Enriching Skills of Teacher Educators Through Integration of Information and Communication Technology

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ABSTRACT

Teacher Education is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. Teacher Education encompasses teaching skills, sound pedagogical theory and professional skills. Keeping these three points in view it can be concluded that preparation of teachers means developing right set of skills in the students along with competence to deal effectively with the school environment. Technology has made advancements and has entered classroom in a large way. "Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically." (Glatthorn,1995).The curriculum of both pre-service and in-service teacher training programs needs to be revamped and ICT training be added to it. In the same league special initiatives have been taken at various levels. The National Mission of Education on ICT program initiated by MHRD, Government of India is a step forward in this direction where the teachers are being trained in IT and Soft Skills.

Keywords : New Education Policy, ICT, Pre-service and Inservice Teacher Programme.

I. INTRODUCTION

Teacher Education is a programme that is related to the development of teacher proficiency and competence that would enable and empower the teacher to meet the requirements of the profession and face the challenges therein. Teacher Education encompasses teaching skills, sound pedagogical theory and professional skills. Keeping these three points in view it can be concluded that preparation of teachers means developing right set of skills in the students along with competence to deal effectively with the school environment. Technology has made advancements and has entered classroom in a large way. After COVID-19 it seems that technology has made learning more accessible and if the resources are available then effective teaching learning environment can be created.ICT is one of the latest technology tools which is a great enabler and drives the quality of the education provided by the educational institution, whether private or government. There is an urgent need for private and government schools to have a good ICT network.

Vision of New Education Policy, 2020 is to instil among the learners a deep rooted pride in being Indian, not only in thought, but also in spirit, intellect and deeds as well as to develop knowledge, skills, values and dispositions that support responsible commitment to human rights, sustainable development and living and global well being thereby reflecting a truly global citizen. This means that NEP seeks development of skilled employable citizens having right set of attitudes and values.

In the present scenario two points are being emphasized learning as creation of knowledge and value based society. This has been the point of discussion since late 20th century, Delors report in 1996 proposed a framework to identify competencies needed in the coming century. Four principles identified Learning to Know, Learning to do, Learning to be and Learning to live together.

Similarly World Health Organization proposed life skills like Decision making and problem solving, Creative thinking and critical thinking, communication and Interpersonal skills, Self awareness and Empathy, Coping with emotions and coping with stress. In Educational literature modern education system should emphasise on development of 4Cs i.e. Communication, Collaboration, Critical Thinking and Creativity. We talk about outcome based Education.

In this backdrop it is imperative to discuss Teacher Education Programme Framework. Ideally it includes three components as mentioned above i.e. teaching skills, sound pedagogical theory and professional skills. But when we analyze the teacher education curriculum that is being implemented presently at undergraduate level we can proudly say that it has been adequately adumbrated to include different components like ICT, Gender and School, Language across the curriculum, Twenty weeks internship programme but its practical implementation has remained the same.

Mere inclusion theoretically does not lead to the development of real 21st century teachers as envisaged in the policy documents. Traditional B.Ed. Program has been converted in two years program with a view to strengthen the knowledge and skill base of future teachers making them capable to face challenges of the new world by incorporating Internship and other components. The underlying problems in achievement of specified goal of preparing quality teachers needs to be discussed. In this paper we attempt to discuss these issues and possible solutions which can be undertaken to improve the existing situation.

As quoted in NEP, 2020, "According to the Justice J. S. Verma Commission (2012) constituted by the Supreme Court, a majority of stand-alone TEIs - over 10,000 in number are not even attempting serious teacher education but are essentially selling degrees for a price. Regulatory efforts so far have neither been able to curb the malpractices in the system, nor enforce basic standards for quality, and in fact have had the negative effect of curbing the growth of excellence and innovation in the sector. The sector and its regulatory system are, therefore, in urgent need of revitalization through radical action, in order to raise standards and restore integrity, credibility, efficacy, and high quality to the teacher education system."

This is the main issue. As privatization has increased accessibility but maintaining quality remains a concern. So focus should be drawn towards teachers professional development.

Teacher Professional Development

Professional Development, in a broad sense, refers to the development of a person in his or her professional role. "Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically." (Glatthorn,1995). Professional Development includes formal experiences (such as attending workshops and professional meetings, mentoring etc.) and informal experiences (such as reading professional publications, watching television documentaries related to an academic discipline (Ganser, 2000). For years the only form of professional development available to teachers was staff development or in service training, usually consisting of workshops or short term courses that would offer teachers new information on a particular aspect of their work. Now professional development of teachers is considered as a long term process that includes regular opportunities and experiences planned

systematically to promote growth and development in the profession. This new perspective of Professional development has several characteristics-

1. It is based on constructivism rather than on a transmission oriented model. As a consequence, teachers are treated as active learners (Lieberman,1994, McLaughlin and Zarrow, 2001) who are engaged in the concrete tasks of teaching, assessment, observation and reflection. (Dadds,2001)

2. It is perceived as a long- term process as it acknowledges the fact that teachers learn over time. As a result, a series of related experiences is seen to be the most effective as it allows teachers to relate prior knowledge to new experiences. (Cohen, 1990).

3. It is perceived as a process that takes place within a particular context.

Shafika (2006) defines *Teacher Professional Development (TPD)* as 'a systematized, initial and continuous, coherent and modular process of professional development of educators in accordance with professional competency standards and frameworks'. Teacher professional development would also include training in the adaptation to the evolution of change of the profession of teachers and managers of education systems. This definition presents a concept of Teacher Professional Development in ICT which 'should equip teachers not just with basic ICT skills, but should encourage the evolution towards *integrating* technologies into teaching subjects and practices'. The implication is that Teacher Professional Development in ICT is not simply about how to use technologies but also about why and when to use them in transforming teaching practices (School Net Africa 2004). The integration of ICT in teacher professional development according to Perraton *et al.* (2001, cited in Anderson and Glen 2003) involves two sets of activities or roles:

One is training teachers to *learn aboutICT* and its use in teaching as computers are introduced to schools.… The other role of ICT is as a means of providing teacher education, either as a *core* or main component of a programme, or playing a *supplementary* role within it.

Collis and Moonen (2001, cited in Davis and Kirschner, 2003) elaborate on the goals of professional *learningabout ICT* as centered on learning *how to useICT* and learning *withICT*. When learning *how to use ICT* the instructional focus is on the use of products in or outside the classroom. In learning *with ICT,* instruction is presented and distributed primarily through 'web environments or systems offering an integrated range of tools to support learning and communication'*.* Davis and Kirschner, (2003) clarify the distinction between the role of ICT as a *core* and a *complementary (supplementary)* technology for professional learning settings. A *core technology* rolerefers to 'the principle way of organizing the learning experience'. In contrast a *complementary technology* roleis 'optional serving a valuable function but able to be compensated for via the core technology if so needed, or dropped altogether if not functioning or feasible' (ibid:128). A synthesis of the two dimensions of ICT integration combining the roles and activity sets is presented in figure 1
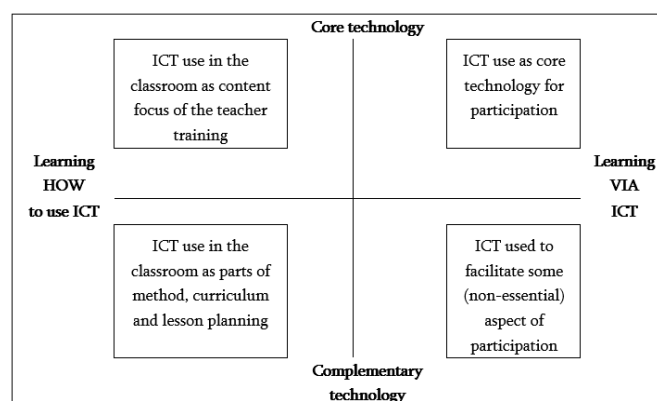

Figure 1. Two dimensions of *ICT integration* in Teacher Professional Development
Source: Collis and Moonen 2001, cited in Kirschner and Davis, 2003

Why ICT to be an integrated part of Teacher Professional Development?

The need of the hour is to identify the loopholes in the curriculum that actually shapes a teacher. There are two main issues plaguing the education program for teachers. While on the one hand, an obsolete curriculum is in need of a revamp in keeping with the ground realities, on the other, in service training also needs to be upgraded. The curriculum for teacher training should have a strong commitment to a reflective practice. Experiential learning, self study, cooperative and social learning, reflection based on enquiry, self expression, professional communication and intense sharing among peer communities are components that when incorporated in curriculum will achieve an ideal curriculum to help educate the educators.

Employing latest technology gadgets and processes have become sine quo non in the education sector, especially in the wake of growing technological literacy amongst the youth of the nation. ICT is one of the latest technology tools which is a great enabler and drives the quality of the education provided by the educational institution, whether private or government. There is an urgent need for private and government schools to have a good ICT network. Rekha Rana Dey points out role of ICT as:

- ICT helps teachers at the primary and secondary level to use multimedia and web based technologies to teach English, Mathematics and Science where students tend to lag behind
- Multimedia at the primary level helps in demonstrating simulations, animations, videos and attracting students who might drop out due to inadequate teaching method. At the same time it is important to blend ICT symbiotically in the teaching process without substituting teachers
- It helps in attaining better writing skills and Mathematics
- Encourages and helps teachers to develop their own educational modules with tailor made multimedia effects to supplement traditional classroom teaching
- Involving students in the creation of useful materials as part of the learning exercise is a way to make school more meaningful for students
- ICT can assist in teacher training initiatives and aligning the educational needs to employment opportunities and imparting the skills in demand there while making the educational journey more rewarding
- Enhancing the quality of teaching by standardized and updated content in the form of web based trainings and live satellite sessions by renowned teachers
- To implement the principle of lifelong learning/ education
- To increase the variety of educational services and medium/ method
- To promote equal opportunities to obtain education and information for all students
- To develop a system of collecting and disseminating educational information
- To promote technology literacy for students
- To develop distance education with national contents
- To support schools in sharing experience and information with others

Higher Education has also transformed. The world is changing and along with it, role of the university teacher is also changing. Why waste weeks trying to make contact with a professor who is either overseas or doesn't answer e-mail, when in a few seconds you can Google the answer you want? Many universities are now providing free courseware, of high quality, in online modules available to all. Traditional Lecturer will say no, saying there is no substitute for face-to-face teaching. But with the advent of mass education and large class sizes, the old style Socratic method is no longer viable. Also there are many on line learning resources available in the university library which have made access to information easier. The new

academic must be computer- savvy and comfortable with technology, participating in and creating social networks, but critically guiding students from Information to Knowledge and finally to Wisdom. Thus ICT needs to be integrated in Professional Development programs meant for teachers teaching at all levels.

How to Integrate?

The curriculum of both pre-service and in-service teacher training programs needs to be revamped and ICT training be added to it. In the same league special initiatives have been taken at various levels. The National Mission of Education on ICT program initiated by MHRD, Government of India is a step forward in this direction where the teachers are being trained in IT and Soft Skills. The Ministry has also launched a portal SAKSHAT where the teachers can access on line learning resources and share their experiences. More such initiatives are required which shall enhance quality of teachers as well as shall improve modalities of teaching learning procedures.

Various studies which have been undertaken in countries like Australia, New Zealand, USA and several others have revealed that integration of ICT in training of teachers help to bring effectiveness in teaching as well as increase quality of learning. With technology rapidly changing, teachers, administrators, educators and school communities need to focus on the following (Bybee and Loucks-Horsley, 2000):

- learning about and developing skills related to technology and deepening their content knowledge
- creating opportunities to learn how to teach technology
- acquiring tools that will allow them to continue their own learning
- being provided with long-term process-oriented opportunities, so that teachers are at ease using technology and are able to use it effectively.

As with all teacher- preparation programs learning about technology must be included in the teachers' education so that in addition to knowing how to use the tools, they also know how to integrate technology in the classroom in a thoughtful way. (Caverly et.al.1997).

Thus, ICT should be integrated in programs organized for Professional Development of teachers as this will help to bring qualitative enhancement in teaching learning systems and prepare competent, committed and confident teachers i.e. will inculcate capacity building among the academic fraternity.

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