
Innovations in Teacher education: an Indian and Global Perspective

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Abstract

Innovation is needed in every field for the sustainable development, same thing is true with teacher education, this article explores the innovations in the field of teacher education at the Indian and global level. It explores innovative practices from normal schools, to the use of multi casting services and information in the field of teacher education, it also address the need of innovations for the professional development and qualitative improvement of imminent teachers and touched some problem areas in implementation of these innovations.

Keywords: Innovations, Teacher education, Professionalization, Qualitative Improvement.

Teacher Education

Education system has many constituents and teacher education is one among them and the most important one. For any nation, its social, economic and technological development largely depends on education, and it is the most important cube in building up a nation. The fact is teacher education is considered to be a vital force in the development of education system of a country as it accords special emphasis in the face of recent social, economic, political and technological advances. Goel and Goel (2010) has described teacher education as “The discipline which educates the progressive generation on what has gone by, where we are, where we want to go and what we like to create, observing, healthy, meaningful and long life”. Teacher education generally includes four elements:

- Improving the general educational background of the trainee teachers;
- Increasing their knowledge and understanding of the subjects they are to teach;
- Pedagogy and understanding of children and learning; and
- The development of practical skills and competences.

Teachers are the main link between societies' expectations from their educational systems and concrete student outcomes, that's why teacher education programme is essentially required to build a society, to build a nation and is equally important for the development of globally acceptable individuals.

Functions

- Better understanding of the students

- Building confidence
- Methodology of teaching
- Building a favorable attitude
- Familiarizing with school organization
- Creating social insight
- Improving standards
- Training for democracy

Significantly, different advances at the global stage put education system under severe pressure and most importantly teacher education, because with the changing role of a teacher, the definition of teacher effectiveness, professional competencies, high commitment level and high motivation level is required for high level of performance. And to acquire this, the required performance level need something extra in addition to present practices. Thus we need to bring innovation into existing practices and hence there is a need to think out of the boxes. As man invented wheel, airplane, electricity, and much more things when he felt their need to improve the living standards, similar efforts are needed to improve the practices of teacher education, And we have done this in the past and will do it in future as in the Yashpal Committee Report (1993) on Learning without Burden noted "...inadequate programmes of teacher preparation lead to unsatisfactory quality of learning in schools. The content of the programme should therefore be restructured to ensure its relevance to the changing needs of school education. The emphasis in these programmes should be on enabling the trainees to acquire the ability for self-learning and independent thinking".

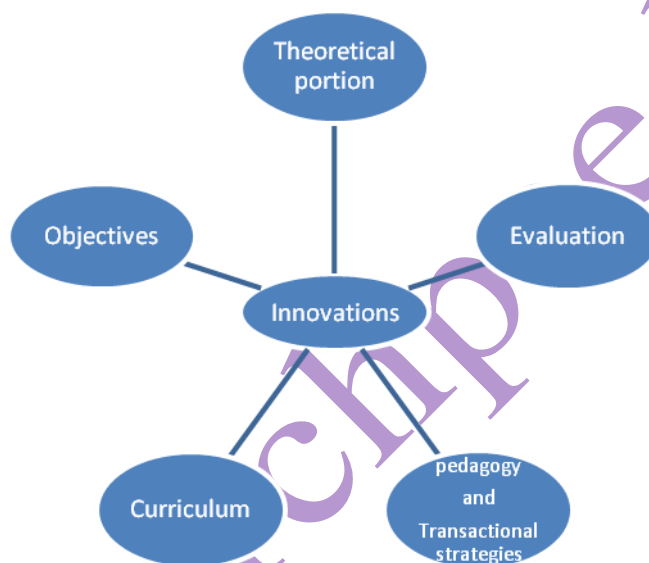
Innovation

In an age of dynamic knowledge explosion, we need to improve the quality of individuals by adopting the innovative ways of teaching, but at the same time the question arises as to what exactly the word innovation mean? In the words of *clapham* (2003) "The word innovate comes from a Latin word 'innovare' which means to renew, to make new", *Smith* (2003) described it as "ideation". *Sternberg, Pretz and Kaufman* (2003) define innovation as "The channeling of creativity so as to produce a creative idea and/or product that can and wish to be used" and *Kostoff* (2003) suggests that "Innovation reflects the metamorphosis from present practice to some new, hopefully better practice"

So, in the light of these things we can say that innovation refers to the ideas which are creative and looks for the betterment or improvement of the present practices, innovation is about creating values and increasing efficiency and is necessary for fulfilling the required needs. Without innovation, new services or ideas, new ways of doing things are not possible, and we will get stuck doing the same old things in the same old manner. *Goel and Goel* (2010) has defined Constructivist, Techno – Pedagogic, Humanistic, Life Skills, Meeting Development Challenges, Multi-Lingual, Integrated, Technology Integrated, Research Based, Choice Based, Self-Peer-Teacher-Community Certified, Internship/Entrepreneurship skills, Emotional, Maturity, Inter-disciplinary, Activity based (participatory) as the features of innovative teacher education.

Innovations in Teacher Education

As we have discussed earlier that we need to innovate new practices of educating teachers, so many attempts have already been made all over the world which have resulted in many innovations in the form of theories such as theories of learning, individual differences, personality, or of creativity. And we get to know something new from them and they help us in preparing competent and effective teachers. We have already innovated and further innovation is needed in the field of teacher education such as objectives, curriculum, transactional strategies, evaluation etc as it is shown in the following figure.



Areas of Innovations in the field of teacher education

Need for Innovations in the Field of Teacher Education

As we know that present era is the era of technological advancement and we have tech-savvy generation of learners, teaching is no more now a job of talk and chalk. Marklund (1973) has neatly drawn attention to some of the more important changes. He lists the extension of compulsory schooling, the differentiation of pupils, the extension of post secondary education, and the integration of different types of school. Time for the conventional teachers has gone, center of concentration has moved from teacher to learner role of a teacher is changed from information provider to knowledge generator, facilitator, a mentor, resource developer etc, We have already moved further from books to e-learning to M-learning and new learning environment demands new teaching skills and competencies on the part of teachers and teacher educators. However John Eggleston (1975) has said that “there is no lack of understanding of these issues (need of innovations), many initiatives in teacher training are now prefaced by statement of objectives in which the situation is put with considerable clarity”

Innovations for Professional Development

Innovations are required for nurturing professionalism in teachers and teacher educators, “a profession is characterized by sufficiently long period of academic training, an organized body of knowledge on which the undertaking is based, an appropriate duration of formal and rigorous professional training in tandem with practical experience in the field and a code of professional ethics that binds its members into a fraternity.” (NCFTE: towards preparing professional and humane teacher; NCTE, 2009), Importantly teaching was known as social service in the past but has now emerged as a profession as far as India is concerned. Although teachers comprise the largest, most steadily growing profession, we lack professionalism and have loops in teacher education programmes all the same. By looking at the training given at the B.Ed. level, we find that only one month is given to the students to experience the real classroom situations. NCFTE (2009) has suggested an innovative idea of making this course of about 2 years. In-service teacher education programme, when service introduced, teachers were supposed to be passive listeners only but as time progressed, discussion method, success stories and other innovative strategies are now being used. However NCFTE (2009) has said that the innovative idea of success stories has failed so we need to make this process more successful and meaningful by bringing changes into it. Though we talk about professionalism, we as teachers are not willing to learn anything new, real professionals are those who are ready to learn new things to develop new knowledge and skills to improve their professional practices.

Innovations and Qualitative Improvement in the Field of Teacher Education

Innovations are required to improve the qualitative aspects of teacher education; use of ICT is one of the most important innovations in the field of teacher education, As there is a gulf between existing teacher education programmes and the need of the society, we are not able to provide quality teacher education to the people who aspire to become teachers and also to those who are presently working as teachers. Hence we need some innovative ideas like the use of ICT, Mass communication, activity based learning etc to improve the quality of teacher education programmes.

Innovations in Teacher Education in India

As innovations in teacher education in the country have been a routine phenomenon, such progress can be seen both before and after independence. Gijubhai Badheka (1920), Rabindranath Tagore, Mahatma Gandhi etc. made some attempts to make our education system more effective and more competent. Their innovations address the education of a particular stage as a whole. All of them successfully carried out experiments in education and have left rich legacy to learn from. As mentioned in focus group paper of teacher education (NCF 2005), the innovations in Pre-Independence and post independence era are as follows:-

Innovations in Pre-Independence Era

- In 1920 Gijubhai Bhadaka established a set of innovative pre-primary schools at Bhavnagar in Gujarat, under the auspicious of Daxinamurti Institute. This movement had a radical impact on the stage of pre-primary education as a whole.
- In 1921 Rabindranath Tagore established Shantiniketan in West Bengal.
- In 1937 Mahatama Gandhi launched the scheme of Basic Education for the primary stage of education, in Wardha, Maharashtra.

Innovations in Post-Independence Era

After independence we had a task to bring back our nation on the path of success and development and we choose two most important things we need to strengthen on is our economy by giving emphasis on agriculture and second thing is our education system, teacher education is necessary to strengthen the education system of our country, so we did some innovations from establishing DIETs, IASEs, CTEs, introducing new programmes like SOPT, MLL, OBB, PMOST etc. to giving curriculum frameworks for teacher education from 1968 to 2009, and introduction of distance mode for teacher education etc. some other innovations in teacher education are listed below.

Four Year Integrated Programme of Secondary Teacher Education

This course was offered by Regional Colleges of Education, NCERT (1960s), this programme was designed to prepare secondary school teachers in the Sciences and Humanities. Initially curriculum was designed to develop subject-based competency for the graduation level students along with professional competencies related to methodology of teaching, a composite degree of B.Sc. B.Ed. was awarded to the candidates on the successful completion of the course, however this was modified to three years B.sc degree followed by two years post graduate programme in science but further get back to its initial structure of four year integrated programme and it is running successfully till now, the content of this integrated programme includes courses on subject knowledge (60%), professional education (20%) and general education (20%).

One year programme of Secondary Teacher Education at Vedchchi, Gujarat, was based on Gandhian philosophy, students spent their life on the principle of self help and self reliance, they performs all the daily life tasks such as washing clothes, cooking, cleaning utensils and maintenance of the entire campus, subjects here are taught by specially designed activity based programmes of duration 5-15 days. Main features of this programme were learning through participation in activities; self-directed learning followed by group work and group discussion; independent analysis of a problem by student teachers and the practice of self-motivated learning based on experiences.

Hoshangabad Science Teaching Programme; Eklavya, Madhya Pradesh was based on the philosophy that every teacher must go through the same experiment and discussion that he is going to introduce in his class, This meant that the teachers should work in groups of four as would their students in the classroom, that they were provided the same kit of materials as their students would use and

go through the same processes as their students would undergo for this every teacher has to undergo residential training for three weeks every summer for three years, These yearly sessions were interspersed with monthly meetings and follow-up programmes in individual schools.

Mirambika Elementary Teacher Education Programme, Shri Aurobindo Educational Society, New Delhi is a well known NGO, and gives emphasis mainly on participative processes but with some lectures and prescriptive type of exercises, it aims at the development of self-awareness. The maximum development of capacities and qualities of the physical, affective and cognitive domains and self-discovery of deeper and subtler layers of one's soul and spirit, self-directed learning, self-observation, self-reflection, feedback and self-evaluation are the main methods of learning in Mirambika.

Four year integrated programme of Elementary Teacher Education (B. El. Ed.), Faculty of Education, University of Delhi, is designed to integrate the study of subject knowledge, human development, pedagogic knowledge and self-knowledge, the main aim of the B.El.Ed. was to prepare reflective practitioners who are socially sensitive, The structure of course gives students the space to engage intensely with issues of understanding themselves and others. There is a special emphasis on understanding the nature of the child, the adult-child relationship and its dynamics within the classroom. The students engage themselves with issues of politics of education within the classroom as they reflect on the best way of facilitating children's learning.

The "**Anveshna Experience**" – a participating Teacher Education Programme, Department of Education, Banasthali Vidyapith, Rajasthan, the main aim of this programme was to explore the possibility of evolving a flexible programme within the available resource-time frame and of finding out the extent to which the experience becomes 'participative' philosophy behind this innovation was that student teachers should participate in the learning process and should not act as mere 'recipients, this programme is based on evolving curriculum; learner centered; participative; high relevance perception; individual and group decide pace and learning routes; continuous appraisal and feedback; personally satisfying to students; enhanced self development.

Activity Based Teacher Education Program, DAVV, Indore (1991), was a ZERO LECTURE programme, students were free to choose what, how, where and when to study, it was totally learner centered approach, apart from teacher evaluation, evaluation techniques of self evaluation and peer evaluation were also used which helped in the emergence of Humanistic, Friendly, Confident, Open, Resourceful, Dedicated, Creative, Constructive, Innovative and Holistic teachers, this programme was adopted by the Lucknow University in 1996 and is famous as the name of Personalized Teacher Education Program of Lucknow University.

Comprehensive Teacher Education Program, Gandhi Shikshan Bhavan College of Education, Mumbai University, Mumbai (2000), provides first hand experiences of a slum community. The aim is to make student teachers aware of the socio-economic, cultural traditions of the poor and backward and its impact on the education and development of children. Teachers are educated to develop the

conviction and the professional skills to help children come out of such adverse conditions.

Some other innovative teacher education programmes are as follows: -

- M. Tech Ed by NITTTR, Bhopal and Chennai
- M. Tech Engineering Education by NITTTR, Chandigarh
- M. Tech HRD by NITTTR, Chennai
- B.C Ed. (1989) by DAVV, Indore
- M.C. Ed. (1991) by DAVV, Indore
- Master of Educational Technology (Computer Applications) by SNDT, University, Mumbai
- M. Tech. (Educational Technology) by Kurekshetra University, Kurekshetra
- B.Sc. in Teaching Technology by Sikkim Manipal University
- HSTP, Training Teachers, Eklavya, MP (1982)
- Four Year Integrated Program of Teacher Education, Kurekshetra University, Kurekshetra (1955)
- B.Ed. (Educational Technology) , AEC Teacher Training College, Pachmadi, MP
- Early Faculty Induction Programme (EFIP) under QIP by AICTE ,New Delhi
- Induction Training Programme (ITP)under QIP by AICTE, NewDelhi
- University of Teacher Education, Chennai, Tamilnadu (2008)
- IGNOU Institute of Professional Competency Advancement of Teachers (IIPCAT, 2009), IGNOU, India
- Indian Institute of Teacher Education, Gujarat (Bill 4, 2010)

Innovations at the global stage

Normal schools were the first innovative attempt in the history to enhance the quality of teacher education. These schools were started by French in 1685 to train high school graduates who wants to be teachers, the term "normal school" originated in the early 19th century from the French *école normale*, the French concept of an "école normale" was to provide a model school with model classrooms to teach model teaching practices to its student teachers.

With the commencement of new and advanced technology and changes occurred due to globalization, every country at the global stage is looking to improve its education system and try so many new things to improve its education system and specially teacher education, Centre for Educational Research and Innovation(CERI) and Environment and School initiatives(ENSI)is promoting environmental understanding, active approaches to teaching and learning and citizenship education through research and exchange programmes. Current main projects of ENSI are running in countries like Australia, Austria, Belgium (Flanders),

Denmark, Finland, Germany, Hungary, Italy, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom are as follows: -

- **Eco-School:** aims to develop tests and publish methods of teaching and learning which define good practices of environmental education.
- **Learnsapes:** aims to promote redesigning of school grounds to permit school communities to interact with their environment and link their curriculum with their use of school grounds.
- **Teacher training:** aims to integrate innovative approaches to teacher education programmes through environmental education.
- **International research:** aims to conduct comparative studies in such areas as "mainstreaming" which looks into national strategies for a widespread introduction of environment education into the school curricula and teaching and learning.

Blue Ribbon Panel on teacher preparation stressed the importance of grounding the pre-service teacher experience in **clinical practice**. The University of Florida's College of Education had taken this suggestion seriously and they started developing a clinical programme and took over ten years to develop the programme, they worked in partnership with the communities they serve, they developed clinical programmes that meet community needs while helping their own students gain important experience.

Co-Teaching Model from minnesotas' St. Cloud State University is another innovative programme, In these co-taught classrooms, a student teacher works with a cooperating teacher. The student teacher is actively engaged with children from the first day, assisting the cooperating teacher. As the experience progresses, the roles reverse -- the cooperating teacher becomes the assistant.

The Response Ability Project was initiated in 1997 under the Australian Federal Government's National Suicide Prevention Strategy, it was a Australian national curriculum initiative, designed to enhance the inclusion of mental health promotion within the pre-service education of secondary teachers, its aim was to ensure that graduates were knowledgeable about the issue of youth suicide, they might play a role as teachers to control youth suicide.

Consortium schools in the New Zealand were the result of partnership between university of Auckland and some selected schools, they have the common interest of initial teachers training in the Auckland and its aim was to reduce the barrier of teachers supply in the country.

Recently college of education, Seoul national university Korea made innovation in a **six year model of teacher education** to cope up with the rise of knowledge and information-oriented society and newly required roles for teachers, main characteristics of this model are integration and openness.

Integration: -

- Training of education leaders with intelligence and morality.

- It includes general ability, curricular ability, personality, and sense of value and ethics.

Openness: -

- The idea of openness is to avoid limiting system management to internal structures, and to implement with flexibility in relation to society and neighboring systems

MUSIS (Multicasting Services and Information in Sweden), the MUSIS project is to explore, identify and develop a number of innovative multicast mobile services to support learning with multimedia information to be distributed over wireless networks using multicasting solutions at university. The project has had two pilot phases, the first one during 2005 and the second in 2007. Multicasting mobile services developed in the MUSIS projects are organized as a range of content channels to which users can subscribe. Each user can build a personal portfolio of channels that interest them. Multimedia content is sent, according to a predefined time schedule, to subscribers over the GPRS (General Packet Radio Service) network using wireless multicast technology (Varshney, 2002)

Assessment of innovations

It is very important to move in the right direction, that we have to assess the impact of innovations, Gene Hall and his colleagues (2005) have provide a comprehensive framework for using evidence based assessment for the purpose of improving teaching learning in teacher education programmes. This multi layered assessment procedure allows us to trace the impact of teacher education programme on the knowledge, skill and disposition of the participants. We also have a tool to assess the impact of e-learning by computer based assessment system and it was developed by Kathleen Scalise & Bernard Gifford (2006), assessment of any innovative programme tells us the applicability, usefulness, drawbacks etc. of the programme, which helps us to make corrections if needed so.

Problems areas for implementation of innovations

- Financial constrains.
- Lack of motivation of teacher educators.
- Lack of resources needed for the implementation of innovations.
- Lack of understanding about innovations.
- Lack in terms of competence to implement the new innovations etc.

Suggestions for proper implementation of innovations

- Motivate teacher educators to use the innovative methods for teacher education.
- Proper training for understanding the purpose and skills to use the innovations.
- Proper financial assistance.
- Implementation in different stages to avoid chaos.
- Provision of required resources for the implementation of innovations.

Conclusion

Teacher education is one of the main pillars of education system, knowledge explosion has put lots of pressure on the education of teachers and some

innovations are always required to cope up from these kinds of problems. Need of formal teacher education was felt way back in 1685, so French come up with the innovative idea of normal schools, then eco-schools, consortium schools and latest addition in this list is MUSIS project. These innovative ideas are very important for the professional development of teachers. India also has history of different innovations started from 1920 when Giju Bhai Bhadega started pre primary school at Bhavnagar, Gujarat, shanti niketan was established in 1921, Regional college of education, Ajmer, Bhubneshwar, Mysore and Bhopal set another landmark by introducing four year integrated programme of secondary school teachers, after this so many programmes were launched, but these programmes were not implemented successfully due to some financial and motivational factors. However, some more innovative practices are required to cater to the need of school education as well as to the aspirant teachers, but some proper planning and financial assistance is required for the same.

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