Chapter 5: Systemic Reforms

The dimensions of the national framework for school curriculum that have been outlined in the preceding chapters are derived from related aims of education with a social conscience, focusing on learners who are actively engaged with constructing rather than only receiving knowledge through their individual and collective endeavours. Such a curricular vision needs to be supported and sustained with systemic reforms of structures and institutions that nurture practices supportive of children's inclusion in school and their learning. Important among these are the system for preparing teachers and supporting their professional practices through monitoring and academic leadership; the system for producing textbooks and learning materials; decentralisation and *Panchayati Raj* Institutions; work-centred education and Vocational Education and Training (VET) and the most important structural feature — the examination system. The curriculum is realised in the activities planned for by the teachers and experienced by the children. The school ethos and practices of teachers depend critically on the architecture of the system. The critical areas that require attention are identified and discussed hereafter.

5.1 CONCERN FOR QUALITY

Curriculum reforms are at the heart of any wide-ranging initiative that may be taken to improve the quality of educational provision at different stages. The prevailing curricular reality needs to be addressed in the following terms:

- The tendency to confuse knowledge with information must be curbed. This tendency encourages the transfer of topics from higher to lower levels.
- Treatment of children's learning as an isolated outcome should be replaced by the application of developmental norms that assume a holistic pattern of growth in motivation and capacity.
- Productive work needs to be viewed as a pedagogic medium for knowledge acquisition, developing values and multiple-skill formation from the pre-school to the senior secondary stages.
- Curricular choices have to be made with due regard to the child's context, ensuring the flexibility and diversity of the approaches emphasised in NPE-1986 and POA-1992.
- Professionalisation of teaching along the lines recommended by the Chattopadhyaya Commission-1984 should be reflected in policies governing recruitment, pre-service, and in-service training, and working conditions.
- Educational technology should be viewed as a supplement rather than as a substitute for hands-on experience, both for classroom teaching and for teacher training.

These recommendations should suffice to indicate our primary concern, that quality is a systemic attribute rather than only a feature of instruction or attainment. As an overarching characteristic, quality expresses the system's capacity to reform itself for enhancing its ability to remedy its own weaknesses and to develop new capabilities. The key reforms required in our system today are those that will enable it to overcome its internal rigidity and its indifference to changing circumstances. This challenge is identical to what POA-1992 had stressed in the need to modernise for greater flexibility. For curricular and training practices to remain relevant in a decentralised system, it is necessary to articulate the objectives and methods of reform with clarity and precision. The following deserve priority:

- Equipping the school for taking decisions at its own level in areas such as purchase of material, collaboration with local institutions, and involvement with other schools in the area, including private schools.
- Linkages between primary, upper primary and secondary levels in the processes of syllabus designing and textbook preparation.
- Setting up of structures that enable school teachers and subject experts drawn from institutions of higher learning to work together for syllabus and textbook revision.
- Creation of spaces where local-level representative institutions can work closely with teachers to enhance efficiency.
- Cooperation between decision-making bodies and NGOs.
- Encouraging greater communication and transparency between different structures and levels of decision making.

Quality is not merely a measure of efficiency; it also has a value dimension. The attempt to improve the quality of education will succeed only if it goes hand in hand with steps to promote equality and social justice. Multiplicity of subsystems and types of schools

tend to have a detrimental effect on the overall quality of the education system because the attention of the more articulate sections of society gets passed on a small fraction of the student population. It is desirable to evolve a common school system to ensure comparable quality in different regions of the country, which is the goal of this National Curriculum Framework, and also ensure that when children of different backgrounds study together, it improves the overall quality of learning and enriches the school ethos. If the curricular vision (flexibility, contextuality and plurality) articulated in this document forms the basis for developing a common school system, then a national system of education where no two schools will be identical becomes a reality. As an objective of curriculum planning, social justice has many obvious implications, but there are some subtle implications as well. One obvious implication is that special efforts will be required to ensure that education promotes an inclusive identity. Children belonging to religious and linguistic minorities need special provision and care in accordance with the perspective reflected in the Constitution**.** In the case of tribal languages, certain states have taken significant measures to facilitate early schooling in the child's home language. A more adequate set of measures providing for multilingual facility on the part of the teacher is needed. Similarly, policy measures taken to widen the curricular scope of madrasa education need to be strengthened.

The subtler implications of social justice as an objective of curriculum policy are more challenging. These relate to awareness and capacities, flexibility and imaginative coordination, among syllabus designers, textbook writers and teachers.

For education to remain a nurturing experience for all children, irrespective of their socio-economic and cultural backgrounds, concrete steps are needed in teacher education, curriculum, and in the procedures used for syllabus and textbook preparation.

Teacher-education programmes, like B.Ed. and M.Ed. in place today, pay inadequate attention to the responsibility that a teacher has in constructing a classroom culture that might provide an inclusive environment for children, especially girls from oppressed or marginalised social backgrounds. In syllabus designing and textbook writing, the items showing sensitivity to cultural differences often come in as afterthoughts rather than as in-built features of the process. The case of gender and special needs is similar. One of the many messages received by NCERT in the course of deliberations over the National Curriculum Framework review came from a teenage girl, who suggested that specific measures are needed to inculcate greater self-awareness among boys regarding their behaviour towards girls. Such an idea could be extended to cover all aspects of a culturally inclusive classroom and school policy.

5.1.1 Academic Planning and Monitoring for Quality

The current practice of academic planning for school education is largely a 'top down' annual exercise. Its focus is on how teaching time should be allocated for teaching of subject content over the year, and stipulating other activities that will be conducted in schools. Typically, this is done by SCERTs or the Directorates/Departments of Education, and presecribed uniformly for all schools in the state. The importance of school-level planning was emphasised by the Kothari Commission when it underscored the need for each school to prepare an 'institutional plan' and evolve a 'development programme spread over a period of time'.

To be meaningful, academic planning has to be done in a participative manner by heads and teachers. One component of planning will include augmentation and improvement of the physical resources of the school. The second is to address the diverse needs of students and to identify the inputs and academic support that the school needs in order to respond to these needs. The planning exercise is an important process through which schools can enlist the involvement and support of the larger community in the education of children. This includes village education committees and other statutory bodies. Micro planning, which includes village-level mapping of school participation (non-enrolled children, attendance patterns, children with special needs, etc.), as well as identification of human resources, allows the school to plan on a more realistic basis for every child. In order to have more independence at the school level, both at the stage of planning and at the stage of implementation, it is necessary that financial allocations permit greater flexibility regarding schemes and norms, and also greater transparency and accountability of budget allocations and expenditure.

There is a need to prepare the system to engage in more extensive and genuine planning from below, rather than only applying the arithmetic of unit costs for programmes determined at the state or national centres. Only then can 'autonomy' and 'choice' of schools and teachers, as well as the responsibility of the school towards the needs of children, become substantive. A broad framework for planning upwards, beginning with schools identifying focus areas, with subsequent consolidation at the cluster and block levels, could create a genuinely decentralised district-level planning. Setting targets, planning for and being responsible for them would then become feasible at all these levels.

5.1.2 Academic Leadership in Schools and for School Monitoring

The potential role of headmasters in providing academic leadership to their schools has yet to be adequately realised. At present, they are seen largely as the administrative authority within the school, though they lack the necessary control to exercise this authority, or even to ensure regular school functioning. Often they are equipped with neither the capacity nor the the authority to exercise choice and judgement relating to the school curriculum. Headmasters (and teachers) need to be able to identify the specific supports that they require for their schools, articulate their expectations regarding the content of training and school visits from the cluster and block personnel, and participate in the process of monitoring and supervision. Currently, they are not differentiated enough from teachers with regard to their academic roles. The role that the headmasters, and indeed the community of headmasters, can play within a cluster of schools must be highlighted. Capacity building for this must receive attention.

Schools are now the focus of an increasing number of programmes aimed at enhancing quality and spreading awareness about societal concerns relating to the environment, health and so on. Headmasters are often besieged by the numerous programmes they are called upon to conduct and participate in. Programmes often lack clarity regarding their objectives and methodology, and their activities tend to overlap. It is important that as part of the process of school-level planning, they should be able to participate in decisions about the programmes they need and how they should be integrated into regular school activities. These programmes could then be coordinated at the cluster and block levels.

Conventionally, monitoring of schools has been through the inspectorate system. This system has served largely to exercise authority and control rather than provide academic support to teachers. The school inspectors perform a number of functions, one of which one is to visit schools under their purview. Their visits are usually few and far between, during which the students and teachers tend to present a positive picture of the school regardless of the ground realities due to fear of punishment. This reduces monitoring to a 'policing' function. Monitoring for quality must be seen as a process that enables and provides constructive feedback in relation to the teaching and learning processes within specific classroom contexts. The monitoring system put in place must be carefully analysed in relation to its objectives, and the norms and practices that are to be institutionalised to achieve the objectives. It must provide for sustained interaction with individual schools in terms of teaching-learning processes within the classroom context.

5.1.3 The *Panchayats* and Education

The 73rd Constitutional Amendment established the three-tier *panchayati raj* system in the country, with elected bodies at the *gram, taluk* and *zilla* levels to enable people to think, decide and act for their collective interest, to provide for greater participation of the people in development, to ensure more effective implementation of rural development programmes in the state, and to plan and implement programmes for economic development and social justice. The 73rd Constitutional Amendment identified 29 subjects for transfer to the *panchayats*, including primary and secondary education, adult and non-formal education, libraries, technical training and vocational education. All state governments enacted their state *Panchayati Raj* Acts in order to realise the constitutional mandate of decentralised democracy and development.

Overlaps and Ambiguities in Functions

Several states in the country have identified functions and activities for implementation at different tiers of *panchayat raj* functioning. In several states, a vast array of functions is assigned to PRIs at every level. In practice, however, PRIs, especially taluk and gram panchayats, discharge few tasks. Barring disbursement of salaries in some states, taluk and gram panchayats discharge practically no functions of any significance in the sectors of education, health, women and child development, and social welfare. Moreover, there are huge ambiguities and overlaps in the functions and tasks to be discharged at different levels. These ambiguities often result in conflicts between the three-tiers, especially with respect to: Who plans? Who decides? Who selects? Who accords approval? Who implements? Who releases funds? Who monitors? Indeed, there is no role clarity between the functions at the different levels.

Principle of Subsidiarity

The principle of subsidiarity is the bedrock of *panchayat raj*. The principle of subsidiarity stipulates: 'What can be done best at a particular level should be done at that level and not at higher levels. All that can be done optimally at the lowest level should be done at that level.' This necessitates a rational and realistic analysis of the functions that are required to be discharged at different levels of PRIs, devolution of those functions to those levels of *panchayati raj*, simultaneously ensuring that required funds are devolved to that level for discharging that function and transacting the activity.

Strengthening Panchayati Raj : The practice of setting up parallel bodies in the form of autonomous registered bodies, for example, *Zilla Saksharta Samitis*, DPEP Societies, SSA Societies at the state level, and

similar bodies at the taluk and village level, has severely undermined the powers of PRIs. These parallel bodies have emerged in large numbers across different sectors. Each village has them; there are village education committees, watershed committees, ryot mitra committees, forest committees, water users associations, none of which are answerable to *panchayats*. These committees receive large funds from external donor agencies, and are dominated largely by the village elite. In short, the major problems in *Panchayat Raj* functioning are that there is:

- No one-to-one correlation between the functions assigned to the different tiers of Panchayat Raj and the funds devolved.
- The tendency to form parallel committees at the village level marginalise democratically elected bodies. These committees undermine the stature of democratically elected bodies and make a mockery of peoples' participation in local planning.

Over the recent past, there has been a growing emphasis on maintaining a large database at the block/ district level on indicators such as rates of enrolment, drop-out, achievement, etc. These are also used as yardsticks for monitoring schools and for larger school management. While official insistence on the regular maintaining of detailed records in relation to these indicators has burdened schools, it has also led to an unnecessary emphasis on quantitative indices of school performance (often leading to data of questionable quality) at various levels without adequate steps to link academic planning and the process of curriculum transaction.

Block Resource Centres (BRCs) and Cluster Resource Centres (CRCs) are now present in almost all districts for monitoring schools and teachers through follow-up. In order to provide training, DIETs have been set up at the district level. Lack of role clarity and overlap of activities afflict the functioning of these organisations. Quite often, personnel in resource centres are mostly reduced to administrative and data-collection functionaries. Given the perspective of decentralised school-level academic planning, and the active and creative involvement of teachers in defining the nature of curriculum transaction for addressing the needs of children, it is urgent that BRCs and CRCs are energised so that they can play a facilitating role. It would be necessary to define the roles of resource persons in these centres, to build their capacities by deepening their subject knowledge and training competence, and to provide them space to function with some autonomy. Rather than routinely conducting workshops designed elsewhere, these centres could focus on conducting workshops along with follow-up activities based on the needs they identify locally. Norms for schools visits, guidelines for systematic monitoring, feedback and academic support will also have to be evolved. There is also a need for institutional mechanisms that coordinate and build upon the work done by resource centres at different levels in order that synergies can emerge.

In order to strengthen school-based academic support for teachers, it is necessary to identify and create a pool of resource persons at the level of the village, cluster and block, and similarly in urban areas, that can contribute to the regular inputs that teachers require, provide support to new ideas and practices, and help work them through. It should be possible to institutionalise such support at the level of the cluster/ block, which can then be integrated into a regular teacher-support programme; funds should be made available for it.

5.2 TEACHER EDUCATION FOR CURRICULUM RENEWAL

Though the professional preparation of teachers has been recognised as crucially important since the 1960s, the ground reality remains a matter of great concern. The Kothari Commission (1964–66) emphasised the need for teacher education to be brought into mainstream academic life, but teacher education institutes continue to exist as insular organisations. The Chattopadhyaya Committee (1983–85) recommended that the length of training for a secondary teacher should be five years following completion of Class 12; it also suggested that colleges of science and arts introduce an Education Department to allow students to opt for teacher education. The Yashpal Committee Report (1993), *Learning Without Burden*, noted: "The emphasis in these programmes should be on enabling trainees to acquire the ability for self-learning and independent thinking."

5.2.1 Present Concerns in Teacher Education

Teacher education programmes today train teachers to adjust to a system in which education is seen as the transmission of information. Attempts at curricular reform have not been adequately supported by the teacher education. Large-scale recruitment para-teachers has diluted the identity of the teacher as a professional. Major initiatives during the mid 1990s were focused on in-service training of teachers. This has accentuated the divide between pre-service and in-service teacher education. Pre-primary, primary and secondary teachers continue to be isolated from centres of higher learning, and their needs for professional development remain unaddressed. Existing teacher education programmes neither accommodate the emerging ideas in context and pedagogy nor address the issue of linkages between school and society. There is little space for engagement with innovative educational experiments.

Experiences in the practice of teacher education indicate that knowledge is treated as 'given', embedded in the curriculum and accepted without question. Curriculum, syllabi and textbooks are never critically examined by the student-teacher or the regular teacher. Language proficiency of the teacher needs to be enhanced, and the existing teacher education programmes do not recognise the centrality of language in the curriculum. It is assumed that links between instructional models and teaching of specific subjects are automatically formed during the programme. Most teacher education programmes provide little scope for student-teachers to reflect on their experiences and thus fail to empower teachers as agents of change

5.2.2 Vision for Teacher Education

Teacher education must become more sensitive to the emerging demands from the school system. For this it must prepare the teacher for the roles of being an:

- encouraging, supportive and humane facilitator in teaching-learning situations to enable learners (students) to discover their talents, realise their physical and intellectual potentialities to the fullest, and to develop character and desirable social and human values to function as responsible citizens; and
- active member of a group of persons who makes a conscious effort for curricular renewal so that it is relevant to changing societal needs and the personal needs of learners.

To be able to realise this vision, teacher education must comprise the following features to enable student-teachers to :

- understand the way learning occurs and to create plausible situations conducive to learning.
- view knowledge as personal experiences constructed in the shared context of teaching-learning, rather than embedded in the external reality of textbooks.
- be sensitive to the social, professional and administrative contexts in which they need to operate.
- develop appropriate competencies to be able to not only seek the above-mentioned understanding in actual situations, but also be able to create them.
- attain a sound knowledge base and proficiency in language.
- identify their own personal expectations, perceptions of self, capacities and inclinations.
- consciously attempt to formulate one's own professional orientation as a teacher in situation-specific contexts.
- view appraisal as a continuous educative process.
- develop an artistic and aesthetic sense in children through art education.
- address the learning needs of all children, including those who are marginalised and disabled.
- In the context of change perspective, it is imperative to pursue an integrated model of teacher education for strengthening the professionalisation of teachers.
- develop the needed counselling skills and competencies to be a 'facilitator' for and 'helper' of children needing specific kinds of help in finding solutions for day-to-day probelmes related to educational, personal and social situations.
- learn how to make productive work a pedagogic medium for acquiring knowledgein various subjects, developing values and learning multiple skills.

Teachers need to be prepared to

- √ *care for children, and should love to be with them.*
- √ *understand children within social, cultural and political contexts.*
- √ *be receptive and be constantly learning.*
- √ *view learning as a search for meaning out of personal experience, and knowledge generation as a continuously evolving process of reflective learning.*
- √ *view knowledge not as an external reality embedded in textbooks, but as constructed in the shared context of teaching-learning and personal experience.*
- √ *own responsibility towards society, and work to build a better world.*
- √ *appreciate the potential of productive work and hands-on experience as a pedagogic medium both inside and outside the classroom.*
- √ *analyse the curricular framework, policy implications and texts.*

5.2.3 Major Shifts in Teacher Education Programme

- Understanding that the learner needs to be given priority. The learner is seen as an active participant rather than a passive recipient in the process of leaning, and his/her capabilities

and potential are seen not as fixed but dynamic and capable of development through direct self-experience. The curriculum will be designed so as to provide opportunities to directly observe learners at play and work; assignments to help teachers understand learners' questions and observations about natural and social phenomena; insights into children's thinking and learning; and opportunities to listen to children with attention, humour and empathy.

- Learning should be appreciated as a participatory process that takes place in the shared social context of the learner's immediate peers as well as the wider social community or the nation as a whole. Ideas expressed by educational thinkers such as Gandhi, Tagore, Sri Aurobindo, Gijubhai, J. Krishnamurty, Dewey and others are often studied in a piecemeal manner, without the necessary context and without concern about where these ideas emanated from. No wonder they are studied and memorised, but seldom applied, by the very same teacher educators who present these ideas to the trainee teachers. The participatory process is a self-experience-based process in which the learner constructs his/her knowledge in his/her own ways through absorption, interaction, observation and reflection.
- The major shift is in the teacher's role where he/she assumes a position centre stage as a source of knowledge, as custodian and manager of all teaching learning processes, and executor of educational and administrative mandates given through curricula or circulars. Now his/her role needs to be shifted from being a source of knowledge to being a facilitator, of transforming information into knowledge/ wisdom, as a supporter in enhancing learning through multiple exposures, encouraging the learner to continuously achieve his/her educational goals.
- Another significant shift is in the concept of knowldege, wherein knowledge is to be taken as a continuum, as generated from experiences in the actual field through observation, verification, and so on. The knowledge component in teacher education is derived from broader areas of the discipline of education, and it needs to be represented as such. It means that conscious efforts are needed to represent an explanation from the perspective of education rather than merely specifying theoretical ideas from related disciplines with "implications for education".
- Knowledge in teacher education is multidisciplinary in nature within the context of education. In other words, conceptual inputs in teacher education need to be articulated in such a manner that they describe and explain educational phenomena—actions, tasks, efforts, processes, concepts and events.
- Such a teacher education programme would provide adequate scope for viewing a theoretical understanding and its practical aspects in a more integrated manner rather than as two separate components. It enables the student-teacher and the teacher in the class room to develop a critical sensitivity to field approaches. Thus, once tried out by self and others, it will lead to evolving one's own vision of an ideal setting for learning. Such teachers

would be better equipped for creating a learning environment, would try to improve existing conditions rather than merely adjusting to them with the necessary technical know-how and confidence.

Another major shift is in understanding the impact of the social context in educative processes.

- Learning is greatly influenced by the social environment/context from which learners and teachers emerge. The social climate of the school and the classroom exert a deep influence on the process of learning and education as a whole. Given this, there is a need to undertake a major shift away from an overwhelming emphasis on the psychological characterisics of the individual learner to his/her social, cultural, economic and political context.
- Different contexts lead to differences in learning. Learning in school is influenced and enhanced by the wider social context outside the school.
- Teacher education programmes need to provide the space for engagement with issues and concerns of contemporary Indian society, its pluralistic nature, and issues of identity, gender, equity, livelihood and poverty. This can help teachers in contextualising education and evolving a deeper understanding of the purpose of education and its relationship with society.
- The shift in performance appraisal in the teacher education programme from an annual affair to a continuous feature needs to be recognised. The teacher-educator evaluates the student-teacher's ability to cooperate and

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From	To
• Teacher centric, stable designs	• Learner centric, flexible process
• Teacher direction and decisions	• Learner autonomy
• Teacher guidance and monitoring	• Facilitates, supports and encourages learning
• Passive reception in learning	• Active participation in learning
• Learning within the four walls of the class room	• Learning in the wider social context
• 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

collaborate, investigate and integrate, and also appraises written and oral skills, originality in approach and presentation, and so on.

- Several kinds of appraisals take place in the form of self-a ppraisal, peer appraisal, teacher's feedback, and formal evaluation at the end of the year. All appraisals aim at improvement, understanding one's own strengths and weaknesses, understanding what has to be strengthened, and identifing the next goals in the learning process.
- The appraisal mostly will not be given in marks (quantitative), but on a scale (qualitative), where the student's achievement is evaluated as a continuum and he/she is placed according to his/her performance in various activities.
- In brief, the new vision of teacher education will be more responsive to changes in the school system as it envisages a significant paradigm shift. The major shifts have been stated on the left.

5.2.4 In-Service Education and Training of Teachers

In-service education can play a significant role in the professional growth of teachers and function as an agent for change in school-related practices. It helps teachers gain confidence by engaging with their practices and reaffirming their experiences. It provides opportunities to engage with other teachers professionally and to update knowledge. The Education Commission (1964–66) recommended that in-service education for teachers should be organised by universities and teacher organisations to enable every teacher to receive two or three months of in-service education once in five years; that such programmes should be based on research inputs; that training institutions should work on a 12-month basis and organise programmes like refresher courses, seminars, workshops and summer institutes. The Report of the National Commission on Teachers (1983–85) mooted the idea of Teachers' Centres that could serve as meeting places, where talent could be pooled and teaching experiences shared. It suggested that teachers could go to centres of learning on study leave. The NPE (1986) linked in-service and pre-service teacher education on a continuum; it visualised the establishment of District Institutes of Education and Training (DIETs) in each district, upgradation of 250 colleges of education as Colleges of Teacher Education (CTEs), and establishment of 50 Institutes of Advanced Studies in Education (IASEs), and strengthening of the State Councils of Educational Research and Training (SCERTs). The Acharya Ramamurthi Review Committee (1990) recommended that in-service and refresher courses should be related to the specific needs of teachers, and that evaluation and follow-up should be part of the scheme.

In places where multigrade schools have been established in order to facilitate access to primary schooling, teachers need special training in managing such classrooms, which must be conducted by those who have experience in classroom management and organisation for these classes. Prescriptions on how to manage, without the support of appropriate materials, or guidance in planning units and topics, does little to assist teachers whose experience and imagination is completely oriented to the monograde setting. Instead of being merely told what to do, detailed unit planning exercises, along with direct practical experiences in places where multigrade class teaching practices have

become established, and films depicting such situations, need to be used in training and for helping teachers overcome their lack of confidence.

5.2.5 Initiatives and Strategies for In-Service Education

Following NPE 1986, efforts have been made to develop institutions like DIETs, IASEs and CTEs for providing in-service education to primary and secondary schoolteachers; 500 DIETs, 87 CTEs, 38 IASEs, and 30 SCERTs, have been set up, although many of them have yet to function as resource centres. DPEP also brought in the block and cluster resource centres and made in-service teacher education and cluster-level schools as the follow-up for the main strategies for pedagogic renewal. In spite of the widespread efforts and specific geographical areas which have shown improvements, by and large the in-service inputs have not had any noticeable impact on teacher practice.

A major indicator of quality of training is its relevance to teachers' needs. But most such programmes are not organised according to actual needs. The approach adopted has remained lecture based, with little opportunity for trainees to actively participate. Ironically, concepts such as activity-based teaching, classroom management of large classes, multigrade teaching, team teaching, and cooperative and collaborative learning, which require active demonstration, are often taught through lectures. School follow-up has also failed to take off, and cluster-level meetings have not been able to develop into professional fora for teachers to reflect and plan together.

Any curriculum renewal effort needs to be supported with a well thought-out and systematic programme of in-service education and school-based teacher support. In-service education cannot be an event but rather is a process, which includes knowledge, development and changes in attitudes, skills, disposition and practice — through interactions both in workshop settings and in the school. It does not consist only of receiving knowledge from experts; promotion of experiential learning, incorporating teachers as active learners, and peer group-based review of practice can also become a part of the overall strategy. Self-reflection needs to be acknowledged as a vital component of such programmes. A training policy needs to be worked out, defining parameters such as the periodicity, context and methodology of programmes. But efforts to strengthen quality and ensure vibrant rather than routinised interactions would require far more decentralised planning with clarity on goals and methods for training and transfer. 'Mass training using' new technologies may be of use in some aspects of training, but much greater honesty and bold creativity are required for addressing the concerns of practising teachers directly, including the deprofessionalised environments in which they work, their lack of agency, and their alienation.

Dissemination technologies can serve to build a positive ethos for curricular reforms if they are used as sites of discussion and debates in which teachers, training personnel and community members can participate. Teachers require first-hand experience of making programmes themselves in order to develop an interest in the new technology. The availability of computers and linkage facilities remains quite inadequate in training institutes. This is one reason why the potential of the new communication technology for changing the ethos of schools and training institutions has remained inadequately tapped.

Pre-service teacher education as well as in-service training must build the necessary orientation and capacities in teachers so that they can appreciate, understand and meet the challenges of the curriculum framework. In-service training, in particular, must be situated within the context of the classroom experiences of teachers. DIETs, which have the responsibility of organising such training, should do so in a manner in which both teachers and their schools benefit from such training. For instance, instead of the ad hoc manner in which teacher trainees are sent for in-service training by the educational administration, it would be better for a cluster of schools to be identified and a minimum number of trainees (at least two, to enable some peer sharing and reflection) invited from each school to participate in an in-service training programme. DIETs, in coordination with BRCs, could identify the schools for this purpose. In order that teaching time is not unduly affected, and teacher trainees are able to make the link between theory and practice, the mandatory days for training could be split up over the course of the year to include on-site work in their own classrooms as well.

Reducing Stress and Enhancing Success in the X and XII Public Examinations

Shift from content based testing to problem solving and competency based testing, content based testing induces bad pedagogy and rote learning, both of which cause stress during examinations. Basic tables and formulae could be provided to reduce emphasis on memory and focus on analysis, evaluation and application. Shift towards examinations of shorter duration with flexible time in which 25 to 40 per cent is for short answer type questions and the remaining for well designed multiple choice questions. 90 per cent of all students taking the examination should be able to complete the paper and review/revise the same.

- √ *Better conduct examinations in student's own school or nearby school. Malpractices could be minimized by having invigilation teams from other schools.*
- √ *Postponement of examination should be avoided under all circumstances.*
- √ *Permit students to appear in as many subjects as they are prepared for and complete the board certification requirements within a three-year window. The boards could work towards 'on-demand' examinations, in which students can take as and when they feel prepared.*
- √ *Eliminate the terminology of 'pass'-'fail'; indicate lack of adequate proficiency through re-examination or reappear or retake recommended'*
- √ *Board should conduct re-examination immediately after announcement of results to enable students needing retake in one or two subjects to move to the next stage without losing a year.*
- √ *Subjects such as Mathematics and English could be examined at two levels; standard and higher level. In the long term all subjects could be offered at two levels with students doing at least three/two of the six at standard level and the remaining three/four at higher level.*
- √ *Examination with a 'flexible time limit' can be an effective way to reduce stress among children.*
- √ *Guidance and Counselling be made available in schools to deal with stress related problems and to guide students, parents and teachers to lessen thestudents stress. Helplines in boards can also help students and parents.*

Training could comprise a variety of activities in addition to contact lectures and discussions in the teacher training institutions and include workshops in schools in the cluster, projects and other assignments for teachers in their classrooms. To link pre-service and in-service training, the same schools can become sites for pre-service internship, and student teachers can be asked to observe classroom transaction in these schools. This could serve not only as feedback to teacher educators for strengthening the training programme but can also become the basis of critical reflection by teacher trainees during the latter part of the training programme. To take the process forward, there could be interactive sessions with headmasters from the concerned schools so that they can play the role of a facilitator in the changes in classroom practices that the teacher trainees may like to make. Systems for monitoring and feedback must include SCERTs/DIETs /BRCs and CRCs so that academic support can be envisaged in follow ups', documentation and research.

5.3 Examination Reforms

The report, *Learning without Burden* notes that public examinations at the end of Class X and XII should be reviewed with a view to replacing the prevailing text-based and quiz-type questioning, which induces an inordinate level of anxiety and stress and promotes rote learning. While urban middle-class children are stressed from the need to perform extremely well, rural children are not sure about whether their preparation is adequate even to succeed. The high failure rates, especially among the rural, economically weaker and socially deprived children, forces one to critically review the whole system of evaluation and examination. For if the system was fair and working adequately, there is no reason why children should not progress and learn.

5.3.1 Paper Setting, Examining and Reporting

In order to improve the validity of current examinations, the entire process of paper setting needs to be overhauled. The focus should shift to framing good questions rather than mere paper setting. Such questions need not be generated by experts only. Through wide canvassing, good questions can be pooled all year round, from teachers, college professors in that discipline, educators from other states, and even students. These questions, after careful vetting by experts, could be categorised according to level of difficulty, topic/area, concept/competency being evaluated and time estimated to solve. These could be maintained along with a record of their usage and testing record to be drawn upon at the time of generating question papers.

Compelling teachers to examine without paper offering adequate remuneration makes it difficult to motivate them to ensure better quality and consistency in evaluation. Considering that most boards are in good financial health, funding issues should not come in the way of improving the quality of evaluation. With computerisation, it is much easier to protect the identity of both examinee and examiner. It is also easier to randomise examination scripts given to any particular examiner, thus checking malpractices and reducing inter-examiner variability. Malpractices such as cheating with help from outside the examination hall can be reduced if candidates are not permitted to leave the exam centre in the first half time, and also are not permitted to carry question papers out with them while the examination is still going on. The question paper can be made available after the examination is over.

Computerisation makes it possible to present a wider range of performance parameters on the marksheet—absolute marks/grades, percentile rank among all candidates taking the examination for that

subject, and percentile rank among peers (e.g. schools in the same rural or urban block). It would also be possible to analyse the quality and consistency of various examiners. The last parameter, in particular, we believe to be a crucial test of merit. Making this information public will allow institutions of higher learning to take a more complex and relativist view of the notion of merit. Such analysis will promote transparency. Requests for re-checking have declined dramatically in places where students have access to their answer papers in either scanned or xeroxed form, on request, for a nominal fee.

In the medium term, we need to be able to increasingly shift towards school-based assessment, and devise ways in which to make such internal assessment more credible. Each school should evolve a flexible and implementable scheme of Continuous and Comprehensive Evaluation (CCE), primarily for diagnosis, remediation and enhancing of learning. The scheme should take, into account the social environment of and the facilities available in the school.

Sensitive teachers usually pick up the unique strengths and weakness of students. There should be ways of utilising such insights. At the same time, to prevent abuse by schools (as is currently the case in practical examinations), they could be graded on a relative, not an absolute, scale and must be moderated and scaled against the marks obtained in the external examination. More research is required on development, teacher training and relevant institutional arrangements.

5.3.2 Flexibility in Assessment

A lot of psychological data now suggest that different learners learn (and test) differently. Hence there should be more varied modes of assessment beyond the examination hall paper-pencil test. Oral testing and group work evaluation should be encouraged. Open-book exams and exams without time limits are worth introducing as small pilot projects across the country. These innovations would have the added advantage of shifting the focus of exams from testing memory to testing higher-level competencies such as interpretation, analysis and problem-solving skills. Even conventional exams can be nudged in this direction through better paper setting and providing standard and desirable information to candidates (such as periodic tables, trigonometric identities, maps and historical dates, formulae, etc.).

Because of the differing nature of learners, and the widely variable quality of teaching, the expectation that all candidates should demonstrate the same level of competence in each subject in order to reach the next level of education is unreasonable. In the light of the urban–rural gap in India, this expectation is also socially regressive. It is well documented, for instance, that much of the higher failure and dropout rates in rural schools can be attributed to poor performance in two subjects — Maths and English. Boards should explore the possibility of allowing students to take exams in these subjects at one of the two (or even three) levels. This need not require that curricula or textbooks will differ for different levels.

The "one-exam-fits-all" principle, while being organisationally convenient, is not a student-centred one. Nor is it in keeping with the rapidly evolving nature of the Indian job market, with its increasing differentiation. The industrial assembly-line model of assessment needs to be replaced by a more humanistic and differentiated one. If, as economists predict, four out of every four new jobs in the next decade will be in the services sector, a paradigm shift in Indian education is called for. As fewer and fewer Indians make standardised widgets, and more and more work to solve problems for their fellow citizens, the Indian exam system will

also need to become more open, flexible, creative and user friendly.

5.3.3 Board Examinations at Other Levels

Under no circumstances should board - or state-level examinations be conducted at other stages of schooling, such as Class V, VIII or XI. Indeed, boards should consider, as a long-term measure, making the Class X examination optional, thus permitting students continuing in the same school (and who do not need a board certificate) to take an internal school exam instead.

5.3.4 Entrance Examinations

There is a need to delink school-leaving board examinations from competitive entrance examinations. These entrance examinations can be made less stressful if students had to take fewer of them. A single nodal agency could coordinate the conduct of entrance examinations several times a year, at centres located all over the country, and monitor and ensure the timely conduct and release of student achievement indicators. The scores obtained by students at such a national-level examination could be used by all institutions for the purpose of admitting students to universities and professional courses. The actual design and test preparations should not fall within the purview of this nodal agency.

5.4 Work-centred Education

Work-centred education implies that the knowledge base, social insights and skills of children in relation to their habitat, natural resources and livelihood can be turned into a source of their dignity and strength in the school system. It is to be recognised as a meaningful and contextual entry point for organising the curricular experience in the school. In this sense, the experiential base can be further developed through more evolved forms of work in the school, including social engagement. This pedagogy is expected to facilitate a child-friendly route to disciplinary knowledge, development of values primarily drawn from the Constitution and related to social transformation, and the formation of multiple skills that are relevant for facing the complex challenges of a globalised economy. It is this educational process that calls for the application of critical pedagogy for linking the experience of productive and other forms of work with global knowledge.

The introduction of productive work as a pedagogic medium in the school curriculum will have major transformative implications for various dimensions of the education system—philosophical, curricular, structural and organisational. Work-centred education will call for the reconceptualisation and restructuring of specific aspects such as academic autonomy and accountability; curriculum planning; sources of texts; teacher recruitment and teacher education; notions of discipline, attendance and school inspection; knowledge across subject boundaries, organisation of the school calendar, classes and periods; creating learning sites outside the school; evaluation parameters and assessment procedures and public examinations. All this implies that curricular reforms and quality improvements are intricately linked to systemic reforms.

5.4.1 Vocational Education and Training

At present, Vocational Education is provided only at the +2 stage and, even here, it is restricted to a distinct stream that is parallel to the academic stream. In contrast to the NPE 1986 goal of covering 25 per cent of the +2 enrolment in the vocational stream by the year 2000, less than 5 per cent of students choose this option at present. The programme has been debilitated

by a range of conceptual, managerial and resource constraints for more than 25 years. Apart from being viewed as an inferior stream, it suffers from poor infrastructure, obsolete equipment, untrained or under-qualified teachers (often on a part-time basis), outdated and inflexible courses, lack of vertical or lateral mobility, absence of linkage with the 'world of work', lack of a credible evaluation, accreditation and apprenticeship system, and, finally, low employability (Report of the Working Group for the Revision of the Centrally Sponsored Scheme of Vocationalisation of Secondary Education, NCERT, 1998). Clearly, the gigantic and urgent task of building an effective and dynamic programme of vocational education is long overdue. Institutionalisation of work-centred education as an integral part of the school curriculum from the pre-primary to the +2 stage is expected to lay the necessary foundation for reconceptualising and restructuring vocational education to meet the challenges of a globalised economy.

It is proposed, therefore, that we move in a phased manner towards a new programme of Vocational Education and Training (VET), which is conceived and implemented in a mission mode, involving the establishment of separate VET centres and institutions from the level of village clusters and blocks to sub-divisional/ district towns and metropolitan areas. Wherever possible, it would be in the national interest to utilise the school infrastructure (often utilised for only a part of the day) for setting up this new institutional structure for VET. Such VET centres/ institutions also need to be evolved in collaboration with the nationwide spectrum of facilities already existing in this sector. This will imply the expansion of the scope of institutions like ITIs, polytechnics, technical schools, Krishi Vigyan Kendras, rural development agencies, primary health centres (and their auxilliary services), engineering, agricultural and medical colleges, S & T laboratories, cooperatives and specialised industrial training in both the private and public sectors. These measures would naturally call for shifting and adjusting the resources of the present 6,000 - odd senior secondary schools with vocational streams by dovetailing them with the new VET programme. The vocational education teachers engaged in these schools at present should have the option of either being absorbed in to the work-centred education programme in the same school or being able join a new VET centre or institution in the region.

VET would be designed for all those children who wish to acquire additional skills and/or seek livelihoods through vocational education after either discontinuing or completing their school education. Unlike the present vocational education stream, VET should provide a 'preferred and dignified' choice rather than a terminal or 'last-resort' option. As with the school, these VET institutions would also be designed to be inclusive, providing for skill development of not just those children who have historically suffered due to their economic, social or cultural backgrounds, but also of the physically and mentally disabled. A well-designed provision of career psychology and counselling as a critical development tool would enable children to systematically plan their movement towards their future vocations or livelihoods, and also guide the institutional leadership in curricular planning and evaluation. The proposed VET shall offer flexible and modular certificate or diploma courses of varying durations (including short durations) emerging from the contextual socio-economic scenario. Decentralised planning of these courses at the level of individual VET centres/ institutions and/or clusters thereof would have to keep in mind the ongoing rapid changes in technology and patterns of production and services in

a given area, along with the diminishing access to natural resources and livelihoods for the vast majority of the people. The courses would provide multiple entry and exit points with in-built credit accumulation facility. Each course will also have an adequate academic component (or a provision for a bridge course or both) in order to ensure lateral and vertical linkages with the academic and professional programmes. The strength of a VET centre would lie in its capacity to offer a variety of options depending upon the felt need of the aspirants.

The VET curriculum should be reviewed and updated from time to time if the programme is not to become moribund and irrelevant to the vocations and livelihoods in a given area or region. The centre in-charges or institutional leadership would need to have access to adequate infrastructure and resources as well as be vested with the necessary authority and academic freedom to establish 'work benches' (or 'work places' or 'work spots') in the neighbourhood or regional rural crafts, agricultural or forest-based production systems and industries and services, thereby utilising the available human and material resources optimally. This collaborative arrangement has three advantages. First, the VET programme can be set up with minimum capital investment. Second, the students would have access to the latest techniques and technology that become available in the area. Third, the students would get on-the-job experience and exposure to real-life problems of designing, production and marketing. For this purpose, it should be made obligatory for all kinds of facilities engaged in production and services such as agriculture, forestry, private and public sector industries (including cottage and small-scale manufacturers) to collaborate with the schools in the area by providing the required 'work benches' (or 'work places' or 'work spots'), in the addition to offering training and monitoring support.

The success of the VET programme is also critically dependent upon building up a credible system of evaluation, equivalence, institutional accreditation (extending to 'work benches' and individual expertise) and apprenticeship. Care has to be taken to ensure that such standardisation does not become a negative tool for rejecting/ disqualifying the diverse knowledge and skills that characterise the different regions of India, especially the economically underdeveloped regions like the North-east, hilly tracts, the coastal belt and the central Indian tribal region. An appropriate structural space and a welcoming environment will have to be created in the VET centres and institutions for engaging farmers, animal husbandry, fishery and horticulture specialists, artisans, mechanics, technicians, artists, and other local service providers (including IT) as resource persons or guest faculty.

The eligibility for VET courses could be relaxed to include a Class V certificate until the year 2010, when the *Sarva Shiksha Abhiyan* is expected to achieve UEE, but subsequently it must be raised to Class VIII certificate and eventually to Class X certificate when the target year of universal secondary education is reached. In no case, however, would children below the age of 16 years be eligible for admission to a VET programme. VET centres could also act as skill and hobby centres for all children from the primary stage onwards, and could be accessed before or after school hours. Such centres should also be available for schools to negotiate a collaborative arrangement for the work-centred curriculum even during school hours.

In order to translate this vision of VET into practice, several new support structures and resource institutions will have to be created at various levels, including districts, states/ UTs and the centre, besides strengthening and reviving the existing national resource institutions like NCERT's PSSCIVE at Bhopal.

5.5 INNOVATION IN IDEAS AND PRACTICES

5.5.1 Plurality of Textbooks

Given the perspective that curricular content must meaningfully incorporate experiences of children and their diverse cultural contexts, including languages, it is important that textbook writing is decentralised keeping in view the capacities that are required as well as the systems that will make this possible. The writing of textbooks requires a range of capacities that include academic and research inputs, understanding of children's developmental levels, effective skills of communication and design, etc. While SCERT, which has been given the task of textbook writing at present, can continue to be the nodal organisation for this purpose, the actual envisioning of the process, selection and writing of content must be done in a collaborative manner by teams rather than by individual subject experts. Among the reasons for such a collaborative exercise are perspective building, clarification of assumptions about how children learn, undertaking of the required revisiting of subject knowledge and research input, understanding of processes of how to communicate with children, providing structured space for reflection and feedback by peers as an ongoing process in the making of textbooks, and so on. Academic and research support from universities, and the rich experiences of NGOs as well as practitioners, must be important inputs in this exercise.

The trial of the textbook is extremely critical given that at present children often find text lessons difficult to comprehend, with content that is dense or at times trivial. Lessons are often written without relating them to the time that is assigned for the subject to be taught in the school year. It may be a good idea for the initial lessons to be piloted, i.e. to be taught on a trial basis, with the textbook writer observing its transaction in the class while also receiving feedback from both teacher and students. This is also important when innovating with textbook content (for instance, providing space for integrating children's experiences) in order to understand and place them within the realities of the classroom and teacher preparation.

It follows that we are ideally looking at the availability of multiple textbooks for schools as they widen teachers' choices and also provide for the incorporation of diversity in relation to children's needs and interests. When a number of books and supplementary materials are available, the teacher can be encouraged to decide which text lessons are appropriate for specific themes for her pupils. This would substantively enhance the teacher's autonomy and choice. Alternatively, they can also provide opportunities to encourage children to explore diverse sources and understand how the same content may be presented in different ways. This will encourage library work. The support system that must be ensured will include training programmes/workshops to orient and enable teachers to use textbooks and supplementary materials as resources for curriculum transaction and access to library facilities within the school or in a resource centre for a set of schools. The sharing of libraries between schools must also be consciously planned for, and this can be built into partnerships between private and government schools. The setting up of community libraries can also be explored.

Encouraging the production of multiple textbooks that are officially prescribed by schools will increasingly bring the private sector into the area of textbook production. In this context, it is important to equip state institutions for research and training in education (whose responsibilities include textboks production) to compete with private publishers and capacities built for this purpose. As mentioned earlier,

if SCERTs can make the production of textbooks a collaborative exercise, it will improve the quality of their textbooks, build capacities, as well as energise these institutions. NGOs have also produced excellent textbooks and supplementary materials that can be used in schools. Some thought must also be given to the regulatory mechanism that must be set in place to ensure that textbook writers abide by the guiding principles and values of the Constitution (especially equality, secularism and democracy), the aims of education, authenticity and developmental appropriateness of content, and so on. In addition, it is essential to see that textbook production does not lend itself to private profiteering and deny easy access to education. Discussion of textbooks by parents, teachers and citizens' groups must be encouraged, and they must be made available in the public domain (the Internet can provide space for this purpose, and textbooks can be made available on the Web) for discussion, feedback, critique, etc. Universities can be encouraged to conduct studies of textbooks so that regular research output on school knowledge is available.

5.5.2 Encouraging Innovations

Individual teachers often explore new ways of transacting the curriculum in addressing the needs of students within their specific classroom context (including constraints of space, large numbers, absence of teaching aids, diversity in the student body, the compulsions of examinations, and so on). These efforts, often pragmatic but also creative and ingenious, by and large remain invisible to the school and the larger teaching community, and are usually not valued by teachers themselves. The sharing of teaching experiences and diverse classroom practices can provide opportunities for an academic discourse to develop within schools as teachers interact with and learn from each other. This will also encourage new ideas and facilitate innovation and experimentation. How can innovative and creative ways of teaching and learning be encouraged and supported by the system so that they can become a body of practice that can be brought to a stage when they can be built back into the system? For a start, there is a need to create structured spaces within schools, and at the level of the cluster and block where teachers are encouraged to share and discuss classroom practices and experiences. If seen as worthwhile, some of these ideas and practices can be systematically followed up. It is also important to bring together groups of teachers within and across schools and provide support to them in terms of resources as well as time to work together. There is also, a need for documentation and research of identified 'good practices'. At present, there are funds for this purpose both with DIETs (part of whose mandate is identification and documentation of innovative practices). SSA also has funds for school-based research. Some of this could be used to document the diverse practices that teachers use in different classroom contexts. In addition to providing the necessary funding, the creation of an enabling environment that nurtures and provides support to such initiatives is also important. As mentioned earlier, efforts to mainstream innovative processes and practices will be necessary. One of the main objectives of creating resource centres at the cluster level was to break the isolation of individual schools and bring teachers together on a regular basis for sharing their experiences and ideas with their peers. This is important if teachers are to develop their own professional identities and sense of belonging to a larger teaching community. It could also be one way of creating among them a sense of their own agency and fostering a sense of greater involvement and commitment to their work.

5.5.3 The Use of Technology

The judicious use of technology can increase the reach of educational programmes, facilitate management of the system, as well as help address specific learning needs and requirements. For instance, mass media can be used to support teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study, etc. could all benefit from the use of technology, particularly ICT. The increasing use of the Internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. Technological innovations are also necessary for appropriate equipment and aids for meeting the learning requirements of children with special needs. What needs to be underscored is that technology could be integrated with the larger goals and processes of educational programmes rather than viewed in isolation or as an add-on. In this context, technological use that turns teachers and children into mere consumers and technology operators needs to be reviewed and discouraged. Interaction and intimacy are key to quality education, and this cannot be compromised as a principle in any curricular intervention.

5.6 NEW PARTNERSHIPS

5.6.1 Role of NGOs, Civil Society Groups, and Teacher Organisations

One of the distinct features of the last decade was the increasing involvement of non-government organisations and civil society groups in education. NGOs have played a major role in creating innovative models of schooling, training of teachers, development of textbooks and curricular materials, community mobilisation and advocacy. Their formal association with schools and resource centres would be extremely important for curriculum development, academic support, as well as monitoring and research. Civil society groups have also helped to give education a visible public space, and facilitated the emergence of a discourse on the child's right to education. The dissemination of the perspective and ideas of the NCF, their translation into creative and innovative practices within the school and community, critical feedback on different aspects of the curriculum, as well as the nurturing of an environment of commitment to the right to education of children, would all need collaboration and sustained involvement of diverse civil society groups.

Teachers' associations and organisations can play a far greater role in strengthening school education than has hitherto been the case. For instance, they can help evolve norms to improve school functioning by using their influence over their teacher members to ensure that teaching time is not compromised, and help create a culture of accountability. They can also draw attention to the inputs and supports that are necessary for effective curriculum transaction, and act as constructive pressure groups on issues such as school resources, quality of teacher education and professional development. These associations can work with local-level organisations as well as with BRCs and CRCs in defining the nature of academic support required, provide feedback and so on.

The roles and functions of SCERTs need to include providing support not only in purely academic areas but psychological aspects as well. SCERTs must take steps to strengthen the guidance bureaus/units already existing with them by setting them up as resource centres at the state level for in-service teacher training in this area, production of psychological tools/ tests, career literature, etc. and make counselling services available at district/block and school levels by positioning professionally trained guidance personnel.

Universities have a critical role to play in responding to the wide-ranging aims of the curricular framework, especially in emphasising and encouraging pluralism in education, addressing the needs of children, and integrating new curricular areas. There is an urgent need to expand the knowledge base of education keeping in view the diverse socio-cultural contexts to which children belong as well as the complex nature of classroom realities in India. University departments of education, social science as well as the sciences should be urged to include the study of education in their research agenda. Mutlidisciplinary and collaborative research bringing together scholars from different disciplines would be particularly important in generating a research base that is critical for translating the ideas in the curriculum framework into enabling classroom practices. At the same time, universities need to keep their doors open to children coming from schools with unusual and interesting combinations of study. Rather than using admission criteria to eliminate, they should remain inclusive and encouraging of diversity of interests, pursuits and opportunities. Such open and inclusive admission policies are also crucial if children are to seriously consider vocational courses of study as non-terminal options.

Institutions of higher education have an important role to play in teacher education and in enhancing the professional status not only of secondary schoolteachers but also elementary schoolteachers. For the, 'reflective teacher' who possesses the professional competence and orientation that the curriculum framework rests on, it will be necessary to review and restructure teacher education programmes. Equally important will be the sustained involvement of scholars in curriculum development, writing and reviewing textbooks as part of a collaborative exercise, which brings together practitioners and academics with diverse expertise. Higher education can also provide space for reflection, discussion and debate on educational ideas and practices as well as facilitate the interface between schools and policy makers.

There is also need for institutional linkages between universities and institutions such as SCERTs and DIETs to strengthen their academic programmes of teacher education and in-service training as well to develop their research capacities. In this context, it would be appropriate to explore once again the idea of creating school/educational complexes that would bring together universities, colleges, schools, SCERTs/DIETs as well as NGOs within a geographical area to evolve networks and mechanisms for providing academic support and participating in monitoring, and evaluation of programmes.

The preparation of curricula, syllabi and teaching-learning resources, including textbooks, could be carried out in a far greater decentralised and participative manner, increasing the participation of teachers, along with representatives and experts from other organisations. This is especially important when we are exploring the possibility of producing more than one textbook for each grade and subject, so that there is far greater local relevance in materials, and also a plurality of materials from which teachers can choose. Such large teams could also produce supplementary materials such as reading cards and small stories based on local lore and illustrations, which are often more interesting to children. Choice and variety, which exist in more elite schools, can become common features of all schools.

The Department of Woman and Child Development, Department of Health, Department of Youth Affairs and Sports, Department of Science and Technology, Department of Tribal Affairs, Department of Social Justice and Empowerment,

Department of Culture, Department of Tourism, Archeological Survey of India, PRIs, to name a few, are all stakeholders with an interest in the welfare and progress of children, school, and curriculum. All these departments have the ability to contribute to enriching education for children and teachers. For example, health and physical education requires synergies across different departments since the curricular content falls within the purview of at least five ministeries. In order to ensure the effective transaction of the curriculum, there must be some system of coordination across the key deparments, and it is the school curriculum that must lead programmes rather than the stand- alone programmes intervening in the school curriculum. They need to explore and discover ways in which they can contribute to children's education, by converging their inputs with the efforts of departments of education. They can do so by providing additional facilities to schools, funding special programmes that enrich the curriculum, such as sports clubs and sports equipment along with special instructors, organising visits and excursions to historical, archeological and natural sites and providing materials about these places, providing reference materials, photographs and charts (including films and photographs), ensuring regular health check-ups, and monitoring the quality of the midday meal. These are some of the ways in which these departments can directly contribute to and enhance the quality of the school curriculum. Educationally meaningful contributions need to be planned in consultation with education departments rather than being conceived independently and simply delivered. This is necessary to ensure that what is being designed is useful and usable. Similarly, they could respond to requests made by the department of education for specific programmes or inputs.