics of the evolution which is based on ICT like technological evolution, changed cognitive and pedagogical frameworks, changed role assigned to ICT based systems in education. Transmission model, learner model and participative model are introduced for crucial issues in ICT based learning systems. Various tools of ICT based should support to the students for solving their problems and deliver them with the opportunity to carry out open-ended problems [3]. In 2013, MuniengeMbudila, Telisa Jones, KikungaMuhandji stated that the integration of ICT in education is an expansive method of implementing technology to the academic curriculum to improve process of teaching and learning. Though, ICT integration is not easy task. There are various challenges to integrating ICTs use in education like Environmental challenges, Cultural challenges and Educational challenges. Thus, policymakers and teachers are essential to recognize how technology and the education system interact with each other. Hence, there is a requirement of government authority sustenance to making the interaction of ICT in education a successful development [6]. In 2016, Dr.S.ViswanadhaRaju, Dr.M. S. V SivaramaBhadriRaju, Dr.G.Abbaiah and Dr.MadhaviG.stated that quality education which permits the society can be able to achieve through ICT in teaching learning process to develop learners’ level of skill. Besides these results can effect learner accomplishment and performance. Quality can be confirmed if institutions can face competition to attract brilliant students, offering various choices and innovative subject combinations [7].

MAJOR CHALLENGES OF ICT

There are multiple issues and challenges confronting the implementation of ICT education in schools and educational institutions and the problems are much more magnified in case of schools located rural and remote area when the access to electricity and internet are next to impossible. The biggest challenge is the need for constant renewal in terms of content. The policy makers, educators, administrators and students in higher education are facing certain challenges like, Environmental challenges, Educational challenges and Cultural challenges.

Environmental challenges: There is restriction on infrastructure area for the complete ICTs integration in education. So it becomes very significant for policy makers and planners before any development of ICT in education. Few things which we have to keep in mind when we implement ICT in education like proper classrooms and buildings need to be available for the latest technology as well as availability of telephony and electricity

Educational challenges: It is one of the biggest challenges to develop ICT in education because of balancing educational goals with financial realities. In education, ICTs need huge amount of investments. Additional effort and time required to train teaching manpower, motivate educators and integrate ICT as a tool into their curriculum. In short, development of ICT in education requires to establishment facilities with appropriate infrastructure and adaptation of the latest technologies
Cultural challenges: English is the foremost language of the internet. Miscellanies of culture in different areas of the world are also challenges to introducing ICT in education. Almost 80% of online content, educational software are in English. English is not the first language in most of the countries. So it denotes a serious obstacle to integrating ICTs use in education system. For example, in India and Pakistan, almost all the websites are in English. Thus, some people may not access the information due to lack of in English efficiency [6].

SIGNIFICANCE OF ICT:

Information and Communication Technology (ICT) can allow educators and learners to make important contributions in learning and achieving specific goals. There, needs to define some approaches to use ICT in the formal education sector to be revised and examined. Documentation, research techniques should be applied. Relationships between ICT, curriculum development, pedagogy and practice in classroom setting are considered. The term 'ICT', in curriculum is discussed. A framework for the investigation of contemporary understandings of ICT in pedagogical practice is presented. Three dimensions of ICT curriculum: 1) proposed; 2) implemented and 3) achieved are employed in this framework. The structural approaches that can be applied for the examination of ICT in each of these three dimensions are discussed[5]. This study will provide a

- E-learning and access to e-libraries.
- Access to varieties of learning resources.
- Access to online courses of any university.
- Propinquity to information
- Collaborative learning.
- Educational data storage.
- Learning at any time and any place.
- Distance learning.
- Reduces time on many routine tasks.
- Access to the sources and resources of information.
- Touch with any legend researcher.
- Multimedia approach to education.
- Teaching of different subjects made interesting.
- Access e-mail, chat, forum and blogs multiple communication channels.
- Easy, understandable and interesting learning.

Fig 2: ICT in Education
In the field of IT, there are quite huge techniques to understand information and update skill, also have quite good learning ability. With the help of all technology of IT and computer, now it is easy to provide multimedia, virtual, audio-visual education. Because of internet and learning to web facility, everyone can learn and access online libraries. Nowadays in the world of technology, imparting knowledge is quite fast and one can be educated from anywhere at any time and from any leading world’s best universities. Using online courses, one can learn collaboratively with other students’ cluster group, in that they can easily share their knowledge and problems and get best and easy solution. Even now Web sites are incredibly developed so one can easily record given information even they can talk through phone call as well. Nowadays children can also learn from internet stuff related with their subjects. Learning is easy with the use of Audio-Visual Education, planning, preparation, and use of devices and materials that involve sight, sound, or both, for educational purposes. Among the devices used are still and motion pictures, filmstrips, television, transparencies, audiotapes, records, teaching machines, computers, and videodiscs. The growth of audio-visual education has reflected developments in both technology and learning theory [5].

ICT IN 21ST CENTURY’S

For improving student learning outcome, we need to improve educational quality. Thus, students can be able to procure the skill which is needed for 21st century learning. Communication and Collaboration, digital literacy, citizenship, critical thinking and problem solving, creativity and being productive users of technology are important for 21st century skills. There are three skills of life and career in 21st Century. 1] Leadership & responsibility 2] Productivity & accountability and 3] Social & cross-cultural skills[1]. In learning environment, 21st century support to the professional learning. So the educators can easily collaborate and share their best practices. It enables students to learn with relevant contexts. It allows teachers for accessing quality teaching and learning tools, technologies and resources. It supports to expand face-to-face and online learning for cross cultures. In 21st century, mainly six key components are defines for learning1] Emphasize core subjects 2] Emphasize learning skills 3] ICT tools to develop teaching and learning skills 4] Teach and learn in a 21st century context 5] Teaching and learning 21st century content and 6] Use of 21st century assessments that measure 21st century skills[1].

TYPES OF EVALUATION

Assessment can be categorized into several types which is based on the different purpose. It can be categorized as follows:

ICT TOOLS FOR EVALUATION

ICT receives the wider acceptance in all the fields especially in education and development of India nowadays, so, computer anxiety is a challenging part as mentioned above. There are models or tools which are mentioned below figure which we can directly use for the purpose of education and development but one can access these models or tools only when one has to learn and understand that first, and then apply in curriculum. ICT is, indeed to grow India like smart booming world. There are excellent assessment tools to assess or evaluate students’ knowledge from various aspects as well as at different levels like schooling,
degree education or any other kindergarten as well. This can help evaluators to categorize the students in grades. It helps students, if one can acquire specific training to reach goal. It also helps the scholar students to grow up more and make sharpen their domain knowledge in expertise field.

**CONCLUSION**
The modern science, engineering and technology are based on Information and Communication Technology. ICT is a developmental tool and this technology can be helpful in meeting the governance, employment, education, health and commercial needs of the nation. To integrate ICT into the curriculum, institutions should provide suitable support to the teachers in terms of finance, infrastructure and e-resources. The success of ICT in rural areas will require many changes to the current landscapes, for example increased availability of education, training, infrastructure, and affordable ICT capital. The Government of India is marching
towards the accomplishment of complete digitization of the nation in order to achieve the goals of ICT through its DIGITAL INDIA vision. Inspired by the vision, with the wise and visionary use, ICT has become an emergent tool in Indian education system. The use of ICT helps to bridge the gap between people’s opportunities for self-employment through ICT learning in the informal economy.

REFERENCES