Role of ICT in Teacher Education Programme

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Abstract:-

Information and CommunicationTechnology (ICT) is major factor in shaping new global economy and producing rapid changes in the society. Today Information and Communication Technology has taken an important role in our present "Knowledge society". ICT is a scientific, technological and emerging discipline and management technique used in handling information, its application and association with social, economic and cultural matters (UNESCO, 2002).ICT stands for Information and Communication Technology. It has become a necessary part in today's Indian school curriculum as well as teacher education programme. It is now broadly used in teacher education throughout the world. Every people related to education like teacher, student, administrators are popularly used ICT. Teachers play a vital role in helping pupil to develop their talents and fulfil their personal growth and well- being. So development of skills and competencies of teacher requires knowledge of ICT. Inclusion of ICT asan essential component of teacher education programme is necessary. Because the success of a student depends on the quality of good teacher. The knowledge of ICT is also required for pre- service teachers during their training programme, where it helps them for making practice teaching easy and interesting. Now-a-days teacher must know the use of ICT so that they can help the learners for learning more effectively. So, the knowledge and application of ICT is very much needed for teacher education programme. This will help the teachers to perform his role in classroom teaching effectively. Application of ICTisvery much helpful in teaching learning situation so that the students can move from pedagogues to skill full techno pedagogues. This paper discussed about the role of ICT in teacher education programme to increase their effectiveness in the present century.

Key Words:-

Teacher Education, ICT, In-Service Teacher Education, Pre-ServiceTeacher Education.

I.   INTRODUCTION:

Teacher is the most important element in any educational program. He plays a central role in implementation of educational process at any stage. The level of achievement of learner is determined by teacher competence (NCTE, 1998). Educational systems around the world are under increasing pressure to use the new Information and Communication Technology (ICT) to teach students the knowledge and skill they need in the 21st century. The World Education Report, *Teachers and Teaching in Changing World,* describes the radical implications the new Information and Communication Technologies have for conventional teaching and learning (UNESCO, 1998). In present century's every aspect of life are related to science and technology. The World Education Report refers about students and teachers must have sufficient success to improve digital technology and the internet in their classrooms, schools, teacher educational institutions (UNESCO, 1998). Teacher must have the knowledge and skills to use new digital tools to help all students achieve high academic standard. "ICT is a scientific, technological and emerging discipline and management technique used in handling information, its application and association with social, economic and cultural matters" (UNESCO, 2002).

Teacher education institutions are faced with the challenge of preparing a new generation of teachers of effectively use the new learning tools in their teaching practices. For many teacher education programmes, this daunting task requires the acquisition of new resources, expertise and careful planning. Teachers are the centre of any living society. Technologies play a vital role in teacher education programme. It also helps students to access knowledge and information through TV, computer,

internet, social media like Facebook, Twitter etc. ICT is vital for both pre-service and in-service teacher education programme in the present century. Without proper knowledge and application of ICT teacher cannot perform best in the classroom. In this context, the role of ICT in Teacher Education Programme has been discussed in this paper.

II.   OBJECTIVE OF THE STUDY:

- To study the role of ICT in Teacher Education Programme.

III.   METHODOLOGY:

The study is documentary in nature. Documentary analysis has been done. This present study is based on secondary sources like books, Journals, Articles, Thesis and websites etc. The method used in this study is Analytical Method.

IV.   NEED AND SIGNIFICANCE OF THE STUDY:

Teachers need to be knowledgeable and critical users and creators of digital technologies. Because the present scenario of the classroom is changing continuously. Many countries are engaged in a number of efforts tobring effective changes in the teaching-learning process to prepare students for Information and Communication Technology based society. If we observe in our society the teaching-learning activities at school level have so far away from technology. But in 21st century's education is student centric as well as ICT supported. They learn from multi sources and for this reason multimedia is very much essential in educational field. Simultaneously teacher's knowledge of application of ICT and multimedia also required.

V.   NEW TRENDS IN TEACHER EDUCATION PROGRAMME:

Today's classroom interaction situation is changed from one way to two way communication, in the same way teacher education programme also changing its need dynamically. Based on the needs of our classroom interaction situation teachers are need to know the right application of ICT related to teaching in classroom. It is natural that teacher education programme must include ICT to make teaching-learning process interest. Now-a-days new trends in teacher education are programmed instruction, micro teaching, simulated teaching, team teaching etc. Refresher courses, correspondence courses, orientation programmes and Inter-disciplinary Approaches are also used in teacher education programme. This new trends are helps teacher to be updated.

VI.   NEED OF ICT IN TEACHER EDUCATION PROGRAMME:

ICT acts as the gateway of information and helps teachers to make classroom interest and to be updated them time to time. With the emerging new technologies, teaching profession is evolving from an emphasis on teacher centred, lecture-based instruction to student centred, interactive learning environments. Designing and implementing successful ICT enabled teacher education programmes is the key to fundamental, wide ranging educational field. The new technologies challenge traditional conception of both teaching and learning and, by reconfiguring how teachers and learners gain access knowledge, have the potential to transform teaching and learning process (UNESCO, 1998). ICT provides a compose powerful tools that may help in transforming the present isolated, teacher centred and text book-bound classroom into rich, student centred and interactive classroom. For this reason ICT is very much needed in teacher education programme.

VII.   ICT AND NCF 2005:

Thoughtful use of technology can increase the reach of educational programmes, simplify management of the system, as well as help address specific learning needs and requirements. The national curriculum framework 2005 also emphasized the role of Information and Communication Technology(ICT) in school education. The use of ICT for quality improvement was also

included in government of India flagship programme on education, namely Sarva Shiksha Abhiyaan(SSA). The ICT was also included comprehensively in the norm of schooling recommended by Central Advisory Board of Education(CABE) in its report on universal secondary education in 2005 on account of conversions of technologies, it has become necessary to take a comprehensive view about various possible information and communication technologies for improving quality of school education in India (NCF, 2005).

For instance, mass media can be used to support teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study, etc. could all benefit from the use of technology, particularly ICT (NCF, 2005). The increasing use of the Internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. Technological innovations are also necessary for appropriate equipment and aids for meeting the learning requirements of children with special needs. What needs to be underscored is that technology could be integrated with the larger goals and processes of educational programmes rather than viewed in isolation or as an add-on.

In this context, technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged. Interaction and intimacy are key to quality education, and this cannot be compromised as a principle in any curricular intervention. All teachers will be sensitised to issues related to students with special needs and the potential of ICT to address them. All capacity building programmes will include components of ICT enabled inclusive education (MHRD, 2012). Technology has been used as a medium to disseminate information, and as a way of addressing the scarcity of good teachers—usually the consequence of poor recr uitment policies. ET, which is used to redress the problem of quality of teaching, can only exacerbate the disillusionment of teachers with teaching. If ET is to become a means of enhancing curricular reform, it must treat the majority of teachers and children not merely as consumers but also as active producers.(NCF, 2005). Providing children more direct access to multimedia equipment and Information Communication Technology (ICT), and allowing them to mix and make their own productions and to present their own experiences, could provide them with new opportunities to explore their own creative imagination. (NCF, 2005). Teachers' associations and organisations can play a far greater role in strengthening school education than has hitherto been the case. For instance, they can help evolve norms to improve school functioning by using their influence over their teacher members to ensure that teaching time is not compromised, and help create a culture of accountability. They can also draw attention to the inputs and supports that are necessary for effective curriculum transaction, and act as constructive pressure groups on issues such as school resources, quality of teacher education and professional development. (NCF, 2005).

VIII.　ICT AND NCFTE 2009 & 2014:

In 2014 a new curriculum framework was drafted by the NCTE. It suggested a two year b.ed programme, where the programme offers a comprehensive coverage of themes and rigorous field experiment with the child, school and community. The programme is comprised with three inter-related curricular areas likely – 1) Perspective in education 2) Curriculum and pedagogic studies and 3) Engagement with field. While it also includes special courses for Enhancing Professional Capacities (EPC) for the student teachers. In second semester of two year B.ed curriculum there is a course for Enhancing Professional Capacities (EPC) on Critical Understanding of ICT is introduced as an important curricular resource, according to the role of the trainee- teacher, ensuring public ownership of digital resoursces and promoting constructive approches that privilege participation and co-creation over mere access to ICT (NCTE). This course focuses on moving byond computer literacy and ICT-aided learning to help student-teachers interprete and adapt ICT in the line with educational aims and principles. Applying these principles can support Teachers Professional Development that are self-directed, need-based, decentralized, collaborative and peer-learning based method(NCFTE, 2009). Since ICTs are the technologies along with developing such understanding, the course will also help student-teacher to learn integrating technology tools for teaching-learning, teaching aids development, developing collaborative

networks for sharing and learning. This learning can help integrate pre-service and in-service teacher education, address traditional chalanges of teacher isolation and need for adequate and appropiatelearning resourse materials.(MHRD, 2012). Communication and information sharing/ storing are basic social processes; new digital Information and Communication Technologies (ICTs), by making these easier and cheaper, have significantly impacted and are impacting our socio-cultural, political and economic spheres (Castells, 2011). The course will help student-teachers to develop an understanding of the shift from an 'industrial society' to a 'post industrial information society', where the production and consumption of information is both easier/ simpler as well as important (DSERT Karnataka, 2012). This change has positive and negative implications and possibilities for democracy, equity and social justice, all core components of our educational aims. The course will help student-teachers reflect critically and act responsibly to prevent how ICTs are used to support centralisation and proprietisation of larger knowledge structures; it will show student-teachers how ICTs can be adapted to support decentralized structures and processes, as well as build the 'digital public' to make education a participatory and emancipatory process (Benkler, 2006).

IX.   APPLICATION OF ICT IN DIFFERENT AREAS OF TEACHER EDUCATION PROGRAMME:

- Applying ICT to prepare Teaching-Learning Materials.
- Applying ICT to make classroom interesting.
- Applying it to adequate infrastructure and technical support.
- To prepare pre-service Teacher Education curriculum.
- Applying in refresher courses curriculum.
- To apply software, internet, projector, understanding system software etc.

X.   ROLE OF ICT IN PRESENT TEACHER EDUCATION PROGRAMME:

- ICT helps teachers to make Teaching Learning Materials.
- It helps them to make interest on learning.
- It makes teaching-learning process easier in classroom.
- An ICT literate teacher and student community who can arrange, apply, and benefit from ICT and contribute to the nation building.
- ICT helps teachers to proper access of internet to supply information.
- It helps them to various skill development in teaching.
- ICT helps teacher training institutes to develop their curriculum.
- ICT helps teachers for their personal as well as professional development.
- It helps teachers to interact with students in their classroom.
- It helps to use of various software and hardware for effective teaching learning process.
- ICT helps teacher to prepare questioner for test student's achievement.
- ICT helps to motivate students.
- With the help of ICT teachers can use projector in classroom.
- With the help of ICT teacher can deliver his/her lecture by presenting PPT.
- ICT helps teachers in both pre-service and refresher courses.
- It helps to manage and organise institutions.
- ICT helps to conduct research in Teacher Education Programme.
- ICT uses as an 'assisting tools' to collect various data.
- It helps to prepare lesson plans.

- ➢ ICT helps teacher to identify creative child in educational institution.
- ➢ It plays an important role in evaluation process.
- ➢ It helps to create a healthy teaching-learning environment.
- ➢ ICT helps to remove rote learning from students.
- ➢ ICT brings student and teacher so close.
- ➢ Information and Communication Technology helps teachers and students to access online resources.
- ➢ It plays an important role in learning assessment.
- ➢ It helps to improve student's engagement in learning.
- ➢ With the help of ICT teachers can pass authentic information to students within a very short time.
- ➢ ICT as a popular tool for making teaching easy and interesting.
- ➢ It is also helps teacher to communicate properly with students.
- ➢ With the help of ICT teacher removes traditional teaching method to modern teaching method.
- ➢ It also helps teacher to improve their teaching innovative.
- ➢ With the help of ICT teacher uses various teaching strategies in teaching-learning situation.
- ➢ With the help of ICT student-teacher prepares their teaching model presentation like flow-charts, various diagrams, animation, PPT etc.
- ➢ Information and communication Technology helps student to grow interest in learning.
- ➢ With the help of ICT student-teacher will become effective teachers.
- ➢ With the help of ICT teachers tries to develop students' ability and performance.
- ➢ With the help of ICT teacher enables to access multimedia content for teaching students more practically.
- ➢ ICT helps administration and management of teacher education to support sustainable development.

XI.   CONCLUSION:

Teachers have important responsibility for mapping out students own learning pathways throughout life. We know teachers have a high respect in our society. They are called builder of future generation of a nation. Professional update is very much needed in teaching profession. They required to know the proper application of ICT in classroom. ICT helps teacher to update their teaching strategies, techniques, skills, and teaches them how to use new tools and resources in classroom. By knowing the knowledge and proper use of ICT student-teacher will become effective teachers. Like other countries now India is included ICT as an i2portant part of curriculum in Teacher Education Programme. Now teachers in India started using Information and Communication Technology in the classroom. LCD projector, White board, Computer desktop, smart classes, Internet, Memory sticks are became the common media in Teacher Education Institutions. Teacher education curriculum includes ICT in Teacher Education Programme to prepare them for modern classroom.

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