

Details of Module and its structure

Module Detail	
Subject Name	Education
Paper Name	Perspectives, Issues and Research in Teacher Education
Module Name/Title	Innovations in Teacher Education
Module Id	e-PG EDN 10.08
Pre-requisites	Basic understanding of Educational system
Objectives	<p>After going through this module the learners will be in a position to</p> <ul style="list-style-type: none"> • To provide effective learning environment for facilitating learning of the student- teachers, • To enhance their professional development and • To encourage self-evaluation, accountability, autonomy and innovations in teacher education.
Keywords	Teaching, learning, teacher education, development, innovation, technology, self-evaluation, autonomy, accountability

Development Team

Role	Name	Affiliation
Principal Investigator	Prof. (Dr.) P.K. Sahoo	Department of Education, University of Allahabad, U.P.
Paper Coordinator		
Content Writer/Author (CW)	Brijesh Darji	Research Scholar, CASE The M.S. University of Baroda, Vadodara-390002
Content Reviewer (CR)	Dr. Gopal Sahu	Department of Philosophy , University of Allahabad, U.P
Language Editor (LE)	Dr. Gopal Sahu	Department of Philosophy , University of Allahabad, U.P

1. Introduction

The pattern of Education is changing very fast. Many a new phenomenon, viz., Scientific and Technological advancement, Industrialization, Globalization and Modernization have emerged in the Society. Education is a discipline for preparing to meet the challenges to lead meaningful life. The modern generation needs compatible skills, updated knowledge, latest information of changing social needs, technologies and attitudes to make them fit to survive gracefully. Lifelong and continuous learning is the need of the modern age to empower the modern generation. So, there is need Powerful Education System.

UNESCO's Commission on Education (1972) declared that education is a lifelong process and its purpose is to establish a learning society, i.e., a society that knows how to learn, to grow and to transform itself to the needs of ever changing world. It is only through learning that one acquires knowledge and this knowledge comes mainly through education. The process of education is shaped and moulded by the human personality called the teacher, who plays a crucial role in education of country. In order to meet the demands of globalization the educational system of the country needs more efficient, as well as, competent teachers. The quality of teachers mostly depends on the Teacher Education Programme of any nation. National Policy on Education (NPE, 1986) has rightly emphasized, "The status of teacher reflects the socio-cultural ethos of the society and no people can rise above the level of its teacher. Good teachers can be produced only when we have good and effective Teacher Education Programme."

According to National Curriculum Framework for Teacher Education (NCFTE-2009), 'A teacher needs to be prepared in relation to the needs and demands arising in the school context, to engage with questions of school knowledge, the learner and the learning process. The expectations of the school system from a teacher changes from time to time, responding to the broader social, economic and political changes taking place in the society.' On this background of demand and expectation from schools and society, Teacher Education Programmes need to be strengthened in all aspects adding innovative ideas and practices.

2. Innovative Practices

An innovation means an idea or practice perceived as new by the adopter. Oxford Dictionary defines innovation as 'the action of innovating, the introduction of novelties, and the alteration of what is established by the introduction of new elements or forms'.

The concept of 'innovation' has been defined in different ways. Ryan & Gross (1943) have comprehensively defined the word innovation as "New ideas are generated or invented in systems. These new ideas are located from various sources and are given appropriate shape according to the needs. The process involved in creating a new idea is called the process of developing innovations. The process of innovations involves various stages; these are: locating the need for developing new ideas, awareness, and source of getting information, administration of innovation, teamwork and flow of communication, decision making and characteristics of innovations." Whereas, Burnett (1953) has defined that innovation is the new thought which is qualitatively different from the existing form. Clapham (2003) states that "the word innovate comes from the Latin word 'innovare' which means to renew, to make new". Therefore, by definition, an innovation can be a renovation of a theme or a variation of an idea. Kostoff (2003) also suggest that "innovation reflects the metamorphosis from present practice to some new, hopefully, 'better' practice".

According to Lu & Ortlieb (2009) critical reflection is one of the requirements for innovation particularly as it relates to successful teaching. Innovative by definition means forward-moving, and advanced; it is synonymous with creative, inventive, and fresh. Innovation as it relates to teaching is "experimentation with and the transformation of pedagogical practices, curricular approaches, student assessments and professional collaboration" (Ellison, 2009, p. 31).

Mangala (2010) defined it innovation as a change made in old practices, introduction of novel ideas and concepts, invention of new products, promotion of new ideas.

National Knowledge Commission (NKC) defines Innovation in the following manner for the purposes of this countrywide survey: Innovation is defined as a process by which varying degrees of measurable value enhancement is planned and achieved, in any commercial activity. This process may be breakthrough or incremental, and it may occur systematically in a company or sporadically; it may be achieved by:

- introducing new or improved goods or services and/or
- implementing new or improved operational processes and/ or
- implementing new or improved organizational/ managerial processes

Rogers (1995) defined innovativeness as the degree to which an individual is relatively earlier in adopting new ideas than the other members of his system and remarks that if the

idea seems new to the individual, then as far as he is concerned, it is an innovation. Innovativeness of an institution depends on how much freedom does it enjoy to make decisions to experiment, try and adopt new ideas and practices. Not only the freedom from the external imposition of decisions does to make a favourable climate for the adoption of innovations but also the system within the organization needs to be made receptive to new ideas and practices. If every member has the freedom and there by develops a will to try for him and identify his personality with the practice that he is called upon to implement, there is every likelihood that he will strain every nerve to adopt and maintain innovations. Thus, innovation can be understood as promotion of new ideas, administering them to replace the old practices which do not suit the needs of the society.

3. Need of Innovative Practices in Teacher Education

Entering into the 21st century today's school curriculum is becoming increasingly complex. Many new areas of knowledge are getting integrated into it. The methodology of curriculum transaction is also undergoing transformations. There is a major paradigm shift in the instructional methods with the change of time. To be competitive in the period of globalization it is important to change our traditional methods to meet the challenges posed by the global markets. To meet these demands, a teacher must supplement or replace traditional methods of instruction with innovative educational experiences.

The UNESCO Report of the International Commission on Education in the 21st century (1996) strongly believes that the rethinking of Teacher Education is necessary in order to bring in future teachers' precisely those human and intellectual qualities that will facilitate fresh approach to teaching. The NCTE after becoming the statutory body brought out a discussion document on Curriculum Framework for Quality Teacher Education (1998) in order to give a new look to the Teacher Education. Although various measures taken to improve the quality of Teacher Education have brought out changes in the system. But these developments and transformations have not been able to bring a change in the Teacher Education Programme as envisaged in NPE (1986-92)

The National Policy on Education, (1986) has rightly stated, "No people can rise above the level of its teachers." So for the development of the country, it is very important to have good teachers and good teachers can be produced only if we have a good system of Teacher Education and dedicated and efficient teacher-educators. According to NCFTE (2009) there

is also a dire need to critically review the secondary Teacher Education system. The one-year second Bachelor's degree (B.Ed.) model seems to have outlived its relevance. With the increase of B.Ed. colleges, particularly with privatization and commercialization, B.Ed. programmes have become weak both in theory and practice. Even the few institutions, which keep struggling to make this programme meaningful, find it difficult to overcome the structural constraints that the short duration of the programme poses. According to Singh (2008), one way to improve the situation is to absorb the innovation in the field of Teacher Education because modernization of education depends to an extent on modernization of teacher. He further states that “there is a need to revamp today’s Teacher Education system in tune with the changing needs of the society and particularly changing needs of school education”. In Teacher Education Programme efficient and good teachers are prepared who always try to introduce new ideas, techniques and practices in classroom transaction, curricular or co-curricular activities. Thus, it is imperative that the teacher must go through the innovative process of Teacher Education so that they become innovators in their spirit and continue to try out and adopt innovations in their own situations.

More than thirteen decades have passed since the Hunter Commission has made the recommendation for having Trained Teachers. Even after the biggest initiatives of establishing NCTE, DIETs, CTEs and IASEs after NPE 86, the gap is still continuing reflecting on the present system of education. Teaching is still not viewed as a profession and Teacher Education is still conducted in isolation.

Breaking this isolation and making teaching and teacher dynamic is not an simple task because of

- the change in the role of the teacher
- the tremendous changes emerging in the various fields impacting education
- the change in the orientation styles of teaching
- the need for Teacher Education to align to continuously evolving policies and acts.

Sharma (2010) while reviewing Teacher Education in his paper proposed that more emphasis on practice teaching should be given, refresher courses must be organized and research work in Teacher Education should be strengthened. Das (2010) reported that in addition to instructions, teachers need to innovate and conduct research for their self renewal, keep

abreast with changes in education, develop expertise for effective implementation of every new innovation. In this regard action research on the part of teacher-educator can be considered most essential. The National Curriculum Framework (NCF-2005) also emphasized on innovations and good practices in Teacher Education.

4. Innovations in Secondary Teacher Education Programme

With the passage of time, there have been some innovations in the field of Teacher Education which have brought out significant changes and improvement in Secondary Teacher Education Programme. Some important areas of secondary Teacher Education in which innovations attempted are: Adapted from (Charlu, 2000)

A. Innovative Approaches of Practice Teaching:

- Micro Teaching Techniques/ Simulation
- Organization of Internship/ Block teaching
- Evaluation of student teachers by subject specialists that is education staff (Method master) and the practicing classroom teacher.
- Different types of School Experience – GSHSEB, CBSE, IB

B. Improvement in the methods of teaching through:

- Team teaching
- ICT based Teaching
- Cooperative Learning
- Workshop in teaching
- Seminars and discussions
- Educational Fieldtrip
- Action Research
- Project Work

C. Developments in science and technology, rapidly increasing communication network and mass media:

- E-learning
- Distance Learning
- Teaching and Learning with ICT
- Training through Tele Conferencing.

- Computer Assisted Instruction (CAI)
- Computer Managed Instruction (CMI)
- Computer Based Multimedia (CBM)
- Instructional Television
- Interactive Video-conferencing

D. Innovative Approaches of Evaluation:

- Peer Group Evaluation
- Continuous Comprehensive Evaluation (CCE)
- Semester system
- Grading system
- Viva-voce
- Choice Based Credit System
- Formal and Informal Evaluation

E. Innovative Special Areas:

- Life Skill Education
- Constructivism
- Multiple Intelligence
- Environmental Education
- Guidance and Counselling
- Yoga Education
- Special Education
- Advanced School Administration

Along with the above innovative practices Goel & Goel (2010) listed some innovative approaches that could be incorporated in Teacher Education.

- Integration of Micro - Teaching Skills
- Integration of Life Skills
- Integration of Techno - Pedagogic Skills
- Problem Solving Through Participatory Approach
- Personalized Teacher Education
- Integrated Teacher Education

- Specialized Teacher Education
- ICT Mediated Education
- Bridging the Gap between the Teaching Styles and Learning Styles
- Developing Integrated Thinking Styles
- Choice Based Credit System
- Electronic Distribution of Examination Papers (EDEP)
- Double Valuation
- Total Internal Continuous Comprehensive Evaluation
- Constructivist Approach
- Research through novel approaches
- Wholistic Approach

There are many innovative practices mentioned above for strengthening Teacher Education Programme which are very essential.

5. Deployment of Innovation

Today in this 21st century our education system is changing very fast. Quality professional development of student-teachers should be upgraded to compete with the present time, and adaptation of this practice has had significant implications for enhancing quality of the professional development of student-teachers. This continuous process of gaining new knowledge, refining skills, adopting new methods are essential in enhancing the quality of teachers trained in Teacher Education institutions. To adapt such practices, guidance and motivation are essential to make student teachers achieve their goals. Along with that students have to exchange ideas, thoughts and knowledge thus gained will help to focus their attention on the development of listening and speaking skills and to promote thought and connections between students' ideas and the concept.

To implement such practices, there is a need of necessary sources and Resources which are,

- Administrative and academic reforms to facilitate change.
- Teacher Educators who are committed and knowledgeable about the process.
- The major forms of learner support comprise print materials and multimedia resources. In developing these materials, team approach can be adopted which involves sharing of academic expertise from different institutions.

- The role of Teacher Educator has to be supportive who guides, facilitates and acts as a facilitator of learning experiences.
- Time and commitment of the faculty
- Teacher Educators who are knowledgeable to guide the student-teachers
- To adopt such a practices requires a clear understanding about its purpose, but needs an atmosphere which accentuates favourable conditions for learning through the encouragement which should be given by the Teacher Educator in the particular institute.
- Teacher Educators who are committed and knowledgeable to direct the student-teachers for the Script Writing.
- It is required that physical or Infrastructure facilities are created for the ICT integration in day to day teaching. The various facilities such as Computers, Internet, LCD facilities will have to be provided. Learning Resources, such as, audio resources, video resources, animation movies, and clips should be made accessible.
- If student-teachers are expected to initiate the use of ICT in their teaching as well as in training, the Teacher Educators must be confident in using ICT in transaction of curriculum. For this Teacher-Educators should have the required professional competencies and training.
- Academic reforms to facilitate change.

6. Ways Ahead

In education, the word 'innovation' is used to describe a deliberate attempt to improve educational practices. Innovations do not come out of despair - they are first conceptualized in the need situation and then are implemented after long testing. Havelock (1973) pointed out "when we use expression like 'innovation in education' we think we are talking about something positive, a change for the better of something that is both new and beneficial".

The process of innovation includes activities like - a felt need, analysis of the present situation, planning of innovative/changed situation, testing and validating of innovation and finally implementing to find out how much improvement can be brought. Thus it becomes a model of educational change. It can be said that innovation is a change which is planned and formulated for the betterment of the system on which it will get implemented. Education is a process that involves from time to time as the practices of teaching and learning get affected

by a variety of factors. Innovations in the field of education are purposeful changes which are brought in to make the process function at the desired level.

The interpretation given to 'innovation' at the 1986 Ministerial Conference in Singapore was 'innovation for development,' in which the process of development was seen as a means of bringing about certain fundamental and pervasive transformations in motivations, attitudes, habits and modes of thought and work in other words, if education is not to be relegated to the role of eyewitness in the development process, it should become an active participant in the necessary social changes. Although there was some disagreement among writers on the subject, specific characteristics of an innovation can be stated as follow.

- It introduces a new or novel element which deviates from existing structures and/or procedures and is orientated towards the values of the society.
- Its specific objective and/or purpose are relevant to the needs of the community and related to national development.
- It has potential for diffusion on a large scale and is renewable from time to time based on appropriate feedback and the context for adoption and adaptation.
- The innovative process should involve a scientific approach before being either accepted or discarded.
- During the experimental stage, an innovation should permit flexibility on the basis of monitoring and evaluation.
- It should be both cost and time effective, communicable, implantable in other situations. Reliability, with or without adaptation, should be a criterion for innovativeness.

However, while it is desirable to have a curriculum that is balanced, relevant, interesting and useful, curriculum innovations run into a particular stumbling-block. If the teachers do not understand the reforms, cannot apply them, and/or are not committed to them, they will not be able to carry out the reforms. Neither teachers nor anyone else can be easily win over to change, particularly when that change entails considerable inconvenience, hard work and loss of time, and also carries with it the implication of what they were doing before was inadequate. Unfortunately, there is no single suitable answer to the question: What will best improve quality? Regrettably, too, some investments may result in greater dividends in the long term than in the short term. If organization, management and planning are of importance

in the day-to-day pursuit of quality and efficiency, they are even more important in the undertaking of innovations. There are three critical aspects of the innovation process. First, the prototype innovation has to be created - devised from the beginning, adapted from something existing or imported from elsewhere. Second, it has to be introduced into the system somewhere (usually on a small scale). Third, it has to be spread throughout the system. It has been established that carefully planned designed development was useful for ensuring that prototype innovations. It has also been established that planning is necessary to enable innovations to be judiciously introduced into the system (usually on a small scale and as a trial). However, what is not so readily recognized is that the (large-scale) implementation of an innovation, spreading it throughout the system, requires its own separate planning as well. Many innovations have failed simply because the ways of moving from the experimental and introductory stages into widespread application have not been adequately worked out.

According to Roger (1983) there are various stages of adoption of innovative practice which adopters follow to adopt the particular practice i.e. awareness, interest, evaluation, trial and adoption. The person or institution first becomes aware of the particular innovative practice which already exists or newly introduced. Interest in the particular practice will lead to evaluation of innovative practice in terms of objectives of the programme. On finding it useful, it may be tried out in the concerned programme and if found suitable may be adopted, permanently.

Awareness: At this stage the potential adopter is passively exposed to the innovation with varying degrees of acquisition of information and motivation. The initial awareness tends to snowball gradually, owing to increasing exposure to multiple media or heightened interaction leading to development of need.

The new knowledge, that go through the shell which envelop educational systems, originates from various sources i.e. books, journals, media, abroad visit, professional meetings, other colleges, universities, Seminars, Workshops, University Grants Commission, change agents, discussion with colleagues etc. Some new idea may evolve from the experiences, reflections and insights of creative educationists.

Interest: The realization of the need and the growing motivation prompts the adopter to the next stage of interest and he/she begins to seek more information regarding the innovation. However, the person may still be undecided about the utility and desirability of the innovation at this stage. At this stage, his/her search for information becomes more purposive and selective and the degree of psychological involvement increases.

Evaluation: At this stage the potential adopter considers the pros and cons of adopting the innovation in his/her context and conducts a trial, and searches new ideas possible.

Trial: This is a crucial stage at which the innovation is partially tried out in the local context or personal situation of the user. Its usefulness and functionality are closely observed and judgments are drawn about its potential benefit or harm to the system. The outcome of this trial will either inhibit the user, with regard to the final installation of the innovation.

Adoption: After the trial is evaluated the final decision is made either to practice or not to practice innovation, resulting in its adoption or rejection. At this stage appropriate adaptations or modifications of the form and content of the innovation may be effected to suit local conditions. Adoption leads to the internationalization and institutionalization of the new concept or procedure or practice in the user system.

7. Summary

The module first defines innovation and made a case for the need of introduction its practice and adaptation in Teacher Education. The module introduces different modern innovations such as Scientific and Technological (S&T) advancement, Information and Communication Technology (ICT), which can be used for effective learning environment for student-teacher. Further, it argues that these innovations encourage the learners to enhance their professional development. Their adoption encourage the student-learners to go for self-evaluation, increase the accountability of the education system and protect the autonomy of the learners and teachers. The module also suggests different mode and stages for the effective adoption in teacher education.