Teacher Education in India

Teacher Education in India:

Issues and Concerns

Edited by

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CHAPTER ONE

USE OF ICT FOR EDUCATION AMONG B.ED STUDENTS AND TEACHERS IN MIZORAM

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Abstract

The opportunities for traditional teacher education are often very limited, confined to a fixed period and an institutionally bounded or site-bounded but IT-absent environment. Fortunately, we now have "second generation" ICT programmes which see ICTs integrating into the processes of teaching–learning. These programmes aim to address educational priorities and focus on the teachers and are transacted by regular-subject teachers who use a wide variety of public digital resources, both software and content, and provide good role models for the use of ICT in teacher education programmes. With these things kept in view, the present study was conducted to find out the extent of the use of ICT among B.Ed students and teachers in Mizoram and to suggest some measures for improving the application of ICT in teacher education. The study found that application of ICT for education was far from satisfactory due to a number of problems. Certain suggestions for solving the problems and improving the use of ICT for education were given. Important suggestions include: training and education of teacher-educators and student teachers to make them ICT-empowered teachers; requirement for student teachers to prepare and deliver lessons using ICT tools; availability of adequate ICT facilities and their proper maintenance; training of student teachers and educators in both hardware and software skills; integrating ICTs into the regular-subject teaching–learning process; seeing ICT as or making it a pedagogical tool and not seeing it as or making it a technology device or a

sophisticated typing tool; and, lastly, making ICT skills at a certain stage a requirement for recruitment of new teachers as well as for all in-service teachers.

Introduction

Traditional pre-service teacher education emphasises delivering subject knowledge and professional skills to prospective teachers. Opportunities for traditional teacher education are often very limited and confined to a fixed period within an institutionally bounded or site-bounded but IT-absent environment (Cheng 2009). In contrast to the traditional paradigm, Information and Communication Technologies (ICTs) have become commonplace entities in all aspects of life. The use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavour within business and governance. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The use of ICT in education lends itself to more student-centred learning settings. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the twenty-first century (Amin 2013).

The limitations of current pre-service and in-service teacher education models need to be addressed in any teacher education guidelines revision effort, including rigid curriculum, behaviourist learning models, and inadequate assessment support, as well as the lack of efforts to build learning communities. While ICTs can be designed to address some of these challenges, current ICT models in school education have certain limitations, which have ensured that such programmes have a limited impact on education; these include their design being technology driven, isolation of ICT programmes from mainstream teaching–learning processes, use of proprietary software and resources, and by-passing of regular teachers, which dilutes any possibilities for their ownership and engagement. Fortunately, we now have “second generation” ICT programmes which see ICTs integrating into the processes of teaching–learning. These programmes aim to address educational priorities and focus on the teachers and are transacted by regular subject teachers who use a wide variety of public digital resources, both software and content, and provide good role models for the use of ICT in teacher education programmes (Sub-committee on ICTs for Teacher Education—Teacher Education in the 12th Plan).

Objectives of the study

The present study has been conducted with the following objectives in view:

(1) to find out the extent of use of ICT among B.Ed students and teachers in Mizoram
(2) to suggest some measures for improving the application of ICT in teacher education

Methodology of the study

The present study is descriptive in style. The population of the study comprises all the B.Ed students and teachers of IASE, which is the lone teacher education institution offering the B.Ed. programme in the state. Of the 98 regular B.Ed students enrolled at the institution, 52 students were randomly selected as a sample and a questionnaire constructed by the investigator was given to them. The investigator personally visited the institution and entered the class after gaining permission from the principal. She then administered the questionnaire after briefly explaining the questionnaire to the students. A separate questionnaire constructed for B.Ed teachers was also given to 10 teachers who were selected through a random sampling method. After tabulation of data, frequencies and percentages were calculated. Data were analysed and interpreted accordingly.

Major findings and conclusions

1. Use of PowerPoint presentations by teachers in teaching

(a) Fifty per cent of B.Ed students felt that their teachers very often used PowerPoint presentations in teaching, whereas the other 50 per cent felt that their teachers rarely used the technique.
(b) The same question on the frequency of the use of PowerPoint presentations was asked to the teachers themselves. Forty per cent of them reported that they very often used the technique whereas another 60 per cent said that they rarely employed PowerPoint presentations in their teaching.
(c) The reasons why some teachers did not use the facility as perceived by the student teachers were as follows: (i) 27 per cent of the students found their teachers uncomfortable or unconfident in using the facility;

(ii) the rest of the students reported that the facility did not work properly on a number of occasions.

(d) The responses of B.Ed students reveal that not all the teachers use PowerPoint presentations in teaching. The responses of both B.Ed students and teachers that reveal the non-use of computer-related facilities for PowerPoint presentations indicate that the application of ICT in teaching is still in its infancy as the use of PowerPoint presentations is basic to teaching in this computer age.

2. Developing ICT skills and confidence in student teachers

(a) When teachers were asked to what extent they were able to focus on developing ICT skills and confidence in their students, 30 per cent of them reported that they were able to give considerable focus to developing skills and confidence in their students. "Moderate focus" was the answer given by another 30 per cent and "none" by 40 per cent.

(b) The teacher dealing with the paper "Integration of ICT in Teaching-Learning" reported that the paper enabled her to focus a lot on the development of ICT skills and confidence in students.

(c) Another teacher teaching a paper other than ICT also mentioned that students were advised to make use of the Resource Centre and to access the Internet to collect materials for their assignments and for learning and reading purposes.

(d) Apart from ICT teachers giving instruction on how to prepare and use PowerPoint presentations and Excel, no other teacher gave specific instruction in using particular applications, evaluating software, or teaching using learning objects.

(e) The findings of the study indicate that the development of ICT skills and the confidence of student teachers were very minimal and limited.

3. Demonstration of ICT competence in coursework

(a) In the present study, 54 per cent of student teachers reported that they had been required to demonstrate ICT competence in their coursework. While this may be so, the remaining 46 per cent of students were not aware of the requirement to do so.

(b) When asked whether they were able to demonstrate their ICT skills during practicum, 71 per cent said that they were able to do so whereas the remaining 29 per cent of students answered no.

(c) Fifty-six per cent of respondents felt competent in using the institute's computer system. Again, 58 per cent of students reported that they were able to embed ICTs in their lessons to their satisfaction.
(d) Teachers' responses to the questionnaire reveal that all the teachers embed in their lectures at least one or two ICT materials as follows: 90 per cent made use of images, 40 per cent made use of videos and learning objects, 30 per cent made use of graphs and charts, 20 per cent made use of web pages, and 10 per cent made use of other software.
(e) Moreover, 80 per cent of the teachers claimed that they had communicated with their students through WhatsApp, 50 per cent of the teachers through Facebook, 40 per cent via email, and 20 per cent through other Internet applications. No teacher had ever communicated with students through Twitter, a blog, a wiki, or a forum.
(f) The above findings reveal that some of the B.Ed students and teachers are unable to use ICT skills and demonstrate ICT competence in coursework.

4. Impact of the teaching–learning process on ICT competence

(a) The majority (73 per cent) of B.Ed students accepted that their ICT skills and competence had been enhanced by the teaching–learning process in the institution, particularly in ICT classes. However, 27 per cent of the students were of the view that the teaching–learning process as a whole had no impact on their ICT skills and confidence. They reported that they did not acquire any new skills beyond the ones they had already acquired.
(b) The above findings may indicate that ICT is not properly integrated into the processes of teaching–learning. Moreover, the students are provided with insufficient opportunity and time to practise and apply ICT in their activities.

5. Assessment of ICT competence

(a) The present study reveals that only 40 per cent of the teachers ever assessed ICT competence in students. One ICT teacher stated that students were assessed for their competence in ICT during practicals, one example of which was a PowerPoint presentation given by each individual student teacher. Other teachers who claimed they assessed ICT competence in students reported that they required students to browse the Internet, prepare assignments, and/or seminar papers, and to use Power Point presentations when presenting seminar papers.

(b) The main reason the remainder of the teachers gave for not assessing competence in ICT was that they felt it was out of their purview as ICT competence was assessed by the ICT teacher.
(c) The above findings suggest that although direct assessment of ICT competence is not done, enhancement of competence and performance in presentation as a result of ICT application is valued and taken into consideration for the evaluation of seminar presentation by a few teachers. However, the majority of the teachers do not emphasise ICT competence in their assessment of students.

6. Problems/barriers

(a) According to the present study, 56 per cent of student respondents encountered some barriers to accessing the ICT facilities at the institute. Teachers also accepted the presence of some problems faced by both the students and the teachers themselves. Barriers stated by the institute's teachers were inadequate facilities and equipment, poor Internet connection, irregularity of Internet access, ICT being taught as one of the papers only, and an inadequate number of ICT experts at the institute.
(b) Whereas 70 per cent of the teachers expressed that when on practicum their students had no problems using ICT in their lessons, the remaining 30 per cent felt that students did have problems. Those who reported the problems stated that inadequate facilities, inefficiency in accessing the facilities, and a lack of skills were the main problems they had observed.
(c) The findings stated above indicate that both B.Ed students and teachers face some problems in the use of ICT in the teaching–learning process. Inadequate facilities and equipment, poor Internet connections, irregularity of Internet access, ICT being taught as one of the papers only, an inadequate number of ICT experts at the institute, their inefficiency in accessing the facilities and their own lack of skills are barriers encountered by the students and the teachers.

7. Prospect of ICT skills as a requirement for teachers

(a) The majority of the student respondents (85 per cent) felt that a level of ICT skills should be a requirement for teacher recruitment as well as in-service teachers. However, 2 per cent of the respondents opined that it was unnecessary to insist upon the skill for all prospective and in-

service teachers and 13 per cent of students had no idea whether the skill should be made a requirement for the same.

(b) Again, 80 per cent of the teacher respondents were of the view that there should be requirements in respect to ICT skills and experience for teacher recruitment as well as for in-service teachers.

(c) From the above findings, we may conclude that ICT skills at a certain stage may be made a requirement for recruitment of new teachers for professional, general, and technical courses and all in-service teachers may be trained to acquire the skills necessary for successful education.

Suggestions for improving the use of ICT in teacher education

(1) The finding that reveals teachers rarely use ICT facilities for PowerPoint presentations also shows that teaching is a thing that needs to be taken seriously. Other findings suggest that some teachers used Facebook and WhatsApp for communicating with their students but no teacher had ever used Twitter, blogs, wikis, forums, or other Internet applications. To improve the teaching–learning process, teachers themselves need to be trained and educated to become ICT-empowered, which would enable them to:

- use computers without being computer experts, use word processing software, use spreadsheets, prepare PPPs, and so on
- use simple additional technologies like mobile phones effectively—almost 90 per cent of mobile phone features today have educational elements
- quickly adapt to new software, for example, open source software, branded software of different generations, Web 3.0 technologies like digital pens, digital readers, handheld projectors, and so on
- access and effectively use the Internet for learning
- use computers, various features of mobile phones (calculator, video and still photography, audio recording, FM radio, stopwatch, converters, dictionary, note pad, etc.), and other technological devices to make their job easier and enriched
- access the Internet regularly for research, learning resources, material development, sharing slides and audio-visual material, and so on
- use Web 2.0 tools like blogs and wikis for professional purposes
- use telephone and video conferencing through computers and mobile phones for professional purposes

- retrieve knowledge and learning materials from OERs and technology platforms
- create their own blogs and wikis and contribute learning resources to educational web portals
- use mobile telephony optimally

(2) Student teachers need to be given the opportunity to prepare lessons using ICT tools during their practice teaching as well. They should be required to participate in projects that encourage them to collaborate among themselves using a variety of digital methods.

(3) The main finding of the present study indicates that ICT facilities are frequently dysfunctional. The authority or administration has to be alert so that use of ICT facilities for Power Point presentations and other uses in teaching is not disrupted due to failure of the facility.

(4) Other findings of the study revealed that ICT knowledge of both the teachers and the students was very minimal and limited. They had the notion that ICT competency could be acquired only through a specific course on ICT—this needs to be done away with. For a new technology to be widely beneficial, it needs to become universal. This means that everyone needs to learn and use ICT, and use it in a large variety of ways. Viewing ICTs as public learning resources can create this culture of widespread appropriation. Student teachers need to be trained in basic hardware skills, such as assembling and removing computer parts. This would also give them confidence in handling hardware. Alongside this, they should be trained in handling peripherals including printers, scanners, cameras, mobile phones, and CDs. Both hardware and software skills are very essential for student teachers.

(5) Successful ICT programmes depend more on capacity building and capability building, which are techno-pedagogical processes, maintenance and support infrastructure, and mechanisms. Integrating ICTs into regular subject teaching–learning creates ownership and commitment among teachers, which also creates desire to learn to use computers/Internet. Computer literacy should not be standalone but an initial part of a computer-aided learning programme. For instance, instead of having a session on how to browse the Internet, this can simply be a part of a class exploring resources on the Internet. Such "applied learning" would be much more useful and hence learning would be deeper.

(6) It is essential for student teachers to learn to use ICT tools like radios, audio-cassettes, audio-video (AV) tools, computers, and so on, as well as methods such as information access, review, classification,

communication and networking. For this, student teachers need to learn about both hardware (parts of computers, radios, and audio-visual educational devices and how to assemble them) and software (to integrate ICT tools for effective teaching–learning and in education administration) skills.

(7) The power of the digital medium, especially the Internet, is the ability to be able to access resources available across the entire world in a simple and quick manner. This includes access to resources (audio-video) through websites, institutional portals, and so on. Since digital space is very resource rich, student teachers need to learn how to access what would be useful for their learning and also useful in teaching. Providing a resource-rich environment to all schools is a powerful method of democratising learning possibilities. In all subjects, at the end of each unit, references need to be provided, which would provide extended learning possibilities for student teachers on that topic. Such resources could be published texts, as well as web resources, films/documentaries, and so on. It is important to develop in the student teacher the ability to access a variety of learning resources on any topic/unit. It is also important to develop in the student teacher the ability to reflect critically on an accessed text and assess its educational value, which requires assessing its authenticity, relevance, currency, and such like. It would also be useful to refer to resources that provide diverse perspectives on a given topic/issue. Accessing digital resources for self-learning needs to be emphasised as a teacher-education method in itself, covering these points.

(8) ICT needs to be seen as a pedagogical tool and not as a technology device or as a sophisticated typing tool. This means ICT curriculum and pedagogy need to be viewed as would any other curricular area. Clear educational aims, principles, and priorities need to drive programme design. This means programme design structures need to have educationists, teachers, and teacher educators. Technology experts may need to be consulted but should not have a prime role in design. The challenges are not technological but pedagogical in nature.

(9) ICT skills at a certain stage may be made a requirement for recruitment of new teachers for professional, general, and technical courses and all in-service teachers may be trained to acquire the skills necessary for successful education.

Conclusion

ICT is a very broad domain, and affects almost all other aspects of life, the socio-cultural, the political, and the economic. Since education is concerned with preparing learners to become responsible citizens, there is a great need for student teachers to acquire a basic understanding of ICT as well as the new phenomenon called the Internet. Student teachers need to be exposed to a larger gamut of ICT, so that they have basic understanding and can develop skills in areas that interest them. The goal in ICT literacy must be to expose teachers to a wide variety of ICT resources—hardware and software as well as content. This requires an emphasis on using available free/public digital resources. Teachers must not treat ICTs as black boxes—they should be taught to install even the operating system and open up hardware to study components. Programmes that have done this have seen enormous confidence developed in teachers.

Bibliography

1. Amin, S. N. (2013). An effective use of ICT for education and learning by drawing on worldwide knowledge, research, and experience: ICT as a change agent for education. http://www.unapcict.org/ecohub/an-effective-use-of-ict-for-education-and-learning-by-drawing-on-worldwide-knowledge-research-and-experience-ict-as-a-change-agent-for-education.
2. Cheng, Y. C. (2009). Paradigm shift in pre-service teacher education: Implications for innovation and practice. In Cher Ping Lim et al. (eds), *Innovative practices in pre-service teacher education—An Asia-Pacific perspective*. Rotterdam: Sense Publishers. https://www.sensepublishers.com/media/511-innovative-practices-in-pre-service-teacher-education.pdf.
3. Department of School Education and Literacy, Ministry of Human Resource Development, Government of India. (2011). Report of the Working Group on Teacher Education for the 12th Five-Year Plan. New Delhi: Author. http://planningcommission.gov.in/aboutus/committee/wrkgrp12/hrd/wg_teacher1708.pdf.
4. Sub-committee on ICTs for Teacher Education. (2011). Teacher education in the 12th Plan: Guidelines to support the development of proposals for the restructuring and revitalisation of DIETS, CTEs, IASEs and SCERTs. New Delhi: Author.

http://www.teindia.nic.in/Files/Guidelines_TE_INSTs/Guidelines_for_use_of_ICT_in_TE.pdf.

CHAPTER TWO

A JOURNEY OF TEACHER EDUCATION IN INDIA

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Introduction

Teacher education in pre-Independence India: Wood's Despatch, 1854

The Wood's Dispatch, an important educational document, was released on 19 July 1854; it has rightly been called the most important document on English education in India. The Wood's Dispatch gave some very valuable suggestions for the improvement of the education of teachers. It suggested that allowances be given to persons who possess an aptness for teaching and who are willing to devote themselves to the profession of schoolmaster. In suggesting a change in the education of teachers, the dispatch referred to the system prevalent in England. It urged the establishment of training schools in each presidency in India. The dispatch suggested the introduction of the pupil–teacher system (as prevailed in England) in India and an award/stipend to pupil teachers and a small payment to the masters of the school to which they were attached. On successful completion of the training programme, they were to be given certificates and employment. So the dispatch introduced sufficient incentive for the would-be 33 teachers. Although apprehensive, Lord Dalhousie, Governor-General of India suggested implementation of Wood's Dispatch, which brought into existence a number of normal schools.

The Indian Education Commission 1882

The Indian Education Commission 1882 (the Hunter Commission) recommended that an examination in the principles and practice of teaching be instituted, success in which should hereafter be a condition of permanent employment as a teacher in any secondary school, whether government or aided. For graduates it suggested a shorter course of training than for others. Pedagogical courses became more prominent. This also led to the opening of new teacher training institutions and by 1882 there were 116 training institutions for men and 15 for women. Thus by the close of the nineteenth century some essential things in teacher training had been established. Pedagogical courses had replaced general education, examinations and certificates in teacher training had been instituted, and practical aspects in planning and teaching were emphasised.

Government of India Resolution on Education Policy, 1904

This is one of the most important educational documents, which laid down the policies for the future educational system. It made some very vital suggestions for the improvement of the teacher training programme. These were as follows:

- Training Colleges: The resolution enunciated that if secondary education was to be improved then the teachers should be trained in the art of teaching. There were five teacher training colleges in all, in Madras, Kurseong, Allahabad, Lahore, and Jubbulpur. Intermediates or graduates could seek admission to these colleges. The general principles, upon which the training institutions were to be developed were: (1) to enlist more men of ability and experience in the work of higher training; (2) to equip the training colleges well; (3) the training programmes would last two years or one year for graduates, and the course would comprise knowledge of the principles that underlie the art of teaching and some degree of technical skill in the practice of the art; (4) the course would culminate in a university degree or diploma; and (5) there should be a close link between theory and practice and practising schools should be attached to each college.
- Training Schools: The resolution recommended opening more training schools, particularly in Bengal. The normal schools were mostly boarding schools, where students with a vernacular education came for training and received stipends. They were given

a general education combined with instruction in the methods of teaching and practice in teaching. The resolution recommended a minimum course of two years. It mentioned courses of training specially suited for teachers of rural schools.

Teacher education in post-Independence India

The University Education Commission (1948–49)

Just after Independence, the University Education Commission was appointed under the chairmanship of Dr S. Radhakrishnan. The commission submitted its report in 1949. It observed that obviously there was no difference in the theory papers offered in the various teacher training colleges. But there were considerable differences in the practices the colleges followed. The number of supervised lessons varied from 10 to 60 and the type of practice teaching and student teaching varied from one to another. The commission observed that the training colleges had no basic orientation in the essentials. To improve teacher training, it suggested that the teacher educators must look at the whole course from a different angle, that the theory and practice should support each other.

The Secondary Education Commission (1952–53)

One of the important events of the planning decade was the Report of the Secondary Education Commission, which analysed the problems of teachers and the training programme in great depth. It emphasised that the most important factor in educational reconstruction is the teacher, his personal qualities, his educational qualifications, his professional training, and the place he occupies in the school as well as in the community. So the commission made recommendations on all these aspects and founded some teacher training institutions: (1) primary (basic) teacher training, (2) secondary teacher training institution and training colleges. It suggested two types of institutions:

(1) one for those who have taken the school leaving certificate, for whom the period of training should be two years,
(2) one for graduates, initially to last one academic year but extended as a long-term programme to two academic years. The graduate training institutions should be recognised and officiated by the universities, which should grant the degree, while the secondary grade training institutions should be under the control of a separate

board. It recommended training in co-curricular activities, refresher courses, and research work for the M.Ed. degree. In 1955, the All India Council for Secondary Education was established. Through its extension centres, the council imparted in-service education. In 1957, the All India Council for Elementary Education was formed.

The Second Five-Year Plan

The Second Five-Year Plan was launched in 1955–56 and it was contemplated that 68 per cent of teachers would be trained by 1960. An amount of Rs. 17 crore was apportioned for increasing training facilities.

The All India Council of Secondary Education established an Examination Reform Unit in 1951. The Directorate of Extension Programme for secondary education was set up in 1959 to co-ordinate and run the extension programmes. In the same year, the Central Institute of English was established at Hyderabad to train teachers in English and to conduct research in the field.

The Kothari Commission (1964–66)

In 1964 an Education Commission was set up by the Government of India under the chairmanship of Dr D. S. Kothari to advise on education. The commission observed that a sound programme of professional education for teachers was essential for the qualitative improvement of the education system. The commission pointed out the weakness of the existing system and suggested ways to improve it. It recommended that the isolation of teachers' colleges in respect to the universities and schools, and to each other, should be removed. The commission very correctly diagnosed the ills in teacher education and suggested practical remedies. As a result of the suggestions of the Education Commission of 1964–66, some changes were introduced in teacher education. A master's degree in education was introduced in some universities, such as Aligarh, Kurukshetra, and Kanpur.

The Planning Commission in the Fourth Five-Year Plan (1969–74)

The Planning Commission laid emphasis on teacher education for improving quality, training more women teachers and teachers from tribal communities, training science and mathematics teachers for the middle classes, and organising in-service training. It suggested correspondence

courses for the training of teachers already in service. It recommended greater co-ordination between the NCERT.

The seventies

During the seventies great emphasis was placed on implementation of the new pattern of education, that is, the 10 + 2 + 3 pattern. This called for rethinking and reforms in teacher education. In 1973, a bold and imaginative step was taken by the Government of India in setting up the National Council for Teacher Education (NCTE), which was to work as a national advisory body for teacher education. The NCTE drafted a curriculum for preparing teachers for the new 10 + 2 pattern. The new curriculum was task-oriented.

A joint session of the members of the NCTE and UGC panel on teacher education met in 1976 and drafted an approach paper on teacher education. The NCERT developed programmes for training teachers already in service through a number of centres of continuing education. In 1975 through the 42nd Amendment of the Constitution, education was brought to the concurrent list. A change of government at the centre brought a commitment to education and some important changes were witnessed in the eighties.

Meaning of "teacher"

A "teacher" is a person who delivers an educational programme, assesses student participation in an educational programme, and/or administers or provides consistent and substantial leadership to an educational programme. Teachers are second parents who look after our futures and are the only people to help us make the decisions that are right for us.

Meaning of "teacher education"

It is well known that the quality and extent of learner achievements are determined primarily by teacher competence, sensitivity, and motivation. The National Council for Teacher Education has defined teacher education as "a programme of education, research, and training of persons to teach from pre-primary to higher education level."

Teacher education is a programme that is related to the development of teacher proficiency and competence that enables and empowers teachers to meet the requirements of the profession and face the challenges therein.

According to *Goods Dictionary of Education*, teacher education means, "all the formal and non-formal activities and experiences that help qualify a person to assume responsibilities of a member of the educational profession or to discharge his responsibilities more effectively."

Between 1906 and 1956, the programme of teacher preparation was called teacher training. It prepared teachers as one would mechanics or technicians. It had narrower goals with its focus only on skills training. The perspective of teacher education was therefore very narrow and its scope was limited.

Teacher education encompasses teaching skills, sound pedagogical theory, and professional skills.

Teacher Education = Teaching Skills + Pedagogical theory + Professional Skills

Teaching skills include providing training and practice in the different techniques, approaches, and strategies that would help the three teachers plan and impart instruction, provide appropriate reinforcement, and conduct effective assessment. It includes effective classroom management skills, preparation and use of instructional materials, and communication skills.

Pedagogical theory includes the philosophical, sociological, and psychological considerations that enable teachers to have a sound basis for practising teaching skills in the classroom. The theory is stage specific and is based on the needs and requirements that are characteristic of that stage.

Professional skills include the techniques, strategies, and approaches that help teachers grow in the profession and also work towards the growth of the profession. They include soft skills, counselling skills, interpersonal skills, computer skills, information retrieving and management skills, and, above all, life-long learning skills.

Nature of teacher education

- Teacher education is a continuous process and its pre-service and in-service components are complimentary to each other. According to the *International Encyclopedia of Teaching and Teacher Education* (1987), teacher education can be considered in three phases: pre-service, induction, and in-service. The three phases are considered as parts of a continuous process.
- Teacher education is based on the theory that teachers are made, not born, contrary to the assumption that teachers are born, not made.

Since teaching is considered an art and a science, teachers have to acquire not only knowledge but also skills that are called "tricks of the trade."

- Teacher education is broad and comprehensive. Besides pre-service and in-service programmes for teachers, it should involve itself in various community programmes and extension activities, viz. adult education and non-formal education programmes and literacy and development activities in society.
- Teacher education is ever evolving and dynamic. To prepare teachers who are competent to face the challenges of the dynamic society, teacher education has to keep abreast of recent developments and trends.
- The crux of the entire process of teacher education lies in its curriculum, design, structure, organisation and transaction modes, as well as the extent of its appropriateness.
- As in other professional education programmes, the teacher education curriculum has a knowledge base that is sensitive to the needs of field applications and comprises meaningful, conceptual blending of theoretical understanding available in several cognate disciplines. However, the knowledge base in teacher education does not comprise only an admixture of concepts and principles from other disciplines, but a distinct gestalt emerging from the conceptual blending, making it sufficiently specified.
- Teacher education has become differentiated into stage-specific programmes. This suggests that the knowledge base is adequately specialised and diversified across stages, which should be utilised for developing effective processes of preparing entrant teachers for the functions that a teacher is expected to perform at each stage.

Scope of teacher education

The scope of teacher education can be understood in the following ways:

(1) teacher education at different levels of education
(2) triangular basis of teacher education
(3) aspects of teacher education

Teacher education at different levels of education

Teacher education reaches teachers at all levels of education, namely pre-primary, primary, elementary, secondary, higher secondary, and tertiary.

The needs and requirements of students and education vary at each level. Hence, level- and stage-specific teacher preparation is essential. Teacher education also helps in the development of teaching skills in teachers at professional institutions. The teachers at professional institutions have only the theoretical and practical knowledge of their particular subjects. They require specialised teacher training inputs to deal with students entering their professions. Teacher education also reaches special education and physical education. Thus, where there are teachers, there should be teacher education. The knowledge base is adequately specialised and diversified across stages to develop effective processes of preparing entrant teachers for the functions that a teacher is expected to perform at each stage.

Triangular basis of teacher education

Construction of the relevant knowledge base for each stage of education requires a high degree of academic and intellectual understanding of matter related to teacher education at each stage. This involves selection of theoretical knowledge from disciplines cognate to education—namely, psychology, sociology, and philosophy—and converting it into forms suitable for teacher education. Teacher education derives its content from the disciplines of philosophy, sociology, and psychology. These disciplines provide the base for a better understanding and application of teacher education. The philosophical basis provides student teachers with insights on the implications of the various schools of philosophy, ancient and modern philosophical thoughts, and educational thoughts of philosophical thinkers on education and its various aspects such as curriculum construction and discipline. The sociological basis helps the student teachers understand the role of society and its dynamics in the educational system of a nation and the world at large. It encompasses the ideals that influence national and international scenes. The psychological basis helps the student teachers develop insights into students' psychological make-up. This enables the student teachers to understand themselves, their students, and the learning situations so that they are able to provide meaningful and relevant learning experiences to their students.

Aspects of teacher education

Teacher education is concerned with aspects such as, who (teacher educator), whom (student teacher), what (content), and how (teaching strategy). Teacher education is dependent upon the quality of teacher

educators. The quality of pedagogical inputs in teacher education programmes and their effective use for preparing prospective teachers depend largely on the professional competence of teacher educators and the ways in which it is used for strengthening the teacher education programme. Teacher education therefore deals first with the preparation of effective teacher educators. Teacher education reaches out to the student teachers by providing the relevant knowledge, attitude, and skills to function effectively in their teaching profession. It serves to equip the student teachers with the conceptual and theoretical framework within which they can understand the intricacies of the profession. It aims at creating the necessary attitude in student teachers towards the stakeholders of the profession, so that they approach the challenges posed by the environment in a very positive manner. It empowers the student teachers with the skills (teaching and soft skills) that would enable them to carry on their functions in the most efficient and effective manner.

India has a large number of teachers and needs many more. All processes of teacher recruitment, training, motivation, incentives, retention, and feedback therefore have to be planned on a large scale. Further, the ultimate goal of in-service teacher development should be to ensure that optimal learning takes place in the classrooms. Further goals include:

- Enhancing the institutional capacity available at present to ensure an adequate supply of trained teachers for all levels of school education.
- Utilising all possible kinds of institutions, including university departments of education and teacher training institutions in the private sector, for in-service training of the existing cadre at all levels, in addition to state institutions, including CTEs.
- Recognising teacher education (for all levels of school education, from pre-school to senior secondary) as a sector of higher education and facilitating cooperation and collaboration between institutes of teacher training and colleges of general education or universities with a view to enabling interaction between different departments of a local college (or university) (e.g., sciences, languages, social sciences) and the institute of teacher training.
- Envisioning a comprehensive model of teacher education, using the Chattopadhayay Commission Report and updating its perspective, and ensuring that progress towards a new, comprehensive model is paralleled by necessary modifications in policies of teacher

recruitment, deployment, and service conditions, including emoluments.
- Preparing a curriculum policy and framework for teacher education that is consistent with the vision of the NCF (2005), and translating it into imaginative syllabi and textbooks for pre-service courses and sets of in-service training material suited to diverse conditions and needs.
- Bringing about synergy between institutional structures operating at different levels—for example, NCERT and NCTE at national level, SCERTs and boards of education at state level, DIETs and undergraduate colleges at the district level, and so on.

Vision of teacher education

Teacher education has to become more sensitive to emerging demands from the school system. For this, it has to prepare teachers for the dual role of being

- an encouraging, supportive and humane facilitator in teaching–learning situations who enables learners (students) to discover their talents, to realise their physical and intellectual potentialities to the fullest, to develop their characters and desirable social and human values, to function as responsible citizens; and
- an active member of the group of persons who make a conscious effort to contribute towards the process of renewal of the school curriculum to maintain its relevance to changing societal needs and the personal needs of learners, keeping in view the experience gained in the past and the concerns and imperatives that have emerged in the light of changing national development goals and educational priorities.

These expectations suggest that teachers operate in a larger context with its particular dynamics. Furthermore, teachers have to be responsive and sensitive to the social context of education and the various disparities in background of learners, as well as in macro national and global contexts, national concerns for achieving the goals of equity, parity, and social justice and also excellence.

To be able to realise such expectations, teacher education has to comprise features that will enable each of its learners. That is, student teachers need to

- care for children/learner's and love to be with them;
- understand children within social, cultural and political contexts;
- view learning as a search for meaning out of personal experience;
- understand the way learning occurs, possible ways of creating conductive conditions form learning, differences among students in respect of the kind, pace and styles of learning;
- view knowledge generation as a continuously evolving process of reflective learning;
- view knowledge not necessarily as an external reality embedded in textbooks but as constructed in the shared context of teaching learning and personal experiences; and
- be sensitive to the social, professional, and administrative contexts in which they have to operate.

The objectives of teacher education

The objectives of teacher education therefore are as follows:

- to provide opportunities to observe and engage with children, and communicate with and relate to children
- to provide opportunities for self-learning, reflection, assimilation, and articulation of new ideas; to develop capacities for self-directed learning and the ability to think, be self-critical, and work in groups
- to provide opportunities for understanding self and others (including one's beliefs, assumptions, and emotions); to develop the ability for self-analysis, self-evaluation, adaptability, flexibility, creativity, and innovation
- to provide opportunities to enhance understanding, knowledge, and examine disciplinary knowledge and social realities; to relate subject matter with the social milieu and develop critical thinking

Newly visualised teacher education programme

The newly visualised teacher education programme

- emphasises learning as a self-learning participatory process taking place in the social context of a learner as well as the wider social context of the community and the nation as a whole
- puts full faith in the self-learning capacity of school children and in student teachers to evolve a proper educative programme for education

- views the learner as an active participative person in learning. His/her capabilities or potentials are seen not as fixed but capable of development through experiences
- views the teacher as a facilitator, supporting and encouraging the learner's learning
- does not treat knowledge as fixed, static, or confined to books but as something being constructed through various types of experiences. It is created through discussion, evaluation, explanation, comparison, and contrasts—that is, through interaction
- emphasises that appraisal in such an educative process will be continuous, will include self- and peer-appraisal, will be done by teacher educators, and be formal too

From	**To**
Teacher centric, stable designs	Learner centric, flexible process
Teacher direction and decisions	Learner autonomy
Teacher guidance and monitoring	Facilitates, support and encourages learning
Passive reception in learning	Active participation in learning
Learning within the four walls of the classroom	Learning in the wider social context of the class room
Knowledge as "given" and fixed	Knowledge as it evolves and is created
Disciplinary focus	Multidisciplinary, educational focus
Linear exposure	Multiple and divergent exposure
Appraisal, short, few	Multifarious, continuous

Conclusion

India has made considerable progress in school and college education since Independence with reference to overall literacy, infrastructure, and universal access and enrolment in schools.

Efforts have been initiated over the past few years gradually to develop a network of institutions like DIETS, IASE, and CTE with the task of providing in-service education to primary and secondary school teachers. So far, 500 DIETS, 87 CTE, and 38 IASE and 30 SCERT have been set up as teacher education resource institutions in the country.

Bibliography

1. Johnson, K. E., & P. R. Golombek (eds). (2002). Teachers' narrative inquiry as professional development. Cambridge: Cambridge University Press.
2. Andrews, S. (2001). The language awareness of the L2 teacher: Its impact upon pedagogical practice. *Language Awareness*, 10 (2–3), 75−90.
3. Aoki, N. (1999). Affect and the role of the teacher in the development of learner autonomy. In J. Arnold (ed.), *Affect in language learning*, 142–54. Cambridge: Cambridge University Press.