

# Teachers' Continuing Education : Shifting Focus on Distance Mode

G.L. ARORA and SAROJ PANDEY

*DTEE, National Council of Educational Research and Training, New Delhi, India*

**Abstract :** *The paper gives brief description of targets to be achieved along with infrastructural facilities for teacher training in India, and a case for use of communication technologies to train a huge number of teachers in the schools. The recent experiments in the country have been analysed, and the effectiveness and usefulness of distance education/training have been explored, with a suggestion that inspite of its use in the recent past, its potentiality is yet to be fully exploited.*

The increasing emphasis on quality control and management assurance in every sphere of human activity has been the hallmark of the last two decades of twentieth century. In education, the efforts, which until now were focused on quantitative expansion of elementary education, have now been shifted towards ensuring quality improvement. In this context, it is widely recognised that teacher performance is the single most crucial input to improve the quality of school education. Recognising the need for both pre-service and continuing education of teachers for improving performance, the National Policy on Education (1986) observed that pre-service and in-service components of teacher education are inseparable.

Social changes and advancement of technology during last few years have also led to widening of teachers' role which was earlier confined to classroom instruction alone. The advances in technology have resulted in the development of several audio-visual equipment, the use of which in the classroom shall necessitate different kinds of skills on the part of teachers. Besides, there is a shift in educational objectives, which emphasises development of reflective thinking skills among children rather than transmitting information and facts to them. The teacher, therefore, shall have to be equipped with relevant knowledge and skills to make pupils reflective thinkers.

However, pre-service teacher education programmes presently available in the country are hardly adequate to turn a trainee into a professional. At the most, they can be considered as initiation into the profession to be strengthened by the teachers' in-service education organised on a continuing basis. Teachers, therefore, need recurrent training in the area of content knowledge and fine tuning of pedagogical skills as well as general awareness of the developments taking place in the field of education.

### **Infrastructural Facilities**

During the past few decades, an impressive network for pre-service and in-service training of teachers has developed in the country. Under centrally sponsored scheme of restructuring and reorganisation of teacher education, more than 430 District Institutes of Education and Training (DIETs), 74 Colleges of Teacher Education (CTEs) and 34 Institutes of Advanced Studies in Education (IASE) have been sanctioned to states/UTs. This training network which has evolved during the seventh and eighth Five Year Plans, is meant for providing in-service education to teachers at various levels of education.

### **Training Target: A Challenge**

At present, the number of school teachers in the country is around five million. These teachers require training on a recurrent basis i.e. at least once in five years as envisaged by the NPE (1986). However, an analysis of the existing situation shall reflect the futility of such claims. For example, a DIET is expected to provide in-service training to 600 teachers in a year. According to an estimate when all the 520 districts will have DIETs with fully equipped and functional in-service education units, the DIET shall have the capacity to provide training to about 0.3 million teachers every year whereas approximately 0.6 million teachers need training every year. Likewise, SCERT, CTEs and IASEs together can provide training to approximately 100 thousand secondary teachers every year while the total number of teachers is around millions.

Forgoing discussion reflects the seriousness of the situation concerning the inadequacy of the network to meet the INSET needs of teachers at various levels of school education. Therefore, the stipulation of recurrent in-service training to every teacher every year or even once in 3-4 years will remain a distant dream. The number of teachers trained under centrally sponsored scheme or in the regular programme of SCERTs and DIETs may look impressive but it is grossly inadequate as it represents only a small fraction of the total teachers' population. It is estimated that with the current mode of centre based training, a teacher may get an opportunity to participate in some INSET programme once in five to ten years, whereas ideally speaking, every teacher should be exposed to some sort of professional development activity every year. The problem, indeed becomes all the more severe when we take into consideration substantial number of untrained and under qualified teachers despite various programmes and schemes of teacher education initiated in pursuance of NPE 1986.

The country, therefore, is facing a challenge to identify INSET technology having potential to meet the challenge of numbers. The existing routine INSET programmes of various institutions cannot meet the training requirement of entire teacher population. Evidently, there is a need of a mass training programme and mass training technology to cover such a large target group. Realising this need a centrally sponsored Programme of Mass Orientation of School Teachers (PMOST) was launched in all states and Union Territories for the first time during 1986-90. The programme aimed at generating awareness among teachers on thrust areas of National Policy on Education (NPE, 1986) and innovative methods of teaching, covered 1.8 million teachers from the entire length

and breadth of the country. An other centrally sponsored scheme, namely Special Orientation of Primary Teachers (SOPT) is in operation since 1993-94. About ten lakh teachers have been provided training under this scheme upto March 1998.

### **The Quality Concern**

Besides the challenge of numbers, the quality of INSET at different levels of training, has always been a matter of concern, because, quality of the classroom and school environment, the learning experiences and materials provided, depends to a large extent on the quality of teachers. Majority of INSET programmes at elementary and secondary levels are either centrally sponsored developed and organised by institutions such as NCERT, NIEPA, IGNOU or state initiated programmes organised by SCERTs, DIETs, CTEs or by NGOs.

In all the centrally sponsored INSET schemes such as the Programme of Mass Orientation of Teachers (PMOST 1986-90) and Special orientation programme for Primary Teachers (SOPT 1993) and even in the programmes designed and executed at the state level, the training strategy has been mostly the cascade model of training in which training follows top-down approach and filters from higher level of hierarchy to the lower level. The quality, therefore, gets diluted to a considerable extent by the time it reaches the actual practitioner at the grassroots level.

Effectiveness and quality of resource persons in cascade model also varies from state to state and centre to centre thereby, adversely affecting the quality to training inputs provided to teachers. It may also be noted, that, most of the training programmes have been conceived as one shot approach, instead of meeting the training needs of the teachers on a recurrent basis. Though there have been some attempts to orient teachers of various levels through distance mode using the radio and T.V., these have been isolated and sporadic attempts, which have not led to the development of a sustainable system of teacher training through distance mode.

Another indicator of quality of training is its relevance to the needs of teachers. Teachers' training needs are broadly in the area of content upgradation, fine-tuning of teaching skills and general awareness. However, in the existing set up hardly any systematic effort is made to organise need based training programmes. A study conducted by Arora and Singh (1996) reveal that even in DPEP states which operate on the principle of contextuality of learning, training needs of teachers were not identified before conduct of training. As a result, the training content may not meet the training needs of teachers.

### **Transactional Modalities**

The transactional approach adopted in majority of INSET programmes has so far remained confined to lectures with little scope and opportunity for trainees to actively participate in the training process. The one way flow of information impedes the instructional efficiency and effectiveness. Ironically concepts like activity based teaching, joyful learning, different management techniques for large size classes and multi-grade situations, team teaching, cooperative and collaborative learning etc. which requires



demonstration and participatory approach of training are also often taught through lecture method which levels the trainees more puzzled and confused about how to go about in these situations with the result it has either very little or no impact on classroom process. Therefore, the traditional transactional modalities need to be replaced with more interactive and participatory transactional modalities.

### **Advancement in Communication Network and Communication Technology**

We are currently in the “third-wave era” (Toffler, 1981) - the post-industrial information age in which changes continuously take place at all levels of society. The plethora of technology and media has opened up new possibilities for educators. With the use of various technologies it has now become possible to facilitate two way interactions between the learners and teachers separated from each other due to geographical distance.

Modern information and communication technologies, especially with the merging of the telecommunication and computers, are revolutionising the quality, complexity, and speed of information being produced, stored, processed and transmitted. Interactive techniques, which are being commonly used by various developed, and developing countries for distance education programmes at various levels include:

- Two way-video and audio (video conferencing)
- One way video, two way audio (Interactive televised instruction)
- Two way audio and graphics (audio-graphic teleconferencing)
- Two way audio (telephone and radio talk-back)
- One way audio (radio broadcasting)
- One way audio (radio broadcasting)
- One way video (television)

It is obvious from the above description, that, with the help of these communication networks it has become possible for the experts to reach learners in every nook and corner of the country. It can be utilised for the purpose of INSET also, with same efficiency and effectiveness. Keeping in view the large training targets, India, therefore, is left with no other option but to explore the possibilities of utilising distance education technologies for in-service training of teachers.

### **INSET through Distance Mode: International Scenario**

Distance education is comparatively a new concept, which has emerged as an out-growth of education by correspondence and as a consequence of the development of electronic communications. Distance education, as an alternative way of gaining access to knowledge, has been given increasing attention over the past two decades. More recently Delors (1996) emphasised the use of distance education techniques for the in-service education of teachers, which may help in “saving money and allowing teachers to go on working, at least Part time, and it can be an effective instrument for implementing reform or introducing new technologies or method”. (Delors, 1996). A significant number of distance education systems have been established in, both developing

and developed countries and are operating in varying degrees of success, given the widely different constraints and context within which they operate. More than 40 developing countries have been using distance mode to provide training to teachers at different levels with a reasonable quality and cost effectiveness.

This mode is becoming increasingly popular for training of teachers in Indonesia, Brazil, Pakistan, Nepal and China etc. In Latin America two third of all post secondary distance education institutes provide teacher training through distance mode. In Africa, teacher training through distance mode in Tanzania is not only more effective than an equivalent conventional residential programme, but is also four times cheaper (per graduate). Similarly, in Brazil a distance teacher training programme has been found to be six times more cost-effective than traditional face to face training.

Egypt, in earlier 1990, utilised distance mode communication technology supplemented by self-learning materials and weekly discussion meetings with faculty members at centres near the participants' work place and residence. The project was undertaken in response to the need for educational reform strategies and for upgrading the professional and academic level of 140,000 elementary stage teachers.

Papua New Guinea's 'Radio Science Project' has been reported to be a big success. The project aims to develop a method for providing systematic, high quality instruction in Primary science-a subject for which many teachers consider themselves inadequately prepared. The project also aims to maximise cost effectiveness for distance education.

In Indonesia, which has more than 13,000 inhabited islands and islets, the task of upgrading approximately one million primary school teachers using the face-to-face conventional approach, is a formidable task which may take at least 25 years to complete. Realising the limitation of conventional mode, Indonesia used the radio broadcasting as a instructional medium. The salient feature of this programme is mobilisation of resources by soliciting the collaboration of relevant agencies e.g. Ministry of Education, Ministry of Home Affairs and Radio Network etc.

The programmes of the Allama Iqbal Open University, Pakistan are mostly for working teachers with the objective to :

- i) provide opportunities for teachers to upgrade their educational qualifications;
- ii) maximise the use of sources, other than the classroom, for education and development; and
- iii) enable teachers inservice to make the best use of time and efforts by combining work and study for continuing education.

The pioneering and most popular course run by AIOU, Pakistan for working teachers so far has been Primary Teachers Orientation Course (PTOC). The centre is media-based, consisting of a self-instructional package of 18 study units, supported by an equal number of radio programmes, two television slots and tuition by experienced teachers. In five presentations, since 1976, the PTOC reached 50,000 primary school teachers. With the main emphasis on improving teachers' practical skills and enhancing selected teaching competencies, the project effectively makes use of the video recording system and micro teaching techniques. The most innovative feature of AIOU, is,

establishment of a network of regional offices and study centres throughout the country. The existence of this network facilitates the teachers' participation in the programme.

In Sri Lanka, the Ministry of Education in 1984 explored the possibilities of utilising this alternative mode and implemented Distance Teacher Education Course (DTEC) for in-service teachers as initial professional education course. The programme assisted, supervised and monitored by Swedish International Development Association (SIDA) could provide training to 10,857 teachers. However, in 1991-92 under a new programme 33, 177 already training teachers joined DTEC course. Another pilot project to train a large number of untrained teachers through distance mode was also launched in 1981. A trainee of this programme is expected to study the training material, which follows modular approach independently, and receive assistance through contact sessions. The main objective of Sri Lanka project was to reach teachers in distance and remote areas who have been deprived of the opportunity to further their education.

Similar considerations encouraged Bhutan government to adopt this mode to provide in-service training to teachers, as majority of teachers in Bhutan are untrained and unqualified and conventional INSET programmes organised during vacation fail to attract teachers in required numbers. This Bhutan model includes print and radio broadcast along with face-to-face lessons organised by mobile teams of teacher trainers at identified study centres.

The Bangladesh Open University caters through its regular T.V. programmes for about 25,92,500 students and 1,04,800 teachers. The institute had also introduced B.Ed. degree course for untrained teachers in 1985.

Maldives, which has approximately two hundred inhabited islands, finds it difficult to meet the national output of trained teachers through face-to-face conventional methods. Distance education, therefore, is seen as one of the means of contributing to the alleviation of this problem by providing professional support and opportunities for career development, to teachers in the remote areas.

The aforementioned review indicates that use of distance education technologies is becoming increasingly popular in various countries for the inservice education of teachers, besides, different regular courses organised by distance education institutions for varying levels of students. In 1984 the International centre for Distance Learning (ICDL) created under the auspices of the United Nations University conducted a survey of 1070 institutions in 88 countries. The following figure shows the distribution of distance education programme at various educational levels.

Distance mode of continuing education programme, therefore, is gaining currency specially for training of teachers at the primary level. Pakistan and Bangladesh are using this mode for providing training to middle as well as secondary teachers and Mexico uses it for lower secondary school students. The objectives of majority of training programmes remains the same, training a large number of untrained and unqualified teachers.

It is also reflected through the experiences of phase countries that though the mode of developing of instruction differs from country to country, most of them utilise self-instructional materials, radio and T.V. programmes. Brazil and Egypt use pamphlets,



books and lectures also in addition to these. However, the two-way interaction television, computer assisted communication and other sophisticated media of communication is yet to be utilised for inservice training of teachers.

About 27 percent of the total programmes conducted through distance mode all over the world fall in the area of continuing education. This indicates the growing acceptability, popularity and utility of this unconventional communication mode.

### **INSET Through Distance Mode : Indian Experience**

Keeping in view the limitations of conventional face-to-face training model and rising to the needs of fast changing world a beginning has already been made in India. Indira Gandhi National Open University (IGNOU), a premier distance teaching institute at the national level, has been making sincere attempts to provide teacher education training packages in the areas of higher education and primary education.

IGNOU in collaboration with NCERT entered in the field of teacher education to cater to the training needs of primary teachers. A certificate programme in Guidance was launched as an outcome of this collaboration and another comprehensive programme entitled 'Diploma in Primary Education (DPE) is in the offing. The programme aims at providing training to the untrained primary school teachers in the North-eastern states, Sikkim and West-Bengal, using a modular approach.

The University adopts the multi-media approach such as self-instructional print materials, tutorials, and contact sessions, mid-term assessment of the progress of learners with the help of assignments, radio and TV broadcast on a regular basis through an allotted slot in the National channel and Teleconferencing to maintain direct contact with learners in various parts of the country.

The National Council of Educational Research and Training (NCERT) has made a pioneering effort in the use of interactive distance mode technology for in-service training of teachers under its centrally sponsored scheme 'Special Orientation of Primary Teachers (SOPT) in 1996. Utilising one-way video and two way audio Tele-conferencing technique, the Teacher Education and Extension Department (DTEE) of NCERT organised two such programmes in 1996 known as 'Tele-SOPT' for the states of Karnataka and Madhya Pradesh. Both the programmes were of seven days duration and adopted similar transactional modalities and training contents. The medium of instruction, however, differed as the programmes were organised in regional languages. In the programme organised for the state of Karnataka, in January 1996, 850 primary teachers were provided training at 20 centres, while in the programme organised in the month of August 1996 for the state of Madhya Pradesh approximately 1400 teachers at 45 training centres of the state were simultaneously provided training. The Tele-SOPT programmes were followed by a subject specific training in the area of mathematics teaching; known as 'Tele Maths' which was again organised for the state of Karnataka. This programme was of a five days duration, for the primary teachers of Karnataka. 700 primary teachers at 20 training centres of the state had been covered through this Tele-training programme. Encouraged by the tremendous success of these programmes, Tele-conferencing technique was further extended to the orientation of teacher educators

working in DIETs of Madhya Pradesh. As many as 462 teacher educators of DIETs were given orientation on roles and functions of DIETs, during five days of training programme organised in Oct. 1997.

The Tele SOPT programmes had 14 sessions each and included topics such as Minimum Levels of Learning (MLL), use of Operation Blackboard (OB) material, multi-grade teaching strategies as well as content related topics like teaching mathematics, Environmental Studies (EVS) and language.

During the seven days programme about 600 telephone calls and 240 fax messages were received in the case of Karnataka and in the case of M.P. about 700 telephone calls and 200 fax sheets were received. Likewise, 250 telephone calls and 210 fax sheets and 283 telephone calls and 50 fax messages were received during the Tele-Maths and Orientation of DIET faculty programme respectively. This indicates that there was enough interactivity in the programme. An evaluation study was conducted by Phutela (1996) of the Tele SOPT Karnataka. The pre-post test study to measure the effect of training on achievement of teachers was conducted, on a sample of 286 teachers of 8 centres, with the help of achievement test and observation schedules. The overall achievement gain was found to be significant at .01 level. Participants reported inputs such as presentation and demonstration (72%), Panel discussion (69%), reading materials (57), telephone interaction (68%) as very useful, interesting and effective.

During Tele-SOPT Madhya Pradesh the reaction of 685 teachers was taken on different aspects of programme such as quality of material, TV presentation, demonstration, group discussion and group activities etc. The reaction of participants indicate that teachers found different training inputs, training methodology and technology useful, effective and informative. (Phalachandra, 1997).

These training programmes, though, conducted on experimental basis, have demonstrated large coverage capacity of distance mode without any transmission loss between the teaching source and learning ends, which ensures quality of training. This training mode having potential for wide coverage without comprising on quality is well suited to the training needs of the country.

Another significant development has been made in the use of technology in the on-going District Primary Education Programme (DPEP) which envisages recurrent training of teachers. The main focus of training is to upgrade teachers in both content and pedagogy. Considering that the number of teachers and support personnel to be provided with training experiences on a recurrent basis is so large and the training needs to be catered to are so varied that any single approach to training will be highly inadequate to carry out this enormous task. Thus, training of teachers and other personnel in primary education sector through distance education mode has been made integral part of DPEP II.

The Distance Education Programme (DPEP) envisages creating a sustainable system of in-service training of primary education personnel through distance mode of strengthening the on-going training efforts, thereby, contributing to the improvement of the quality of teaching learning process in the classroom. The target group of DEP—DPEP includes trained and untrained teachers, head teachers, VEC presidents and



members, BRC/CRC functionaries, DIET faculty, DPO personnel and NFE functionaries etc. However, teachers are the priority target group for DEP. The programme is currently in operation in all the 14 DPEP states, with the collaboration and the expertise of IGNOU and NCERT.

### **National Action Plan**

A major break through has been achieved in the distance technology with the publication of National Action Plan. Realising the potential of distance mode the National Action Plan envisages a multi-layer INSET network with modern training facilities including interactive television and multi-media learning systems. The network will include national, regional, state, district and block level training centres, The multi-channel learning system will include:

- i) home based self-learning through radio and television lesson and self-instructional printed material specially prepared for the trainees;
- ii) site based action learning through action experiments, action research and field work;
- iii) face-to-face interactive learning in groups in the form of cooperative learning, group work etc.; and
- iv) expert delivered interactive learning through interactive television.

The NAP emphasises utilization of existing infrastructure, upgrade and modernise them to enable them to adopt modern training technology, instead of establishing any new institute for INSET through this innovative mode.

It is evident from NAP and the experiments conducted by NCERT that integrated approach combining, both, face-to-face and distance mode may be more effective for the training of in-service teachers. Organisation of training through distance mode also calls for joint collaborations and networking of various institutions at the national, state and grass roots level.

### **New Initiatives**

An ambitious project called as 'Inservice Primary Teachers Training Using Interactive Television (IPTT – ITV), to be undertaken in joint collaboration of UNESCO —ITU and Government of India during 1998-2000, is sanctioned for ten districts of Madhya Pradesh and six districts of Gujarat. This two way Video interactive teleconferencing project using sophisticated communication network along with self-study and locally facilitated face-to-face interactive training methodology, aims to validate and standardise technology specifications for interactive television (ITV) system along with the objective to design and pilot test a continuous in-service training of primary teachers and teacher educators working in DIETs through video conferencing.

Madhya Pradesh and Gujarat are already using one way audio and two-way video interactive teleconferencing technology for the in-service training of teachers. Gujarat conducted a two days Tele-conferencing programme in Feb. 1998 exclusively for in-service training of primary teachers of the state. Approximately 3000 teachers were

trained through this programme. The experiment was conducted jointly by GCERT, Gujarat and DECU, ISRO Ahmedabad. The state government has also set up a state level working group comprising eminent educationists, professionals, subject experts and members of DECU etc. for providing guidelines regarding training design and delivery system.

Both the states are, therefore, equipped with basic minimum infrastructural facilities which can be further strengthened to launch the multi-media IPTT-ITV video conferencing project.

More recently setting up of the UNESCO chair on teacher education through distance mode, in IGNOU has been a significant effort to monitor the quality of distance teacher training programmes as the main thrust of the chair is conducting evaluative research studies and innovative programmes developed in teacher education through distance mode.

### **INSET Through Distance Mode: A Critique**

The advances in the field of communication network have created a new paradigm for the provision of education. Increasing use of satellite communication and information technology in the teaching-learning process and education of teachers is becoming a reality. Experiences of various countries are indicative of the far reaching promise of the interactive technology for improving the quality of education through inservice training of teachers. The two major issues of in-service education in India i.e. coverage of huge target groups at different levels of education, and quality of training inputs, can be addressed to a considerable extent through the use of distance education technology.

However, there is a long way to go. The experiments conducted in India at present are sporadic efforts and unless a system of INSET through alternative distance mode is developed, and training programmes are conducted on a regular basis, significant results could not be achieved. Nevertheless, to build such a parallel system of training is not an easy task, as it requires highly skilled personnel, dedicated teamwork and sophisticated network which is, both expensive and difficult to get.

The cost of distance education is yet another issue. The cost of distance education will of course vary with the kind of technology used and the volume and extent of services provided, but there is no two opinions that the initial installation cost of the hardware required for teleconferencing is quite high and technically trained personnel are needed to utilise these facilities to the benefit of teachers to make it cost effective. Regular use of these services may, therefore, help in reducing the cost of INSET through satellite.

There is also a danger lurking behind the euphoria concerning the marvels of technology in education that will need to be addressed as the highest policy level. The issue is one directly related to equity. This has been referred to as 'technological apartheid' and has the potential of widening the gap between institutions having access to technology and those who do not have. It is possible to address this dilemma through judicious provision of accesses to technologies and media. However, there is no denying the fact, that, the use of interactive video technology is well suited for the training of teachers specially in remote areas of the country.

Another crucial issue to take note of, is, adopting transactional strategy, suitable for the participants to sustain their interest and enthusiasm throughout the training programme. An intelligent integration of face-to face conventional training strategy with the distance mode may prove effective in this regard.

It may, therefore, be concluded that though the distance mode of INSET with its wider coverage capacity may be viable alternative to face-to-face model, its full capacities are yet to be exploited effectively.

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[ **Professor G.L. Arora** is Head and **Dr. Saroj Pandey** is Reader. *Correspondence*: DTEE, National Council of Educational Research and Training, New Delhi 110 016, India.]