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## **Working Paper on In-service Teacher Professional Development (TPD) for Elementary Education\***

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### **I. Overview**

This paper outlines HBCSE's approach to developing a model for in-service teacher professional development (TPD) for elementary education in India. The focus is on achieving competence and academic autonomy of teachers. The approach is derived from recent research and policy documents, with HBCSE's specific contributions to be in science and mathematics education. The proposed program would involve about 100 teacher educators / teachers in two States over the course of one year in the first instance. Resource enhancements in terms of internet-based video links (subject to budget) and library and laboratory facilities would be recommended. Collaborations will be fostered with other organisations and with National and State agencies involved in TPD. The outcomes would be in the form of ideas, materials and methods that contribute towards building an effective model of TPD, resulting in enhanced quality of school education.

### **II. A National consensus**

1. The National Curriculum Framework 2005 (NCF, 2005) followed by the Right to Education (RTE, 2009) have created a new environment for school education. The vision of education is substantially different from the traditional one, entailing changes in curricular goals, pedagogy and assessment.
2. These changes reflect a renewed commitment to universal education, to a democratic ethos and to a constructivist pedagogy based on a better understanding of how children learn.
3. The teacher is the key agent in the transition to this vision of education. The National

Knowledge Commission (NKC, 2007) has observed that the teacher is the single most important element of the school system and has stressed the need to substantially enhance teachers' professional capabilities, standing and commitment to education.

4. In recognition of this need, the National Council for Teacher Education (NCTE) has formulated a National Curriculum Framework for Teacher Education (NCFTE, 2010).
5. The challenge is to translate this new National consensus from the policy level into practice.

### **III. Existing structures and model for TPD**

1. The Kothari commission was the first policy document to stress the need for continuous professional development of the teacher and in-service support and training. The National Policy on Education (NPE, 1986) sought to strengthen institutional structures for both pre and in-service teacher education through strengthening of State Councils of Educational Research and Training (SCERTs) and creation of large numbers of District Institutes of Education and Training (DIETs), Colleges of Teacher Education (CTEs) and Institutes of Advanced Studies in Education (IASEs). In the 1990s the District Primary Education Program (DPEP) initiative created further local structure through the development of Block Resource Centres (BRCs) and Cluster Resource Centres (CRCs).
2. Currently, it is mandatory for teachers to attend periodic in-service training programs, which are delivered largely through the above institutions.
3. In-service programs are often tied to specific reform initiatives in curriculum, pedagogy or assessment. In-service training becomes the vehicle for carrying the message and the detailed recommendations of these initiatives and it is typically implemented in the 'cascade' mode.

### **IV. Limitations of the existing structures and models for TPD**

1. The structures created for pre and in-service teacher education at the level of DIETs have largely limited their scope to pre-service teacher education which often carries on in well-worn, traditional ways. In many states, the lower level structures such as BRCs and CRCs have seen attrition or have been diverted to administrative rather than academic functions.
2. Even where regular in-service programs are held, there is no unified vision of the continuous professional development of teachers, and in-service training is reduced to being the mode for mechanically dispersing disparate and often inadequately worked-out reform initiatives into the system.
3. This role for in-service teacher training has created a top-down 'transmission' model of training with a limited contribution from teachers and no feedback that can be used to design

the training. The existing institutional framework, overlain with this top-down design, forces a cascade model with two or more tiers of training, with a dilution at each tier.

4. Teachers in India are already down at the bottom of a rigid, hierarchical administrative structure. This lack of administrative empowerment (acknowledged and addressed to some extent by the RTE) is exacerbated by the lack of academic autonomy.
5. The cascade model as of now is neither efficient nor effective. Besides the fact that there is little backward flow of information or tuning of courses to the needs of the recipients based on research, there are also no mechanisms for building up of engagement before and after the contact periods, to ensure that the learning continues, and finally reaches the schools and students.
6. There is a deeper structural limitation that affects both pre and in-service teacher education for elementary (D. Ed.) as well as secondary (B. Ed.) levels. Teacher education has been hived off as a professional stream outside mainstream university courses and disconnected from other knowledge intensive professional courses. This has led to an absurd view of 'teaching' as an activity divorced from what is being taught.
7. Further, teacher education, which was designed to draw on disciplines like psychology, sociology, history and philosophy, has got de-linked from the developments in these disciplines, as also from their dynamical interplay with the Indian socio-political cultural milieu.
8. The separation of pedagogy from content on the one hand, and from the social sciences on the other, has had far-reaching consequences. It has resulted in the near irrelevance of teacher education to the practice of teaching, and to a diminished status of the teacher in the academic community.

## **V. The new vision of education**

1. In the new vision of education articulated by NCF 2005, curricular goals integrate content with process and affective outcomes and aim for the development of autonomous, confident and capable individuals. The NCF 2005 emphasizes the principles of constructivist teaching and learning, which include active participation of children in the classroom in guiding and in achieving learning; reasoning as opposed to authority as a basis for learning, using children's prior knowledge, thinking, reasoning, communication and problem solving abilities as starting points for teaching and learning, creating a space in the classroom for children's expression in all forms (speech, writing, action) and promoting a culture of listening and discourse.
2. The NCFTE (2010) advocates teacher education to be open and flexible, emphasising dialogical exploration rather than didactic communication, diversity of social contexts and learning spaces as sources of inspiration, and teacher education based on reflective practice rather than on a fixed knowledge base (NCFTE 2010, p. 19).

## **VI. Changed view of teacher professional development**

1. The new vision embodied in the curricular frameworks for school education and teacher education envisages not only that teachers achieve a high level of expertise and involvement, but also that they take initiative in their own professional development. Thus TPD programs must seek to build autonomous teacher communities that continuously improve their own expertise and the effectiveness of their teaching.
2. One of the key components of change is enhanced professional knowledge of teaching. A large body of research in science and mathematics education shows the importance of specialized knowledge required for teaching curricular subjects even at the elementary level, which includes an integration of pedagogy and content. Based on this research, the contours of such specialized knowledge for teaching are available. This knowledge, which is closely tied to the practice of teaching, must be acquired and refined by the teaching community and dispersed among themselves.
3. Currently the opportunity to acquire such specialized knowledge is limited - pre-service education is too short for this to happen and school teaching practice is too individualized and lacks a collective, reflective dimension. Hence teachers have to often fall back on their own learning in school, which can be very inadequate.
4. Mechanisms and structures need to be found to strengthen the process of acquiring specialized knowledge for teaching. The practice of lesson study, which evolved in Japan and is rapidly being adapted in many countries, is an example of such a mechanism.
5. Besides the demands made in terms of knowledge for teaching, the new vision of education also entails changes in beliefs and attitudes that are currently widely held among the teaching community. Beliefs and attitudes change at the level of a community rather than at the level of an individual teacher. Such changes can happen when the community of teachers internalise a new vision of education as a real possibility that can be achieved in their own classrooms.
6. Many shared examples of teaching practice in accordance with the new vision need to be created before teachers as a community start to invest their beliefs and hopes in the new vision.
7. In the decades since independence, due to a variety of systemic factors, the status of a teacher in society has lowered. This is especially true of teachers in government schools. Yet, in recent years, there is a small but noticeable trickle of well-qualified young people venturing into education at all levels.
8. As the new vision documents emphasise, it is imperative that TPD programs move towards enhancing teachers' status, and towards a system where teachers largely guide and manage

their own professional development. The 'lesson study' model mentioned earlier is an example of such an approach and is the opposite of the current ethos of experts telling teachers what to do and teachers being seen merely as those who implement instructions or 'deliver' a curriculum.

## **VII. Strengthening links between teaching and content**

1. As mentioned earlier, one of the deeper structural limitations of the education system is the separation of pedagogy and content in teacher education. To counter this trend, there is a need to build strong links between universities and knowledge creating institutions and the work of teaching at all levels.

2. HBCSE is significant in this context since its perspective integrates content and pedagogy in the teaching and learning of science and mathematics, while also drawing on the social sciences to shape its pedagogical designs. It is important to found centres focusing on educational innovation at all levels of education in universities and premier institutes of learning, and to foster strong ties between such centres and mainstream academic departments. Facilitating the integration of pedagogy and content in the larger sense is one of the important roles that HBCSE can play.

3. A part of teacher education/ preparation needs to be moved into mainstream university degree programs. For example, learning science or mathematics for an undergraduate degree can be enriched by an exposure to the issues related to the teaching of science or mathematics.

4. A strand of courses that expose students of mainstream university programs to the challenges and the excitement of teaching can build a liking for teaching and also enhance the status of teaching. This can potentially reverse the current trend of capable and talented individuals avoiding teaching as a career.

## **VIII. Model for in-service teacher professional development**

1. At HBCSE we have been generating and testing some ideas on teacher education and would welcome an opportunity to develop and implement them systematically in collaboration with other institutions and agencies in the country. HBCSE is concerned with developing models for in-service TPD that not only bring together content and pedagogy, but also address issues of teacher autonomy, beliefs and attitudes, and build in relevance in the Indian socio-cultural context.

2. HBCSE's own practice of TPD has three essential elements (a) keeping the TPD close to the work of teaching (b) using TPD programs to build teachers' sense of a community and (c) challenging teachers to reflect upon and move beyond their current beliefs and practices.

3. HBCSE members draw on their own experience of teaching, of collaborating with teachers, of research on students' learning and curriculum development in TPD programs, which ensures a strong focus on actual classroom teaching related issues.
4. TPD activities which include discussion and reflection, as well as collaborative planning for teaching, help to build teachers' sense of autonomy and of a community. Teachers are also introduced to research literature in mathematics or science education to strengthen a sense of participation in a wider professional community that includes teacher educators and researchers.
5. The challenge aspect is to elicit a reflection upon and a revisiting by the teacher of their own knowledge and beliefs and to reconstruct these in consonance with the new vision of education. The TPD programs must allow space for teachers to express, examine and reflect on their own beliefs.
6. The TPD programs must work towards building strong links between the community of teachers and other structures such as teacher education institutions and universities and knowledge creating institutions.
7. The goals of the TPD must include building sensitivity to children's thinking and strengthening teachers' specialized knowledge required for teaching.
8. Subject focused TPD programs must create opportunities for teachers to experience the learning of the subject, or acquiring specialized knowledge for teaching in creative and constructive modes.
9. Rewards, recognition and motivational incentives beyond professional satisfaction will need to be worked out.
10. The modality of the program and the nature of interactions within it must reflect and exemplify the values that form a part of the new vision of education.

## **IX. Contact programs**

HBCSE will each year work with a total of 100 teacher educators / teachers - two groups of 50 each, from two States, Bihar and West Bengal. Each group will attend one two-week program at HBCSE on science and mathematics between August and November followed by two 3-day follow-up programs later in the year, to be held in the field area. Through the year we would hold consultations and share experiences with other institutions who might take up similar programs with different sets of educators. The course contents and methods of engagement will be documented. The ideas and materials developed through this exercise will be tested and disseminated through printed course materials, videos, web portal, and other media.

## **X. Resource enhancement in the DIETs / CTEs / IASEs**

In February-March 2012, a survey will be carried out of library and laboratory facilities in the participating DIETs and a proposal submitted to the MHRD for strengthening these resources where needed. This would include a proposal for two-way interactive video communication links based on internet protocol and open standards. Recommendations of books, laboratory equipment, videos and web-resources would be made. Effective use of existing resources would be ensured through appropriately planned programs. The enhanced facilities would enable continuing engagement of teacher educators before and after the contact period.

At the end of one year we hope to see the beginnings of a few working models of TPD that are in consonance with the principles outlined here. Active contributions from experts around the country and support from National and State agencies would ensure an essential continuity for this program.

### **Note**

*\* This working paper is collaboratively prepared with and on behalf of HBCSE by K. Subramaniam, faculty member and J. Ramadas, Centre Director, HBCSE.*

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