



Role of Information and Communication Technology in Teacher Education-Teacher Educators Perceptive

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ABSTRACT

The present paper discussed on role of information and communication technology in teacher education. Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) to teach students the knowledge and skills they need in the 21st century. The 1998 UNESCO World Education Report, Teachers and Teaching in a changing world, describes the radical implications ICTs have for conventional teaching and learning. It predicts the transformation of the teaching-learning process and the way teachers and learners gain access to knowledge and information. The essential conditions that must be met for successful technology integration and provides guidelines for the development of a strategic planning process. It also identifies important strategies for managing the change process in the teacher education programme as technology becomes a catalyst for trans- forming the teaching-learning process.

KEYWORDS : Teaching-Learning, Transformation and Information and Communication Technology

1. Introduction

Improving the quality of education and training is a critical issue, particularly at a time of educational expansion. ICTs can enhance the quality of education in several ways: by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment.

Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century. If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning. The integration of ICT tools and equipments at various levels, especially in school education has become a challenging undertaking, India actively promotes the use of information and communication technologies (ICTs) in education in the formal education sector today, as it has in the non-formal sector for more than 40 years. From the use of radio to spearhead the green revolution, to satellite-based, one-way and interactive television for rural development in some of the most backward districts.

2. Importance of ICT

The teaching profession is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and much of it's available to students as well as teacher educators at the same time. As new concepts of learning have evolved, teacher educators are expected to facilitate learning and make it meaningful to individual learners rather than just to provide knowledge and skills. Modern developments of innovative technologies have provided new possibilities to teaching professions, but at the same time have placed more demands on teacher educators to learn how to use these new technologies in their teaching. These challenges ask teacher educators to continuously retrain themselves and acquire new knowledge and skills.

Today, a variety of information and communication technology (ICTs) can facilitate not only delivery of instruction, but also learning process itself. Moreover, ICT can promote international collaboration and networking in education and professional development. There is a range of ICT options – from multimedia delivery through videoconferencing to web sites – which can be used to meet the challenges teacher educators face today. In fact, there has been increasing evidence that ICT may be able to provide more flexible and effective ways for lifelong professional development for today's teacher educators.

Researches have proved that ICT can change the way teacher edu-

cators teach and that it is especially useful in supporting more student-centred approaches to instruction and in developing the higher order skills and promoting collaborative activities.

New technology is supposed to add value to education, support more effective pedagogy, in part through a better relationship to knowledge for learners, and enhanced communication that promotes learning. The opportunities for networking and collaborative learning mean that several principles or theories promoting learning can be more easily integrated into teaching. ICT also provides an opportunity to reconfigure and shift in time and space exchanges between people and opens new avenues for pre-service and in-service teacher educator education activities that are more numerous, more diversified and especially more suited to the needs voiced by players in education.

There are a number of reasons why it is imperative for the teaching community to adapt new technologies. The need to introduce new methods has gained new urgency in teacher educator training. The foremost reason being, the need to provide students with the latest skills in the era of rapid technological transformation and innovation. These skills include the need to provide skills related to 'information reasoning', improving productivity and imparting skills that will provide students with a competitive advantage. The growth of 'global cities' 'the global city' conceptualized in terms similar to those enumerated by Saskia Sasse (1991). Being global their information and financial networks, need specialized skills that require an army of specialized 'knowledge workers'. These knowledge workers need to possess flexibility, adaptability and the ability (and interest) to constantly re-skill or update their knowledge based on the development of the productive forces in the market economy.

The higher education system can become more effective and relevant only if it is able to deploy ICT in the teaching – learning process. This however needs the faculty members to become not only computer literate but digitally proficient. Unless the faculty members become adapt and aware of ICT they cannot effectively utilize the opportunities that they throw up. The fact that deploying ICT enables the students to become competitive in the increasingly knowledge oriented society means that the education system has to lay more emphasis on this aspect. Deploying ICT, digitizing various resources with different institutions enables the institutions to share the resources available thereby reducing the long-term costs. The fact that education provides unquantifiable and intangible benefits is sufficient reason to deploy ICT.

3. Concept of ICT

The ICT is a technology that supports activities involving information. Such activities include gathering, processing, storing and presenting data. Increasingly these activities also involve collaboration

and communication. Hence, IT has become ICT: information and communication technology. Some underlying principles of Technology do not exist in isolation

ICT contributes at various points along a line of activity

ICT is used in activities – the ICT use depends on the activities

The key outputs of educational activities are context knowledge, experience and products

The output should be useful to the users (self and others)

4. Significance of Teacher Educator Education

The term “teacher educator education” is more comprehensive and has deeper implications. It includes theoretical background and practice teaching in order to develop the teaching skills needed for teacher educators. Teacher educator education is concerned with equipping the future teacher educators.

According to Rowntree (cited by Sharma, 1998), “Teacher educator education consists of all formal and informal activities and experiences that help to qualify a person to assume the responsibilities as a member of the educational profession or to discharge his responsibilities more effectively.

Teacher educator education refers to the totality of educative experiences which contribute to the preparation of a person for a teaching position in schools. The term is commonly employed to refer to the programme of courses and other experiences offered by an educational institution for the specific purpose of enhancing the competence and performance of persons who chose teaching profession. These teacher educator education programmes are generally offered in the colleges of education, teacher educator training institutes and university departments.

5. Teacher Educator Education and ICT

Development in other cognitive disciplines such as psychology, sociology and communication has their impact on education. The teacher educator education curriculum should be updated incorporating the developments in different areas. The present teacher educator education programmes have been changed with modern trends, the student teacher educators knowledge should be updated with current psychological concepts and it should be introduced so as to meet the challenges posed by changing modern trends.

The National Curriculum Framework Committee (2005) pointed out that “a sound programme of professional teacher educator education is essential for the qualitative improvement of education”. To achieve the aim of educational milestones, particularly those who belong to the socially and economically deprived communities, drastic change in the entire system of Teacher educator Education is absolutely necessary. The ultimate aim of any Teacher educator Education Programme is to develop general competencies and specific competencies related to the discipline concerned.

Teacher educators can make learning a thing of joy and success or make it miserable and confusing. It has been agreed by academicians, planners, policy makers, teacher educator educators, and parents that the success of an educational programme is largely determined by, how teacher educators do their job? Experience and evidences show that good teacher educators with an insight into the ways and means of inspiring learners at their care are vital for an enlightened and productive society.

In the years to come, the technological advancement will have to be exploited in professional teacher educator education course. Teacher educator education, therefore, has to change, adopt and adapt new techniques and methods to keep pace with the changing concepts of learning and education.

6. Need for the Study

A teacher educator plays a very prominent role in moulding up tomorrow's citizen and the teacher educators should possess training in using the most modern technologies in the field of education. The Attitude of teacher educator trainees is very important as it is a tenden-

cy which helps them to be favourable or unfavourable towards the usage of most modern technology in the field of education in future when they go for teaching.

According to the World Bank, “low education and literacy levels, lack of awareness about the capabilities of the technology and absence of skills to develop and use ICT applications represent significant obstacles to adoption, even when the physical and institutional infrastructure is available”. Determining the readiness of teacher educator trainees will therefore involve a need assessment of the teacher educators to identify their literacy levels, and Attitudes towards pedagogical applications of ICT.

Teacher educators' Attitude towards ICT is a very important factor which stake-holders ought to consider in implementing ICT in education. With the introduction of the new ICT initiatives it becomes crucial particularly for trainee teacher educators to be confident in using ICT effectively in their teaching. Measuring Attitude and efforts to improve Attitude towards technology is very much essential to effect any change through technology.

Attitudes and perceptions are considered the filter through which all learning occurs (Abdulkafi Albirini 2006). Attitudes and perceptions are described as part of the learner's self-system which oversees all other systems (Maria Kyriakidou. et al, 1999). Technological changes play a key factor in social and economic development. People's Knowledge, Attitudes, and Abilities about technology influence the choices and national development (Zhang, 1999). The teaching strategies that teacher educators use depend upon a range of factors such as attitudes, confidence, views of the nature of the learner and perceptions of themselves as practitioners (Dillemans, Lowyck, vander Perre, Claeys and Elen, 1998). The study of teacher educators' Attitudes becomes indispensable to the technology implementation plans (Sheingold 1991, cited in North Central Regional Educational Laboratory, 2003).

Aptitude plays a vital role in one's ability to operate or to associate with technical advancements. Knowing about the teacher educator trainees' Aptitude towards ICT is definitely imperative. Obviously measuring Anxiety is inevitable among teacher educator trainees'. And in reality efforts are to put in to reduce Anxiety. Understanding the gravity of the importance of Attitude, Aptitude of the teacher educator educators and how do they perceive about ICT and optimum level of utilization of ICT, the researcher has made an attempt to study the Teacher educator Educators' Perception and Utilization of ICT in relation to their Attitude and Aptitude in ICT

Teacher educator education is a continuous process and its pre-service and in-service components are inseparable (The National Policy On Education-1986). The teacher educator educator can play many roles in their working places. The flow of information enables the teacher educator to access multimedia material for teaching. The role of information and communication technology in teacher educator training should be considered in a larger perspective. The educational environment is changing rapidly as a consequence of ICT and will continue to change.

Knowledge and use of ICT skills in teaching and learning have become imperative for today's teacher educator. Although ICT plays a vital role in teaching, it is essential to know the attitude of student teacher educator towards ICT. Abbas (1995) in his study on “attitude towards using computers among teacher educator education students” found that teacher educators' attitude have been found to be a major predictor of the use new technologies in instructional settings”. The study of teacher educators' attitudes becomes indispensable to the technology implementation plans (Abdulkafi Albirini, 2004). The affective and cognitive factors are might be influencing the initiative use of new ICT (Muneokaigo, 1999). It is also imperative to understand about the factors namely anxiety and aptitude of teacher educator trainees towards ICT, it will be helpful to the teacher educator trainees in reducing and or eliminating their anxiety and improving their aptitude in ICT.

7. Conclusion

Effective training and usage of ICT in teaching is important since poor or improper usage and management of ICT in the classroom may re-

sult in underperformance in educational outcomes. The inefficient use of ICT-assisted instruction wastes time that could have been used for learning content and developing skills (UNESCO-UIS, 2014a). Effective usage requires quality teacher training; thus, it is important to identify clear indicators that shed light on how teachers are trained as well as how they use ICT in education. More specifically, effective teacher training and appropriate linkage to ICT usage, which gives rise to sound pedagogy has different approaches based on different types of learning (i.e. basic education approach, knowledge acquisition approach, knowledge deepening approach and knowledge creation approach), as per the knowledge ladder, which is a set of complementary, alternative models or perspectives that together provides policy-makers with an education reform trajectory in support development (UNESCO, 2011). Indicators that help capture the level of application of ICT is therefore important. It is hoped that by expanding UIS ICT in education indicators on teachers that amore comprehensive view of the role of the teacher in influencing pupil outcomes, including achievement and school completion can be achieved

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