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National Education Policy 2020

Ministry of Human Resource Development

Government of India

Introduction

Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to India's continued ascent, and leadership on the global stage in terms of economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation. Universal high-quality education is the best way forward for developing and maximizing our country's rich talents and resources for the good of the individual, the society, the country, and the world. India will have the highest population of young people in the world over the next decade, and our ability to provide high-quality educational opportunities to them will determine the future of our country.

The global education development agenda reflected in the Goal 4 (SDG4) of the 2030 Agenda for Sustainable Development, adopted by India in 2015 - seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. Such a lofty goal will require the entire education system to be reconfigured to support and foster learning, so that all of the critical targets and goals (SDGs) of the 2030 Agenda for Sustainable Development can be achieved.

The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances, such as the rise of big data, machine learning, and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science, and data science, in conjunction with multidisciplinary abilities across the sciences, social sciences, and humanities, will be increasingly in greater demand. With climate change, increasing pollution, and depleting natural resources, there will be a sizeable shift in how we meet the world's energy, water, food, and sanitation needs, again resulting in the need for new skilled labour, particularly in biology, chemistry, physics, agriculture, climate science, and social science. The growing emergence of epidemics and pandemics will also call for collaborative research in infectious disease management and development of vaccines and the resultant social issues heightens the need for multidisciplinary learning. There will be a growing demand for humanities and art, as India moves towards becoming a developed country as well as among the three largest economies in the world.

Indeed, with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and, of course, enjoyable. The curriculum must include basic arts, crafts, humanities, games, sports and fitness, languages, literature, culture, and values, in addition to science and mathematics, to develop all aspects and capabilities of learners; and make education more well-rounded, useful, and fulfilling to the learner. Education must build character, enable learners to be ethical, rational, compassionate, and caring, while at the same time prepare them for gainful, fulfilling employment.

The gap between the current state of learning outcomes and what is required must be bridged through undertaking major reforms that bring the highest quality, equity, and integrity into the system, from early childhood care and education through higher education.

The aim must be for India to have an education system by 2040 that is second to none, with equitable access to the highest-quality education for all learners regardless of social or economic background.

This National Education Policy 2020 is the first education policy of the 21st century and aims to address the many growing developmental imperatives of our country. This Policy proposes the revision and revamping of all aspects of the education structure, including its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, including SDG4, while building upon India's traditions and value systems. The National

Education Policy lays particular emphasis on the development of the creative potential of each individual. It is based on the principle that education must develop not only cognitive capacities - both the 'foundational capacities 'of literacy and numeracy and 'higher-order' cognitive capacities, such as critical thinking and problem solving – but also social, ethical, and emotional capacities and dispositions.

The rich heritage of ancient and eternal Indian knowledge and thought has been a guiding light for this Policy. The pursuit of knowledge (*Jnan*), wisdom (*Pragyaa*), and truth (*Satya*) was always considered in Indian thought and philosophy as the highest human goal. The aim of education in ancient India was not just the acquisition of knowledge as preparation for life in this world, or life beyond schooling, but for the complete realization and liberation of the self. World-class institutions of ancient India such as Takshashila, Nalanda,Vikramshila, Vallabhi, set the highest standards of multidisciplinary teaching and research and hosted scholars and students from across backgrounds and countries. The Indian education system produced great scholars such as Charaka, Susruta, Aryabhata, Varahamihira, Bhaskaracharya, Brahmagupta, Chanakya, Chakrapani Datta, Madhava, Panini, Patanjali, Nagarjuna, Gautama, Pingala, Sankardev, Maitreyi, Gargi and Thiruvalluvar, among numerous others, who made seminal contributions to world knowledge in diverse fields such as mathematics, astronomy, metallurgy, medical science and surgery, civil engineering, architecture, shipbuilding and navigation, yoga, fine arts, chess, and more. Indian culture and philosophy have had a strong influence on the world. These rich legacies to world heritage must not only be nurtured and preserved for posterity but also researched, enhanced, and put to new uses through our education system.

The teacher must be at the centre of the fundamental reforms in the education system. The new education policy must help re-establish teachers, at all levels, as the most respected and essential members of our society, because they truly shape our next generation of citizens. It must do everything to empower teachers and help them to do their job as effectively as possible. The new education policy must help recruit the very best and brightest to enter the teaching profession at all levels, by ensuring livelihood, respect, dignity, and autonomy, while also instilling in the system basic methods of quality control and accountability.

The new education policy must provide to all students, irrespective of their place of residence, a quality education system, with particular focus on historically marginalized, disadvantaged, and underrepresented groups. Education is a great leveler and is the best tool for achieving economic and social mobility, inclusion, and equality. Initiatives must be in place to ensure that all students from such groups, despite inherent obstacles, are provided various targeted opportunities to enter and excel in the educational system.

These elements must be incorporated taking into account the local and global needs of the country, and with a respect for and deference to its rich diversity and culture. Instilling knowledge of India and its varied social, cultural, and technological needs, its inimitable artistic, language, and knowledge traditions, and its strong ethics in India's young people is considered critical for purposes of national pride, self-confidence, self-knowledge, cooperation, and integration.

Previous Policies

The implementation of previous policies on education has focused largely on issues of access and equity. The unfinished agenda of the National Policy on Education 1986, modified in 1992 (NPE 1986/92), is appropriately dealt with in this Policy. A major development since the last Policy of 1986/92 has been the Right of Children to Free and Compulsory Education Act 2009 which laid down legal underpinnings for achieving universal elementary education.

Principles of this Policy

The purpose of the education system is to develop good human beings capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper and

creative imagination, with sound ethical moorings and values. It aims at producing engaged, productive, and contributing citizens for building an equitable, inclusive, and plural society as envisaged by our Constitution.

A good education institution is one in which every student feels welcomed and cared for, where a safe and stimulating learning environment exists, where a wide range of learning experiences are offered, and where good physical infrastructure and appropriate resources conducive to learning are available to all students. Attaining these qualities must be the goal of every educational institution. However, at the same time, there must also be seamless integration and coordination across institutions and across all stages of education.

The fundamental principles that will guide both the education system at large, as well as the individual institutions within it are:

- **recognizing, identifying,** and **fostering the unique capabilities of each student,** by sensitizing teachers as well as parents to promote each student's holistic development in both academic and non-academic spheres;
- **according the** highest priority **to achieving Foundational Literacy and Numeracy** by all students by Grade 3;
- **flexibility**, so that learners have the ability to choose their learning trajectories and programmes, and thereby choose their own paths in life according to their talents and interests;
- **no hard separations** between arts and sciences, between curricular and extra-curricular activities, between vocational and academic streams, etc. in order to eliminate harmful hierarchies among, and silos between different areas of learning;
- **multidisciplinarity** and a **holistic education** across the sciences, social sciences, arts, humanities, and sports for a multidisciplinary world in order to ensure the unity and integrity of all knowledge;
- **emphasis on conceptual understanding** rather than rote learning and learning-for-exams;
- **creativity and critical thinking** to encourage logical decision-making and innovation;
- **ethics and human & Constitutional values** like empathy, respect for others, cleanliness, courtesy, democratic spirit, spirit of service, respect for public property, scientific temper, liberty, responsibility, pluralism, equality, and justice;
- **promoting multilingualism and the power of language** in teaching and learning;
- **life skills** such as communication, cooperation, teamwork, and resilience;
- **focus on regular formative assessment for learning** rather than the summative assessment that encourages today's 'coaching culture';
- **extensive use of technology** in teaching and learning, removing language barriers, increasing access for *Divyang* students, and educational planning and management;
- **respect for diversity** and **respect for the local context** in all curriculum, pedagogy, and policy, always keeping in mind that education is a concurrent subject;
- **full equity and inclusion** as the cornerstone of all educational decisions to ensure that all students are able to thrive in the education system;
- **synergy in curriculum across all levels of education** from early childhood care and education to school education to higher education;
- **teachers and faculty as the heart of the learning process** – their recruitment, continuous professional development, positive working environments and service conditions;

- a **'light but tight' regulatory framework** to ensure **integrity, transparency**, and **resource efficiency** of the educational system through audit and public disclosure while encouraging innovation and out-of-the-box ideas through **autonomy, good governance, and empowerment**;
- **outstanding research** as a corequisite for outstanding education and development;
- **continuous review** of progress based on sustained research and regular assessment by educational experts;

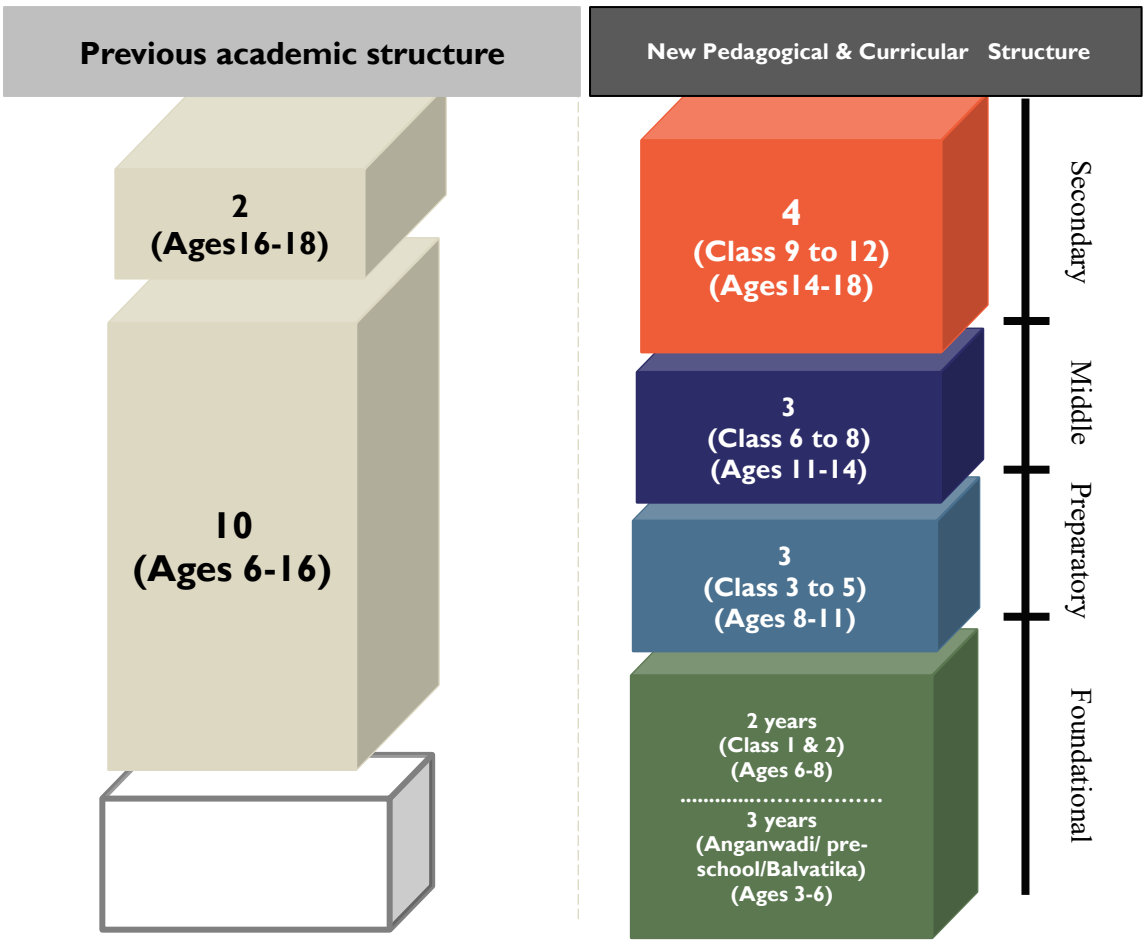
- **a rootedness and pride in India**, and its rich, diverse, ancient and modern culture and knowledge systems and traditions;
- **education is a public service**; access to quality education must be considered a basic right of every child;
- **substantial investment in a strong, vibrant public education system** as well as the encouragement and facilitation of true philanthropic private and community participation.

The Vision of this Policy

This National Education Policy envisions an education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all, and thereby making India a global knowledge superpower. The Policy envisages that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with one's country, and a conscious awareness of one's roles and responsibilities in a changing world. The vision of the Policy is to instill among the learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values, and dispositions that support responsible commitment to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen.

Part I. SCHOOL EDUCATION

This policy envisages that the extant 10+2 structure in school education will be modified with a new pedagogical and curricular restructuring of 5+3+3+4 covering ages 3-18 as shown in the representative figure and elaborated in detail later under Chapter 4.



Currently, children in the age group of 3-6 are not covered in the 10+2 structure as Class 1 begins at age 6. In the new 5+3+3+4 structure, a strong base of Early Childhood Care and Education (ECCE) from age 3 is also included, which is aimed at promoting better overall learning, development, and well-being.

1. Early Childhood Care and Education: The Foundation of Learning

1.1. Over 85% of a child's cumulative brain development occurs prior to the age of 6, indicating the critical importance of appropriate care and stimulation of the brain in the early years in order to ensure healthy brain development and growth. Presently, quality ECCE is not available to crores of young children, particularly children from socio-economically disadvantaged backgrounds. Strong investment in ECCE has the potential to give all young children such access, enabling them to participate and flourish in the educational system throughout their lives. Universal provisioning of quality early childhood development, care, and education must thus be achieved as soon as possible, and no later than 2030, to ensure that all students entering Grade 1 are school ready.

1.2. ECCE ideally consists of flexible, multi-faceted, multi-level, play-based, activity-based, and inquiry-based learning, comprising of alphabets, languages, numbers, counting, colours, shapes, indoor and outdoor play, puzzles and logical thinking, problem-solving, drawing, painting and other visual art, craft, drama and puppetry, music and movement. It also includes a focus on developing social capacities, sensitivity, good behaviour, courtesy, ethics, personal and public cleanliness, teamwork, and cooperation. The overall aim of ECCE will be to attain optimal outcomes in the domains of: physical and motor development, cognitive development, socio-emotional-ethical development, cultural/artistic development, and the development of communication and early language, literacy, and numeracy.

1.3. A National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE) for children up to the age of 8 will be developed by NCERT in two parts, namely, a sub-framework for 0-3 year-olds, and a sub-framework for 3-8 year-olds, aligned with the above guidelines, the latest research on ECCE, and national and international best practices. In particular, the numerous rich local traditions of India developed over millennia in ECCE involving art, stories, poetry, games, songs, and more, will also be suitably incorporated. The framework will serve as a guide both for parents and for early childhood care and education institutions.

1.4. The overarching goal will be to ensure universal access to high-quality ECCE across the country in a phased manner. Special attention and priority will be given to districts and locations that are particularly socio-economically disadvantaged. ECCE shall be delivered through a significantly expanded and strengthened system of early-childhood education institutions consisting of (a) stand-alone Anganwadis; (b) Anganwadis co-located with primary schools; (c) pre-primary schools/sections covering at least age 5 to 6 years co-located with existing primary schools; and (d) stand-alone pre-schools - all of which would recruit workers/teachers specially trained in the curriculum and pedagogy of ECCE.

1.5. For universal access to ECCE, Anganwadi Centres will be strengthened with high-quality infrastructure, play equipment, and well-trained Anganwadi workers/teachers. Every Anganwadi will have a well-ventilated, well-designed, child-friendly and well-constructed building with an enriched learning environment. Children in Anganwadi Centres shall take activity-filled tours - and meet the teachers and students of their local primary schools, in order to make the transition from Anganwadi Centres to primary schools a smooth one. Anganwadis shall be fully integrated into school complexes/clusters, and Anganwadi children, parents, and teachers will be invited to attend and participate in school/school complex programmes and vice versa.

1.6. It is envisaged that prior to the age of 5 every child will move to a "Preparatory Class" or "Balavatika" (that is, before Class 1), which has an ECCE-qualified teacher. The learning in the Preparatory Class shall be based primarily on play-based learning with a focus on developing cognitive, affective, and psychomotor abilities and early literacy and numeracy. The mid-

day meal programme shall also be extended to the Preparatory Classes in primary schools. Health check-ups and growth monitoring that are available in the Anganwadi system shall also be made available to Preparatory Class students of Anganwadi as well as of primary schools.

1.7. To prepare an initial cadre of high-quality ECCE teachers in Anganwadis, current Anganwadi workers/teachers will be trained through a systematic effort in accordance with the curricular/pedagogical framework developed by NCERT. Anganwadi workers/teachers with qualifications of 10+2 and above shall be given a 6-month certificate programme in ECCE; and those with lower educational qualifications shall be given a one-year diploma programme covering early literacy, numeracy, and other relevant aspects of ECCE. These programmes may be run through digital/distance mode using DTH channels as well as smartphones, allowing teachers to acquire ECCE qualifications with minimal disruption to their current work. The ECCE training of Anganwadi workers/teachers will be mentored by the Cluster Resource Centres of the School Education Department which shall hold at least one monthly contact class for continuous assessment. In the longer term, State Governments shall prepare cadres of professionally qualified educators for early childhood care and education, through stage-specific professional training, mentoring mechanisms, and career mapping. Necessary facilities will also be created for the initial professional preparation of these educators and their Continuous Professional Development (CPD).

1.8. ECCE will also be introduced in Ashramshalas in tribal-dominated areas and in all formats of alternative schooling in a phased manner. The process for integration and implementation of ECCE in Ashramshalas and alternative schooling will be similar to that detailed above.

1.9. The responsibility for ECCE curriculum and pedagogy will lie with MHRD to ensure its continuity from pre-primary school through primary school, and to ensure due attention to the foundational aspects of education. The planning and implementation of early childhood care and education curriculum will be carried out jointly by the Ministries of HRD, Women and Child Development (WCD), Health and Family Welfare (HFW), and Tribal Affairs. A special joint task force will be constituted for continuous guidance of the smooth integration of early childhood care and education into school education.

2. Foundational Literacy and Numeracy: An Urgent & Necessary Prerequisite to Learning

2.1. The ability to read and write, and perform basic operations with numbers, is a necessary foundation and an indispensable prerequisite for all future schooling and lifelong learning. However, various governmental, as well as non-governmental surveys, indicate that we are currently in a learning crisis: a large proportion of students currently in elementary school - estimated to be over 5 crore in number - have not attained foundational literacy and numeracy, i.e., the ability to read and comprehend basic text and the ability to carry out basic addition and subtraction with Indian numerals.

2.2. Attaining foundational literacy and numeracy for all children will thus become an urgent national mission, with immediate measures to be taken on many fronts and with clear goals that will be attained in the short term (including that every student will attain foundational literacy and numeracy by Grade 3). The highest priority of the education system will be to achieve universal foundational literacy and numeracy in primary school by 2025. The rest of this Policy will become relevant for our students only if this most basic learning requirement (i.e., reading, writing, and arithmetic at the foundational level) is first achieved. To this end, a National Mission on Foundational Literacy and Numeracy will be set up by the Ministry of Human Resource Development (MHRD) on priority. Accordingly, all State/UT governments will immediately prepare an implementation plan for attaining universal foundational literacy and numeracy in all primary schools, identifying stage-wise targets and goals to be achieved by 2025, and closely tracking and monitoring progress of the same.

2.3. First, teacher vacancies will be filled at the earliest, in a time-bound manner - especially in disadvantaged areas and areas with large pupil-to-teacher ratios or high rates of illiteracy. Special

attention will be given to employing local teachers or those with familiarity with local languages. A pupil-teacher ratio (PTR) of under 30:1 will be ensured at the level of each school; areas having large numbers of socio-economically disadvantaged students will aim for a PTR of under 25:1. Teachers will be trained, encouraged, and supported - with continuous professional development - to impart foundational literacy and numeracy.

2.4. On the curricular side, there will be an increased focus on foundational literacy and numeracy - and generally, on reading, writing, speaking, counting, arithmetic, and mathematical thinking - throughout the preparatory and middle school curriculum, with a robust system of continuous formative/adaptive assessment to track and thereby individualize and ensure each student's learning. Specific hours daily - and regular events over the year-on activities involving these subjects will be dedicated to encourage and enthuse students. Teacher education and the early grade curriculum will be redesigned to have a renewed emphasis on foundational literacy and numeracy.

2.5. Currently, with the lack of universal access to ECCE, a large proportion of children already fall behind within the first few weeks of Grade 1. Thus, to ensure that all students are school ready, an interim 3-month play-based 'school preparation module' for all Grade 1 students, consisting of activities and workbooks around the learning of alphabets, sounds, words, colours, shapes, and numbers, and involving collaborations with peers and parents, will be developed by NCERT and SCERTs.

2.6. A national repository of high-quality resources on foundational literacy and numeracy will be made available on the Digital Infrastructure for Knowledge Sharing (DIKSHA). Technological interventions to serve as aids to teachers and to help bridge any language barriers that may exist between teachers and students, will be piloted and implemented

2.7. Due to the scale of the current learning crisis, all viable methods will be explored to support teachers in the mission of attaining universal foundational literacy and numeracy. Studies around the world show one-on-one peer tutoring to be extremely effective for learning not just for the learner, but also for the tutor. Thus, peer tutoring can be taken up as a voluntary and joyful activity for fellow students under the supervision of trained teachers and by taking due care of safety aspects. Additionally, it will also be made far easier for trained volunteers - from both the local community and beyond - to participate in this large-scale mission. Every literate member of the community could commit to teaching one student/person how to read, it would change the country's landscape very quickly. States may consider establishing innovative models to foster such peer-tutoring and volunteer activities, as well as launch other programmes to support learners, in this nationwide mission to promote foundational literacy and numeracy.

2.8. Enjoyable and inspirational books for students at all levels will be developed, including through high-quality translation (technology assisted as needed) in all local and Indian languages, and will be made available extensively in both school and local public libraries. Public and school libraries will be significantly expanded to build a culture of reading across the country. Digital libraries will also be established. School libraries will be set up - particularly in villages - to serve the community during non-school hours, and book clubs may meet in public/school libraries to further facilitate and promote widespread reading. A National Book Promotion Policy will be formulated, and extensive initiatives will be undertaken to ensure the availability, accessibility, quality, and readership of books across geographies, languages, levels, and genres.

2.9. Children are unable to learn optimally when they are undernourished or unwell. Hence, the nutrition and health (including mental health) of children will be addressed, through healthy meals and the introduction of well-trained social workers, counsellors, and community involvement into the schooling system. Furthermore, research shows that the morning hours after a nutritious breakfast can be particularly productive for the study of cognitively more demanding subjects and hence these hours may be leveraged by providing a simple but energizing breakfast in addition to midday meals. In locations where hot meals are not possible, a simple but nutritious meal, e.g., groundnuts/chana mixed with jaggery and/or local fruits may be provided. All school children shall undergo regular

health check-ups especially for 100% immunization in schools and health cards will be issued to monitor the same.

3. Curtailing Dropout Rates and Ensuring Universal Access to Education at All Levels

3.1. One of the primary goals of the schooling system must be to ensure that children are enrolled in and are attending school. Through initiatives such as the Sarva Shiksha Abhiyan (now the Samagra Shiksha) and the Right to Education Act, India has made remarkable strides in recent years in attaining near-universal enrolment in elementary education. However, the data for later grades indicates some serious issues in retaining children in the schooling system. The GER for Grades 6-8 was 90.9%, while for Grades 9-10 and 11-12 it was only 79.3% and 56.5%, respectively - indicating that a significant proportion of enrolled students drop out after Grade 5 and especially after Grade 8. As per the 75th round household survey by NSSO in 2017-18, the number of out of school children in the age group of 6 to 17 years is 3.22 crore. It will be a top priority to bring these children back into the educational fold as early as possible, and to prevent further students from dropping out, with a goal to achieve 100% Gross Enrolment Ratio in preschool to secondary level by 2030. A concerted national effort will be made to ensure universal access and afford opportunity to all children of the country to obtain quality holistic education–including vocational education - from pre-school to Grade 12.

3.2. There are two overall initiatives that will be undertaken to bring children who have dropped out back to school and to prevent further children from dropping out. The first is to provide effective and sufficient infrastructure so that all students have access to safe and engaging school education at all levels from pre-primary school to Grade 12. Besides providing regular trained teachers at each stage, special care shall be taken to ensure that no school remains deficient on infrastructure support. The credibility of Government schools shall be re-established and this will be attained by upgrading and enlarging the schools that already exist, building additional quality schools in areas where they do not exist, and providing safe and practical conveyances and/or hostels, especially for the girl children, so that all children have the opportunity to attend a quality school and learn at the appropriate level. Alternative and innovative education centres will be put in place in cooperation with civil society to ensure that children of migrant labourers, and other children who are dropping out of school due to various circumstances are brought back into mainstream education.

3.3. The second is to achieve universal participation in school by carefully tracking students, as well as their learning levels, in order to ensure that they (a) are enrolled in and attending school, and (b) have suitable opportunities to catch up and re-enter school in case they have fallen behind or dropped out. For providing equitable and quality education from the Foundational Stage through Grade 12 to all children up to the age of 18, suitable facilitating systems shall be put in place. Counsellors or well-trained social workers connected to schools/school complexes and teachers will continuously work with students and their parents and will travel through and engage with communities to ensure that all school-age children are attending and learning in school. Trained and qualified social workers from civil society organizations/departments of Social Justice and Empowerment and government functionaries dealing with empowerment of Persons with Disabilities at the State and district level, could be connected to schools, through various innovative mechanisms adopted by State/UT Governments, to help in carrying out this important work.

3.4. Once infrastructure and participation are in place, ensuring quality will be the key in retention of students, so that they (particularly, girls and students from other socio-economically disadvantaged groups) do not lose interest in attending school. This will require a system of incentives for deploying teachers with knowledge of the local language to areas with high dropout rates, as well as overhauling the curriculum to make it more engaging and useful.

3.5. To facilitate learning for all students, with special emphasis on Socio-Economically Disadvantaged Groups (SEDGs), the scope of school education will be broadened to facilitate multiple pathways to learning involving both formal and non-formal education modes. Open and Distance Learning (ODL) Programmes offered by the National Institute of Open Schooling (NIOS)

and State Open Schools will be expanded and strengthened for meeting the learning needs of young people in India who are not able to attend a physical school. NIOS and State Open Schools will offer the following programmes in addition to the present programmes: A, B and C levels that are equivalent to Grades 3, 5, and 8 of the formal school system; secondary education programmes that are equivalent to Grades 10 and 12; vocational education courses/programmes; and adult literacy and life-enrichment programmes. States will be encouraged to develop these offerings in regional languages by establishing new/strengthening existing State Institutes of Open Schooling (SIOS).

3.6. To make it easier for both governments as well as non-governmental philanthropic organizations to build schools, to encourage local variations on account of culture, geography, and demographics, and to allow alternative models of education, the requirements for schools will be made less restrictive. The focus will be to have less emphasis on input and greater emphasis on output potential concerning desired learning outcomes. Regulations on inputs will be limited to certain areas as enumerated in Chapter 8. Other models for schools will also be piloted, such as public-philanthropic partnerships.

3.7. Efforts will be made to involve community and alumni in volunteer efforts for enhancing learning by providing at schools: one-on-one tutoring; the teaching of literacy and holding of extra-help sessions; teaching support and guidance for educators; career guidance and mentoring to students; etc. In this regard, the support of active and healthy senior citizens, school alumni and local community members will be suitably garnered. Databases of literate volunteers, retired scientists/government/semi government employees, alumni, and educators will be created for this purpose.

4. Curriculum and Pedagogy in Schools: Learning Should be Holistic, Integrated, Enjoyable, and Engaging

Restructuring school curriculum and pedagogy in a new 5+3+3+4 design

4.1. The curricular and pedagogical structure of school education will be reconfigured to make it responsive and relevant to the developmental needs and interests of learners at different stages of their development, corresponding to the age ranges of 3-8, 8-11, 11-14, and 14-18 years, respectively. The curricular and pedagogical structure and the curricular framework for school education will therefore be guided by a 5+3+3+4 design, consisting of the Foundational Stage (in two parts, that is, 3 years of Anganwadi/pre-school + 2 years in primary school in Grades 1-2; both together covering ages 3-8), Preparatory Stage (Grades 3-5, covering ages 8-11), Middle Stage (Grades 6-8, covering ages 11-14), and Secondary Stage (Grades 9-12 in two phases, i.e., 9 and 10 in the first and 11 and 12 in the second, covering ages 14-18).

4.2. The Foundational Stage will consist of five years of flexible, multilevel, play/activity-based learning and the curriculum and pedagogy of ECCE as mentioned in para 1.2. The Preparatory Stage will comprise three years of education building on the play, discovery, and activity-based pedagogical and curricular style of the Foundational Stage, and will also begin to incorporate some light text books as well as aspects of more formal but interactive classroom learning, in order to lay a solid groundwork across subjects, including reading, writing, speaking, physical education, art, languages, science, and mathematics. The Middle Stage will comprise three years of education, building on the pedagogical and curricular style of the Preparatory Stage, but with the introduction of subject teachers for learning and discussion of the more abstract concepts in each subject that students will be ready for at this stage across the sciences, mathematics, arts, social sciences, and humanities. Experiential learning within each subject, and explorations of relations among different subjects, will be encouraged and emphasized despite the introduction of more specialized subjects and subject teachers. The Secondary Stage will comprise of four years of multidisciplinary study, building on the subject-oriented pedagogical and curricular style of the Middle Stage, but with greater depth, greater critical thinking, greater attention to life aspirations, and greater flexibility and student choice of subjects. In particular students would continue to have the option of exiting after Grade 10

and re-entering in the next phase to pursue vocational or any other courses available in Grades 11-12, including at a more specialized school, if so desired.

4.3. The above-described stages are purely curricular and pedagogical, designed to optimize learning for students based on the cognitive development of children; they will inform the development of National and State curricula and teaching-learning strategies at each stage, but parallel changes to physical infrastructure will not be required.

Holistic development of learners

4.4. The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and towards learning how to learn - and away from the culture of rote learning as is largely present today. The aim of education will not only be cognitive development, but also building character and creating holistic and well-rounded individuals equipped with the key 21st century skills. Ultimately, knowledge is a deep-seated treasure and education helps in its manifestation as the perfection which is already within an individual. All aspects of curriculum and pedagogy will be reoriented and revamped to attain these critical goals. Specific sets of skills and values across domains will be identified for integration and incorporation at each stage of learning, from pre-school to higher education. Curriculum frameworks and transaction mechanisms will be developed for ensuring that these skills and values are imbibed through engaging processes of teaching and learning. NCERT will identify these required skill sets and include mechanisms for their transaction in the National Curriculum Framework for early childhood and school education.

Reduce curriculum content to enhance essential learning and critical thinking

4.5. Curriculum content will be reduced in each subject to its core essentials, to make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning. The mandated content will focus on key concepts, ideas, applications, and problem-solving. Teaching and learning will be conducted in a more interactive manner; questions will be encouraged, and classroom sessions will regularly contain more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning.

Experiential learning

4.6. In all stages, experiential learning will be adopted, including hands-on learning, arts-integrated and sports-integrated education, story-telling-based pedagogy, among others, as standard pedagogy within each subject, and with explorations of relations among different subjects. To close the gap in achievement of learning outcomes, classroom transactions will shift, towards competency-based learning and education. The assessment tools (including assessment "as", "of", and "for" learning) will also be aligned with the learning outcomes, capabilities, and dispositions as specified for each subject of a given class.

4.7. Art-integration is a cross-curricular pedagogical approach that utilizes various aspects and forms of art and culture as the basis for learning of concepts across subjects. As a part of the thrust on experiential learning, art-integrated education will be embedded in classroom transactions not only for creating joyful classrooms, but also for imbibing the Indian ethos through integration of Indian art and culture in the teaching and learning process at every level. This art-integrated approach will strengthen the linkages between education and culture.

4.8. Sports-integration is another cross-curricular pedagogical approach that utilizes physical activities including indigenous sports, in pedagogical practices to help in developing skills such as collaboration, self-initiative, self-direction, self-discipline, teamwork, responsibility, citizenship, etc. Sports-integrated learning will be undertaken in classroom transactions to help students adopt fitness as a lifelong attitude and to achieve the related life skills along with the levels of fitness as envisaged in the Fit India Movement. The need to integrate sports in education is well recognized as it serves to

foster holistic development by promoting physical and psychological well-being while also enhancing cognitive abilities.

Empower students through flexibility in course choices

4.9. Students will be given increased flexibility and choice of subjects to study, particularly in secondary school - including subjects in physical education, the arts and crafts, and vocational skills – so that they can design their own paths of study and life plans. Holistic development and a wide choice of subjects and courses year to year will be the new distinguishing feature of secondary school education. There will be no hard separation among 'curricular', 'extracurricular', or 'co-curricular', among 'arts', 'humanities', and 'sciences', or between 'vocational' or 'academic' streams. Subjects such as physical education, the arts and crafts, and vocational skills, in addition to science, humanities, and mathematics, will be incorporated throughout the school curriculum, with a consideration for what is interesting and safe at each age.

4.10. Each of the four stages of school education, in accordance with what may be possible in different regions, may consider moving towards a semester or any other system that allows the inclusion of shorter modules, or courses that are taught on alternate days, in order to allow an exposure to more subjects and enable greater flexibility. States may look into innovative methods to achieve these aims of greater flexibility and exposure to and enjoyment of a wider range of subjects, including across the arts, sciences, humanities, languages, sports, and vocational subjects.

Multilingualism and the power of language

4.11. It is well understood that young children learn and grasp nontrivial concepts more quickly in their home language/mother tongue. Home language is usually the same language as the mother tongue or that which is spoken by local communities. However, at times in multi-lingual families, there can be a home language spoken by other family members which may sometimes be different from mother tongue or local language. Wherever possible, the medium of instruction until at least Grade 5, but preferably till Grade 8 and beyond, will be the home language/mother tongue/local language/regional language. Thereafter, the home/local language shall continue to be taught as a language wherever possible. This will be followed by both public and private schools. High-quality textbooks, including in science, will be made available in home languages/mother tongue. All efforts will be made early on to ensure that any gaps that exist between the language spoken by the child and the medium of teaching are bridged. In cases where home language/mother tongue textbook material is not available, the language of transaction between teachers and students will still remain the home language/mother tongue wherever possible. Teachers will be encouraged to use a bilingual approach, including bilingual teaching-learning materials, with those students whose home language may be different from the medium of instruction. All languages will be taught with high quality to all students; a language does not need to be the medium of instruction for it to be taught and learned well.

4.12. As research clearly shows that children pick up languages extremely quickly between the ages of 2 and 8 and that multilingualism has great cognitive benefits to young students, children will be exposed to different languages early on (but with a particular emphasis on the mother tongue), starting from the Foundational Stage onwards. All languages will be taught in an enjoyable and interactive style, with plenty of interactive conversation, and with early reading and subsequently writing in the mother tongue in the early years, and with skills developed for reading and writing in other languages in Grade 3 and beyond. There will be a major effort from both the Central and State governments to invest in large numbers of language teachers in all regional languages around the country, and, in particular, for all languages mentioned in the Eighth Schedule of the Constitution of India. States, especially States from different regions of India, may enter into bilateral agreements to hire teachers in large numbers from each other, to satisfy the three-language formula in their respective States, and also to encourage the study of Indian languages across the country. Extensive use of technology will be made for teaching and learning of different languages and to popularize language learning.

4.13. The three-language formula will continue to be implemented while keeping in mind the Constitutional provisions, aspirations of the people, regions, and the Union, and the need to promote multilingualism as well as promote national unity. However, there will be a greater flexibility in the three-language formula, and no language will be imposed on any State. The three languages learned by children will be the choices of States, regions, and of course the students themselves, so long as at least two of the three languages are native to India. In particular, students who wish to change one or more of the three languages they are studying may do so in Grade 6 or 7, as long as they are able to demonstrate basic proficiency in three languages (including one language of India at the literature level) by the end of secondary school.

4.14. All efforts will be made in preparing high-quality bilingual textbooks and teaching-learning materials for science and mathematics, so that students are enabled to think and speak about the two subjects both in their home language/mother tongue and in English.

4.15. As so many developed countries around the world have amply demonstrated, being well educated in one's language, culture, and traditions is not a detriment but indeed a huge benefit to educational, social, and technological advancement. India's languages are among the richest, most scientific, most beautiful, and most expressive in the world, with a huge body of ancient as well as modern literature (both prose and poetry), film, and music written in these languages that help form India's national identity and wealth. For purposes of cultural enrichment as well as national integration, all young Indians should be aware of the rich and vast array of languages of their country, and the treasures that they and their literatures contain.

4.16. Thus, every student in the country will participate in a fun project/activity on 'The Languages of India', sometime in Grades 6-8, such as, under the *'Ek Bharat Shrestha Bharat'* initiative. In this project/activity, students will learn about the remarkable unity of most of the major Indian languages, starting with their common phonetic and scientifically-arranged alphabets and scripts, their common grammatical structures, their origins and sources of vocabularies from Sanskrit and other classical languages, as well as their rich inter-influences and differences. They will also learn what geographical areas speak which languages, get a sense of the nature and structure of tribal languages, and learn to say commonly spoken phrases and sentences in every major language of India and also learn a bit about the rich and uplifting literature of each (through suitable translations as necessary). Such an activity would give them both a sense of the unity and the beautiful cultural heritage and diversity of India and would be a wonderful icebreaker their whole lives as they meet people from other parts of India. This project/activity would be a joyful activity and would not involve any form of assessment.

4.17. The importance, relevance, and beauty of the classical languages and literature of India also cannot be overlooked. Sanskrit, while also an important modern language mentioned in the Eighth Schedule of the Constitution of India, possesses a classical literature that is greater in volume than that of Latin and Greek put together, containing vast treasures of mathematics, philosophy, grammar, music, politics, medicine, architecture, metallurgy, drama, poetry, storytelling, and more (known as 'Sanskrit Knowledge Systems'), written by people of various religions as well as non-religious people, and by people from all walks of life and a wide range of socio-economic backgrounds over thousands of years. Sanskrit will thus be offered at all levels of school and higher education as an important, enriching option for students, including as an option in the three-language formula. It will be taught in ways that are interesting and experiential as well as contemporarily relevant, including through the use of Sanskrit Knowledge Systems, and in particular through phonetics and pronunciation. Sanskrit textbooks at the foundational and middle school level may be written in Simple Standard Sanskrit (SSS) to teach Sanskrit through Sanskrit (STS) and make its study truly enjoyable.

4.18. India also has an extremely rich literature in other classical languages, including classical Tamil, Telugu, Kannada, Malayalam, Odia. In addition to these classical languages Pali, Persian, and Prakrit; and their works of literature too must be preserved for their richness and for the pleasure and enrichment of posterity. As India becomes a fully developed country, the next generation will want to

partake in and be enriched by India's extensive and beautiful classical literature. In addition to Sanskrit, other classical languages and literatures of India, including Tamil, Telugu, Kannada, Malayalam, Odia, Pali, Persian, and Prakrit, will also be widely available in schools as options for students, possibly as online modules, through experiential and innovative approaches, to ensure that these languages and literature stay alive and vibrant. Similar efforts will be made for all Indian languages having rich oral and written literatures, cultural traditions, and knowledge.

4.19. For the enrichment of the children, and for the preservation of these rich languages and their artistic treasures, all students in all schools, public or private, will have the option of learning at least two years of a classical language of India and its associated literature, through experiential and innovative approaches, including the integration of technology, in Grades 6-12, with the option to continue from the middle stage through the secondary stage and beyond.

4.20. In addition to high quality offerings in Indian languages and English, foreign languages, such as Korean, Japanese, Thai, French, German, Spanish, Portuguese, and Russian, will also be offered at the secondary level, for students to learn about the cultures of the world and to enrich their global knowledge and mobility according to their own interests and aspirations.

4.21. The teaching of all languages will be enhanced through innovative and experiential methods, including through gamification and apps, by weaving in the cultural aspects of the languages - such as films, theatre, storytelling, poetry, and music - and by drawing connections with various relevant subjects and with real-life experiences. Thus, the teaching of languages will also be based on experiential-learning pedagogy.

4.22. Indian Sign Language (ISL) will be standardized across the country, and National and State curriculum materials developed, for use by students with hearing impairment. Local sign languages will be respected and taught as well, where possible and relevant.

Curricular Integration of Essential Subjects, Skills, and Capacities

4.23. While students must have a large amount of flexibility in choosing their individual curricula, certain subjects, skills, and capacities should be learned by all students to become good, successful, innovative, adaptable, and productive human beings in today's rapidly changing world. In addition to proficiency in languages, these skills include: scientific temper and evidence-based thinking; creativity and innovativeness; sense of aesthetics and art; oral and written communication; health and nutrition; physical education, fitness, wellness, and sports; collaboration and teamwork; problem solving and logical reasoning; vocational exposure and skills; digital literacy, coding, and computational thinking; ethical and moral reasoning; knowledge and practice of human and Constitutional values; gender sensitivity; Fundamental Duties; citizenship skills and values; knowledge of India; environmental awareness including water and resource conservation, sanitation and hygiene; and current affairs and knowledge of critical issues facing local communities, States, the country, and the world.

4.24. Concerted curricular and pedagogical initiatives, including the introduction of contemporary subjects such as Artificial Intelligence, Design Thinking, Holistic Health, Organic Living, Environmental Education, Global Citizenship Education (GCED), etc. at relevant stages will be undertaken to develop these various important skills in students at all levels.

4.25. It is recognized that mathematics and mathematical thinking will be very important for India's future and India's leadership role in the numerous upcoming fields and professions that will involve artificial intelligence, machine learning, and data science, etc. Thus, mathematics and computational thinking will be given increased emphasis throughout the school years, starting with the foundational stage, through a variety of innovative methods, including the regular use of puzzles and games that make mathematical thinking more enjoyable and engaging. Activities involving coding will be introduced in Middle Stage.

4.26. Every student will take a fun course, during Grades 6-8, that gives a survey and hands-on experience of a sampling of important vocational crafts, such as carpentry, electric work, metal work, gardening, pottery making, etc., as decided by States and local communities and as mapped by local skilling needs. A practice-based curriculum for Grades 6-8 will be appropriately designed by NCERT while framing the NCFSE 2020-21. All students will participate in a 10-day bagless period sometime during Grades 6-8 where they intern with local vocational experts such as carpenters, gardeners, potters, artists, etc. Similar internship opportunities to learn vocational subjects may be made available to students throughout Grades 6-12, including holiday periods. Vocational courses through online mode will also be made available. Bagless days will be encouraged throughout the year for various types of enrichment activities involving arts, quizzes, sports, and vocational crafts. Children will be given periodic exposure to activities outside school through visits to places/monuments of historical, cultural and tourist importance, meeting local artists and craftsmen and visits higher educational institutions in their village/Tehsil/District/State.

4.27. "Knowledge of India" will include knowledge from ancient India and its contributions to modern India and its successes and challenges, and a clear sense of India's future aspirations with regard to education, health, environment, etc. These elements will be incorporated in an accurate and scientific manner throughout the school curriculum wherever relevant; in particular, Indian Knowledge Systems, including tribal knowledge and indigenous and traditional ways of learning, will be covered and included in mathematics, astronomy, philosophy, yoga, architecture, medicine, agriculture, engineering, linguistics, literature, sports, games, as well as in governance, polity, conservation. Specific courses in tribal ethno-medicinal practices, forest management, traditional (organic) crop cultivation, natural farming, etc. will also be made available. An engaging course on Indian Knowledge Systems will also be available to students in secondary school as an elective. Competitions may be held in schools for learning various topics and subjects through fun and indigenous games. Video documentaries on inspirational luminaries of India, ancient and modern, in science and beyond, will be shown at appropriate points throughout the school curriculum. Students will be encouraged to visit different States as part of cultural exchange programmes.

4.28. Students will be taught at a young age the importance of "doing what's right", and will be given a logical framework for making ethical decisions. In later years, this would then be expanded along themes of cheating, violence, plagiarism, littering, tolerance, equality, empathy, etc., with a view to enabling children to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. As consequences of such basic ethical reasoning, traditional Indian values and all basic human and Constitutional values (such as *seva, ahimsa, swachchhata, satya, nishkam karma, shanti*, sacrifice, tolerance, diversity, pluralism, righteous conduct, gender sensitivity, respect for elders, respect for all people and their inherent capabilities regardless of background, respect for environment, helpfulness, courtesy, patience, forgiveness, empathy, compassion, patriotism, democratic outlook, integrity, responsibility, justice, liberty, equality, and fraternity) will be developed in all students. Children will have the opportunity to read and learn from the original stories of the Panchatantra, Jataka, Hitopadesh, and other fun fables and inspiring tales from the Indian tradition and learn about their influences on global literature. Excerpts from the Indian Constitution will also be considered essential reading for all students. Basic training in health, including preventive health, mental health, good nutrition, personal and public hygiene, disaster response and first-aid will also be included in the curriculum, as well as scientific explanations of the detrimental and damaging effects of alcohol, tobacco, and other drugs.

4.29. All curriculum and pedagogy, from the foundational stage onwards, will be redesigned to be strongly rooted in the Indian and local context and ethos in terms of culture, traditions, heritage, customs, language, philosophy, geography, ancient and contemporary knowledge, societal and scientific needs, indigenous and traditional ways of learning etc. – in order to ensure that education is maximally relatable, relevant, interesting, and effective for our students. Stories, arts, games, sports, examples, problems, etc. will be chosen as much as possible to be rooted in the Indian and local geographic context. Ideas, abstractions, and creativity will indeed best flourish when learning is thus rooted.

National Curriculum Framework for School Education (NCFSE)

4.30. The formulation of a new and comprehensive National Curricular Framework for School Education, NCFSE 2020-21, will be undertaken by the NCERT - based on the principles of this National Education Policy 2020, frontline curriculum needs, and after discussions with all stakeholders including State Governments, Ministries, relevant Departments of the Central Government, and other expert bodies, and will be made available in all regional languages. The NCFSE document shall henceforth be revisited and updated once every 5-10 years, taking into account frontline curriculum.

National Textbooks with Local Content and Flavour

4.31. The reduction in content and increased flexibility of school curriculum - and the renewed emphasis on constructive rather than rote learning - must be accompanied by parallel changes in school textbooks. All textbooks shall aim to contain the essential core material (together with discussion, analysis, examples, and applications) deemed important on a national level, but at the same time contain any desired nuances and supplementary material as per local contexts and needs. Where possible, schools and teachers will also have choices in the textbooks they employ - from among a set of textbooks that contain the requisite national and local material - so that they may teach in a manner that is best suited to their own pedagogical styles as well as to their students and communities' needs.

4.32. The aim will be to provide such quality textbooks at the lowest possible cost -namely, at the cost of production/printing - in order to mitigate the burden of textbook prices on the students and on the educational system. This may be accomplished by using high-quality textbook materials developed by NCERT in conjunction with the SCERTs; additional textbook materials could be funded by public-philanthropic partnerships and crowd sourcing that incentivize experts to write such high-quality textbooks at cost price. States will prepare their own curricula (which may be based on the NCFSE prepared by NCERT to the extent possible) and prepare textbooks (which may be based on the NCERT textbook materials to the extent possible), incorporating State flavour and material as needed. While doing so, it must be borne in mind that NCERT curriculum would be taken as the nationally acceptable criterion. The availability of such textbooks in all regional languages will be a top priority so that all students have access to high-quality learning. All efforts will be made to ensure timely availability of textbooks in schools. Access to downloadable and printable versions of all textbooks will be provided by all States/UTs and NCERT to help conserve the environment and reduce the logistical burden.

4.33. Concerted efforts, through suitable changes in curriculum and pedagogy, will be made by NCERT, SCERTs, schools, and educators to significantly reduce the weight of school bags and textbooks.

Transforming Assessment for Student Development

4.34. The aim of assessment in the culture of our schooling system will shift from one that is summative and primarily tests rote memorization skills to one that is more regular and formative, is more competency-based, promotes learning and development for our students, and tests higher-order skills, such as analysis, critical thinking, and conceptual clarity. The primary purpose of assessment will indeed be for learning; it will help the teacher and student, and the entire schooling system, continuously revise teaching-learning processes to optimize learning and development for all students. This will be the underlying principle for assessment at all levels of education.

4.35. The progress card of all students for school-based assessment, which is communicated by schools to parents, will be completely redesigned by States/UTs under guidance from the proposed National Assessment Centre, NCERT, and SCERTs. The progress card will be a holistic, 360-degree, multidimensional report that reflects in great detail the progress as well as the uniqueness of each

learner in the cognitive, affective, and psychomotor domains. It will include self-assessment and peer assessment, and progress of the child in project-based and inquiry-based learning, quizzes, role plays, group work, portfolios, etc., along with teacher assessment. The holistic progress card will form an important link between home and school and will be accompanied by parent-teacher meetings in order to actively involve parents in their children's holistic education and development. The progress card would also provide teachers and parents with valuable information on how to support each student in and out of the classroom. AI-based software could be developed and used by students to help track their growth through their school years based on learning data and interactive questionnaires for parents, students, and teachers, in order to provide students with valuable information on their strengths, areas of interest, and needed areas of focus, and to thereby help them make optimal career choices.

4.36. The current nature of secondary school exams, including Board exams and entrance exams - and the resulting coaching culture of today - are doing much harm, especially at the secondary school level, replacing valuable time for true learning with excessive exam coaching and preparation. These exams also force students to learn a very narrow band of material in a single stream, rather than allowing the flexibility and choice that will be so important in the education system of the future.

4.37. While the Board exams for Grades 10 and 12 will be continued, the existing system of Board and entrance examinations shall be reformed to eliminate the need for undertaking coaching classes. To reverse these harmful effects of the current assessment system, Board exams will be redesigned to encourage holistic development; students will be able to choose many of the subjects in which they take Board exams, depending on their individualized interests. Board exams will also be made 'easier', in the sense that they will test primarily core capacities/competencies rather than months of coaching and memorization; any student who has been going to and making a basic effort in a school class will be able to pass and do well in the corresponding subject Board Exam without much additional effort. To further eliminate the 'high stakes' aspect of Board Exams, all students will be allowed to take Board Exams on up to two occasions during any given school year, one main examination and one for improvement, if desired.

4.38. In addition to introducing greater flexibility, student choice, and best-of-two attempts, assessments that primarily test core capacities must be the immediate key reforms to all Board exams. Boards may over time also develop further viable models of Board Exams that reduce pressure and the coaching culture. Some possibilities include: a system of annual/semester/modular Board Exams could be developed - that each test far less material, and are taken immediately after the corresponding course is taken in school - so that the pressure from exams is better distributed, less intense, and less high-stakes across the Secondary Stage; all subjects and corresponding assessments, beginning with mathematics, could be offered at two levels, with students doing some of their subjects at the standard level and some at a higher level; and Board exams in certain subjects could be redesigned to have two parts – one part of an objective type with multiple-choice questions and the other of a descriptive type.

4.39. With regard to all of the above, guidelines will be prepared by NCERT, in consultation with major stakeholders, such as SCERTs, Boards of Assessment (BoAs), the proposed new National Assessment Centre etc., and teachers prepared, for a transformation in the assessment system by the 2022-23 academic session, to align with the NCFSE 2020-21.

4.40. To track progress throughout the school years, and not just at the end of Grades 10 and 12 - for the benefit of students, parents, teachers, principals, and the entire schooling system in planning improvements to schools and teaching-learning processes - all students will take school examinations in Grades 3, 5, and 8 which will be conducted by the appropriate authority. These examinations would test achievement of basic learning outcomes, through assessment of core concepts and knowledge from the national and local curricula, along with relevant higher-order skills and application of knowledge in real-life situations, rather than rote memorization. The Grade 3 examination, in particular, would test basic literacy, numeracy, and other foundational skills. The results of school examinations will be used only for developmental purposes of the school education

system, including for public disclosure by schools of their overall (anonymized) student outcomes, and for continuous monitoring and improvement of the schooling system.

4.41. It is proposed to set up a National Assessment Centre, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development), as a standard-setting body under MHRD that fulfils the basic objectives of setting norms, standards, and guidelines for student assessment and evaluation for all recognized school boards of India, guiding the State Achievement Survey (SAS) and undertaking the National Achievement Survey (NAS), monitoring achievement of learning outcomes in the country, and encouraging and helping school boards to shift their assessment patterns towards meeting the skill requirements of the 21st century in consonance with the stated objectives of this Policy. This Centre will also advise school boards regarding new assessment patterns and latest researches, promote collaborations between school boards. It will also become an instrument for the sharing of best practices among school boards, and for ensuring equivalence of academic standards among learners across all school boards.

4.42. The principles for university entrance exams will be similar. The National Testing Agency (NTA) will work to offer a high-quality common aptitude test, as well as specialized common subject exams in the sciences, humanities, languages, arts, and vocational subjects, at least twice every year. These exams shall test conceptual understanding and the ability to apply knowledge and shall aim to eliminate the need for taking coaching for these exams. Students will be able to choose the subjects for taking the test, and each university will be able to see each student's individual subject portfolio and admit students into their programmes based on individual interests and talents. The NTA will serve as a premier, expert, autonomous testing organization to conduct entrance examinations for undergraduate and graduate admissions and fellowships in higher education institutions. The high quality, range, and flexibility of the NTA testing services will enable most universities to use these common entrance exams - rather than having hundreds of universities each devising their own entrance exams - thereby drastically reducing the burden on students, universities and colleges, and the entire education system. It will be left up to individual universities and colleges to use NTA assessments for their admissions.

Support for Gifted Students/Students with Special Talents

4.43. There are innate talents in every student, which must be discovered, nurtured, fostered, and developed. These talents may express themselves in the form of varying interests, dispositions, and capacities. Those students that show particularly strong interests and capacities in a given realm must be encouraged to pursue that realm beyond the general school curriculum. Teacher education will include methods for the recognition and fostering of such student talents and interests. The NCERT and NCTE will develop guidelines for the education of gifted children. B.Ed. programmes may also allow a specialization in the education of gifted children.

4.44. Teachers will aim to encourage students with singular interests and/or talents in the classroom by giving them supplementary enrichment material and guidance and encouragement. Topic-centered and Project-based Clubs and Circles will be encouraged and supported at the levels of schools, school complexes, districts, and beyond. Examples include Science Circles, Math Circles, Music & Dance Performance Circles, Chess Circles, Poetry Circles, Language Circles, Drama Circles, Debate Circles, Sports Circles, Eco-Clubs, Health & Well-being Clubs/ Yoga Clubs and so on. Along these lines, high-quality national residential summer programmes for secondary school students in various subjects will also be encouraged, with a rigorous merit-based but equitable admission process to attract the very best students and teachers from across the country including from socio-economically disadvantaged groups.

4.45. Olympiads and competitions in various subjects will be conducted across the country, with clear coordination and progression from school to local to state to national levels, to ensure that all students may participate at all levels for which they qualify. Efforts will be made to make these available in rural areas and in regional languages to ensure widespread participation. Public and private universities, including premier institutions like the IITs and NITs, would be encouraged to use merit-

based results from National, and International Olympiads, and results from other relevant national programmes, as part of the criteria for admissions into their undergraduate programmes.

4.46. Once internet-connected smart phones or tablets are available in all homes and/or schools, online apps with quizzes, competitions, assessments, enrichment materials, and online communities for shared interests will be developed, and will work to enhance all the aforementioned initiatives, as group activities for students with appropriate supervision of parents and teachers. Schools will develop smart classrooms, in a phased manner, for using digital pedagogy and thereby enriching the teaching-learning process with online resources and collaborations.

5. Teachers

5.1. Teachers truly shape the future of our children - and, therefore, the future of our nation. It is because of this noblest role that the teacher in India was the most respected member of society. Only the very best and most learned became teachers. Society gave teachers, or gurus, what they needed to pass on their knowledge, skills, and ethics optimally to students. The quality of teacher education, recruitment, deployment, service conditions, and empowerment of teachers is not where it should be, and consequently the quality and motivation of teachers does not reach the desired standards. The high respect for teachers and the high status of the teaching profession must be restored so as to inspire the best to enter the teaching profession. The motivation and empowerment of teachers is required to ensure the best possible future for our children and our nation.

Recruitment and Deployment

5.2. To ensure that outstanding students enter the teaching profession - especially from rural areas - a large number of merit-based scholarships shall be instituted across the country for studying quality 4-year integrated B.Ed. programmes. In rural areas, special merit-based scholarships will be established that also include preferential employment in their local areas upon successful completion of their B.Ed. programmes. Such scholarships will provide local job opportunities to local students, especially female students, so that these students serve as local-area role models and as highly qualified teachers who speak the local language. Incentives will be provided for teachers to take up teaching jobs in rural areas, especially in areas that are currently facing acute shortage of quality teachers. A key incentive for teaching in rural schools will be the provision of local housing near or on the school premises or increased housing allowances.

5.3. The harmful practice of excessive teacher transfers will be halted, so that students have continuity in their role models and educational environments. Transfers will occur in very special circumstances, as suitably laid down in a structured manner by State/UT governments. Furthermore, transfers will be conducted through an online computerized system that ensures transparency.

5.4. Teacher Eligibility Tests (TETs) will be strengthened to inculcate better test material, both in terms of content and pedagogy. The TETs will also be extended to cover teachers across all stages (Foundational, Preparatory, Middle and Secondary) of school education. For subject teachers, suitable TET or NTA test scores in the corresponding subjects will also be taken into account for recruitment. To gauge passion and motivation for teaching, a classroom demonstration or interview will become an integral part of teacher hiring at schools and school complexes. These interviews would also be used to assess comfort and proficiency in teaching in the local language, so that every school/school complex has at least some teachers who can converse with students in the local language and other prevalent home languages of students. Teachers in private schools also must have qualified similarly through TET, a demonstration/interview, and knowledge of local language(s).

5.5. To ensure an adequate number of teachers across subjects - particularly in subjects such as art, physical education, vocational education, and languages - teachers could be recruited to a school or school complex and the sharing of teachers across schools could be considered in accordance with the grouping-of-schools adopted by State/UT governments.

5.6. Schools/school complexes will be encouraged to hire local eminent persons or experts as 'master instructors' in various subjects, such as in traditional local arts, vocational crafts, entrepreneurship, agriculture, or any other subject where local expertise exists, to benefit students and help preserve and promote local knowledge and professions.

5.7. A technology-based comprehensive teacher-requirement planning forecasting exercise will be conducted by each State to assess expected subject-wise teacher vacancies over the next two decades. The above described initiatives in recruitment and deployment will be scaled as needed over time, to fill all vacancies with qualified teachers, including local teachers, with suitable incentives for career management and progression as described below. Teacher education programmes and offerings will also align with the vacancies thus projected.

Service Environment and Culture

5.8. The primary goal of overhauling the service environment and culture of schools will be to maximize the ability of teachers to do their jobs effectively, and to ensure that they are part of vibrant, caring, and inclusive communities of teachers, students, parents, principals, and other support staff, all of whom share a common goal: to ensure that our children are learning.

5.9. The first requirement in this direction will be to ensure decent and pleasant service conditions at schools. Adequate and safe infrastructure, including working toilets, clean drinking water, clean and attractive spaces, electricity, computing devices, internet, libraries, and sports and recreational resources will be provided to all schools to ensure that teachers and students, including children of all genders and children with disabilities, receive a safe, inclusive, and effective learning environment and are comfortable and inspired to teach and learn in their schools. In-service training will have inputs on safety, health and environment at workplace in schools to ensure that all teachers are sensitized to these requirements.

5.10. State/UT Governments may adopt innovative formats, such as school complex, rationalization of schools, without in any way reducing accessibility, for effective school governance, resource sharing, and community building. The creation of school complexes could go a long way towards building vibrant teacher communities. The hiring of teachers to school complexes could automatically create relationships among schools across the school complex; it would also help ensure excellent subject-wise distribution of teachers, creating a more vibrant teacher knowledge base. Teachers at very small schools will not remain isolated any longer and may become part of and work with larger school complex communities, sharing best practices with each other and working collaboratively to ensure that all children are learning. School complexes could also share counsellors, trained social workers, technical and maintenance staff, etc. to further support teachers and help create an effective learning environment.

5.11. In collaboration with parents and other key local stakeholders, teachers will also be more involved in the governance of schools/school complexes, including as members of the School Management Committees/School Complex Management Committees.

5.12. To prevent the large amounts of time spent currently by teachers on non-teaching activities, teachers will not be engaged any longer in work that is not directly related to teaching; in particular, teachers will not be involved in strenuous administrative tasks and more than a rationalized minimum time for mid-day meal related work, so that they may fully concentrate on their teaching-learning duties.

5.13. To help ensure that schools have positive learning environments, the role expectations of principals and teachers will explicitly include developing a caring and inclusive culture at their schools, for effective learning and the benefit of all stakeholders.

5.14. Teachers will be given more autonomy in choosing aspects of pedagogy, so that they may teach in the manner they find most effective for the students in their classrooms. Teachers will also focus

on socio-emotional learning - a critical aspect of any student's holistic development. Teachers will be recognized for novel approaches to teaching that improve learning outcomes in their classrooms.

Continuous Professional Development (CPD)

5.15. Teachers will be given continuous opportunities for self-improvement and to learn the latest innovations and advances in their professions. These will be offered in multiple modes, including in the form of local, regional, state, national, and international workshops as well as online teacher development modules. Platforms (especially online platforms) will be developed so that teachers may share ideas and best practices. Each teacher will be expected to participate in at least 50 hours of CPD opportunities every year for their own professional development, driven by their own interests. CPD opportunities will, in particular, systematically cover the latest pedagogies regarding foundational literacy and numeracy, formative and adaptive assessment of learning outcomes, competency-based learning, and related pedagogies, such as experiential learning, arts-integrated, sports-integrated, and storytelling-based approaches, etc.

5.16. School Principals and school complex leaders will have similar modular leadership/management workshops and online development opportunities and platforms to continuously improve their own leadership and management skills, and so that they too may share best practices with each other. Such leaders will also be expected to participate in 50 hours or more of CPD modules per year, covering leadership and management, as well as content and pedagogy with a focus on preparing and implementing pedagogical plans based on competency-based education.

Career Management and Progression (CMP)

5.17. Teachers doing outstanding work must be recognized and promoted, and given salary raises, to incentivize all teachers to do their best work. Therefore, a robust merit-based structure of tenure, promotion, and salary structure will be developed, with multiple levels within each teacher stage, that incentivizes and recognizes outstanding teachers. A system of multiple parameters for proper assessment of performance will be developed for the same by State/UT Governments that is based on peer reviews, attendance, commitment, hours of CPD, and other forms of service to the school and the community or based on NPST given in Para 5.20. In this Policy, in the context of careers, 'tenure' refers to confirmation for permanent employment, after due assessment of performance and contribution, while 'tenure track' refers to the period of probation preceding tenure.

5.18. Further, it will be ensured that career growth (in terms of tenure, promotions, salary increases, etc.) is available to teachers within a single school stage (i.e., Foundational, Preparatory, Middle, or Secondary), and that there is no career progression-related incentive to move from being teachers in early stages to later stages or vice versa (though such career moves across stages will be allowed, provided the teacher has the desire and qualifications for such a move). This is to support the fact that all stages of school education will require the highest-quality teachers, and no stage will be considered more important than any other.

5.19. Vertical mobility of teachers based on merit will also be paramount; outstanding teachers with demonstrated leadership and management skills would be trained over time to take on academic leadership positions in schools, school complexes, BRCs, CRCs, BITEs, DIETs as well as relevant government departments.

Professional Standards for Teachers

5.20. A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022, by the National Council for Teacher Education in its restructured new form as a Professional Standard Setting Body (PSSB) under the General Education Council (GEC), in consultation with NCERT, SCERTs, teachers from across levels and regions, expert organizations in teacher preparation and development, expert bodies in vocational education, and higher education institutions. The standards would cover expectations of the role of the teacher at different levels of expertise/stage, and the competencies required for that stage. It will also comprise standards for

performance appraisal, for each stage, that would be carried out on a periodic basis. The NPST will also inform the design of pre-service teacher education programmes. This could be then adopted by States and determine all aspects of teacher career management, including tenure, professional development efforts, salary increases, promotions, and other recognitions. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal. The professional standards will be reviewed and revised in 2030, and thereafter every ten years, on the basis of rigorous empirical analysis of the efficacy of the system.

Special educators

5.21. There is an urgent need for additional special educators for certain areas of school education. Some examples of such specialist requirements include subject teaching for children with disabilities/*Divyang* children at the Middle and Secondary school level, including teaching for specific learning disabilities. Such teachers would require not only subject-teaching knowledge and understanding of subject-related aims of education, but also the relevant skills for understanding of special requirements of children. Therefore, such areas could be developed as secondary specializations for subject teachers or generalist teachers, during or after pre-service teacher preparation. They will be offered as certificate courses, in the pre-service as well as in-service mode, either full time or as part-time/blended courses - again, necessarily, at multidisciplinary colleges or universities. Greater synergy will be enabled between the course curriculum of NCTE and RCI to ensure adequate availability of qualified special educators who can handle subject teaching as well.

Approach to Teacher Education

5.22. Recognizing that the teachers will require training in high-quality content as well as pedagogy, teacher education will gradually be moved by 2030 into multidisciplinary colleges and universities. As colleges and universities all move towards becoming multidisciplinary, they will also aim to house outstanding education departments that offer B.Ed., M.Ed., and Ph.D. degrees in education.

5.23. By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree that teaches a range of knowledge content and pedagogy and includes strong practicum training in the form of student-teaching at local schools. The 2-year B.Ed. programmes will also be offered, by the same multidisciplinary institutions offering the 4-year integrated B.Ed., and will be intended only for those who have already obtained Bachelor's Degrees in other specialized subjects. These B.Ed. programmes may also be suitably adapted as 1-year B.Ed. programmes, and will be offered only to those who have completed the equivalent of 4-year multidisciplinary Bachelor's Degrees or who have obtained a Master's degree in a specialty and wish to become a subject teacher in that specialty. All such B.Ed. degrees would be offered only by accredited multidisciplinary higher education institutions offering 4-year integrated B.Ed. programmes. Multidisciplinary higher education institutions offering the 4-year in-class integrated B.Ed. programme and having accreditation for ODL may also offer high-quality B.Ed. programmes in blended or ODL mode to students in remote or difficult-to-access locations and also to in-service teachers who are aiming to enhance their qualification, with suitable robust arrangements for mentoring and for the practicum-training and student-teaching components of the programme.

5.24. All B.Ed. programmes will include training in time-tested as well as the most recent techniques in pedagogy, including pedagogy with respect to foundational literacy and numeracy, multi-level teaching and evaluation, teaching children with disabilities, teaching children with special interests or talents, use of educational technology, and learner-centered and collaborative learning. All B.Ed. programmes will include strong practicum training in the form of in-classroom teaching at local schools. All B.Ed. programmes will also emphasize the practice of the Fundamental Duties (Article 51A) of the Indian Constitution along with other Constitutional provisions while teaching any subject or performing any activity. It will also appropriately integrate environmental awareness and sensitivity towards its conservation and sustainable development, so that environment education becomes an integral part of school curricula.

5.25. Special shorter local teacher education programmes will also be available at BITEs, DIETs, or at school complexes themselves for eminent local persons who can be hired to teach at schools or school complexes as 'master instructors', for the purpose of promoting local professions, knowledge, and skills, e.g., local art, music, agriculture, business, sports, carpentry, and other vocational crafts.

5.26. Shorter post-B.Ed. certification courses will also be made widely available, at multidisciplinary colleges and universities, to teachers who may wish to move into more specialized areas of teaching, such as the teaching of students with disabilities, or into leadership and management positions in the schooling system, or to move from one stage to another between foundational, preparatory, middle, and secondary stages.

5.27. It is recognized that there may be several pedagogical approaches internationally for teaching particular subjects; NCERT will study, research, document, and compile the varied international pedagogical approaches for teaching different subjects and make recommendations on what can be learnt and assimilated from these approaches into the pedagogies being practiced in India.

5.28. By 2021, a new and comprehensive National Curriculum Framework for Teacher Education, NCFTE 2021, will be formulated by the NCTE in consultation with NCERT, based on the principles of this National Education Policy 2020. The framework will be developed after discussions with all stakeholders including State Governments, relevant Ministries/Departments of Central Government and various expert bodies, and will be made available in all regional languages. The NCFTE 2021 will also factor in the requirements of teacher education curricula for vocational education. The NCFTE will thereafter be revised once every 5-10 years by reflecting the changes in revised NCFs as well as emerging needs in teacher education.

5.29. Finally, in order to fully restore the integrity of the teacher education system, stringent action will be taken against substandard stand-alone Teacher Education Institutions (TEIs) running in the country, including shutting them down, if required.

6. Equitable and Inclusive Education: Learning for All

6.1. Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education - while indeed an essential goal in its own right - is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation. The education system must aim to benefit India's children so that no child loses any opportunity to learn and excel because of circumstances of birth or background. This Policy reaffirms that bridging the social category gaps in access, participation, and learning outcomes in school education will continue to be one of the major goals of all education sector development programmes. This Chapter may be read in conjunction with Chapter 14 which discusses analogous issues of Equity and Inclusion in Higher Education.

6.2. While the Indian education system and successive government policies have made steady progress towards bridging gender and social category gaps in all levels of school education, large disparities still remain - especially at the secondary level - particularly for socio-economically disadvantaged groups that have been historically underrepresented in education. Socio-Economically Disadvantaged Groups (SEDGs) can be broadly categorized based on gender identities (particularly female and transgender individuals), socio-cultural identities (such as Scheduled Castes, Scheduled Tribes, OBCs, and minorities), geographical identities (such as students from villages, small towns, and aspirational districts), disabilities (including learning disabilities), and socio-economic conditions (such as migrant communities, low income households, children in vulnerable situations, victims of or children of victims of trafficking, orphans including child beggars in urban areas, and the urban poor). While overall enrolments in schools decline steadily from Grade 1 to Grade 12, this decline in enrolments is significantly more pronounced for many of these SEDGs, with even greater declines for female students within each of these SEDGs and often even steeper in higher education. A brief status overview of the SEDGs that come within socio-cultural identities is given in following sub-sections.

6.2.1. According to U-DISE 2016-17 data, about 19.6% of students belong to Scheduled Castes at the primary level, but this fraction falls to 17.3% at the higher secondary level. These enrolment drop-offs are more severe for Scheduled Tribes students (10.6% to 6.8%), and differently-abled children (1.1% to 0.25%), with even greater declines for female students within each of these categories. The decline in enrolment in higher education is even steeper.

6.2.2. A multiplicity of factors, including lack of access to quality schools, poverty, social mores & customs, and language have had a detrimental effect on rates of enrolment and retention among the Scheduled Castes. Bridging these gaps in access, participation, and learning outcomes of children belonging to Scheduled Castes will continue to be one of the major goals. Also, the Other Backward Classes (OBCs) which have been identified on the basis of historically being socially and educationally backward also need special focus.

6.2.3. Tribal communities and children from Scheduled Tribes also face disadvantages at multiple levels due to various historical and geographical factors. Children from tribal communities often find their school education irrelevant and foreign to their lives, both culturally and academically. While several programmatic interventions to uplift children from tribal communities are currently in place, and will continue to be pursued, special mechanisms need to be made to ensure that children belonging to tribal communities receive the benefits of these interventions.

6.2.4. Minorities are also relatively underrepresented in school and higher education. The Policy acknowledges the importance of interventions to promote education of children belonging to all minority communities, and particularly those communities that are educationally underrepresented.

6.2.5. The Policy also recognizes the importance of creating enabling mechanisms for providing Children With Special Needs (CWSN) or *Divyang*, the same opportunities of obtaining quality education as any other child.

6.2.6. Separate strategies will be formulated for focused attention on reducing the social category gaps in school education as outlined in the following sub-sections.

6.3. The critical problems and recommendations regarding ECCE, foundational literacy and numeracy, access, enrolment and attendance discussed in Chapters 1–3, are particularly relevant and important for underrepresented and disadvantaged groups. Therefore, the measures from Chapters 1–3 will be targeted in a concerted way for SEDGs.

6.4. In addition, there have been various successful policies and schemes such as targeted scholarships, conditional cash transfers to incentivize parents to send their children to school, providing bicycles for transport, etc., that have significantly increased participation of SEDGs in the schooling system in certain areas. These successful policies and schemes must be significantly strengthened across the country.

6.5. It will also be essential to take into account research that ascertains which measures are particularly effective for certain SEDGs. For example, providing bicycles and organizing cycling and walking groups to provide access to school have been shown to be particularly powerful methods in increasing participation of female students - even at lesser distances - because of the safety benefits and comfort to parents that they provide. One-on-one teachers and tutors, peer tutoring, open schooling, appropriate infrastructure, and suitable technological interventions to ensure access can be particularly effective for certain children with disabilities. Schools providing quality ECCE reap the greatest dividends for children who come from families that are economically disadvantaged. Meanwhile, counsellors and/or well-trained social workers that work with and connect with students, parents, schools, and teachers in order to improve attendance and learning outcomes have been found to be especially effective for children in urban poor areas.

6.6. Data shows that certain geographical areas contain significantly larger proportions of SEDGs. Also, there are geographical locations that have been identified as Aspirational Districts which require special interventions for promoting their educational development. Hence, it is recommended that regions of the country with large populations from educationally-disadvantaged SEDGs should be declared Special Education Zones (SEZs), where all the schemes and policies are implemented to the maximum through additional concerted efforts, in order to truly change their educational landscape.

6.7. It must be noted that women cut across all underrepresented groups, making up about half of all SEDGs. Unfortunately, the exclusion and inequity that SEDGs face is only amplified for the women in these SEDGs. The policy additionally recognizes the special and critical role that women play in society and in shaping social mores; therefore, providing a quality education to girls is the best way to increase the education levels for these SEDGs, not just in the present but also in future generations. The policy thus recommends that the policies and schemes designed to include students from SEDGs should be especially targeted towards girls in these SEDGs.

6.8. In addition, the Government of India will constitute a 'Gender-Inclusion Fund' to build the nation's capacity to provide equitable quality education for all girls as well as transgender students. The fund will be available to States to implement priorities determined by the Central government critical for assisting female and transgender children in gaining access to education (such as the provisions of sanitation and toilets, bicycles, conditional cash transfers, etc.); funds will also enable States to support and scale effective community-based interventions that address local context-specific barriers to female and transgender children's access to and participation in education. Similar 'Inclusion Fund' schemes shall also be developed to address analogous access issues for other SEDGs. In essence, this Policy aims to eliminate any remaining disparity in access to education (including vocational education) for children from any gender or other socio-economically disadvantaged group.

6.9. Free boarding facilities will be built - matching the standard of Jawahar Navodaya Vidyalayas - in school locations where students may have to come from far, and particularly for students who from socio-economically disadvantaged backgrounds, with suitable arrangements for the safety of all children, especially girls. Kasturba Gandhi Balika Vidyalayas will be strengthened and expanded to increase the participation in quality schools (up to Grade 12) of girls from socio-economically disadvantaged backgrounds. Additional Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas will be built around the country, especially in aspirational districts, Special Education Zones, and other disadvantaged areas, to increase high-quality educational opportunities. Pre-school sections covering at least one year of early childhood care and education will be added to Kendriya Vidyalayas and other primary schools around the nation, particularly in disadvantaged areas.

6.10. Ensuring the inclusion and equal participation of children with disabilities in ECCE and the schooling system will also be accorded the highest priority. Children with disabilities will be enabled to fully participate in the regular schooling process from the Foundational Stage to higher education. The Rights of Persons with Disabilities (RPWD) Act 2016 defines inclusive education as a 'system of education wherein students with and without disabilities learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities'. This Policy is in complete consonance with the provisions of the RPWD Act 2016 and endorses all its recommendations with regard to school education. While preparing the National Curriculum Framework, NCERT will ensure that consultations are held with expert bodies such as National Institutes of DEPwD.

6.11. To this end, schools/school complexes will be provided resources for the integration of children with disabilities, recruitment of special educators with cross-disability training, and for the establishment of resource centres, wherever needed, especially for children with severe or multiple disabilities. Barrier free access for all children with disabilities will be enabled as per the RPWD Act. Different categories of children with disabilities have differing needs. Schools and school complexes will work and be supported for providing all children with disabilities accommodations and support

mechanisms tailored to suit their needs and to ensure their full participation and inclusion in the classroom. In particular, assistive devices and appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (e.g., textbooks in accessible formats such as large print and Braille) will be made available to help children with disabilities integrate more easily into classrooms and engage with teachers and their peers. This will apply to all school activities including arts, sports, and vocational education. NIOS will develop high-quality modules to teach Indian Sign Language, and to teach other basic subjects using Indian Sign Language. Adequate attention will be paid to the safety and security of children with disabilities.

6.12. As per the RPWD Act 2016, children with benchmark disabilities shall have the choice of regular or special schooling. Resource centres in conjunction with special educators will support the rehabilitation and educational needs of learners with severe or multiple disabilities and will assist parents/guardians in achieving high-quality home schooling and skilling for such students as needed. Home-based education will continue to be a choice available for children with severe and profound disabilities who are unable to go to schools. The children under home-based education must be treated as equal to any other child in the general system. There shall be an audit of home-based education for its efficiency and effectiveness using the principle of equity and equality of opportunity. Guidelines and standards for home-based schooling shall be developed based on this audit in line with the RPWD Act 2016. While it is clear that the education of all children with disabilities is the responsibility of the State, technology-based solutions will be used for the orientation of parents/caregivers along with wide-scale dissemination of learning materials to enable parents/caregivers to actively support their children's learning needs will be accorded priority.

6.13. Most classrooms have children with specific learning disabilities who need continuous support. Research is clear that the earlier such support begins, the better the chances of progress. Teachers must be helped to identify such learning disabilities early and plan specifically for their mitigation. Specific actions will include the use of appropriate technology allowing and enabling children to work at their own pace, with flexible curricula to leverage each child's strengths, and creating an ecosystem for appropriate assessment and certification. Assessment and certification agencies, including the proposed new National Assessment Centre, PARAKH, will formulate guidelines and recommend appropriate tools for conducting such assessment, from the foundational stage to higher education (including for entrance exams), in order to ensure equitable access and opportunities for all students with learning disabilities.

6.14. The awareness and knowledge of how to teach children with specific disabilities (including learning disabilities) will be an integral part of all teacher education programmes, along with gender sensitization and sensitization towards all underrepresented groups in order to reverse their underrepresentation.

6.15. Alternative forms of schools, will be encouraged to preserve their traditions or alternative pedagogical styles. At the same time, they will be supported to integrate the subject and learning areas prescribed by the NCFSE into their curricula in order to reduce and eventually eliminate the underrepresentation of children from these schools in higher education. In particular, financial assistance will be provided to introduce science, mathematics, social studies, Hindi, English, State languages, or other relevant subjects in the curriculum, as may be desired by these schools. This would enable children studying in these schools to attain the learning outcomes defined for Grades 1–12. Furthermore, students in such schools would be encouraged to appear for State or other Board examinations and assessments by the NTA, and thereby enroll in higher education institutions. Capacities of teachers in the teaching of science, mathematics, language, and social studies will be developed including orientation to new pedagogical practices. Libraries and laboratories will be strengthened and adequate reading materials like books, journals, etc., and other teaching-learning materials will be made available.

6.16. Within SEDGs, and with respect to all the above policy points, special attention will be given to reduce the disparities in the educational development of Scheduled Castes and Scheduled Tribes. As a part of the efforts to enhance participation in school education, special hostels in dedicated regions, bridge courses, and financial assistance through fee waivers and scholarships will be offered to

talented and meritorious students from all SEDGs on a larger scale, especially at the secondary stage of education, to facilitate their entry into higher education.

6.17. Under the aegis of the Ministry of Defence, State Governments may encourage opening NCC wings in their secondary and higher secondary schools, including those located in tribal dominated areas. This will enable harnessing of the natural talent and unique potential of students, which in turn would help them to aspire to a successful career in the defence forces.

6.18. All scholarships and other opportunities and schemes available to students from SEDGs will be coordinated and announced by a single agency and website to ensure that all students are aware of, and may apply in a simplified manner on such a 'single window system', as per eligibility.

6.19. All the above policies and measures are absolutely critical to attaining full inclusion and equity for all SEDGs - but they are not sufficient. What is also required is a change in school culture. All participants in the school education system, including teachers, principals, administrators, counsellors, and students, will be sensitized to the requirements of all students, the notions of inclusion and equity, and the respect, dignity, and privacy of all persons. Such an educational culture will provide the best pathway to help students become empowered individuals who, in turn, will enable society to transform into one that is responsible towards its most vulnerable citizens. Inclusion and equity will become a key aspect of teacher education (and training for all leadership, administrative, and other positions in schools); efforts will be made to recruit more high-quality teachers and leaders from SEDGs in order to bring in excellent role models for all students.

6.20. Students will be sensitized through this new school culture, brought in by teachers, trained social workers and counsellors as well as through corresponding changes to bring in an inclusive school curriculum. The school curriculum will include, early on, material on human values such as respect for all persons, empathy, tolerance, human rights, gender equality, non-violence, global citizenship, inclusion, and equity. It would also include more detailed knowledge of various cultures, religions, languages, gender identities, etc. to sensitize and develop respect for diversity. Any biases and stereotypes in school curriculum will be removed, and more material will be included that is relevant and relatable to all communities.

7. Efficient Resourcing and Effective Governance through School Complexes/Clusters

7.1. While the establishment of primary schools in every habitation across the country-driven by the Sarva Shiksha Abhiyan (SSA), now subsumed under the Samagra Shiksha Scheme and other important efforts across the States - has helped to ensure near-universal access to primary schools, it has also led to the development of numerous very small schools. According to U-DISE 2016–17 data, nearly 28% of India's public primary schools and 14.8% of India's upper primary schools have less than 30 students. The average number of students per grade in the elementary schooling system (primary and upper primary, i.e., Grades 1–8) is about 14, with a notable proportion having below 6; during the year 2016–17, there were 1,08,017 single-teacher schools, the majority of them (85743) being primary schools serving Grades 1–5.

7.2. These small school sizes have rendered it economically suboptimal and operationally complex to run good schools, in terms of deployment of teachers as well as the provision of critical physical resources. Teachers often teach multiple grades at a time, and teach multiple subjects, including subjects in which they may have no prior background; key areas such as music, arts, and sports are too often simply not taught; and physical resources, such as lab and sports equipment and library books, are simply not available across schools.

7.3. The isolation of small schools also has a negative effect on education and the teaching-learning process. Teachers function best in communities and teams, and so do students. Small schools also present a systemic challenge for governance and management. The geographical dispersion, challenging access conditions, and the very large numbers of schools make it difficult to reach all schools equally. Administrative structures have not been aligned with the increases in the number of school or with the unified structure of the Samagra Shiksha Scheme.

7.4. Although consolidation of schools is an option that is often discussed, it must be carried out very judiciously, and only when it is ensured that there is no impact on access. Such measures are nevertheless likely to result only in limited consolidation, and would not solve the overall structural problem and challenges presented by the large numbers of small schools.

7.5. These challenges will, by 2025, be addressed by State/UT governments by adopting innovative mechanisms to group or rationalize schools. The objective behind this intervention would be to ensure that every school has: (a) adequate number of counsellors/trained social workers and teachers (shared or otherwise) for teaching all subjects including art, music science, sports, languages, vocational subjects, etc; (b) adequate resources (shared or otherwise), such as a library, science labs, computer labs, skill labs, playgrounds, sports equipment and facilities, etc.; (c) a sense of community is built to overcome the isolation of teachers, students, and schools, through joint professional development programmes, sharing of teaching-learning content, joint content development, holding joint activities such as art and science exhibitions, sports meets, quizzes and debates, and fairs; (d) cooperation and support across schools for the education of children with disabilities; and (e) improved governance of the schooling system by devolving all finer decisions, to Principals, teachers, and other stakeholders within each group of schools and treating such a group of schools, which range from the foundational stage through the secondary stage, as an integrated semi-autonomous unit.

7.6. One possible mechanism for accomplishing the above would be the establishment of a grouping structure called the school complex, consisting of one secondary school together with all other schools offering lower grades in its neighbourhood including Anganwadis, in a radius of five to ten kilometers. This suggestion was first made by the Education Commission (1964–66) but was left unimplemented. This Policy strongly endorses the idea of the school complex/cluster, wherever possible. The aim of the school complex/cluster will be greater resource efficiency and more effective functioning, coordination, leadership, governance, and management of schools in the cluster.

7.7. The establishment of school complexes/clusters and the sharing of resources across complexes will have a number of other benefits as a consequence, such as improved support for children with disabilities, more topic-centred clubs and academic/sports/arts/crafts events across school complexes, better incorporation of art, music, language, vocational subjects, physical education, and other subjects in the classroom through the sharing of teachers in these subjects including use of ICT tools to conduct virtual classes, better student support, enrolment, attendance, and performance through the sharing of social workers and counsellors, and School Complex Management Committees (rather than simply School Management Committees) for more robust and improved governance, monitoring, oversight, innovations, and initiatives by local stakeholders. Building such larger communities of schools, school leaders, teachers, students, supporting staff, parents, and local citizens would energize and empower the schooling system, and in a resource-efficient manner.

7.8. The governance of schools will also improve and become far more efficient with school complexes/clusters. First, the DSE will devolve authority to the school complex/cluster, which will act as a semi-autonomous unit. The District Education Officer (DEO) and the Block Education Officers (BEO) will interact primarily with each school complex/cluster as a single unit and facilitate its work. The complex itself will perform certain tasks delegated by the DSE and will deal with the individual schools within it. The school complex/cluster will be given significant autonomy by the DSE to innovate towards providing integrated education and to experiment with pedagogies, curriculum, etc., while adhering to the National Curricular Framework (NCF) and State Curricular Framework (SCF). Under this organization, schools will gain in strength, will be able to exercise greater freedom, and will contribute towards making the complex more innovative and responsive. Meanwhile, the DSE will be able to focus on the aggregate level goals that need to be achieved, improving overall system effectiveness.

7.9. The culture of working to a plan, both short-term and long-term ones, will be developed through such complexes/clusters. Schools will develop their plans (SDPs) with the involvement of their SMCs. These plans will then become the basis for the creation of School Complex/Cluster Development Plans (SCDPs). The SCDP will also involve the plans of all other institutions

associated with the school complex, such as vocational education institutions, and will be created by the principals and teachers of the school complex with the involvement of the SCMC and will be made available publicly. The plans will include human resources, learning resources, physical resources and infrastructure, improvement initiatives, financial resources, school culture initiatives, teacher development plans, and educational outcomes. It will detail the efforts to leverage the teachers and students across the school complex to develop vibrant learning communities. The SDP and SCDP will be the primary mechanism to align all stakeholders of the school, including the DSE. The SMC and SCMC will use the SDP and SCDP for oversight of the functioning and direction of the school and will assist in the execution of these plans. The DSE, through its relevant official, e.g., the BEO, will endorse and confirm the SCDP of each school complex. It will then provide the resources (financial, human, physical, etc.) necessary to achieve the SCDPs, both short-term (1-year) and long-term (3-5 years). It will also provide all other relevant support to the school complexes to achieve the educational outcomes. The DSE and the SCERT may share specific norms (e.g., financial, staffing, process) and frameworks for development of the SDP and SCDP with all schools, which may be revised periodically.

7.10. To further enhance cooperation and positive synergy among schools, including between public and private schools, the twinning/pairing of one public school with one private school will be adopted across the country, so that such paired schools may meet/interact with each other, learn from each other, and also share resources, if possible. Best practices of private schools will be documented, shared, and institutionalized in public schools, and vice versa, where possible.

7.11. Every State will be encouraged to strengthen existing or establish "Bal Bhavans" where children of all ages can visit once a week (e.g., on weekends) or more often, as a special daytime boarding school, to partake in art-related, career-related, and play-related activities. Such Bal Bhavans may be incorporated as a part of school complexes/clusters if possible.

7.12. The school should be a point of celebration and honour for the whole community. The dignity of the school as an institution should be restored and important dates, such as the foundation day of the school, will be celebrated along with the community and the list of important alumni may be displayed and honoured. Furthermore, the un-utilized capacity of school infrastructure could be used to promote social, intellectual, and volunteer activities for the community and to promote social cohesion during non-teaching / schooling hours and may be used as a "Samajik Chetna Kendra".

8. Standard-setting and Accreditation for School Education

8.1. The goal of the school education regulatory system must be to continually improve educational outcomes; it must not overly restrict schools, prevent innovation, or demoralize teachers, principals, and students. All in all, regulation must aim to empower schools and teachers with trust, enabling them to strive for excellence and perform at their very best, while ensuring the integrity of the system through the enforcement of complete transparency and full public disclosure of all finances, procedures, and educational outcomes.

8.2. At present, all main functions of governance and regulation of the school education system - namely, the provision of public education, the regulation of education institutions, and policymaking - are handled by a single body, i.e., the Department of School Education or its arms. This leads to conflict of interests and excessive centralized concentration of power; it also leads to ineffective management of the school system, as efforts towards quality educational provision are often diluted by the focus on the other roles, particularly regulation, that the Departments of School Education also perform.

8.3. The current regulatory regime also has not been able to curb the commercialization and economic exploitation of parents by many for-profit private schools, yet at the same time it has all too often inadvertently discouraged public-spirited private/philanthropic schools. There has been far too much asymmetry between the regulatory approaches to public and private schools, even though the goals of both types of schools should be the same: to provide quality education.

8.4. The public education system is the foundation of a vibrant democratic society, and the way it is run must be transformed and invigorated in order to achieve the highest levels of educational outcomes for the nation. At the same time, the private/philanthropic school sector must also be encouraged and enabled to play a significant and beneficial role.

8.5. The key principles and recommendations of this Policy regarding the State school education system, the independent responsibilities within that system, and the approach to its regulation are as follows:

(a) The Department of School Education, which is the apex state-level body in school education, will be responsible for overall monitoring and policymaking for continual improvement of the public education system; it will not be involved with the provision and operation of schools or with the regulation of schools, in order to ensure due focus on the improvement of public schools and to eliminate conflict of interests.

(b) The educational operations and service provision for the public schooling system of the whole State will be handled by the Directorate of School Education (including the offices of the DEO and BEO, etc.); it will work independently to implement policies regarding educational operations and provision.

(c) An effective quality self-regulation or accreditation system will be instituted for all stages of education including pre-school education - private, public, and philanthropic - to ensure compliance with essential quality standards. To ensure that all schools follow certain minimal professional and quality standards, States/UTs will set up an independent, State-wide, body called the State School Standards Authority (SSSA). The SSSA will establish a minimal set of standards based on basic parameters (namely, safety, security, basic infrastructure, number of teachers across subjects and grades, financial probity, and sound processes of governance), which shall be followed by all schools. The framework for these parameters will be created by the SCERT in consultation with various stakeholders, especially teachers and schools.

    Transparent public self-disclosure of all the basic regulatory information, as laid down by the SSSA, will be used extensively for public oversight and accountability. The dimensions on which information has to be self-disclosed, and the format of disclosure will be decided by the SSSA in accordance with global best practices for standard-setting for schools. This information will have to be made available and kept updated and accurate by all schools, on the aforementioned public website maintained by the SSSA and on the schools' websites. Any complaints or grievances from stakeholders or others arising out of the information placed in the public domain shall be adjudicated by the SSSA. Feedback from randomly selected students will be solicited online to ensure valuable input at regular intervals. Technology will be employed suitably to ensure efficiency and transparency in all work of the SSSA. This will bring down significantly the heavy load of regulatory mandates currently borne by schools.

(d) Academic matters, including academic standards and curricula in the State will be led by the SCERT (with close consultation and collaboration with the NCERT), which will be reinvigorated as an institution. The SCERT will develop a School Quality Assessment and Accreditation Framework (SQAAF) through wide consultations with all stakeholders. The SCERT will also lead a "change management process" for the reinvigoration of CRCs, BRCs, and DIETs which must change the capacity and work culture of these institutions in 3 years, developing them into vibrant institutions of excellence. Meanwhile, certification of competencies of students at the school-leaving stage will be handled by the Boards of Assessment/Examination in each State.

8.6. The culture, structures, and systems that empower and provide adequate resources to schools, institutions, teachers, officials, communities, and other stakeholders, will also build concomitant accountability. Each stakeholder and participant of the education system will be accountable to perform their role with the highest level of integrity, full commitment, and exemplary work ethic.

Each role of the system will have explicitly articulated role expectations and rigorous assessment of their performance vis-à-vis these expectations. The assessment system will be objective and developmentally oriented, while ensuring accountability. It will have multiple sources of feedback and assessment, to ensure a full view of the performance (and will not just be linked simplistically, e.g., to 'marks' of students). The assessment will recognize that outcomes such as educational attainment of students have multiple intervening variables and extraneous influences. It will also recognize that education requires teamwork, particularly at the level of the school. Promotion, recognition, and accountability of all individuals will be based on such performance assessment. All functionaries will be responsible to ensure that this development, performance, and accountability system is run with high integrity, and systematically, within their span of control.

8.7. Public and private schools (except the schools that are managed/aided/controlled by the Central government) will be assessed and accredited on the same criteria, benchmarks, and processes, emphasizing online and offline public disclosure and transparency, so as to ensure that public-spirited private schools are encouraged and not stifled in any way. Private philanthropic efforts for quality education will be encouraged - thereby affirming the public-good nature of education - while protecting parents and communities from arbitrary increases in tuition fees. Public disclosure on the school website and on the SSSA website - for both public and private schools - would include (at the very least) information on the numbers of classrooms, students, and teachers, subjects taught, any fees, and overall student outcomes on standardized evaluations such as the NAS and SAS. For schools controlled/managed/aided by the Central government, the CBSE in consultation with the MHRD shall prepare a framework. All the education institutions will be held to similar standards of audit and disclosure as a 'not-for-profit' entity. Surpluses, if any, will be reinvested in the educational sector.

8.8. The standard-setting/regulatory framework and the facilitating systems for school regulation, accreditation, and governance shall be reviewed to enable improvements on the basis of the learnings and experiences gained in the last decade. This review will aim to ensure that all students, particularly students from underprivileged and disadvantaged sections, shall have universal, free and compulsory access to high-quality and equitable schooling from early childhood care and education (age 3 onwards) through higher secondary education (i.e., until Grade 12). The overemphasis on inputs, and the mechanistic nature of their specifications – physical and infrastructural – will be changed and requirements made more responsive to realities on the ground, e.g., regarding land areas and room sizes, practicalities of playgrounds in urban areas, etc. These mandates will be adjusted and loosened, leaving suitable flexibility for each school to make its own decisions based on local needs and constraints, while ensuring safety, security, and a pleasant and productive learning space. Educational outcomes and the transparent disclosure of all financial, academic, and operational matters will be given due importance and will be incorporated suitably in the assessment of schools. This will further improve India's progress towards achieving Sustainable Development Goal 4 (SDG4) of ensuring free, equitable, and quality primary and secondary education for all children.

8.9. The aim of the public-school education system will be to impart the highest quality education so that it becomes the most attractive option for parents from all walks of life for educating their children.

8.10. For a periodic 'health check-up' of the overall system, a sample-based National Achievement Survey (NAS) of student learning levels will be carried out by the proposed new National Assessment Centre, PARAKH with suitable cooperation with other governmental bodies- such as the NCERT– that may assist in assessment procedures as well as data analysis. The assessment will cover students across government as well as private schools. States will also be encouraged to conduct their own census-based State Assessment Survey (SAS), the results of which will be used only for developmental purposes, public disclosure by schools of their overall and anonymized student outcomes, and for continuous improvement of the school education system. Until the establishment of the proposed new National Assessment Centre, PARAKH, NCERT may continue to carry out NAS.

8.11. Finally, the children and adolescents enrolled in schools must not be forgotten in this whole process; after all, the school system is designed for them. Careful attention must be paid to their safety and rights- particularly girl children - and the various difficult issues faced by adolescents, such as substance or drug abuse and forms of discrimination and harassment including violence, with clear, safe, and efficient mechanisms for reporting and for due process on any infractions against children's/adolescents' rights or safety. The development of such mechanisms that are effective, timely, and well-known to all students will be accorded high priority.

Part II. HIGHER EDUCATION

9. Quality Universities and Colleges: A New and Forward-looking Vision for India's Higher Education System

9.1. Higher education plays an extremely important role in promoting human as well as societal well-being and in developing India as envisioned in its Constitution - a democratic, just, socially-conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. Higher education significantly contributes towards sustainable livelihoods and economic development of the nation. As India moves towards becoming a knowledge economy and society, more and more young Indians are likely to aspire for higher education.

9.1.1. Given the 21st century requirements, quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals. It must enable an individual to study one or more specialized areas of interest at a deep level, and also develop character, ethical and Constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st century capabilities across a range of disciplines including sciences, social sciences, arts, humanities, languages, as well as professional, technical, and vocational subjects. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to the society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence.

9.1.2. For the purpose of developing holistic individuals, it is essential that an identified set of skills and values will be incorporated at each stage of learning, from pre-school to higher education.

9.1.3. At the societal level, higher education must enable the development of an enlightened, socially conscious, knowledgeable, and skilled nation that can find and implement robust solutions to its own problems. Higher education must form the basis for knowledge creation and innovation thereby contributing to a growing national economy. The purpose of quality higher education is, therefore, more than the creation of greater opportunities for individual employment. It represents the key to more vibrant, socially engaged, cooperative communities and a happier, cohesive, cultured, productive, innovative, progressive, and prosperous nation.

9.2. Some of the major problems currently faced by the higher education system in India include:

(a) a severely fragmented higher educational ecosystem;
(b) less emphasis on the development of cognitive skills and learning outcomes;
(c) a rigid separation of disciplines, with early specialisation and streaming of students into narrow areas of study;
(d) limited access particularly in socio-economically disadvantaged areas, with few HEIs that teach in local languages
(e) limited teacher and institutional autonomy;
(f) inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders;
(g) lesser emphasis on research at most universities and colleges, and lack of competitive peer-reviewed research funding across disciplines;
(h) suboptimal governance and leadership of HEIs;
(i) an ineffective regulatory system; and
(j) large affiliating universities resulting in low standards of undergraduate education.

9.3. This policy envisions a complete overhaul and re-energising of the higher education system to overcome these challenges and thereby deliver high-quality higher education, with equity and inclusion. The policy's vision includes the following key changes to the current system:

(a) moving towards a higher educational system consisting of large, multidisciplinary universities and colleges, with at least one in or near every district, and with more HEIs across India that offer medium of instruction or programmes in local/Indian languages;
(b) moving towards a more multidisciplinary undergraduate education;
(c) moving towards faculty and institutional autonomy;
(d) revamping curriculum, pedagogy, assessment, and student support for enhanced student experiences;
(e) reaffirming the integrity of faculty and institutional leadership positions through merit-appointments and career progression based on teaching, research, and service;
(f) establishment of a National Research Foundation to fund outstanding peer-reviewed research and to actively seed research in universities and colleges;
(g) governance of HEIs by high qualified independent boards having academic and administrative autonomy;
(h) "light but tight" regulation by a single regulator for higher education;
(i) increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education; scholarships by private/philanthropic universities for disadvantaged and underprivileged students; online education, and Open Distance Learning (ODL); and all infrastructure and learning materials accessible and available to learners with disabilities.

10. Institutional Restructuring and Consolidation

10.1. The main thrust of this policy regarding higher education is to end the fragmentation of higher education by transforming higher education institutions into large multidisciplinary universities, colleges, and HEI clusters/Knowledge Hubs, each of which will aim to have 3,000 or more students. This would help build vibrant communities of scholars and peers, break down harmful silos, enable students to become well-rounded across disciplines including artistic, creative, and analytic subjects as well as sports, develop active research communities across disciplines including cross-disciplinary research, and increase resource efficiency, both material and human, across higher education.

10.2. Moving to large multidisciplinary universities and HEI clusters is thus the highest recommendation of this policy regarding the structure of higher education. The ancient Indian universities Takshashila, Nalanda, Vallabhi, and Vikramshila, which had thousands of students from India and the world studying in vibrant multidisciplinary environments, amply demonstrated the type of great success that large multidisciplinary research and teaching universities could bring. India urgently needs to bring back this great Indian tradition to create well-rounded and innovative individuals, and which is already transforming other countries educationally and economically.

10.3. This vision of higher education will require, in particular, a new conceptual perception/understanding for what constitutes a higher education institution (HEI), i.e., a university or a college. A university will mean a multidisciplinary institution of higher learning that offers undergraduate and graduate programmes, with high quality teaching, research, and community engagement. The definition of university will thus allow a spectrum of institutions that range from those that place equal emphasis on teaching and research i.e., Research-intensive Universities, those that place greater emphasis on teaching but still conduct significant research i.e. Teaching-intensive Universities. Meanwhile, an Autonomous degree-granting College (AC) will refer to a large multidisciplinary institution of higher learning that grants undergraduate degrees and is primarily focused on undergraduate teaching though it would not be restricted to that and it need not be restricted to that and it would generally be smaller than a typical university.

10.4. A stage-wise mechanism for granting graded autonomy to colleges, through a transparent system of graded accreditation, will be established. Colleges will be encouraged, mentored, supported, and incentivized to gradually attain the minimum benchmarks required for each level of

accreditation. Over a period of time, it is envisaged that every college would develop into either an Autonomous degree-granting College, or a constituent college of a university - in the latter case, it would be fully a part of the university. With appropriate accreditations, Autonomous degree-granting Colleges could evolve into Research-intensive or Teaching-intensive Universities, if they so aspire.

10.5. It must be clearly stated that these three broad types of institutions are not in any natural way a rigid, exclusionary categorization, but are along a continuum. HEIs will have the autonomy and freedom to move gradually from one category to another, based on their plans, actions, and effectiveness. The most salient marker for these categories of institutions will be the focus of their goals and work. The Accreditation System will develop and use appropriately different and relevant norms across this range of HEIs. However, the expectations of high quality of education, and of teaching-learning, across all HEIs will be the same.

10.6. In addition to teaching and research, HEIs will have other crucial responsibilities, which they will discharge through appropriate resourcing, incentives, and structures. These include supporting other HEIs in their development, community engagement and service, contribution to various fields of practice, faculty development for the higher education system, and support to school education.

10.7. By 2040, all higher education institutions (HEIs) shall aim to become multidisciplinary institutions and shall aim to have larger student enrolments preferably in the thousands, for optimal use of infrastructure and resources, and for the creation of vibrant multidisciplinary communities. Since this process will take time, all HEIs will firstly plan to become multidisciplinary by 2030, and then gradually increase student strength to the desired levels.

10.8. More HEIs shall be established and developed in underserved regions to ensure full access, equity, and inclusion. There shall, by 2030, be at least one large multidisciplinary HEI in or near every district. Steps shall be taken towards developing high-quality higher education institutions both public and private that have medium of instruction in local/Indian languages or bilingually. The aim will be to increase the Gross Enrolment Ratio in higher education including vocational education from 26.3% (2018) to 50% by 2035. While a number of new institutions may be developed to attain these goals, a large part of the capacity creation will be achieved by consolidating, substantially expanding, and also improving existing HEIs.

10.9. Growth will be in both public and private institutions, with a strong emphasis on developing a large number of outstanding public institutions. There will be a fair and transparent system for determining increased levels of public funding support for public HEIs. This system will give an equitable opportunity for all public institutions to grow and develop, and will be based on transparent, pre-announced criteria from within the accreditation norms of the Accreditation System. HEIs delivering education of the highest quality as laid down in this Policy will be incentivized in expanding their capacity.

10.10. Institutions will have the option to run Open Distance Learning (ODL) and online programmes, provided they are accredited to do so, in order to enhance their offerings, improve access, increase GER, and provide opportunities for lifelong learning (SDG 4). All ODL programmes and their components leading to any diploma or degree will be of standards and quality equivalent to the highest quality programmes run by the HEIs on their campuses. Top institutions accredited for ODL will be encouraged and supported to develop high-quality online courses. Such quality online courses will be suitably integrated into curricula of HEIs, and blended mode will be preferred.

10.11. Single-stream HEIs will be phased out over time, and all will move towards becoming vibrant multidisciplinary institutions or parts of vibrant multidisciplinary HEI clusters, in order to enable and encourage high-quality multidisciplinary and cross-disciplinary teaching and research across fields. Single-stream HEIs will, in particular, add departments across different fields that would strengthen the single stream that they currently serve. Through the attainment of suitable accreditations, all HEIs will gradually move towards full autonomy - academic and administrative - in order to enable this vibrant culture. The autonomy of public institutions will be backed by adequate public financial

support and stability. Private institutions with a public-spirited commitment to high-quality equitable education will be encouraged.

10.12. The new regulatory system envisioned by this Policy will foster this overall culture of empowerment and autonomy to innovate, including by gradually phasing out the system of 'affiliated colleges' over a period of fifteen years through a system of graded autonomy, and to be carried out in a challenge mode. Each existing affiliating university will be responsible for mentoring its affiliated colleges so that they can develop their capabilities and achieve minimum benchmarks in academic and curricular matters; teaching and assessment; governance reforms; financial robustness; and administrative efficiency. All colleges currently affiliated to a university shall attain the required benchmarks over time to secure the prescribed accreditation benchmarks and eventually become autonomous degree-granting colleges. This will be achieved through a concerted national effort including suitable mentoring and governmental support for the same.

10.13. The overall higher education sector will aim to be an integrated higher education system, including professional and vocational education. This Policy and its approach will be equally applicable to all HEIs across all current streams, which would eventually merge into one coherent ecosystem of higher education.

10.14. University, worldwide, means a multidisciplinary institution of higher learning that offers undergraduate, graduate, and Ph.D programmes, and engages in high-quality teaching and research. The present complex nomenclature of HEIs in the country such as 'deemed to be university', 'affiliating university', 'affiliating technical university', 'unitary university' shall be replaced simply by 'university' on fulfilling the criteria as per norms.

11. Towards a More Holistic and Multidisciplinary Education

11.1. India has a long tradition of holistic and multidisciplinary learning, from universities such as Takshashila and Nalanda, to the extensive literatures of India combining subjects across fields. Ancient Indian literary works such as Banabhatta's Kadambari described a good education as knowledge of the 64 Kalaas or arts; and among these 64 'arts' were not only subjects, such as singing and painting, but also 'scientific 'fields, such as chemistry and mathematics, 'vocational ' fields such as carpentry and clothes-making, 'professional 'fields, such as medicine and engineering, as well as 'soft skills' such as communication, discussion, and debate. The very idea that all branches of creative human endeavour, including mathematics, science, vocational subjects, professional subjects, and soft skills should be considered 'arts', has distinctly Indian origins. This notion of a 'knowledge of many arts' or what in modern times is often called the 'liberal arts' (i.e., a liberal notion of the arts) must be brought back to Indian education, as it is exactly the kind of education that will be required for the 21st century.

11.2. Assessments of educational approaches in undergraduate education that integrate the humanities and arts with Science, Technology, Engineering and Mathematics (STEM) have consistently showed positive learning outcomes, including increased creativity and innovation, critical thinking and higher-order thinking capacities, problem-solving abilities, teamwork, communication skills, more in-depth learning and mastery of curricula across fields, increases in social and moral awareness, etc., besides general engagement and enjoyment of learning. Research is also improved and enhanced through a holistic and multidisciplinary education approach.

11.3. A holistic and multidisciplinary education would aim to develop all capacities of human beings -intellectual, aesthetic, social, physical, emotional, and moral in an integrated manner. Such an education will help develop well-rounded individuals that possess critical 21st century capacities in fields across the arts, humanities, languages, sciences, social sciences, and professional, technical, and vocational fields; an ethic of social engagement; soft skills, such as communication, discussion and debate; and rigorous specialization in a chosen field or fields. Such a holistic education shall be, in the long term, the approach of all undergraduate programmes, including those in professional, technical, and vocational disciplines.

11.4. A holistic and multidisciplinary education, as described so beautifully in India's past, is indeed what is needed for the education of India to lead the country into the 21st century and the fourth industrial revolution. Even engineering institutions, such as IITs, will move towards more holistic and multidisciplinary education with more arts and humanities. Students of arts and humanities will aim to learn more science and all will make an effort to incorporate more vocational subjects and soft skills.

11.5. Imaginative and flexible curricular structures will enable creative combinations of disciplines for study, and would offer multiple entry and exit points, thus, removing currently prevalent rigid boundaries and creating new possibilities for life-long learning. Graduate-level, master's and doctoral education in large multidisciplinary universities, while providing rigorous research-based specialization, would also provide opportunities for multidisciplinary work, including in academia, government, and industry.

11.6. Large multidisciplinary universities and colleges will facilitate the move towards high-quality holistic and multidisciplinary education. Flexibility in curriculum and novel and engaging course options will be on offer to students, in addition to rigorous specialization in a subject or subjects. This will be encouraged by increased faculty and institutional autonomy in setting curricula. Pedagogy will have an increased emphasis on communication, discussion, debate, research, and opportunities for cross-disciplinary and interdisciplinary thinking.

11.7. Departments in Languages, Literature, Music, Philosophy, Indology, Art, Dance, Theatre, Education, Mathematics, Statistics, Pure and Applied Sciences, Sociology, Economics, Sports, Translation and Interpretation, and other such subjects needed for a multidisciplinary, stimulating Indian education and environment will be established and strengthened at all HEIs. Credits will be given in all Bachelor's Degree programmes for these subjects if they are done from such departments or through ODL mode when they are not offered in-class at the HEI.

11.8. Towards the attainment of such a holistic and multidisciplinary education, the flexible and innovative curricula of all HEIs shall include credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based education. Environment education will include areas such as climate change, pollution, waste management, sanitation, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living. Value-based education will include the development of humanistic, ethical, Constitutional, and universal human values of truth (*satya*), righteous conduct (*dharma*), peace (*shanti*), love (*prem*), nonviolence (*ahimsa*), scientific temper, citizenship values, and also life-skills; lessons in *seva*/service and participation in community service programmes will be considered an integral part of a holistic education. As the world is becoming increasingly interconnected, Global Citizenship Education (GCED), a response to contemporary global challenges, will be provided to empower learners to become aware of and understand global issues and to become active promoters of more peaceful, tolerant, inclusive, secure, and sustainable societies. Finally, as part of a holistic education, students at all HEIs will be provided with opportunities for internships with local industry, businesses, artists, crafts persons, etc., as well as research internships with faculty and researchers at their own or other HEIs/research institutions, so that students may actively engage with the practical side of their learning and, as a by-product, further improve their employability.

11.9. The structure and lengths of degree programmes shall be adjusted accordingly. The undergraduate degree will be of either 3 or 4-year duration, with multiple exit options within this period, with appropriate certifications, e.g., a certificate after completing 1 year in a discipline or field including vocational and professional areas, or a diploma after 2 years of study, or a Bachelor's degree after a 3-year programme. The 4-year multidisciplinary Bachelor's programme, however, shall be the preferred option since it allows the opportunity to experience the full range of holistic and multidisciplinary education in addition to a focus on the chosen major and minors as per the choices of the student. An Academic Bank of Credit (ABC) shall be established which would digitally store the academic credits earned from various recognized HEIs so that the degrees from an HEI can be awarded taking into account credits earned. The 4-year programme may also lead to a degree 'with

Research' if the student completes a rigorous research project in their major area(s) of study as specified by the HEI.

11.10. HEIs will have the flexibility to offer different designs of Master's programmes: (a) there may be a 2-year programme with the second year devoted entirely to research for those who have completed the 3-year Bachelor's programme; (b) for students completing a 4-year Bachelor's programme with Research, there could be a 1-year Master's programme; and (c) there may be an integrated 5-year Bachelor's/Master's programme. Undertaking a Ph.D. shall require either a Master's degree or a 4-year Bachelor's degree with Research. The M.Phil. programme shall be discontinued.

11.11. Model public universities for holistic and multidisciplinary education, at par with IITs, IIMs, etc., called MERUs (Multidisciplinary Education and Research Universities) will be set up and will aim to attain the highest global standards in quality education. They will also help set the highest standards for multidisciplinary education across India.

11.12. HEIs will focus on research and innovation by setting up start-up incubation centres; technology development centres; centres in frontier areas of research; greater industry-academic linkages; and interdisciplinary research including humanities and social sciences research. Given the scenario of epidemics and pandemics, it is critical that HEIs take the lead to undertake research in areas of infectious diseases, epidemiology, virology, diagnostics, instrumentation, vaccinology and other relevant areas. HEIs will develop specific hand holding mechanisms and competitions for promoting innovation among student communities. The NRF will function to help enable and support such a vibrant research and innovation culture across HEIs, research labs, and other research organizations.

12. Optimal Learning Environments and Support for Students

12.1. Effective learning requires a comprehensive approach that involves appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes. High-quality pedagogy is then necessary to successfully impart the curricular material to students; pedagogical practices determine the learning experiences that are provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to continuously improve learning and test the application of knowledge. Last but not least, the development of capacities that promote student wellness such as fitness, good health, psycho-social well-being, and sound ethical grounding are also critical for high-quality learning.

Thus, curriculum, pedagogy, continuous assessment, and student support are the cornerstones for quality learning. Along with providing suitable resources and infrastructure, such as quality libraries, classrooms, labs, technology, sports/recreation areas, student discussion spaces, and dining areas, a number of initiatives will be required to ensure that learning environments are engaging and supportive, and enable all students to succeed.

12.2. First, in order to promote creativity, institutions and faculty will have the autonomy to innovate on matters of curriculum, pedagogy, and assessment within a broad framework of higher education qualifications that ensures consistency across institutions and programmes and across the ODL, online, and traditional 'in-class' modes. Accordingly, curriculum and pedagogy will be designed by institutions and motivated faculty to ensure a stimulating and engaging learning experience for all students, and continuous formative assessment will be used to further the goals of each programme. All assessment systems shall also be decided by the HEI, including those that lead to final certification. The Choice Based Credit System (CBCS) will be revised for instilling innovation and flexibility. HEIs shall move to a criterion-based grading system that assesses student achievement based on the learning goals for each programme, making the system fairer and outcomes more comparable. HEIs shall also move away from high-stakes examinations towards more continuous and comprehensive evaluation.

12.3. Second, each institution will integrate its academic plans ranging from curricular improvement to quality of classroom transaction - into its larger Institutional Development Plan (IDP). Each institution will be committed to the holistic development of students and create strong internal systems for supporting diverse student cohorts in academic and social domains both inside and outside formal academic interactions in the classroom. For example, all HEIs will have mechanisms and opportunities for funding of topic-centred clubs and activities organized by students with the help of faculty and other experts as needed, such as clubs and events dedicated to science, mathematics, poetry, language, literature, debate, music, sports, etc. Over time, such activities could be incorporated into the curriculum once appropriate faculty expertise and campus student demand is developed. Faculty will have the capacity and training to be able to approach students not just as teachers, but also as mentors and guides.

12.4. Third, students from socio-economically disadvantaged backgrounds require encouragement and support to make a successful transition to higher education. Universities and colleges will thus be required to set up high-quality support centres and will be given adequate funds and academic resources to carry this out effectively. There will also be professional academic and career counselling available to all students, as well as counsellors to ensure physical, psychological and emotional well-being.

12.5. Fourth, ODL and online education provide a natural path to increase access to quality higher education. In order to leverage its potential completely, ODL will be renewed through concerted, evidence-based efforts towards expansion while ensuring adherence to clearly articulated standards of quality. ODL programmes will aim to be equivalent to the highest quality in-class programmes available. Norms, standards, and guidelines for systemic development, regulation, and accreditation of ODL will be prepared, and a framework for quality of ODL that will be recommendatory for all HEIs will be developed.

12.6. Finally, all programmes, courses, curricula, and pedagogy across subjects, including those in-class, online, and in ODL modes as well as student support will aim to achieve global standards of quality.

Internationalization

12.7. The various initiatives mentioned above will also help in having larger numbers of international students studying in India, and provide greater mobility to students in India who may wish to visit, study at, transfer credits to, or carry out research at institutions abroad, and vice versa. Courses and programmes in subjects, such as Indology, Indian languages, AYUSH systems of medicine, yoga, arts, music, history, culture, and modern India, internationally relevant curricula in the sciences, social sciences, and beyond, meaningful opportunities for social engagement, quality residential facilities and on-campus support, etc. will be fostered to attain this goal of global quality standards, attract greater numbers of international students, and achieve the goal of 'internationalization at home'.

12.8. India will be promoted as a global study destination providing premium education at affordable costs thereby helping to restore its role as a Vishwa Guru. An International Students Office at each HEI hosting foreign students will be set up to coordinate all matters relating to welcoming and supporting students arriving from abroad. Research/teaching collaborations and faculty/student exchanges with high-quality foreign institutions will be facilitated, and relevant mutually beneficial MOUs with foreign countries will be signed. High performing Indian universities will be encouraged to set up campuses in other countries, and similarly, selected universities e.g., those from among the top 100 universities in the world will be facilitated to operate in India. A legislative framework facilitating such entry will be put in place, and such universities will be given special dispensation regarding regulatory, governance, and content norms on par with other autonomous institutions of India. Furthermore, research collaboration and student exchanges between Indian institutions and global institutions will be promoted through special efforts. Credits acquired in foreign universities will be permitted, where appropriate as per the requirements of each HEI, to be counted for the award of a degree.

Student Activity and Participation

12.9. Students are the prime stakeholders in the education system. Vibrant campus life is essential for high-quality teaching-learning processes. Towards this end, students will be given plenty of opportunities for participation in sports, culture/arts clubs, eco-clubs, activity clubs, community service projects, etc. In every education institution, there shall be counselling systems for handling stress and emotional adjustments. Furthermore, a systematized arrangement shall be created to provide the requisite support to students from rural backgrounds, including increasing hostel facilities as needed. All HEIs will ensure quality medical facilities for all students in their institutions.

Financial support for students

12.10. Financial assistance to students shall be made available through various measures. Efforts will be made to incentivize the merit of students belonging to SC, ST, OBC, and other SEDGs. The National Scholarship Portal will be expanded to support, foster, and track the progress of students receiving scholarships. Private HEIs will be encouraged to offer larger numbers of free ships and scholarships to their students.

13. Motivated, Energized, and Capable Faculty

13.1. The most important factor in the success of higher education institutions is the quality and engagement of its faculty. Acknowledging the criticality of faculty in achieving the goals of higher education, various initiatives have been introduced in the past several years to systematize recruitment and career progression, and to ensure equitable representation from various groups in the hiring of faculty. Compensation levels of permanent faculty in public institutions have also been increased substantially. Various initiatives have also been taken towards providing faculty with professional development opportunities. However, despite these various improvements in the status of the academic profession, faculty motivation in terms of teaching, research, and service in HEIs remains far lower than the desired level. The various factors that lie behind low faculty motivation levels must be addressed to ensure that each faculty member is happy, enthusiastic, engaged, and motivated towards advancing her/his students, institution, and profession. To this end, the policy recommends the following initiatives to achieve the best, motivated, and capable faculty in HEIs.

13.2. As the most basic step, all HEIs will be equipped with the basic infrastructure and facilities, including clean drinking water, clean working toilets, blackboards, offices, teaching supplies, libraries, labs, and pleasant classroom spaces and campuses. Every classroom shall have access to the latest educational technology that enables better learning experiences.

13.3. Teaching duties also will not be excessive, and student-teacher ratios not too high, so that the activity of teaching remains pleasant and there is adequate time for interaction with students, conducting research, and other university activities. Faculty will be appointed to individual institutions and generally not be transferable across institutions so that they may feel truly invested in, connected to, and committed to their institution and community.

13.4. Faculty will be given the freedom to design their own curricular and pedagogical approaches within the approved framework, including textbook and reading material selections, assignments, and assessments. Empowering the faculty to conduct innovative teaching, research, and service as they see best will be a key motivator and enabler for them to do truly outstanding, creative work.

13.5. Excellence will be further incentivized through appropriate rewards, promotions, recognitions, and movement into institutional leadership. Meanwhile, faculty not delivering on basic norms will be held accountable.

13.6. In keeping with the vision of autonomous institutions empowered to drive excellence, HEIs will have clearly defined, independent, and transparent processes and criteria for faculty recruitment. Whereas the current recruitment process will be continued, a ‘tenure-track’ i.e., suitable probation period shall be put in place to further ensure excellence. There shall be a fast-track promotion system

for recognizing high impact research and contribution. A system of multiple parameters for proper performance assessment, for the purposes of 'tenure' i.e., confirmed employment after probation, promotion, salary increases, recognitions, etc., including peer and student reviews, innovations in teaching and pedagogy, quality and impact of research, professional development activities, and other forms of service to the institution and the community, shall be developed by each HEI and clearly enunciated in it's Institutional Development Plan (IDP).

13.7. The presence of outstanding and enthusiastic institutional leaders that cultivate excellence and innovation is the need of the hour. Outstanding and effective institutional leadership is extremely important for the success of an institution and of its faculty. Excellent faculty with high academic and service credentials as well as demonstrated leadership and management skills will be identified early and trained through a ladder of leadership positions. Leadership positions shall not remain vacant, but rather an overlapping time period during transitions in leadership shall be the norm to ensure the smooth running of institutions. Institutional leaders will aim to create a culture of excellence that will motivate and incentivize outstanding and innovative teaching, research, institutional service, and community outreach from faculty members and all HEI leaders.

14. Equity and Inclusion in Higher Education

14.1. Entry into quality higher education can open a vast array of possibilities that can lift both individuals as well as communities out of the cycles of disadvantage. For this reason, making quality higher education opportunities available to all individuals must be among the highest priorities. This Policy envisions ensuring equitable access to quality education to all students, with a special emphasis on SEDGs.

14.2. The dynamics and also many of the reasons for exclusion of SEDGs from the education system are common across school and higher education sectors. Therefore, the approach to equity and inclusion must be common across school and higher education. Furthermore, there must be continuity across the stages to ensure sustainable reform. Thus, the policy initiatives required to meet the goals of equity and inclusion in higher education must be read in conjunction with those for school education.

14.3. There are certain facets of exclusion, that are particular to or substantially more intense in higher education. These must be addressed specifically, and include lack of knowledge of higher education opportunities, economic opportunity cost of pursuing higher education, financial constraints, admission processes, geographical and language barriers, poor employability potential of many higher education programmes, and lack of appropriate student support mechanisms.

14.4. For this purpose, additional actions that are specific to higher education shall be adopted by all Governments and HEIs:

14.4.1. Steps to be taken by Governments

(a) Earmark suitable Government funds for the education of SEDGs
(b) Set clear targets for higher GER for SEDGs
(c) Enhance gender balance in admissions to HEIs
(d) Enhance access by establishing more high-quality HEIs in aspirational districts and Special Education Zones containing larger numbers of SEDGs
(e) Develop and support high-quality HEIs that teach in local/Indian languages or bilingually
(f) Provide more financial assistance and scholarships to SEDGs in both public and private HEIs
(g) Conduct outreach programmes on higher education opportunities and scholarships among SEDGs
(h) Develop and support technology tools for better participation and learning outcomes.

14.4.2. Steps to be taken by all HEIs

(a) Mitigate opportunity costs and fees for pursuing higher education
(b) Provide more financial assistance and scholarships to socio-economically disadvantaged students
(c) Conduct outreach on higher education opportunities and scholarships
(d) Make admissions processes more inclusive
(e) Make curriculum more inclusive
(f) Increase employability potential of higher education programmes
(g) Develop more degree courses taught in Indian languages and bilingually
(h) Ensure all buildings and facilities are wheelchair-accessible and disabled-friendly
(i) Develop bridge courses for students that come from disadvantaged educational backgrounds
(j) Provide socio-emotional and academic support and mentoring for all such students through suitable counselling and mentoring programmes
(k) Ensure sensitization of faculty, counsellor, and students on gender-identity issue and its inclusion in all aspects of the HEI, including curricula
(l) Strictly enforce all no-discrimination and anti-harassment rules
(m) Develop Institutional Development Plans that contain specific plans for action on increasing participation from SEDGs, including but not limited to the above items.

15. Teacher Education

15.1. Teacher education is vital in creating a pool of schoolteachers that will shape the next generation. Teacher preparation is an activity that requires multidisciplinary perspectives and knowledge, formation of dispositions and values, and development of practice under the best mentors. Teachers must be grounded in Indian values, languages, knowledge, ethos, and traditions including tribal traditions, while also being well-versed in the latest advances in education and pedagogy.

15.2. According to the Justice J. S. Verma Commission (2012) constituted by the Supreme Court, a majority of stand-alone TEIs - over 10,000 in number are not even attempting serious teacher education but are essentially selling degrees for a price. Regulatory efforts so far have neither been able to curb the malpractices in the system, nor enforce basic standards for quality, and in fact have had the negative effect of curbing the growth of excellence and innovation in the sector. The sector and its regulatory system are, therefore, in urgent need of revitalization through radical action, in order to raise standards and restore integrity, credibility, efficacy, and high quality to the teacher education system.

15.3. In order to improve and reach the levels of integrity and credibility required to restore the prestige of the teaching profession, the Regulatory System shall be empowered to take stringent action against substandard and dysfunctional teacher education institutions (TEIs) that do not meet basic educational criteria, after giving one year for remedy of the breaches. By 2030, only educationally sound, multidisciplinary, and integrated teacher education programmes shall be in force.

15.4. As teacher education requires multidisciplinary inputs, and education in high-quality content as well as pedagogy, all teacher education programmes must be conducted within composite multidisciplinary institutions. To this end, all multidisciplinary universities and colleges - will aim to establish, education departments which, besides carrying out cutting-edge research in various aspects of education, will also run B.Ed. programmes, in collaboration with other departments such as psychology, philosophy, sociology, neuroscience, Indian languages, arts, music, history, literature, physical education, science and mathematics. Moreover, all stand-alone TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the 4-year integrated teacher preparation programme.

15.5. The 4-year integrated B.Ed. offered by such multidisciplinary HEIs will, by 2030, become the minimal degree qualification for school teachers. The 4-year integrated B.Ed. will be a dual-major holistic Bachelor′s degree, in Education as well as a specialized subject such as a language, history, music, mathematics, computer science, chemistry, economics, art, physical education, etc. Beyond

the teaching of cutting-edge pedagogy, the teacher education will include grounding in sociology, history, science, psychology, early childhood care and education, foundational literacy and numeracy, knowledge of India and its values/ethos/art/traditions, and more. The HEI offering the 4-year integrated B.Ed. may also run a 2-year B.Ed., for students who have already received a Bachelor's degree in a specialized subject. A 1-year B.Ed. may also be offered for candidates who have received a 4-year undergraduate degree in a specialized subject. Scholarships for meritorious students will be established for the purpose of attracting outstanding candidates to the 4-year, 2-year, and 1-year B.Ed. programmes.

15.6. HEIs offering teacher education programmes will ensure the availability of a range of experts in education and related disciplines as well as specialized subjects. Each higher education institution will have a network of government and private schools to work closely with, where potential teachers will student-teach along with participating in other activities such as community service, adult and vocational education, etc.

15.7. In order to maintain uniform standards for teacher education, the admission to pre-service teacher preparation programmes shall be through suitable subject and aptitude tests conducted by the National Testing Agency, and shall be standardized keeping in view the linguistic and cultural diversity of the country.

15.8. The faculty profile in Departments of Education will necessarily aim to be diverse and but teaching/field/research experience will be highly valued. Faculty with training in areas of social sciences that are directly relevant to school education e.g., psychology, child development, linguistics, sociology, philosophy, economics, and political science as well as from science education, mathematics education, social science education, and language education programmes will be attracted and retained in teacher education institutions, to strengthen multidisciplinary education of teachers and provide rigour in conceptual development.

15.9. All fresh Ph.D. entrants, irrespective of discipline, will be required to take credit-based courses in teaching/education/pedagogy/writing related to their chosen Ph.D subject during their doctoral training period. Exposure to pedagogical practices, designing curriculum, credible evaluation systems, communication, and so on will be ensured since many research scholars will go on to become faculty or public representatives/communicators of their chosen disciplines. Ph.D students will also have a minimum number of hours of actual teaching experience gathered through teaching assistantships and other means. Ph.D. programmes at universities around the country will be re-oriented for this purpose.

15.10. In-service continuous professional development for college and university teachers will continue through the existing institutional arrangements and ongoing initiatives; these will be strengthened and substantially expanded to meet the needs of enriched teaching-learning processes for quality education. The use of technology platforms such as SWAYAM/DIKSHA for online training of teachers will be encouraged, so that standardized training programmes can be administered to large numbers of teachers within a short span of time.

15.11. A National Mission for Mentoring shall be established, with a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who would be willing to provide short and long-term mentoring/professional support to university/college teachers.

16. Reimagining Vocational Education

16.1. The 12th Five-Year Plan (2012–2017) estimated that only a very small percentage of the Indian workforce in the age group of 19–24 (less than 5%) received formal vocational education Whereas in countries such as the USA the number is 52%, in Germany 75%, and South Korea it is as high as 96%. These numbers only underline the urgency of the need to hasten the spread of vocational education in India.

16.2. One of the primary reasons for the small numbers of students receiving vocational education is the fact that vocational education has in the past focused largely on Grades 11–12 and on dropouts in Grade 8 and upwards. Moreover, students passing out from Grades 11–12 with vocational subjects often did not have well-defined pathways to continue with their chosen vocations in higher education. The admission criteria for general higher education were also not designed to provide openings to students who had vocational education qualifications, leaving them at a disadvantage relative to their compatriots from 'mainstream' or 'academic' education. This led to a complete lack of vertical mobility for students from the vocational education stream, an issue that has only been addressed recently through the announcement of the National Skills Qualifications Framework (NSQF) in 2013.

16.3. Vocational education is perceived to be inferior to mainstream education and meant largely for students who are unable to cope with the latter. This is a perception that affects the choices students make. It is a serious concern that can only be dealt with by a complete re-imagination of how vocational education is offered to students in the future.

16.4. This policy aims to overcome the social status hierarchy associated with vocational education and requires integration of vocational education programmes into mainstream education in all education institutions in a phased manner. Beginning with vocational exposure at early ages in middle and secondary school, quality vocational education will be integrated smoothly into higher education. It will ensure that every child learns at least one vocation and is exposed to several more. This would lead to emphasizing the dignity of labour and importance of various vocations involving /Indian arts and artisanship.

16.5. By 2025, at least 50% of learners through the school and higher education system shall have exposure to vocational education, for which a clear action plan with targets and timelines will be developed. This is in alignment with Sustainable Development Goal 4.4 and will help to realize the full potential of India's demographic dividend. The number of students in vocational education will be considered while arriving at the GER targets. The development of vocational capacities will go hand-in-hand with the development of 'academic' or other capacities. Vocational education will be integrated in the educational offerings of all secondary schools in a phased manner over the next decade. Towards this, secondary schools will also collaborate with ITIs, polytechnics, local industry, etc. Skill labs will also be set up and created in the schools in a hub and spoke model which will allow other schools to use the facility. Higher education institutions will offer vocational education either on their own or in partnership with industry and NGOs. The B.Voc. degrees introduced in 2013 will continue to exist, but vocational courses will also be available to students enrolled in all other Bachelor's degree programmes, including the 4-year multidisciplinary Bachelor's programmes. HEIs will also be allowed to conduct short-term certificate courses in various skills including soft skills. 'Lok Vidya', i.e., important vocational knowledge developed in India, will be made accessible to students through integration into vocational education courses. The possibility of offering vocational courses through ODL mode will also be explored.

16.6. Vocational education will be integrated into all school and higher education institutions in a phased manner over the next decade. Focus areas for vocational education will be chosen based on skills gap analysis and mapping of local opportunities. MHRD will constitute a National Committee for the Integration of Vocational Education (NCIVE), consisting of experts in vocational education and representatives from across Ministries, in collaboration with industry, to oversee this effort.

16.7. Individual institutions that are early adopters must innovate to find models and practices that work and then share these with other institutions through mechanisms set up by NCIVE, so as to help extend the reach of vocational education. Different models of vocational education, and apprenticeships, will also be experimented by higher education institutions. Incubation centres will be set up in higher education institutions in partnership with industries.

16.8. The National Skills Qualifications Framework will be detailed further for each discipline vocation and profession. Further, Indian standards will be aligned with the International Standard Classification of Occupations maintained by the International Labour Organization. This Framework will provide the basis for Recognition of Prior Learning. Through this, dropouts from the formal

system will be reintegrated by aligning their practical experience with the relevant level of the Framework. The credit-based Framework will also facilitate mobility across 'general' and vocational education.

17. Catalysing Quality Academic Research in All Fields through a new National Research Foundation

17.1. Knowledge creation and research are critical in growing and sustaining a large and vibrant economy, uplifting society, and continuously inspiring a nation to achieve even greater heights. Indeed, some of the most prosperous civilizations (such as India, Mesopotamia, Egypt, and Greece) to the modern era (such as the United States, Germany, Israel, South Korea, and Japan), were/are strong knowledge societies that attained intellectual and material wealth in large part through celebrated and fundamental contributions to new knowledge in the realm of science as well as art, language, and culture that enhanced and uplifted not only their own civilizations but others around the globe.

17.2. A robust ecosystem of research is perhaps more important than ever with the rapid changes occurring in the world today, e.g., in the realm of climate change, population dynamics and management, biotechnology, an expanding digital marketplace, and the rise of machine learning and artificial intelligence. If India is to become a leader in these disparate areas, and truly achieve the potential of its vast talent pool to again become a leading knowledge society in the coming years and decades, the nation will require a significant expansion of its research capabilities and output across disciplines. Today, the criticality of research is more than ever before, for the economic, intellectual, societal, environmental, and technological health and progress of a nation.

17.3. Despite this critical importance of research, the research and innovation investment in India is, at the current time, only 0.69% of GDP as compared to 2.8% in the United States of America, 4.3% in Israel and 4.2% in South Korea.

17.4. The societal challenges that India needs to address today, such as access for all its citizens to clean drinking water and sanitation, quality education and healthcare, improved transportation, air quality, energy, and infrastructure, will require the implementation of approaches and solutions that are not only informed by top-notch science and technology but are also rooted in a deep understanding of the social sciences and humanities and the various socio-cultural and environmental dimensions of the nation. Facing and addressing these challenges will require high-quality interdisciplinary research across fields that must be done in India and cannot simply be imported; the ability to conduct one's own research also enables a country to much more easily import and adapt relevant research from abroad.

17.5. Furthermore, in addition to their value in solutions to societal problems, any country's identity, upliftment, spiritual/intellectual satisfaction and creativity is also attained in a major way through its history, art, language, and culture. Research in the arts and humanities, along with innovations in the sciences and social sciences, are, therefore, extremely important for the progress and enlightened nature of a nation.

17.6. Research and innovation at education institutions in India, particularly those that are engaged in higher education, is critical. Evidence from the world′s best universities throughout history shows that the best teaching and learning processes at the higher education level occur in environments where there is also a strong culture of research and knowledge creation; conversely, much of the very best research in the world has occurred in multidisciplinary university settings.

17.7. India has a long historical tradition of research and knowledge creation, in disciplines ranging from science and mathematics to art and literature to phonetics and languages to medicine and agriculture. This needs to be further strengthened to make India lead research and innovation in the

21st century, as a strong and enlightened knowledge society and one of the three largest economies in the world.

17.8. Thus, this Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discovery-based style of learning with emphasis on the scientific method and critical thinking. This includes career counselling in schools towards identifying student interests and talents, promoting research in universities, the multidisciplinary nature of all HEIs and the emphasis on holistic education, the inclusion of research and internships in the undergraduate curriculum, faculty career management systems that give due weightage to research, and the governance and regulatory changes that encourage an environment of research and innovation. All of these aspects are extremely critical for developing a research mindset in the country.

17.9. To build on these various elements in a synergistic manner, and to thereby truly grow and catalyze quality research in the nation, this policy envisions the establishment of a National Research Foundation (NRF). The overarching goal of the NRF will be to enable a culture of research to permeate through our universities. In particular, the NRF will provide a reliable base of merit-based but equitable peer-reviewed research funding, helping to develop a culture of research in the country through suitable incentives for and recognition of outstanding research, and by undertaking major initiatives to seed and grow research at State Universities and other public institutions where research capability is currently limited. The NRF will competitively fund research in all disciplines. Successful research will be recognized, and where relevant, implemented through close linkages with governmental agencies as well as with industry and private/philanthropic organizations.

17.10. Institutions that currently fund research at some level, such as the Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Bio-Technology (DBT), Indian Council of Agriculture Research (ICAR), Indian Council of Medical Research (ICMR), Indian Council of Historical Research (ICHR), and University Grants Commission (UGC), as well as various private and philanthropic organizations, will continue to independently fund research according to their priorities and needs. However, NRF will carefully coordinate with other funding agencies and will work with science, engineering, and other academies to ensure synergy of purpose and avoid duplication of efforts. The NRF will be governed, independently of the government, by a rotating Board of Governors consisting of the very best researchers and innovators across fields.

17.11. The primary activities of the NRF will be to:

(a) fund competitive, peer-reviewed grant proposals of all types and across all disciplines;
(b) seed, grow, and facilitate research at academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions;
(c) act as a liaison between researchers and relevant branches of government as well as industry, so that research scholars are constantly made aware of the most urgent national research issues, and so that policymakers are constantly made aware of the latest research breakthroughs; so as to allow breakthroughs to be optimally brought into policy and/or implementation; and
(d) recognise outstanding research and progress

18. Transforming the Regulatory System of Higher Education

18.1. Regulation of higher education has been too heavy-handed for decades; too much has been attempted to be regulated with too little effect. The mechanistic and disempowering nature of the regulatory system has been rife with very basic problems, such as heavy concentrations of power within a few bodies, conflicts of interest among these bodies, and a resulting lack of accountability. The regulatory system is in need of a complete overhaul in order to re-energize the higher education sector and enable it to thrive.

18.2. To address the above-mentioned issues, the regulatory system of higher education will ensure that the distinct functions of regulation, accreditation, funding, and academic standard setting will be performed by distinct, independent, and empowered bodies. This is considered essential to create checks-and-balances in the system, minimize conflicts of interest, and eliminate concentrations of power. To ensure that the four institutional structures carrying out these four essential functions work independently yet at the same time and work in synergy towards common goals. These four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI).

18.3. The first vertical of HECI will be the National Higher Education Regulatory Council (NHERC). It will function as the common, single point regulator for the higher education sector including teacher education and excluding medical and legal education, thus eliminating the duplication and disjunction of regulatory efforts by the multiple regulatory agencies that exist at the current time. It will require a relook and repealing of existing Acts and restructuring of various existing regulatory bodies to enable this single point regulation. NHERC will be set up to regulate in a 'light but tight' and facilitative manner, meaning that a few important matters particularly financial probity, good governance, and the full online and offline public self-disclosure of all finances, audits, procedures, infrastructure, faculty/staff, courses, and educational outcomes will be very effectively regulated. This information will have to be made available and kept updated and accurate by all higher education institutions on a public website maintained by NHERC and on the institutions' websites. Any complaints or grievances from stakeholders and others arising out of the information placed in public domain shall be adjudicated by NHERC. Feedback from randomly selected students including differently-abled students at each HEI will be solicited online to ensure valuable input at regular intervals.

18.4. The primary mechanism to enable such regulation will be accreditation. The second vertical of HECI will, therefore, be a 'meta-accrediting body', called the National Accreditation Council (NAC). Accreditation of institutions will be based primarily on basic norms, public self-disclosure, good governance, and outcomes, and it will be carried out by an independent ecosystem of accrediting institutions supervised and overseen by NAC. The task to function as a recognized accreditor shall be awarded to an appropriate number of institutions by NAC. In the short term, a robust system of graded accreditation shall be established, which will specify phased benchmarks for all HEIs to achieve set levels of quality, self-governance, and autonomy. In turn, all HEIs will aim, through their Institutional Development Plans (IDPs), to attain the highest level of accreditation over the next 15 years, and thereby eventually aim to function as self-governing degree-granting institutions/clusters. In the long run, accreditation will become a binary process, as per the extant global practice.

18.5. The third vertical of HECI will be the Higher Education Grants Council (HEGC), which will carry out funding and financing of higher education based on transparent criteria, including the IDPs prepared by the institutions and the progress made on their implementation. HEGC will be entrusted with the disbursement of scholarships and developmental funds for launching new focus areas and expanding quality programme offerings at HEIs across disciplines and fields.

18.6. The fourth vertical of HECI will be the General Education Council (GEC), which will frame expected learning outcomes for higher education programmes, also referred to as 'graduate attributes'. A National Higher Education Qualification Framework (NHEQF) will be formulated by the GEC and it shall be in sync with the National Skills Qualifications Framework (NSQF) to ease the integration of vocational education into higher education. Higher education qualifications leading to a degree/diploma/certificate shall be described by the NHEQF in terms of such learning outcomes. In addition, the GEC shall set up facilitative norms for issues, such as credit transfer, equivalence, etc., through the NHEQF. The GEC will be mandated to identify specific skills that students must acquire during their academic programmes, with the aim of preparing well-rounded learners with 21st century skills.

18.7. The professional councils, such as the Indian Council for Agricultural Research (ICAR), Veterinary Council of India (VCI), National Council for Teacher Education (NCTE), Council of Architecture (CoA), National Council for Vocational Education and Training (NCVET) etc., will act

as Professional Standard Setting Bodies (PSSBs). They will play a key role in the higher education system and will be invited to be members of the GEC. These bodies, after restructuring as PSSBs, will continue to draw the curricula, lay down academic standards and coordinate between teaching, research and extension of their domain/discipline, as members of the GEC. As members of the GEC, they would help in specifying the curriculum framework, within which HEIs may prepare their own curricula. Thus, PSSBs would also set the standards or expectations in particular fields of learning and practice while having no regulatory role. All HEIs will decide how their educational programmes respond to these standards, among other considerations, and would also be able to reach out for support from these standard-setting bodies or PSSBs, if needed.

18.8. Such a system architecture will ensure the principle of functional separation by eliminating conflicts of interests between different roles. It will also aim to empower HEIs, while ensuring that the few key essential matters are given due attention. Responsibility and accountability shall devolve to the HEIs concomitantly. No distinction in such expectations shall be made between public and private HEIs.

18.9. Such a transformation will require existing structures and institutions to reinvent themselves and undergo an evolution of sorts. The separation of functions would mean that each vertical within HECI would take on a new, single role which is relevant, meaningful, and important in the new regulatory scheme.

18.10. The functioning of all the independent verticals for Regulation (NHERC), Accreditation (NAC), Funding (HEGC), and Academic Standard Setting (GEC) and the overarching autonomous umbrella body (HECI) itself will be based on transparent public disclosure, and use technology extensively to reduce human interface to ensure efficiency and transparency in their work. The underlying principle will be that of a faceless and transparent regulatory intervention using technology. Strict compliance measures with stringent action, including penalties for false disclosure of mandated information, will be ensured so that Higher Education Institutions are conforming to the basic minimum norms and standards. HECI itself will be resolving disputes among the four verticals. Each vertical in HECI will be an independent body consisting of persons having high expertise in the relevant areas along with integrity, commitment, and a demonstrated track record of public service. HECI itself will be a small, independent body of eminent public-spirited experts in higher education, which will oversee and monitor the integrity and effective functioning of HECI. Suitable mechanisms will be created within HECI to carry out its functions, including adjudication.

18.11. Setting up new quality HEIs will also be made far easier by the regulatory regime, while ensuring with great effectiveness that these are set up with the spirit of public service and with due financial backing for long-term stability. HEIs performing exceptionally well will be helped by Central and State governments to expand their institutions, and thereby attain larger numbers of students and faculty as well as disciplines and programmes. Public Philanthropic Partnership models for HEIs may also be piloted with the aim to further expand access to high-quality higher education.

Curbing Commercialization of Education

18.12. Multiple mechanisms with checks and balances will combat and stop the commercialization of higher education. This will be a key priority of the regulatory system. All education institutions will be held to similar standards of audit and disclosure as a 'not for profit' entity. Surpluses, if any, will be reinvested in the educational sector. There will be transparent public disclosure of all these financial matters with recourse to grievance-handling mechanisms to the general public. The accreditation system developed by NAC will provide a complementary check on this system, and NHERC will consider this as one of the key dimensions of its regulatory objective.

18.13. All HEIs - public and private - shall be treated on par within this regulatory regime. The regulatory regime shall encourage private philanthropic efforts in education. There will be common national guidelines for all legislative Acts that will form private HEIs. These common minimal guidelines will enable all such Acts to establish private HEIs, thus enabling common standards for

private and public HEIs. These common guidelines will cover Good Governance, Financial Stability & Security, Educational Outcomes, and Transparency of Disclosures.

18.14. Private HEIs having a philanthropic and public-spirited intent will be encouraged through a progressive regime of fees determination. Transparent mechanisms for fixing of fees with an upper limit, for different types of institutions depending on their accreditation, will be developed so that individual institutions are not adversely affected. This will empower private HEIs to set fees for their programmes independently, though within the laid-out norms and the broad applicable regulatory mechanism. Private HEIs will be encouraged to offer freeships and scholarships in significant numbers to their students. All fees and charges set by private HEIs will be transparently and fully disclosed, and there shall be no arbitrary increases in these fees/charges during the period of enrolment of any student. This fee determining mechanism will ensure reasonable recovery of cost while ensuring that HEIs discharge their social obligations.

19. Effective Governance and Leadership for Higher Education Institutions

19.1. It is effective governance and leadership that enables the creation of a culture of excellence and innovation in higher education institutions. The common feature of all world-class institutions globally including India has indeed been the existence of strong self-governance and outstanding merit-based appointments of institutional leaders.

19.2. Through a suitable system of graded accreditation and graded autonomy, and in a phased manner over a period of 15 years, all HEIs in India will aim to become independent self-governing institutions pursuing innovation and excellence. Measures will be taken at all HEIs to ensure leadership of the highest quality and promote an institutional culture of excellence. Upon receiving the appropriate graded accreditations that deem the institution ready for such a move, a Board of Governors (BoG) shall be established consisting of a group of highly qualified, competent, and dedicated individuals having proven capabilities and a strong sense of commitment to the institution. The BoG of an institution will be empowered to govern the institution free of any external interference, make all appointments including that of head of the institution, and take all decisions regarding governance. There shall be overarching legislation that will supersede any contravening provisions of other earlier legislation and would provide for constitution, appointment, modalities of functioning, rules and regulations, and the roles and responsibilities of the BoG. New members of the Board shall be identified by an expert committee appointed by the Board; and the selection of new members shall be carried out by the BoG itself. Equity considerations will also be taken care of while selecting the members. It is envisaged that all HEIs will be incentivized, supported, and mentored during this process, and shall aim to become autonomous and have such an empowered BoG by 2035.

19.3. The BoG shall be responsible and accountable to the stakeholders through transparent self-disclosures of all relevant records. It will be responsible for meeting all regulatory guidelines mandated by HECI through the National Higher Education Regulatory Council (NHERC).

19.4. All leadership positions and Heads of institutions will be offered to persons with high academic qualifications and demonstrated administrative and leadership capabilities along with abilities to manage complex situations. Leaders of an HEI will demonstrate strong alignment to Constitutional values and the overall vision of the institution, along with attributes such as a strong social commitment, belief in teamwork, pluralism, ability to work with diverse people, and a positive outlook. The selection shall be carried out by the BoG through a rigorous, impartial, merit-based, and competency-based process led by an Eminent Expert Committee (EEC) constituted by the BoG. While stability of tenure is important to ensure the development of a suitable culture, at the same time leadership succession will be planned with care to ensure that good practices that define an institution's processes do not end due to a change in leadership; leadership changes will come with sufficient overlaps, and not remain vacant, in order to ensure smooth transitions. Outstanding leaders will be identified and developed early, working their way through a ladder of leadership positions.

19.5. While being provided with adequate funding, legislative enablement, and autonomy in a phased manner, all HEIs, in turn, will display commitment to institutional excellence, engagement with their

local communities, and the highest standards of financial probity and accountability. Each institution will make a strategic Institutional Development Plan on the basis of which institutions will develop initiatives, assess their own progress, and reach the goals set therein, which could then become the basis for further public funding. The IDP shall be prepared with the joint participation of Board members, institutional leaders, faculty, students, and staff.

Part III. OTHER KEY AREAS OF FOCUS

20. Professional Education

20.1. Preparation of professionals must involve an education in the ethic and importance of public purpose, an education in the discipline, and an education for practice. It must centrally involve critical and interdisciplinary thinking, discussion, debate, research, and innovation. For this to be achieved, professional education should not take place in the isolation of one's specialty.

20.2. Professional education thus becomes an integral part of the overall higher education system. Stand-alone agricultural universities, legal universities, health science universities, technical universities, and stand-alone institutions in other fields, shall aim to become multidisciplinary institutions offering holistic and multidisciplinary education. All institutions offering either professional or general education will aim to organically evolve into institutions/clusters offering both seamlessly, and in an integrated manner by 2030.

20.3. Agricultural education with allied disciplines will be revived. Although Agricultural Universities comprise approximately 9% of all universities in the country, enrolment in agriculture and allied sciences is less than 1% of all enrolment in higher education. Both capacity and quality of agriculture and allied disciplines must be improved in order to increase agricultural productivity through better skilled graduates and technicians, innovative research, and market-based extension linked to technologies and practices. The preparation of professionals in agriculture and veterinary sciences through programmes integrated with general education will be increased sharply. The design of agricultural education will shift towards developing professionals with the ability to understand and use local knowledge, traditional knowledge, and emerging technologies while being cognizant of critical issues such as declining land productivity, climate change, food sufficiency for our growing population, etc. Institutions offering agricultural education must benefit the local community directly; one approach could be to set up Agricultural Technology Parks to promote technology incubation and dissemination and promote sustainable methodologies.

20.4. Legal education needs to be competitive globally, adopting best practices and embracing new technologies for wider access to and timely delivery of justice. At the same time, it must be informed and illuminated with Constitutional values of Justice - Social, Economic, and Political - and directed towards national reconstruction through instrumentation of democracy, rule of law, and human rights. The curricula for legal studies must reflect socio-cultural contexts along with, in an evidence-based manner, the history of legal thinking, principles of justice, the practice of jurisprudence, and other related content appropriately and adequately. State institutions offering law education must consider offering bilingual education for future lawyers and judges - in English and in the language of the State in which the institution is situated.

20.5. Healthcare education needs to be re-envisioned so that the duration, structure, and design of the educational programmes need to match the role requirements that graduates will play. Students will be assessed at regular intervals on well-defined parameters primarily required for working in primary care and in secondary hospitals. Given that people exercise pluralistic choices in healthcare, our healthcare education system must be integrative meaning thereby that all students of allopathic medical education must have a basic understanding of Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy (AYUSH), and vice versa. There shall also be a much greater emphasis on preventive healthcare and community medicine in all forms of healthcare education.

20.6. Technical education includes degree and diploma programmes in, engineering, technology, management, architecture, town planning, pharmacy, hotel management, catering technology etc., which are critical to India's overall development. There will not only be a greater demand for well-qualified manpower in these sectors, it will also require closer collaborations between industry and higher education institutions to drive innovation and research in these fields. Furthermore, influence of technology on human endeavours is expected to erode the silos between technical education and other disciplines too. Technical education will, thus, also aim to be offered within multidisciplinary education institutions and programmes and have a renewed focus on opportunities to engage deeply with other disciplines. India must also take the lead in preparing professionals in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning, in addition to genomic studies, biotechnology, nanotechnology, neuroscience, with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth.

21. Adult Education and Lifelong Learning

21.1. The opportunity to attain foundational literacy, obtain an education, and pursue a livelihood must be viewed as basic rights of every citizen. Literacy and basic education open up whole new worlds of personal, civic, economic, and lifelong-learning opportunities for individuals that enable them to progress personally and professionally. At the level of society and the nation, literacy and basic education are powerful force multipliers which greatly enhance the success of all other developmental efforts. Worldwide data on nations indicate extremely high correlations between literacy rates and per capita GDP.

21.2. Meanwhile, being a non-literate member of a community, has innumerable disadvantages, including the inability to: carry out basic financial transactions; compare the quality/quantity of goods purchased against the price charged; fill out forms to apply for jobs, loans, services, etc.; comprehend public circulars and articles in the news media; use conventional and electronic mail to communicate and conduct business; make use of the internet and other technology to improve one's life and profession; comprehend directions and safety directives on the street, on medicines, etc.; help children with their education; be aware of one's basic rights and responsibilities as a citizen of India; appreciate works of literature; and pursue employment in medium or high-productivity sectors that require literacy. The abilities listed here are an illustrative list of outcomes to be achieved through adoption of innovative measures for Adult Education.

21.3. Extensive field studies and analyses, both in India and across the world, clearly demonstrate that volunteerism and community involvement and mobilization are key success factors of adult literacy programmes, in conjunction with political will, organizational structure, proper planning, adequate financial support, and high-quality capacity building of educators and volunteers. Successful literacy programmes result not only in the growth of literacy among adults, but also result in increased demand for education for all children in the community, as well as greater community contribution to positive social change. The National Literacy Mission, when it was launched in 1988, was largely based on the voluntary involvement and support of the people, and resulted in significant increases in national literacy during the period of 1991–2011, including among women, and also initiated dialogue and discussions on pertinent social issues of the day.

21.4. Strong and innovative government initiatives for adult education - in particular, to facilitate community involvement and the smooth and beneficial integration of technology - will be affected as soon as possible to expedite this all-important aim of achieving 100% literacy.

21.5. First, an outstanding adult education curriculum framework will be developed by a new and well-supported constituent body of the NCERT that is dedicated to adult education, so as to develop synergy with and build upon NCERT's existing expertise in establishing outstanding curricula for literacy, numeracy, basic education, vocational skills, and beyond. The curriculum framework for adult education will include at least five types of programmes, each with clearly defined outcomes: (a) foundational literacy and numeracy; (b) critical life skills (including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare);

(c) vocational skills development (with a view towards obtaining local employment); (d) basic education (including preparatory, middle, and secondary stage equivalency); and (e) continuing education (including engaging holistic adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills). The framework would keep in mind that adults in many cases will require rather different teaching-learning methods and materials than those designed for children.

21.6. Second, suitable infrastructure will be ensured so that all interested adults will have access to adult education and lifelong learning. A key initiative in this direction will be to use schools/ school complexes after school hours and on weekends and public library spaces for adult education courses which will be ICT-equipped when possible and for other community engagement and enrichment activities. The sharing of infrastructure for school, higher, adult, and vocational education, and for other community and volunteer activities, will be critical for ensuring efficient use of both physical and human resources as well as for creating synergy among these five types of education and beyond. For these reasons, Adult Education Centres (AECs) could also be included within other public institutions such as HEIs, vocational training centres, etc.

21.7. Third, the instructors/educators will be required to deliver the curriculum framework to mature learners for all five types of adult education as described in the Adult Education Curriculum Framework. These instructors will be trained by the National, State, and district level resource support institutions to organize and lead learning activities at Adult Education Centres, as well as coordinate with volunteer instructors. Qualified community members including from HEIs as part of each HEI's mission to engage with their local communities will be encouraged and welcomed to take a short training course and volunteer, as adult literacy instructors, or to serve as one-on-one volunteer tutors, and will be recognized for their critical service to the nation. States will also work with NGOs and other community organizations to enhance efforts towards literacy and adult education.

21.8. Fourth, all efforts will be undertaken to ensure the participation of community members in adult education. Social workers/counsellors travelling through their communities to track and ensure participation of non-enrolled students and dropouts will also be requested, during their travels, to gather data of parents, adolescents, and others interested in adult education opportunities both as learners and as teachers/tutors. The social workers/counsellors will then connect them with local Adult Education Centres (AECs). Opportunities for adult education will also be widely publicized, through advertisements and announcements and through events and initiatives of NGOs and other local organizations.

21.9. Fifth, improving the availability and accessibility of books is essential to inculcating the habit of reading within our communities and educational institutions. This Policy recommends that all communities and educational institutions - schools, colleges, universities and public libraries - will be strengthened and modernized to ensure an adequate supply of books that cater to the needs and interests of all students, including persons with disabilities and other differently-abled persons. The Central and State governments will take steps to ensure that books are made accessible and affordable to all across the country including socio-economically disadvantaged areas as well as those living in rural and remote areas. Both public and private sector agencies/institutions will devise strategies to improve the quality and attractiveness of books published in all Indian languages. Steps will be taken to enhance online accessibility of library books and further broad basing of digital libraries. For ensuring vibrant libraries in communities and educational institutions, it will be imperative to make available adequate library staff and also devise appropriate career pathways and CPD for them. Other steps will include strengthening all existing libraries, setting up rural libraries and reading rooms in disadvantaged regions, making widely available reading material in Indian languages, opening children's libraries and mobile libraries, establishing social book clubs across India and across subjects, and fostering greater collaborations between education institutions and libraries.

21.10. Finally, technology will be leveraged to strengthen and even undertake the above initiatives. Quality technology-based options for adult learning such as apps, online courses/modules, satellite-based TV channels, online books, and ICT-equipped libraries and Adult Education Centres, etc. will

be developed, through government and philanthropic initiatives as well as through crowd sourcing and competitions. In many cases, quality adult education could thereby be conducted in an online or blended mode.

22. Promotion of Indian Languages, Arts, and Culture

22.1. India is a treasure trove of culture, developed over thousands of years and manifested in the form of arts, works of literature, customs, traditions, linguistic expressions, artefacts, heritage sites, and more. Crores of people from around the world partake in, enjoy, and benefit from this cultural wealth daily, in the form of visiting India for tourism, experiencing Indian hospitality, purchasing India's handicrafts and handmade textiles, reading the classical literature of India, practicing yoga and meditation, being inspired by Indian philosophy, participating in India's unique festivals, appreciating India's diverse music and art, and watching Indian films, amongst many other aspects. It is this cultural and natural wealth that truly makes India, "Incredible !ndia", as per India's tourism slogan. The preservation and promotion of India's cultural wealth must be considered a high priority for the country, as it is truly important for the nation's identity as well as for its economy.

22.2. The promotion of Indian arts and culture is important not only for the nation but also for the individual. Cultural awareness and expression are among the major competencies considered important to develop in children, in order to provide them with a sense of identity, belonging, as well as an appreciation of other cultures and identities. It is through the development of a strong sense and knowledge of their own cultural history, arts, languages, and traditions that children can build a positive cultural identity and self-esteem. Thus, cultural awareness and expression are important contributors both to individual as well as societal well-being.

22.3. The arts form a major medium for imparting culture. The arts - besides strengthening cultural identity, awareness, and uplifting societies - are well known to enhance cognitive and creative abilities in individuals and increase individual happiness. The happiness/well-being, cognitive development, and cultural identity of individuals are important reasons that Indian arts of all kinds must be offered to students at all levels of education, starting with early childhood care and education.

22.4. Language, of course, is inextricably linked to art and culture. Different languages 'see' the world differently, and the structure of a language, therefore, determines a native speaker's perception of experience. In particular, languages influence the way people of a given culture speak with others, including with family members, authority figures, peers, and strangers, and influence the tone of conversation. The tone, perception of experience, and familiarity/'*apnapan*' inherent in conversations among speakers of a common language are a reflection and record of a culture. Culture is, thus, encased in our languages. Art, in the form of literature, plays, music, film, etc. cannot be fully appreciated without language. In order to preserve and promote culture, one must preserve and promote a culture's languages.

22.5. Unfortunately, Indian languages have not received their due attention and care, with the country losing over 220 languages in the last 50 years alone. UNESCO has declared 197 Indian languages as 'endangered'. Various unscripted languages are particularly in danger of becoming extinct. When senior member(s) of a tribe or community that speak such languages pass away, these languages often perish with them; too often, no concerted actions or measures are taken to preserve or record these rich languages/expressions of culture.

22.6. Moreover, even those languages of India that are not officially on such endangered lists, such as the 22 languages of Eighth Schedule of the Constitution of India, are facing serious difficulties on many fronts. Teaching and learning of Indian languages need to be integrated with school and higher education at every level. For languages to remain relevant and vibrant, there must be a steady stream of high-quality learning and print materials in these languages including textbooks, workbooks, videos, plays, poems, novels, magazines, etc. Languages must also have consistent official updates to their vocabularies and dictionaries, widely disseminated, so that the most current issues and concepts can be effectively discussed in these languages. Enabling such learning materials, print materials, and

translations of important materials from world languages, and constantly updating vocabularies, are carried out by countries around the world for languages such as English, French, German, Hebrew, Korean, and Japanese. However, India has remained quite slow in producing such learning and print materials and dictionaries to help keep its languages optimally vibrant and current with integrity.

22.7. Additionally, there has been a severe scarcity of skilled language teachers in India, despite various measures being taken. Language-teaching too must be improved to be more experiential and to focus on the ability to converse and interact in the language and not just on the literature, vocabulary, and grammar of the language. Languages must be used more extensively for conversation and for teaching-learning.

22.8. A number of initiatives to foster languages, arts, and culture in school children have been discussed in Chapter 4, which include a greater emphasis on music, arts, and crafts throughout all levels of school; early implementation of the three-language formula to promote multilingualism; teaching in the home/local language wherever possible; conducting more experiential language learning; the hiring of outstanding local artists, writers, craftspersons, and other experts as master instructors in various subjects of local expertise; accurate inclusion of traditional Indian knowledge including tribal and other local knowledge throughout into the curriculum, across humanities, sciences, arts, crafts, and sports, whenever relevant; and a much greater flexibility in the curriculum, especially in secondary schools and in higher education, so that students can choose the ideal balance among courses for themselves to develop their own creative, artistic, cultural, and academic paths.

22.9. To enable the key latter initiatives, a number of further actions will be taken in tandem at the higher education level and beyond. First, to develop and teach many of the courses of the type mentioned above, an excellent team of teachers and faculty will have to be developed. Strong departments and programmes in Indian languages, comparative literature, creative writing, arts, music, philosophy, etc. will be launched and developed across the country, and degrees including 4-year B.Ed. dual degrees will be developed in these subjects. These departments and programmes will, in particular help to develop a large cadre of high-quality language teachers - as well as teachers of art, music, philosophy and writing - who will be needed around the country to carry out this Policy. The NRF will fund quality research in all these areas. Outstanding local artists and craftspersons will be hired as guest faculty to promote local music, art, languages, and handicraft, and to ensure that students are aware of the culture and local knowledge where they study. Every higher education institution and even every school or school complex will aim to have Artist(s)-in-Residence to expose students to art, creativity, and the rich treasures of the region/country.

22.10. More HEIs, and more programmes in higher education, will use the mother tongue/local language as a medium of instruction, and/or offer programmes bilingually, in order to increase access and GER and also to promote the strength, usage, and vibrancy of all Indian languages. Private HEIs too will be encouraged and incentivized to use Indian languages as medium of instruction and/or offer bilingual programmes. Four-year B.Ed. dual degree programmes offered bilingually will also help, e.g. in training cadres of science and mathematics teachers to teach science bilingually at schools across the country.

22.11. High-quality programmes and degrees in Translation and Interpretation, Art and Museum Administration, Archaeology, Artefact Conservation, Graphic Design, and Web Design within the higher education system will also be created. In order to preserve and promote its art and culture, develop high-quality materials in various Indian languages, conserve artefacts, develop highly qualified individuals to curate and run museums and heritage or tourist sites, thereby also vastly strengthening the tourism industry.

22.12. The Policy recognizes that the knowledge of the rich diversity of India should be imbibed first hand by learners. This would mean including simple activities, like touring by students to different parts of the country, which will not only give a boost to tourism but will also lead to an understanding and appreciation of diversity, culture, traditions and knowledge of different parts of India. Towards this direction under '*Ek Bharat Shrestha Bharat*', 100 tourist destinations in the country will be identified where educational institutions will send students to study these destinations and their

history, scientific contributions, traditions, indigenous literature and knowledge, etc., as a part of augmenting their knowledge about these areas.

22.13. Creating such programmes and degrees in higher education, across the arts, languages, and humanities, will also come with expanded high-quality opportunities for employment that can make effective use of these qualifications. There are already hundreds of Academies, museums, art galleries, and heritage sites in dire need of qualified individuals for their effective functioning. As positions are filled with suitably qualified candidates, and further artefacts are procured and conserved, additional museums, including virtual museums/e-museums, galleries, and heritage sites may contribute to the conservation of our heritage as well as to India's tourism industry.

22.14. India will also urgently expand its translation and interpretation efforts in order to make high-quality learning materials and other important written and spoken material available to the public in various Indian and foreign languages. For this, an Indian Institute of Translation and Interpretation (IITI) will be established. Such an institute would provide a truly important service for the country, as well as employ numerous multilingual language and subject experts, and experts in translation and interpretation, which will help to promote all Indian languages. The IITI shall also make extensive use of technology to aid in its translation and interpretation efforts. The IITI could naturally grow with time, and be housed in multiple locations including in HEIs to facilitate collaborations with other research departments as demand and the number of qualified candidates grows.

22.15. Due to its vast and significant contributions and literature across genres and subjects, its cultural significance, and its scientific nature, rather than being restricted to single-stream Sanskrit Pathshalas and Universities, Sanskrit will be mainstreamed with strong offerings in school - including as one of the language options in the three-language formula - as well as in higher education. It will be taught not in isolation, but in interesting and innovative ways, and connected to other contemporary and relevant subjects such as mathematics, astronomy, philosophy, linguistics, dramatics, yoga, etc. Thus, in consonance with the rest of this policy, Sanskrit Universities too will move towards becoming large multidisciplinary institutions of higher learning. Departments of Sanskrit that conduct teaching and outstanding interdisciplinary research on Sanskrit and Sanskrit Knowledge Systems will be established/strengthened across the new multidisciplinary higher education system. Sanskrit will become a natural part of a holistic multidisciplinary higher education if a student so chooses. Sanskrit teachers in large numbers will be professionalized across the country in mission mode through the offering of 4-year integrated multidisciplinary B.Ed. dual degrees in education and Sanskrit.

22.16. India will similarly expand its institutes and universities studying all classical languages and literature, with strong efforts to collect, preserve, translate, and study the tens of thousands of manuscripts that have not yet received their due attention. Sanskrit and all Indian language institutes and departments across the country will be significantly strengthened, with adequate training given to large new batches of students to study, in particular, the large numbers of manuscripts and their interrelations with other subjects. Classical language institutes will aim to be merged with universities, while maintaining their autonomy, so that faculty may work, and students too may be trained as part of robust and rigorous multidisciplinary programmes. Universities dedicated to languages will become multidisciplinary, towards the same end; where relevant, they may then also offer B.Ed. dual degrees in education and a language, to develop outstanding language teachers in that language. Further, it is also proposed that a new institution for Languages will be established. National Institute (or Institutes) for Pali, Persian and Prakrit will also be set up within a university campus. Similar initiatives will be carried out for institutes and universities studying Indian arts, art history, and Indology. Research for outstanding work in all these areas will be supported by the NRF.

22.17. Efforts to preserve and promote all Indian languages including classical, tribal and endangered languages will be taken on with new vigour. Technology and crowdsourcing, with extensive participation of the people, will play a crucial role in these efforts.

22.18. For each of the languages mentioned in the Eighth Schedule of the Constitution of India, Academies will be established consisting of some of the greatest scholars and native speakers to

determine simple yet accurate vocabulary for the latest concepts, and to release the latest dictionaries on a regular basis (analogous to the successful efforts for many other languages around the world). The Academies would also consult with each other, and in some cases take the best suggestions from the public, in order to construct these dictionaries attempting to adopt common words whenever possible. These dictionaries would be widely disseminated, for use in education, journalism, writing, speechmaking, and beyond, and would be available on the web as well as in book form. These Academies for Eighth Schedule languages will be established by the Central Government in consultation or collaboration with State Governments. Academies for other highly spoken Indian languages may also be similarly established by the Centre and/or States.

22.19. All languages in India, and their associated arts and culture will be documented through a web-based platform/portal/wiki, in order to preserve endangered and all Indian languages and their associated rich local arts and culture. The platform will contain videos, dictionaries, recordings, and more, of people (especially elders) speaking the language, telling stories, reciting poetry, and performing plays, folk songs and dances, and more. People from across the country will be invited to contribute to these efforts by adding relevant material onto these platforms/portals/wikis. Universities and their research teams will work with each other and with communities across the country towards enriching such platforms. These preservation efforts, and the associated research projects, e.g., in history, archaeology, linguistics, etc., will be funded by the NRF.

22.20. Scholarships for people of all ages to study Indian Languages, Arts, and Culture with local masters and/or within the higher education system will be established. The promotion of Indian languages is possible only if they are used regularly and if they are used for teaching and learning. Incentives, such as prizes for outstanding poetry and prose in Indian languages across categories, will be established to ensure vibrant poetry, novels, nonfiction books, textbooks, journalism, and other works in all Indian languages. Proficiency in Indian languages will be included as part of qualification parameters for employment opportunities.

23. Technology Use and Integration

23.1. India is a global leader in information and communication technology and in other cutting-edge domains, such as space. The Digital India Campaign is helping to transform the entire nation into a digitally empowered society and knowledge economy. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes; thus, the relationship between technology and education at all levels is bi-directional.

23.2. Given the explosive pace of technological development allied with the sheer creativity of tech-savvy teachers and entrepreneurs including student entrepreneurs, it is certain that technology will impact education in multiple ways, only some of which can be foreseen at the present time. New technologies involving artificial intelligence, machine learning, block chains, smart boards, handheld computing devices, adaptive computer testing for student development, and other forms of educational software and hardware will not just change what students learn in the classroom but how they learn, and thus these areas and beyond will require extensive research both on the technological as well as educational fronts.

23.3. Use and integration of technology to improve multiple aspects of education will be supported and adopted, provided these interventions are rigorously and transparently evaluated in relevant contexts before they are scaled up. An autonomous body, the National Educational Technology Forum (NETF), will be created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration, and so on, both for school and higher education. The aim of the NETF will be to facilitate decision making on the induction, deployment, and use of technology, by providing to the leadership of education institutions, State and Central governments, and other stakeholders, the latest knowledge and research as well as the opportunity to consult and share best practices. The NETF will have the following functions:

a) provide independent evidence-based advice to Central and State Government agencies on technology-based interventions;
b) build intellectual and institutional capacities in educational technology;
c) envision strategic thrust areas in this domain; and
d) articulate new directions for research and innovation.

23.4. To remain relevant in the fast-changing field of educational technology, the NETF will maintain a regular inflow of authentic data from multiple sources including educational technology innovators and practitioners and will engage with a diverse set of researchers to analyze the data. To support the development of a vibrant body of knowledge and practice, the NETF will organize multiple regional and national conferences, workshops, etc. to solicit inputs from national and international educational technology researchers, entrepreneurs, and practitioners.

23.5. The thrust of technological interventions will be for the purposes of improving teaching-learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning, management, and administration including processes related to admissions, attendance, assessments, etc.

23.6. A rich variety of educational software, for all the above purposes, will be developed and made available for students and teachers at all levels. All such software will be available in all major Indian languages and will be accessible to a wide range of users including students in remote areas and *Divyang* students. Teaching-learning e-content will continue to be developed by all States in all regional languages, as well as by the NCERT, CIET, CBSE, NIOS, and other bodies/institutions, and will be uploaded onto the DIKSHA platform. This platform may also be utilized for Teacher's Professional Development through e-content. CIET will be strengthened to promote and expand DIKSHA as well as other education technology initiatives. Suitable equipment will be made available to teachers at schools so that teachers can suitably integrate e-contents into teaching-learning practices. Technology-based education platforms, such as DIKSHA/SWAYAM, will be better integrated across school and higher education, and will include ratings/reviews by users, so as to enable content developers create user friendly and qualitative content.

23.7. Particular attention will need to be paid to emerging disruptive technologies that will necessarily transform the education system. When the 1986/1992 National Policy on Education was formulated, it was difficult to predict the disruptive effect that the internet would have brought. Our present education system's inability to cope with these rapid and disruptive changes places us individually and nationally at a perilous disadvantage in an increasingly competitive world. For example, while computers have largely surpassed humans in leveraging factual and procedural knowledge, our education at all levels excessively burdens students with such knowledge at the expense of developing their higher-order competencies.

23.8. This policy has been formulated at a time when an unquestionably disruptive technology - Artificial Intelligence (AI) 3D/7D Virtual Reality - has emerged. As the cost of AI-based prediction falls, AI will be able to match or outperform and, therefore, be a valuable aid to even skilled professionals such as doctors in certain predictive tasks. AI's disruptive potential in the workplace is clear, and the education system must be poised to respond quickly. One of the permanent tasks of the NETF will be to categorize emergent technologies based on their potential and estimated timeframe for disruption, and to periodically present this analysis to MHRD. Based on these inputs, MHRD will formally identify those technologies whose emergence demands responses from the education system.

23.9. In response to MHRD's formal recognition of a new disruptive technology, the National Research Foundation will initiate or expand research efforts in the technology. In the context of AI, NRF may consider a three-pronged approach: (a) advancing core AI research, (b) developing and deploying application-based research, and (c) advancing international research efforts to address global challenges in areas such as healthcare, agriculture, and climate change using AI.

23.10. HEIs will play an active role not only in conducting research on disruptive technologies but also in creating initial versions of instructional materials and courses including online courses in cutting-edge domains and assessing their impact on specific areas such as professional education. Once the technology has attained a level of maturity, HEIs with thousands of students will be ideally placed to scale these teaching and skilling efforts, which will include targeted training for job readiness. Disruptive technologies will make certain jobs redundant, and hence approaches to skilling and deskilling that are both efficient and ensure quality will be of increasing importance to create and sustain employment. Institutions will have autonomy to approve institutional and non-institutional partners to deliver such training, which will be integrated with skills and higher education frameworks.

23.11. Universities will aim to offer Ph.D. and Masters programmes in core areas such as Machine Learning as well as multidisciplinary fields "AI + X" and professional areas like health care, agriculture, and law. They may also develop and disseminate courses in these areas via platforms, such as SWAYAM. For rapid adoption, HEIs may blend these online courses with traditional teaching in undergraduate and vocational programmes. HEIs may also offer targeted training in low-expertise tasks for supporting the AI value chain such as data annotation, image classification, and speech transcription. Efforts to teach languages to school students will be dovetailed with efforts to enhance Natural Language Processing for India's diverse languages.

23.12. As disruptive technologies emerge, schooling and continuing education will assist in raising the general populace′s awareness of their potential disruptive effects and will also address related issues. This awareness is necessary to have informed public consent on matters related to these technologies. In school, the study of current affairs and ethical issues will include a discussion on disruptive technologies such as those identified by NETF/MHRD. Appropriate instructional and discussion materials will also be prepared for continuing education.

23.13. Data is a key fuel for AI-based technologies, and it is critical to raise awareness on issues of privacy, laws, and standards associated with data handling and data protection, etc. It is also necessary to highlight ethical issues surrounding the development and deployment of AI-based technologies. Education will play a key role in these awareness raising efforts. Other disruptive technologies that are expected to change the way we live, and, therefore, change the way we educate students, include those relating to clean and renewable energy, water conservation, sustainable farming, environmental preservation, and other green initiatives; these will also receive prioritized attention in education.

24. Online and Digital Education: Ensuring Equitable Use of Technology

24.1. New circumstances and realities require new initiatives. The recent rise in epidemics and pandemics necessitates that we are ready with alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible. In this regard, the National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. It calls for carefully designed and appropriately scaled pilot studies to determine how the benefits of online/digital education can be reaped while addressing or mitigating the downsides. In the meantime, the existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all.

24.2. However, the benefits of online/digital education cannot be leveraged unless the digital divide is eliminated through concerted efforts, such as the Digital India campaign and the availability of affordable computing devices. It is important that the use of technology for online and digital education adequately addresses concerns of equity.

24.3. Teachers require suitable training and development to be effective online educators. It cannot be assumed that a good teacher in a traditional classroom will automatically be a good teacher in an online classroom. Aside from changes required in pedagogy, online assessments also require a

different approach. There are numerous challenges to conducting online examinations at scale, including limitations on the types of questions that can be asked in an online environment, handling network and power disruptions, and preventing unethical practices. Certain types of courses/subjects, such as performing arts and science practical have limitations in the online/digital education space, which can be overcome to a partial extent with innovative measures. Further, unless online education is blended with experiential and activity-based learning, it will tend to become a screen-based education with limited focus on the social, affective and psychomotor dimensions of learning.

24.4. Given the emergence of digital technologies and the emerging importance of leveraging technology for teaching-learning at all levels from school to higher education, this Policy recommends the following key initiatives:

(a) **Pilot studies for online education**: Appropriate agencies, such as the NETF, CIET, NIOS, IGNOU, IITs, NITs, etc. will be identified to conduct a series of pilot studies, in parallel, to evaluate the benefits of integrating education with online education while mitigating the downsides and also to study related areas, such as, student device addiction, most preferred formats of e-content, etc. The results of these pilot studies will be publicly communicated and used for continuous improvement.

(b) **Digital infrastructure**: There is a need to invest in creation of open, interoperable, evolvable, public digital infrastructure in the education sector that can be used by multiple platforms and point solutions, to solve for India's scale, diversity, complexity and device penetration. This will ensure that the technology-based solutions do not become outdated with the rapid advances in technology.

(c) **Online teaching platform and tools**: Appropriate existing e-learning platforms such as SWAYAM, DIKSHA, will be extended to provide teachers with a structured, user-friendly, rich set of assistive tools for monitoring progress of learners. Tools, such as, two-way video and two-way-audio interface for holding online classes are a real necessity as the present pandemic has shown.

(d) **Content creation, digital repository, and dissemination**: A digital repository of content including creation of coursework, Learning Games & Simulations, Augmented Reality and Virtual Reality will be developed, with a clear public system for ratings by users on effectiveness and quality. For fun based learning student-appropriate tools like apps, gamification of Indian art and culture, in multiple languages, with clear operating instructions, will also be created. A reliable backup mechanism for disseminating e-content to students will be provided.

(e) **Addressing the digital divide**: Given the fact that there still persists a substantial section of the population whose digital access is highly limited, the existing mass media, such as television, radio, and community radio will be extensively used for telecast and broadcasts. Such educational programmes will be made available 24/7 in different languages to cater to the varying needs of the student population. A special focus on content in all Indian languages will be emphasized and required; digital content will need to reach the teachers and students in their medium of instruction as far as possible.

(f) **Virtual Labs:** Existing e-learning platforms such as DIKSHA, SWAYAM and SWAYAMPRABHA will also be leveraged for creating virtual labs so that all students have equal access to quality practical and hands-on experiment-based learning experiences. The possibility of providing adequate access to SEDG students and teachers through suitable digital devices, such as tablets with pre-loaded content, will be considered and developed.

(g) **Training and incentives for teachers**: Teachers will undergo rigorous training in learner-centric pedagogy and on how to become high-quality online content creators themselves using online teaching platforms and tools. There will be emphasis on the teacher's role in facilitating active student engagement with the content and with each other.

(h) **Online assessment and examinations**: Appropriate bodies, such as the proposed National Assessment Centre or PARAKH, School Boards, NTA, and other identified bodies will design and implement assessment frameworks encompassing design of competencies, portfolio, rubrics, standardized assessments, and assessment analytics. Studies will be undertaken to pilot new ways of assessment using education technologies focusing on 21st century skills.

(i) **Blended models of learning**: While promoting digital learning and education, the importance of face-to-face in-person learning is fully recognized. Accordingly, different effective models of blended learning will be identified for appropriate replication for different subjects.

(j) **Laying down standards**: As research on online/digital education emerges, NETF and other appropriate bodies shall set up standards of content, technology, and pedagogy for online/digital teaching-learning. These standards will help to formulate guidelines for e-learning by States, Boards, schools and school complexes, HEIs, etc.

24.5 Creating a Dedicated Unit for Building of World Class, Digital Infrastructure, Educational Digital Content and Capacity

Technology in education is a journey and not a destination and capacity will be needed to orchestrate the various ecosystem players to implement policy objectives. A dedicated unit for the purpose of orchestrating the building of digital infrastructure, digital content and capacity building will be created in the Ministry to look after the e-education needs of both school and higher education. Since technology is rapidly evolving, and needs specialists to deliver high quality e-learning, a vibrant ecosystem has to be encouraged to create solutions that not only solve India's challenges of scale, diversity, equity, but also evolve in keeping with the rapid changes in technology, whose half-life reduces with each passing year. This centre will, therefore, consist of experts drawn from the field of administration, education, educational technology, digital pedagogy and assessment, e-governance, etc.

Part IV. MAKING IT HAPPEN

25. Strengthening the Central Advisory Board of Education

25.1. Achieving successful implementation of this policy demands a long-term vision, availability of expertise on a sustained basis, and concerted action from all concerned encompassing National, State, institutional, and individual levels. In this context, the Policy recommends strengthening and empowering the Central Advisory Board of Education (CABE) which will have a much greater mandate and not only a forum for widespread consultation and examination of issues relating to educational and cultural development. The remodeled and rejuvenated CABE shall also be responsible for developing, articulating, evaluating, and revising the vision of education in the country on a continuous basis, in close collaboration with MHRD and the corresponding apex bodies of States. It shall also create and continuously review the institutional frameworks that shall help attain this vision.

25.2. To bring the focus back on education and learning, it is desirable that the Ministry of Human Resource Development (MHRD) be re-designated as the Ministry of Education (MoE).

26. Financing: Affordable and Quality Education for All

26.1. The Policy commits to significantly raising educational investment, as there is no better investment towards a society's future than the high-quality education of our young people. Unfortunately, public expenditure on education in India has not come close to the recommended level of 6% of GDP, as envisaged by the 1968 Policy, reiterated in the Policy of 1986, and which was further reaffirmed in the 1992 review of the Policy. The current public (Government - Centre and States) expenditure on education in India has been around 4.43% of GDP (Analysis of Budgeted

Expenditure 2017-18) and only around 10% of the total Government spending towards education (Economic Survey 2017-18). These numbers are far smaller than most developed and developing countries.

26.2. In order to attain the goal of education with excellence and the corresponding multitude of benefits to this Nation and its economy, this Policy unequivocally endorses and envisions a substantial increase in public investment in education by both the Central government and all State Governments. The Centre and the States will work together to increase the public investment in Education sector to reach 6% of GDP at the earliest. This is considered extremely critical for achieving the high-quality and equitable public education system that is truly needed for India's future economic, social, cultural, intellectual, and technological progress and growth.

26.3. In particular, financial support will be provided to various critical elements and components of education, such as ensuring universal access, learning resources, nutritional support, matters of student safety and well-being, adequate numbers of teachers and staff, teacher development, and support for all key initiatives towards equitable high-quality education for underprivileged and socio-economically disadvantaged groups.

26.4. In addition to one-time expenditures, primarily related to infrastructure and resources, this Policy identifies the following key long-term thrust areas for financing to cultivate an education system: (a) universal provisioning of quality early childhood care education; (b) ensuring foundational literacy and numeracy; (c) providing adequate and appropriate resourcing of school complexes/clusters; (d) providing food and nutrition (breakfast and midday meals); (e) investing in teacher education and continuing professional development of teachers; (f) revamping colleges and universities to foster excellence; (g) cultivating research; and (h) extensive use of technology and online education.

26.5. Even the low level of funding on education in India, is frequently not spent in a timely manner at the District/institution level, hampering the achievement of the intended targets of those funds. Hence, the need is to increase efficiency in use of available budget by suitable policy changes. Financial governance and management will focus on the smooth, timely, and appropriate flow of funds, and their usage with probity; administrative processes will be suitably amended and streamlined so that the disbursal mechanism may not lead to a high volume of unspent balances. The provisions of GFR, PFMS and 'Just in Time' release to implementing agencies will be followed for efficient use of government resources and avoiding parking of funds. Mechanism of performance-based funding to States / HEIs may be devised. Similarly, efficient mechanism will be ensured for the optimal allocation and utilization of funds earmarked for SEDGs. The new suggested regulatory regime, with clear separations of roles and transparent self-disclosures, empowerment and autonomy to institutions, and the appointment of outstanding and qualified experts to leadership positions will help to enable a far smoother, quicker, and more transparent flow of funds.

26.6. The Policy also calls for the rejuvenation, active promotion, and support for private philanthropic activity in the education sector. In particular, over and above the public budgetary support which would have been otherwise provided to them, any public institution can take initiatives towards raising private philanthropic funds to enhance educational experiences.

26.7. The matter of commercialization of education has been dealt with by the Policy through multiple relevant fronts, including: the 'light but tight' regulatory approach that mandates full public self-disclosure of finances, procedures, course and programme offerings, and educational outcomes; the substantial investment in public education; and mechanisms for good governance of all institutions, public and private. Similarly, opportunities for higher cost recovery without affecting the needy or deserving sections will also be explored.

27. Implementation

27.1. Any policy's effectiveness depends on its implementation. Such implementation will require multiple initiatives and actions, which will have to be taken by multiple bodies in a synchronized and

systematic manner. Therefore, the implementation of this Policy will be led by various bodies including MHRD, CABE, Union and State Governments, education-related Ministries, State Departments of Education, Boards, NTA, the regulatory bodies of school and higher education, NCERT, SCERTs, schools, and HEIs along with timelines and a plan for review, in order to ensure that the policy is implemented in its spirit and intent, through coherence in planning and synergy across all these bodies involved in education.

27.2. Implementation will be guided by the following principles. First, implementation of the spirit and intent of the Policy will be the most critical matter. Second, it is important to implement the policy initiatives in a phased manner, as each policy point has several steps, each of which requires the previous step to be implemented successfully. Third, prioritization will be important in ensuring optimal sequencing of policy points, and that the most critical and urgent actions are taken up first, thereby enabling a strong base. Fourth, comprehensiveness in implementation will be key; as this Policy is interconnected and holistic, only a full-fledged implementation, and not a piecemeal one, will ensure that the desired objectives are achieved. Fifth, since education is a concurrent subject, it will need careful planning, joint monitoring, and collaborative implementation between the Centre and States. Sixth, timely infusion of requisite resources - human, infrastructural, and financial - at the Central and State levels will be crucial for the satisfactory execution of the Policy. Finally, careful analysis and review of the linkages between multiple parallel implementation steps will be necessary in order to ensure effective dovetailing of all initiatives. This will also include early investment in some of the specific actions (such as the setting up of early childhood care and education infrastructure) that will be imperative to ensuring a strong base and a smooth progression for all subsequent programmes and actions.

27.3. Subject-wise implementation committees of experts in cooperation and consultation with other relevant Ministries will be set up at both the Central and State levels to develop detailed implementation plans for each aspect of this Policy in accordance with the above principles to achieve the goals of the Policy in a clear and phased manner. Yearly joint reviews of the progress of implementation of the policy, in accordance with the targets set for each action, will be conducted by designated teams constituted by MHRD and the States, and reviews will be shared with CABE. In the decade of 2030-40, the entire policy will be in an operational mode, following which another comprehensive review will be undertaken.

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Abbreviations

ABC	Academic Bank of Credit
AI	Artificial Intelligence
AC	Autonomous degree-granting College
AEC	Adult Education Centre
API	Application Programming Interface
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
B.Ed.	Bachelor of Education
BEO	Block Education Officer
BITE	Block Institute of Teacher Education
BoA	Board of Assessment
BoG	Board of Governors
BRC	Block Resource Centre
B.Voc	Bachelor of Vocational Education
CABE	Central Advisory Board of Education
CBCS	Choice Based Credit System
CBSE	Central Board of Secondary Education
CIET	Central Institute of Educational Technology
CMP	Career Management and Progression
CoA	Council of Architecture
CPD	Continuous Professional Development
CRC	Cluster Resource Centre
CWSN	Children With Special Needs
DAE	Department of Atomic Energy
DBT	Department of Biotechnology
DEO	District Education Officer
DIET	District Institute of Education and Training
DIKSHA	Digital Infrastructure for Knowledge Sharing
DSE	Directorate of School Education
DST	Department of Science and Technology
ECCE	Early Childhood Care and Education
EEC	Eminent Expert Committee
GCED	Global Citizenship Education
GDP	Gross Domestic Product
GEC	General Education Council
GER	Gross Enrolment Ratio
GFR	General Financial Rule
HECI	Higher Education Commission of India
HEGC	Higher Education Grants Council
HEI	Higher Education Institutions
ICAR	Indian Council of Agricultural Research
ICHR	Indian Council of Historical Research
ICMR	Indian Council of Medical Research
ICT	Information and Communication Technology
IDP	Institutional Development Plan
IGNOU	Indira Gandhi National Open University
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
IITI	Indian Institute of Translation and Interpretation
ISL	Indian Sign Language
ITI	Industrial Training Institute
M.Ed.	Master of Education
MBBS	Bachelor of Medicine and Bachelor of Surgery
MERU	Multidisciplinary Education and Research Universities
MHFW	Ministry of Health and Family Welfare

MHRD	Ministry of Human Resource Development
MoE	Ministry of Education
MOOC	Massive Open Online Course
MOU	Memorandum of Understanding
M. Phil	Master of Philosophy
MWCD	Ministry of Women and Child Development
NAC	National Accreditation Council
NAS	National Achievement Survey
NCC	National Cadet Corps
NCERT	National Council of Educational Research and Training
NCF	National Curriculum Framework
NCFSE	National Curriculum Framework for School Education
NCFTE	National Curriculum Framework for Teacher Education
NCIVE	National Committee for the Integration of Vocational Education
NCPFECCE	National Curricular and Pedagogical Framework for Early Childhood Care and Education
NCTE	National Council for Teacher Education
NCVET	National Council for Vocational Education and Training
NETF	National Educational Technology Forum
NGO	Non-Governmental Organization
NHEQF	National Higher Education Qualifications Framework
NHERC	National Higher Education Regulatory Council
NIOS	National Institute of Open Schooling
NIT	National Institute of Technology
NITI	National Institution for Transforming India
NPE	National Policy on Education
NPST	National Professional Standards for Teachers
NRF	National Research Foundation
NSQF	National Skills Qualifications Framework
NSSO	National Sample Survey Office
NTA	National Testing Agency
OBC	Other Backward Classes
ODL	Open and Distance Learning
PARAKH	Performance Assessment, Review and Analysis of Knowledge for Holistic development
PCI	Pharmacy Council of India
PFMS	Public Financial Management System
Ph.D	Doctor of Philosophy
PSSB	Professional Standard Setting Body
PTR	Pupil Teacher Ratio
R&I	Research and Innovation
RCI	Rehabilitation Council of India
RPWD	Rights of Persons with Disabilities
SAS	State Achievement Survey
SC	Scheduled Caste(s)
SCDP	School Complex/Cluster Development Plans
SCERT	State Council of Educational Research and Training
SCF	State Curricular Framework
SCMC	School Complex Management Committee
SDG	Sustainable Development Goal
SDP	School Development Plan
SEDG	Socio-Economically Disadvantaged Group
SEZ	Special Education Zone
SIOS	State Institutes of Open Schooling
SMC	School Management Committee
SQAAF	School Quality Assessment and Accreditation Framework
SSA	Sarva Shiksha Abhiyan
SSS	Simple Standard Sanskrit

SSSA	State School Standards Authority
ST	Scheduled Tribe(s)
STEM	Science, Technology, Engineering, and Mathematics
STS	Sanskrit Through Sanskrit
SWAYAM	Study Webs of Active Learning for Young Aspiring Minds
TEI	Teacher Education Institution
TET	Teacher Eligibility Test
U-DISE	Unified District Information System for Education
UGC	University Grants Commission
UNESCO	United Nations Educational, Scientific and Cultural Organization
UT	Union Territory
VCI	Veterinary Council of India

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NATIONAL POLICY ON EDUCATION 1986

(As modified in 1992)

with

National Policy on Education, 1968

Government of India
Department of Education
Ministry of Human Resource Development
New Delhi
1998

CONTENTS

STATEMENT BY SHRI ARJUN SINGH, MINISTER OF HUMAN RESOURCE DEVELOPMENT REGARDING MODIFICATIONS TO THE NATIONAL POLICY ON EDUCATION (NPE) 1986

The National Policy on Education (NPE) was adopted by Parliament in May 1986. A committee was set up under the chairmanship of Acharya Ramamurti in May 1990 to review NPE and to make recommendations for its modifications. That Committee submitted its report in December 1990. At the request of the Central Advisory Board of Education (CABE) a committee was set up in July 1991 under the chairmanship of Shri N. Janardhana Reddy, Chief Minister of Andhra Pradesh, to consider modifications in NPE taking into consideration the report of the Ramamurti Committee and other relevant developments having a bearing on the Policy, and to make recommendations regarding modifications to be made in the NPE. This Committee submitted its report in January 1992. The report of the Committee was considered by the CABE in its meeting held on 5-6 May, 1992. While broadly endorsing the NPE, CABE has recommended a few changes in the Policy.

The NPE has stood the test of time. Based on an in-depth review of the whole gamut of educational situation and formulated on the basis of a national consensus, it enunciated a comprehensive framework to guide the development of education in its entirety. That framework continues to be of relevance. However, the developments during the last few years and experience in the implementation of the Policy have necessitated certain modifications. The modifications required have been specified in the paper "National Policy on Education, 1986 - Revised Policy Formulations" laid on the Table of the House. I also lay on the Table of the House the report of the CABE Committee on Policy.

(7 May1992)

NATIONAL POLICY ON EDUCATION

(WITH MODIFICATIONS UNDERTAKEN IN 1992)

PART - I

INTRODUCTORY

1.1 Education has continued to evolve, diversify and extend its reach and coverage since the dawn of human history. Every country develops its system of education to express and promote its unique socio-cultural identity and also to meet the challenges of the times. There are moments in history when a new direction has to be given to an age-old process. That moment is today.

1.2 The country has reached a stage in its economic and technical development when a major effort must be made to derive the maximum benefit from the assets already created and to ensure that the fruits of change reach all sections. Education is the highway to that goal.

1.3 With this aim in view, the Government of India announced in January 1985 that a new Education Policy would be formulated for the country. A comprehensive appraisal of the existing educational scene was made followed by a countrywide debate. The views and suggestions received from different quarters were carefully studied.

THE 1968 EDUCATION POLICY AND AFTER

1.4 The National Policy of 1968 marked a significant step in the history of education in post-Independence India. It aimed to promote national progress, a sense of common citizenship and culture, and to strengthen national integration. It laid stress on the need for a radical reconstruction of the education system, to improve its quality at all stages, and gave much greater attention to science and technology, the cultivation of moral values and a closer relation between education and the life of the people.

1.5 Since the adoption of the 1968 Policy, there has been considerable expansion in educational facilities all over the country at all levels. More than 90 per cent of the country's rural habitations now have schooling facilities within a radius of one kilometre. There has been sizeable augmentation of facilities at other stages also.

1.6 Perhaps the most notable development has been the acceptance of a common structure of education throughout the Country and the introduction of the 10+2+3 system by most States. In the school curricula, in addition to laying down a common scheme of studies for boys and girls, science and mathematics were incorporated as compulsory subjects and work experience assigned a place of importance.

1.7 A beginning was also made in restructuring of courses at the undergraduate level. Centres of Advanced Studies were set up for post-graduate education and research. And we have been able to meet our requirements of educated manpower.

1.8 While these achievements are impressive by themselves, the general formulations incorporated in the 1968 Policy did not, however, get translated into a detailed strategy of implementation, accompanied by the assignment of specific responsibilities and financial and organisational support. As a result, problems of access, quality, quantity, utility and financial outlay, accumulated over the years, have now assumed such massive proportions that they must be tackled with the utmost urgency.

1.9 Education in India stands at the crossroads today. Neither normal linear expansion nor the existing pace and nature of improvement can meet the needs of the situation.

1.10 In the Indian way of thinking, a human being is a positive asset and a precious national resource, which needs to be cherished, nurtured and developed with tenderness, and care, coupled with dynamism. Each individual's growth presents a different range of problems and requirements, at every stage from the womb to the tomb. The catalytic action of Education in this complex and dynamic growth process needs to be planned meticulously and executed with great sensitivity.

1.11 India's political and social life is passing through a phase, which poses the danger of erosion to long-accepted values. The goals of secularism, socialism, democracy and professional ethics are coming under increasing strain.

1.12 The rural areas, with poor infrastructure and social services, will not get the benefit of trained and educated youth, unless rural-urban disparities are reduced and determined measures are taken to promote diversification and dispersal of employment opportunities.

1.13 The growth of our population needs to be brought down significantly over the coming decades. The largest single factor that could help achieve this is the spread of literacy and education among women.

1.14 Life in the coming decades is likely to bring new tensions together with unprecedented opportunities. To enable the people to benefit in the new environment will require new designs of human resource development. The coming generations should have the ability to internalise new ideas constantly and creatively. They have to be imbued with a strong commitment to humane values and to social justice. All this implies better education.

1.15 Besides, a variety of new challenges and social needs make it imperative for the Government to formulate and implement a new Education Policy for the country. Nothing short of this will meet the situation.

PART II

THE ESSENCE AND ROLE OF EDUCATION

2.1 In our national perception, education is essentially for all. This is fundamental to our all-round development, material and spiritual.

2.2 Education has an acculturating role. It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit – thus furthering the goals of socialism, secularism and democracy enshrined in our Constitution.

2.3 Education develops manpower for different levels of the economy. It is also the substrate on which research and development flourish, being the ultimate guarantee of national self-reliance.

2.4 In sum, Education is a unique investment in the present and the future. This cardinal principle is the key to the National Policy on Education.

PART III

NATIONAL SYSTEM OF EDUCATION

3.1 The Constitution embodies the principles on which the National System of Education is conceived of.

3.2 The concept of a National System of Education implies that, up to a given level, all students, irrespective of caste, creed, location or sex, have access to education of a comparable quality. To achieve this, the Government will initiate appropriately funded programmes. Effective measures will be taken in the direction of the Common School System recommended in the 1968 Policy.

3.3 [The National System of Education envisages a common educational structure. The 10+2+3 structure has now been accepted in all parts of the country. Regarding the further break-up of the first 10 years efforts will be made to move towards an elementary system comprising 5 years of primary education and 3 years of upper primary, followed by 2 years of High School. Efforts will also be made to have the +2 stage accepted as a part of school education throughout the country][*].

3.4 The National System of Education will be based on a national curricular framework which contains a common core along with other components that are flexible. The common core will include the history of India's freedom movement, the constitutional obligations and other content essential to nurture national identity. These elements will cut across subject areas and will be designed to promote values such as India's common cultural heritage, egalitarianism, democracy and secularism, equality of the sexes, protection of the environment, removal of social barriers, observance of the small family norm and inculcation of the scientific temper. All educational programmes will be carried on in strict conformity with secular values.

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[*] Substituted by Revised Policy Formulations.

3.5 India has always worked for peace and understanding between nations, treating the whole world as one family. True to this hoary tradition, Education has to strengthen this world view and motivate the younger generations for international co-operation and peaceful co-existence. This aspect cannot be neglected.

3.6 To promote equality, it will be necessary to provide for equal opportunity to all not only in access, but also in the conditions for success. Besides, awareness of the inherent equality of all will be created through the core curriculum. The purpose is to remove prejudices and complexes transmitted through the social environment and the accident of birth.

3.7 Minimum levels of learning will be laid down for each stage of education. Steps will also be taken to foster among students an understanding of the diverse cultural and social systems of the people living in different parts of the country. Besides the promotion of the link language, programmes will also be launched to increase substantially the translation of books from one language to another and to publish multi-lingual dictionaries and glossaries. The young will be encouraged to undertake the rediscovery of India, each in his own image and perception.

3.8 In higher education in general, and technical education in particular, steps will be taken to facilitate inter-regional mobility by providing equal access to every Indian of requisite merit, regardless of his origins. The universal character of universities and other institutions of higher education is to be underscored.

3.9 In the areas of research and development, and education in science and technology, special measures will be taken to establish network arrangements between different institutions in the country to pool their resources and participate in projects of national importance.

3.10 The Nation as a whole will assume the responsibility of providing resource support for implementing programmes of educational transformation, reducing disparities, universalisation of elementary education, adult literacy, scientific and technological research, etc.

3.11 Life-long education is a cherished goal of the educational process. This presupposes universal literacy. Opportunities will be provided to the youth, housewives, agricultural and industrial workers and professionals to continue the education of their choice, at the pace suited to them. The future thrust will be in the direction of open and distance learning.

3.12 [The institutions which will be strengthened to play an important role in giving shape to the National System of Education are the University Grants Commission, the All India Council of Technical Education, the Indian Council of Agricultural Research and the Indian Medical Council. Integrated planning will be instituted among all these bodies so as to establish functional linkages and reinforce programmes of research and post graduate education. These, together with the National Council of Education Research and Training, the National Institute of Educational Planning and Administration, the National Council of Teacher Education and the National Institute of Adult Education will be involved in implementing the Education Policy]. *

A MEANINGFUL PARTNERSHIP

3.13 The Constitutional Amendment of 1976, which includes Education in the Concurrent List, was a far-reaching step whose implications--substantive, financial and administrative--require a new sharing of responsibility between the Union Government and the States in respect of this vital area of national life. While the role and responsibility of the States in regard to education will remain essentially unchanged, the Union Government would accept a larger responsibility to reinforce the national and integrative character of education, to maintain quality and standards (including those of the teaching profession at all levels), to study and monitor the educational requirements of the country as a whole in regard to manpower for development, to cater to the needs of research and advanced study, to look after the international aspects of education, culture and Human Resource Development and, in general, to promote excellence at all levels of the educational pyramid throughout the country. Concurrency signifies a partnership, which is at once meaningful and challenging; the National Policy will be oriented towards giving effect to it in letter and spirit.

PART IV

EDUCATION FOR EQUALITY

DISPARITIES

4.1 The new Policy will lay special emphasis on the removal of disparities and to equalise educational opportunity by attending to the specific needs of those who have been denied equality so far.

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* Substituted by Revised Policy Formulations

EDUCATION FOR WOMEN'S EQUALITY

4.2 Education will be used as an agent of basic change in the status of woman. In order to neutralise the accumulated distortions of the past, there will be a well-conceived edge in favour of women. The National Education System will play a positive, interventionist role in the empowerment of women. It will foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers, decision-makers and administrators, and the active involvement of educational institutions. This will be an act of faith and social engineering. Women's studies will be promoted as a part of various courses and educational institutions encouraged to take up active programmes to further women's development.

4.3 The removal of women's illiteracy and obstacles inhibiting their access to, and retention in, elementary education will receive overriding priority, through provision of special support services, setting of time targets, and effective monitoring. Major emphasis will be laid on women's participation in vocational, technical and professional education at different levels. The policy of non-discrimination will be pursued vigorously to eliminate sex stereo-typing in vocational and professional courses and to promote women's participation in non-traditional occupations, as well as in existing and emergent technologies.

THE EDUCATION OF SCHEDULED CASTES

4.4 The central focus in the SCs' educational development is their equalisation with the non-SC population at all stages and levels of education, in all areas and in all the four dimensions - rural male, rural female, urban male and urban female.

4.5 The measures contemplated for this purpose include:

i) Incentives to indigent families to send their children to school regularly till they reach the age of 14;

ii) Pre-matric Scholarship scheme for children of families engaged in occupations such as scavenging, flaying and tanning to be made applicable from Class I onwards. All children of such families, regardless of incomes, will be covered by this scheme and time-bound programmes targeted on them will be undertaken;

iii) Constant micro-planning and verification to ensure that the enrolment, retention and successful completion of courses by SC students do not fall at any stage, and provision of remedial courses to improve their prospects for further education and employment.

iv) Recruitment of teachers from Scheduled Castes;

v) Provision of facilities for SC students in students' hostels at district headquarters, according to a phased programme;

vi) Location of school buildings, Balwadis and Adult Education Centres in such a way as to facilitate full participation of the Scheduled Castes;

vii) [The utilisation of Jawahar Rozgar Yojana resources so as to make substantial educational facilities available to the Scheduled Castes; and]*

viii) Constant innovation in finding new methods to increase the participation of the Scheduled Castes in the educational process.

THE EDUCATION OF SCHEDULED TRIBES

4.6 The following measures will be taken urgently to bring the Scheduled Tribes on par with others: -

i) [Priority will be accorded to opening primary schools in tribal areas. The construction of school buildings will be undertaken in these areas on a priority basis under the normal funds for education] as well as under the Jawahar Rozgar Yojana, Tribal Welfare schemes, etc.]*

ii) The socio-cultural milieu of the STs has its distinctive characteristics including, in many cases, their own spoken languages. This underlines the need to develop the curricula and devise instructional materials in tribal languages at the initial stages, with arrangements for switching over to the regional language.

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* *Substituted by Revised Policy Formulations*

iii) Educated and promising Scheduled Tribe youths will be encouraged and trained to take up teaching in tribal areas.

iv) Residential schools, including Ashram Schools, will be established on a large scale.

v) Incentive schemes will be formulated for the Scheduled Tribes, keeping in view their special needs and life styles. Scholarships for higher education will emphasise technical, professional and para-professional courses. Special remedial courses and other programmes to remove psycho-social impediments will be provided to improve their performance in various courses.

vi) Anganwadis, Non-formal and Adult Education Centres will be opened on a priority basis in areas predominantly inhabited by the Scheduled Tribes.

vii) The curriculum at all stages of education will be designed to create an awareness of the rich cultural identity of the tribal people as also of their enormous creative talent.

OTHER EDUCATIONALLY BACKWARD SECTIONS AND AREAS

4.7 Suitable incentives will be provided to all educationally backward sections of society, particularly in the rural areas. Hill and desert districts, remote and inaccessible areas and islands will be provided adequate institutional infrastructure.

MINORITIES

4.8 Some minority groups are educationally deprived or backward. Greater attention will be paid to the education of these groups in the interests of equality and social justice. This will naturally include the Constitutional guarantees given to them to establish and administer their own educational institutions, and protection to their languages and culture. Simultaneously, objectivity will be reflected in the preparation of textbooks and in all school activities, and all possible measures will be taken to promote an integration based on appreciation of common national goals and ideals, in conformity with the core curriculum.

HANDICAPPED

4.9 The objective should be to integrate the physically and mentally handicapped with the general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence. The following measures will be taken in this regard:

i) Wherever it is feasible, the education of children with motor handicaps and other mild handicaps will be common with that of others.

ii) Special schools with hostels will be provided, as far as possible at district headquarters, for the severely handicapped children.

iii) Adequate arrangements will be made to give vocational training to the disabled.

iv) Teachers' training programmes will be reoriented, in particular for teachers of primary classes, to deal with the special difficulties of the handicapped children; and

v) Voluntary effort for the education of the disabled, will be encouraged in every possible manner.

ADULT EDUCATION

4.10 Our ancient scriptures define education as that which liberates-- i.e., provides the instruments for liberation from ignorance and oppression. In the modern world, it would naturally include the ability to read and write, since that is the main instrument of learning. Hence the crucial importance of adult education, including adult literacy.

4.11 (The whole nation has pledged itself, through the National Literacy Mission, to the eradication of illiteracy, particularly in the 15-35 age group through various means, with special emphasis on total literacy campaigns. The Central and State Governments, political parties and their mass organisations, the mass media and educational institutions, teachers, students, youth, voluntary agencies, social activist groups, and employers, must reinforce their commitment to

mass literacy campaigns, which include literacy and functional knowledge and skills, and awareness among learners about the socio-economic reality and the possibility to change it]. *

4.12 [Since involvement of the participants of the literacy campaigns in the development programmes is of crucial importance, the National Literacy Mission will be geared to the national goals such as alleviation of poverty, national integration, environmental conservation, observance of the small family norm, promotion of women's equality, universalisation of primary education, basic health-care, etc. It will also facilitate energisation of the cultural creativity of the people and their active participation in development processes]. *

4.13 [Comprehensive programmes of post-literacy and continuing education will be provided for neo-literates and youth who have received primary education with a view to enabling them to retain and upgrade their literacy skills, and to harness it for the improvement of their living and working condition. These programmes would include:

(a) establishment of continuing education centres of diverse kind to enable adults to continue their education of their choice;

(b) workers' education through the employers, trade unions and government;

(c) wider promotion of books, libraries and reading rooms;

(d) use of radio, TV and films -- as mass as well as group learning media;

(e) creation of learners' groups and organisations; and

(f) programmes of distance learning.]*

4.14 [A critical development issue today is the continuous upgradation of skills so as to produce manpower resources of the kind and the number required by the society. Special emphasis will, therefore, be laid on organisation of employment/self-employment oriented, and need and interest based vocational and skill training programmes]*.

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* Substituted by Revised Policy Formulations

PART V

REORGANISATION OF EDUCATION AT DIFFERENT STAGES

EARLY CHILDHOOD CARE & EDUCATION

5.1 The National Policy on Children specially emphasises investment in the development of young child, particularly children from sections of the population in which first generation learners predominate.

5.2 Recognising the holistic nature of child development, viz., nutrition, health and social, mental, physical, moral and emotional development, Early Childhood Care and Education (ECCE) will receive high priority and be suitably integrated with the Integrated Child Development Services programme, wherever possible. Day-care centres will be provided as a support service for universalisation of primary education, to enable girls engaged in taking care of siblings to attend school and as a support service for working women belonging to poorer sections.

5.3 Programmes of ECCE will be child-oriented, focused around play and the individuality of the child. Formal methods and introduction of the 3 R's will be discouraged at this stage. The local community will be fully involved in these programmes.

5.4 A full integration of child care and pre-primary education will be brought about, both as a feeder and a strengthening factor for primary education and for human resource development in general. In continuation of this stage, the School Health Programme will be strengthened.

ELEMENTARY EDUCATION

5.5 [The new thrust in elementary education will emphasise three aspects: (i) universal access and enrolment, (ii) universal retention of children upto 14 years of age; and (iii) a substantial improvement in the quality of education to enable all children to achieve essential levels of learning]*.

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* Substituted by Revised Policy Formulations

CHILD-CENTRED APPROACH

5.6 A warm, welcoming and encouraging approach, in which all concerned share a solicitude for the needs of the child, is the best motivation for the child to attend school and learn. A child-centred and activity-based process of learning should be adopted at the primary stage. First generation learners should be allowed to set their own pace and be given supplementary remedial instruction. As the child grows, the component of cognitive learning will be increased and skills organised through practice. The policy of non-detention at the primary stage will be retained, making evaluation as disaggregated as feasible. Corporal punishment will be firmly excluded from the educational system and school timings as well as vacations adjusted to the convenience of children.

SCHOOL FACILITIES

5.7 [Provision will be made of essential facilities in primary schools. The scope of Operation Blackboard will be enlarged to provide three reasonably large rooms that are usable in all weather, and black boards, maps, charts, toys, other necessary learning aids and school library. At least three teachers should work in every school, the number increasing, as early as possible, to one teacher per class. At least 50 per cent of teachers recruited in future should be women. The Operation Blackboard will be extended to upper primary stage also. Construction of school buildings will be a priority charge on JRY funds]*.

NON-FORMAL EDUCATION

5.8 [The Non-formal Education Programme, meant for school dropouts, for children from habitations without schools, working children and girls who cannot attend whole-day schools, will be strengthened and enlarged]*

5.9 [Modern technological aids will be used to improve the learning environment of NFE Centres. Talented and dedicated young men and women from the local community will be chosen to serve as instructors, and particular attention paid to their training. All necessary measures will be taken to ensure that the quality of non-formal education is comparable with the formal education. Steps will be taken to facilitate lateral entry into the formal system of children passing out of the non-formal system]. *

* Substituted by Revised Policy Formulations

5.10 Effective steps will be taken to provide a framework for the curriculum on the lines of the national core curriculum, but based on the needs of the learners and related to the local environment. Learning material of high quality will be developed and provided free of charge to all pupils. NFE programmes will provide participatory learning environment, and activities such as games and sports, cultural programmes, excursions, etc.

5.11 [The Government will take over-all responsibility for this vital sector. Voluntary agencies and Panchayati Raj institutions will take much of the responsibility of running NFE programmes. The provision of funds to these agencies will be adequate and timely].*

A RESOLVE

5.12 [The New Education Policy will give the highest priority to solving the problem of children dropping out of school and will adopt an array of meticulously formulated strategies based on micro-planning, and applied at the grass roots level all over the country, to ensure children's retention at school. This effort will be fully co-ordinated with the network of non-formal education. It shall be ensured that free and compulsory education of satisfactory quality is provided to all children upto 14 years of age before we enter the twenty-first century. A national mission will be launched for the achievement of this goal].*

SECONDARY EDUCATION

5.13 [Secondary education begins to expose students to the differentiated roles of science, the humanities and social sciences. This is also an appropriate stage to provide children with a sense of history and national perspective and give them opportunities to understand their constitutional duties and rights as citizens. Access to secondary education will be widened with emphasis on enrolment of girls, SCs and STs, particularly in science, commerce and vocational streams. Boards of Secondary Education will be reorganised and vested with autonomy so that their ability to improve the quality of secondary education is enhanced. Effort will be made to provide computer literacy in as many secondary level institutions as possible so that the children are equipped with necessary computer skills to be effective in the emerging technological world. A proper understanding of the work ethos and of the values of a humane and composite culture

* Substituted by Revised Policy Formulations

will be brought about through appropriately formulated curricula. Vocationalisation through specialised institutions or through the refashioning of secondary education will, at this stage, provide valuable manpower for economic growth].*

5.14 It is universally accepted that children with special talent or aptitude should be provided opportunities to proceed at a faster pace, by making good quality education available to them, irrespective of their capacity to pay for it.

5.15 [Pace-setting residential schools, Navodaya Vidyalayas, intended to serve this purpose have been established in most parts of the country on a given pattern, but with full scope for innovation and experimentation. Their broad aim will continue to be to serve the objective of excellence coupled with equity and social justice (with reservation for the rural areas, SCs and STs), to promote national integration by providing opportunities to talented children from different parts of the country, to live and learn together, to develop their full potential, and, most importantly, to become catalysts of a nation-wide programme of school improvement.]*

VOCATIONALISATION

5.16 [The introduction of systematic, well planned and rigorously implemented programmes of vocational education is crucial in the proposed educational reorganisation. These elements are meant to develop a healthy attitude amongst students towards work and life, to enhance individual employability, to reduce the mis-match between the demand and supply of skilled manpower, and to provide an alternative for those intending to pursue higher education without particular interest or purpose. Efforts will be made to provide children at the higher secondary level with generic vocational courses which cut across several occupational fields and which are not occupation specific].*

5.17 [Vocational Education will also be a distinct stream, intended to prepare students for identified occupations spanning several areas of activity. These courses will ordinarily be provided after the secondary stage, but keeping the scheme flexible, they may also be made available after class VIII].*

* Substituted by Revised Policy Formulations

5.18 Health planning and health service management should optimally interlock with the education and training of appropriate categories of health manpower through health-related vocational courses. Health education at the primary and middle levels will ensure the commitment of the individual to family and community health, and lead to health-related vocational courses at the +2 stage of higher secondary education. Efforts will be made to devise similar vocational courses based on Agriculture, Marketing, Social Services, etc. An emphasis in vocational education will also be on development of attitudes, knowledge, and skills for entrepreneurship and self-employment.

5.19 The establishment of vocational courses or institutions will be the responsibility of the Government as well as employers in the public and private sectors; the Government will, however, take special steps to cater to the needs of women, rural and tribal students and the deprived sections of society. Appropriate programmes will also be started for the handicapped.

5.20 Graduates of vocational courses will be given opportunities, under predetermined conditions, for professional growth, career improvement and lateral entry into courses of general, technical and professional education through appropriate bridge courses.

5.21 Non-formal, flexible and need-based vocational programmes will also be made available to neoliterates, youth who have completed primary education, school drop-outs, persons engaged in work and unemployed or partially employed persons. Special attention in this regard will be given to women.

5.22 Tertiary level courses will be organised for the young who graduate from the higher secondary courses of the academic stream and may also require vocational courses.

5.23 [It is proposed that vocational courses cover 10 per cent of higher secondary students by 1995 and 25 per cent by 2000. Steps will be taken to see that a substantial majority of the products of vocational courses are employed or become self-employed. Review of the courses offered would be regularly undertaken. Government will also review its recruitment policy to encourage diversification at the secondary level.][*]

[*] Substituted by Revised Policy Formulations

HIGHER EDUCATION

5.24 Higher education provides people with an opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialised knowledge and skills. It is therefore a crucial factor for survival. Being at the apex of the educational pyramid, it has also a key role in producing teachers for the education system.

5.25 In the context of the unprecedented explosion of knowledge, higher education has to become dynamic as never before, constantly entering uncharted areas.

5.26 There are around 150 universities and about 5,000 colleges in India today. In view of the need to effect an all round improvement in the institutions, it is proposed that, in the near future, the main emphasis will be on the consolidation of, and expansion of facilities in, the existing institutions.

5.27 Urgent steps will be taken to protect the system from degradation.

5.28 In view of mixed experiences with the system of affiliation, autonomous colleges will be helped to develop in large numbers until the affiliating system is replaced by a freer and more creative association of universities with colleges. Similarly, the creation of autonomous departments within universities on a selective basis will be encouraged. Autonomy and freedom will be accompanied by accountability.

5.29 Courses and programmes will be redesigned to meet the demands of specialisation better. Special emphasis will be laid on linguistic competence. There will be increasing flexibility in the combination of courses.

5.30 State level planning and co-ordination of higher education will be done through Councils of Higher Education. The UGC and these Councils will develop coordinative methods to keep a watch on standards.

5.31 Provision will be made for minimum facilities and admission will be regulated according to capacity. A major effort will be directed towards the transformation of teaching methods. Audio-visual aids and electronic equipment will be introduced; development of science and technology curricula and material, research, and teacher orientation will receive attention. This will require

preparation of teachers at the beginning of the service as well as continuing education thereafter. Teachers' performance will be systematically assessed. All posts will be filled on the basis of merit.

5.32 Research in the universities will be provided enhanced support and steps will be taken to ensure its high quality. Suitable mechanisms will be set up by the UGC for co-ordinating research in the universities, particularly in thrust areas of science and technology, with research undertaken by other agencies. An effort will be made to encourage the setting up of national research facilities within the university system, with proper forms of autonomous management.

5.33 [Research in Indology, the humanities and social sciences will receive adequate support. To fulfil the need for the synthesis of knowledge, inter-disciplinary research will be encouraged. Efforts will be made to delve into India's ancient fund of knowledge and to relate it to contemporary reality. This effort will imply the development of facilities for the intensive study of Sanskrit and other classical languages. An autonomous Commission will be established to foster and improve teaching, study and research in Sanskrit and other classical languages.]*

5.34 In the interest of greater co-ordination and consistency in policy, sharing of facilities and developing inter-disciplinary research, a national body covering higher education in general, agricultural, medical, technical, legal and other professional fields will be set up.

OPEN UNIVERSITY AND DISTANCE LEARNING

5.35 [The open learning system has been initiated in order to augment opportunities for higher education, as an instrument of democratising education and to make it a lifelong process. The flexibility and innovativeness of the open learning system are particularly suited to the diverse requirements of the citizens of our country, including those who had joined the vocational stream.]*

5.36 [The Indira Gandhi National Open University, established in 1985 in fulfilment of these objectives, will be strengthened. It would also provide support to establishment of open universities in the States]*.

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* *Substituted by Revised Policy Formulations*

5.37 [The National Open School will be strengthened and open learning facilities extended in a phased manner at the secondary level in all parts of the country].

DELINKING DEGREES FROM JOBS

5.38 A beginning will be made in de-linking degrees from jobs in selected areas.

5.39 The proposal cannot be applied to occupation-specific courses like Engineering, Medicine, Law, Teaching, etc. Similarly, the services of specialists with academic qualifications in the humanities, social sciences, sciences, etc. will continue to be required in various job positions.

5.40 De-linking will be applied in services for which a university degree need not be a necessary qualification. Its implementation will lead to a re-fashioning of job-specific courses and afford greater justice to those candidates who, despite being equipped for a given job, are unable to get it because of an unnecessary preference for graduate candidates.

5.41 [Concomitant with de-linking, an appropriate machinery, such as National Evaluation Organisation, will be established to conduct tests on a voluntary basis to determine the suitability of candidates for specific jobs, to pave the way for the emergence of norms of comparable competencies across the nation, and to bring about an over-all improvement in testing and measurement.]*

RURAL UNIVERSITY

5.42 The new pattern of the Rural University will be consolidated and developed on the lines of Mahatma Gandhi's revolutionary ideas on education so as to take up the challenges of micro-planning at grassroots levels for the transformation of rural areas. Institutions and programmes of Gandhian basic education will be supported.

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*Substituted by Revised Policy Formulations

PART VI

TECHNICAL AND MANAGEMENT EDUCATION

6.1 Although the two streams of technical and management education are functioning separately, it is essential to look at them together, in view of their close relationship and complementary concerns. The reorganisation of Technical and Management Education should take into account the anticipated scenario by the turn of the century, with specific reference to the likely changes in the economy, social environment, production and management processes, the rapid expansion of knowledge and the great advances in science and technology.

6.2 The infrastructure and services sectors as well as the unorganised rural sector also need a greater induction of improved technologies and a supply of technical and managerial manpower. This will be attended to by the Government.

6.3 In order to improve the situation regarding manpower information, the recently set up Technical Manpower Information System will be further developed and strengthened.

6.4 Continuing education, covering established as well as emerging technologies, will be promoted.

6.5 As computers have become important and ubiquitous tools, a minimal exposure to computers and a training in their use will form part of professional education. Programmes of computer literacy will be organised on wide scale from the school stage.

6.6 In view of the present rigid entry requirements to formal courses restricting the access of a large segment of people to technical and managerial education, programmes through a distance-learning process, including use of the mass media will be offered. Technical and management education programmes, including education in polytechnics, will also be on a flexible modular pattern based on credits, with provision for multi-point entry. A strong guidance and counselling service will be provided.

6.7 In order to increase the relevance of management education, particularly in the non-corporate and under-managed sectors, the management education system will study and document the Indian experience and create a body of knowledge and specific educational programmes suited to these sectors.

6.8 Appropriate formal and non-formal programmes of technical education will be devised for the benefit of women, the economically and socially weaker sections, and the physically handicapped.

6.9 The emphasis of vocational education and its expansion will need a large number of teachers and professionals in vocational education, educational technology, curriculum development, etc. Programmes will be started to meet this demand.

6.10 To encourage students to consider "self-employment" as a career option, training in entrepreneurship will be provided through modular or optional courses, in degree or diploma programmes.

6.11 In order to meet the continuing needs of updating curriculum, renewal should systematically phase out obsolescence and introduce new technologies of disciplines.

INSTITUTIONAL THRUSTS

6.12 [Some polytechnics in the rural areas have started training weaker groups in those areas for productive occupations through a system of community polytechnics. The community polytechnic system will be appropriately strengthened to increase its quality and coverage.]*

INNOVATION, RESEARCH AND DEVELOPMENT

6.13 Research as a means of renovation and renewal of educational processes will be undertaken by all higher technical institutions. It will primarily aim at producing quality manpower capable of taking up R&D functions. Research for development will focus on improving present technologies, developing new indigenous ones and enhancing production and productivity. A suitable system for watching and forecasting technology will be set up.

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* *Substituted by Revised Policy Formulation*

6.14 The scope for co-operation, collaboration and networking relationships between institutions at various levels and with the user systems will be utilised. Proper maintenance and an attitude of innovation and improvement will be promoted systematically.

PROMOTING EFFICIENCY AND EFFECTIVENESS AT ALL LEVELS

6.15 As technical and management education is expensive, the following major steps will be taken for cost-effectiveness and to promote excellence:

i) High priority will be given to modernisation and removal of obsolescence. However, modernisation will be undertaken to enhance functional efficiency and not for its own sake or as a status symbol.

ii) Institutions will be encouraged to generate resources using their capacities to provide services to the community and industry. They will be equipped with up-to-date learning resources, library and computer facilities.

iii) Adequate hostel accommodation will be provided, specially for girls. Facilities for sports, creative work and cultural activities will be expanded.

iv) More effective procedures will be adopted in the recruitment of staff. Career opportunities, service conditions, consultancy norms and other perquisites will be improved.

v) Teachers will have multiple roles to perform: teaching, research, development of learning resource material, extension and managing the institution. Initial and in-service training will be made mandatory for faculty members and adequate training reserves will be provided. Staff Development Programmes will be integrated at the State, and co-ordinated at Regional and National levels.

vi) The curricula of technical and management programmes will be targeted on current as well as the projected needs of industry or user systems. Active interaction between technical or management institutions and industry will be promoted in programme planning and implementation, exchange of personnel, training facilities and resources, research and consultancy and other areas of mutual interest.

vii) Excellence in performance of institutions and individuals will be recognised and rewarded. The emergence of substandard and mediocre institutions will be checked. A climate conducive to excellence and innovation will be promoted with full involvement of the faculty.

viii) Select institutions will be awarded academic, administrative and financial autonomy of varying degrees, building in safeguards with respect to accountability.

ix) Networking systems will have to be established between technical education and industry, R&D organisations, programmes of rural and community development, and with other sectors of education with complementary characteristics.

MANAGEMENT FUNCTIONS AND CHANGE

6.16 In view of the likely emergence of changes in management systems and the need to equip students with the ability to cope with them, effective mechanisms will be devised to understand the nature and direction of change *per se* and to develop the important skill of managing change.

6.17 In view of the integrated nature of the task, the Ministry of Human Resource Development will co-ordinate the balanced development of engineering, vocational and management education as well as the education of technicians and craftsmen.

6.18 Professional societies will be encouraged and enabled to perform their due role in the advancement of technical and management education.

6.19 [The All India Council for Technical Education, which has been given statutory status, will be responsible for planning, formulation and the maintenance of norms and standards, accreditation, funding of priority areas, monitoring and evaluation, maintaining parity of certification and awards and ensuring the co-ordinated and integrated development of technical and management education. Mandatory periodic evaluation will be carried out by a duly constituted Accreditation Board. The Council will be strengthened and it will function in a decentralised manner with greater involvement of State governments and technical institutions of good quality.][*]

[*] *Substituted by Revised Policy Formulations*

6.20 In the interests of maintaining standards and for several other valid reasons, the commercialisation of technical and professional education will be curbed. An alternative system will be devised to involve private and voluntary effort in this sector of education, in conformity with accepted norms and goals.

PART VII

MAKING THE SYSTEM WORK

7.1 It is obvious that these and many other new tasks of education cannot be performed in a state of disorder. Education needs to be managed in an atmosphere of utmost intellectual rigour, seriousness of purpose and, at the same time, of freedom essential for innovation and creativity. While far-reaching changes will have to be incorporated in the quality and range of education, the process of introducing discipline into the system will have to be started, here and now, in what exists.

7.2 The country has placed boundless trust in the educational system. The people have a right to expect concrete results. The first task is to make it work. All teachers should teach and all students study.

7.3 The strategy in this behalf will consist of -

a) better deal to teachers with greater accountability;

b) provision of improved students' services and insistence on observance of acceptable norms of behaviour;

c) provision of better facilities to institutions; and

d) creation of a system of performance appraisals of institutions according to standards and norms set at the National or State levels.

PART VIII

REORIENTING THE CONTENT AND PROCESS OF EDUCATION

THE CULTURAL PERSPECTIVE

8.1 The existing schism between the formal system of education and the country's rich and varied cultural traditions need to be bridged. The preoccupation with modern technologies cannot be allowed to sever our new generations from the roots in India's history and culture. De-culturisation, de-humanisation and alienation must be avoided at all costs. Education can and must bring about the fine synthesis between change-oriented technologies and the country's continuity of cultural tradition.

8.2 The curricula and processes of education will be enriched by cultural content in as many manifestations as possible. Children will be enabled to develop sensitivity to beauty, harmony and refinement. Resource persons in the community, irrespective of their formal educational qualifications, will be invited to contribute to the cultural enrichment of education, employing both the literate and oral traditions of communication. To sustain and carry forward the cultural tradition, the role of old masters, who train pupils through traditional modes will be supported and recognised.

8.3 Linkages will be established between the university system and institutions of higher learning in art, archaeology, oriental studies, etc. Due attention will also be paid to the specialised disciplines of Fine Arts, Museology, Folklore, etc. Teaching, training and research in these disciplines will be strengthened so as to replenish specialised manpower in them.

VALUE EDUCATION

8.4 The growing concern over the erosion of essential values and an increasing cynicism in society has brought to focus the need for readjustments in the curriculum in order to make education a forceful tool for the cultivation of social and moral values.

8.5 In our culturally plural society, education should foster universal and eternal values, oriented towards the unity and integration of our people. Such value education should help eliminate obscurantism, religious fanaticism, violence, superstition and fatalism.

8.6 Apart from this combative role, value education has a profound positive content, based on our heritage, national and universal goals and perceptions. It should lay primary emphasis on this aspect.

LANGUAGES

8.7 The Education Policy of 1968 had examined the question of the development of languages in great detail; its essential provisions can hardly be improved upon and are as relevant today as before. The implementation of this part of the 1968 Policy has, however, been uneven. The Policy will be implemented more energetically and purposefully.

BOOKS AND LIBRARIES

8.8 The availability of books at low prices is indispensable for people's education. Effort will be made to secure easy accessibility to books for all segments of the population. Measures will be taken to improve the quality of books, promote the reading habit and encourage creative writing. Authors' interests will be protected. Good translations of foreign books into Indian languages will be supported. Special attention will be paid to the production of quality of books for children, including text books and work books.

8.9 Together with the development of books, a nation-wide movement for the improvement of existing libraries and the establishment of new ones will be taken up. Provision will be made in all educational institutions for library facilities and the status of librarians improved.

MEDIA AND EDUCATIONAL TECHNOLOGY

8.10 Modern communication technologies have the potential to bypass several stages and sequences in the process of development encountered in earlier decades. Both the constraints of time and distance at once become manageable. In order to avoid structural dualism, modern

educational technology must reach out to the most distant areas and the most deprived sections of beneficiaries simultaneously with the areas of comparative affluence and ready availability.

8.11 Educational technology will be employed in the spread of useful information, the training and re-training of teachers, to improve quality, sharpen awareness of art and culture, inculcate abiding values, etc., both in the formal and non-formal sectors. Maximum use will be made of the available infrastructure. In villages without electricity, batteries or solar packs will be used to run the programme.

8.12 The generation of relevant and culturally compatible educational programmes will form an important component of educational technology, and all available resources in the country will be utilised for this purpose.

8.13 The media have a profound influence on the minds of children as well as adults; some of them tend to encourage consumerism, violence, etc., and have a deleterious effect. Radio and T.V. programmes, which clearly militate against proper educational objectives, will be prevented. Steps will be taken to discourage such trends in films and other media also. An active movement will be started to promote the production of children's films of high quality and usefulness.

WORK EXPERIENCE

8.14 Work experience, viewed as purposive and meaningful manual work, organised as an integral part of the learning process and resulting in either goods or services useful to the community, is considered as an essential component at all stages of education, to be provided through well-structured and graded programmes. It would comprise activities in accord with the interests, abilities and needs of students, the level of skills and knowledge to be upgraded with the stages of education. This experience would be helpful on his entry into the workforce. Pre-vocational programmes provided at the lower secondary stage will also facilitate the choice of the vocational courses at the higher secondary stage.

EDUCATION AND ENVIRONMENT

8.15 There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental consciousness should

inform teaching in schools and colleges. This aspect will be integrated in the entire educational process.

POPULATION EDUCATION

8.16 [Population education must be viewed as an important part of the nation's strategy to contain the growth of population. Starting at the primary and secondary levels with inculcation of consciousness about the looming crisis due to expansion of population, educational programmes should actively motivate and inform youth and adults about family planning and responsible parenthood.]*

MATHEMATICS TEACHING

8.17 [Mathematics should be visualised as the vehicle to train a child to think, reason, analyse and to articulate logically. Apart from being a specific subject, it should be treated as a concomitant to any subject involving analysis and reasoning. With the recent introduction of computers in schools, educational computing and the emergence of learning through the understanding of cause-effect relationships and the interplay of variables, the teaching of mathematics will be suitably redesigned to bring it in line with modern technological devices.]*

SCIENCE EDUCATION

8.18 Science education will be strengthened so as to develop in the child well defined abilities and values such as the spirit of inquiry, creativity, objectivity, the courage to question, and an aesthetic sensibility.

8.19 Science education programmes will be designed to enable the learner to acquire problem solving and decision making skills and to discover the relationship of science with health, agriculture, industry and other aspects of daily life. Every effort will be made to extend science education to the vast numbers who have remained outside the pale of formal education.

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* *Substituted by Revised Policy Formulations*

SPORTS AND PHYSICAL EDUCATION

8.20 [Sports and physical education are an integral part of the learning process, and will be included in the evaluation of performance. A nation-wide infrastructure for physical education, sports and games will be built into the educational edifice. The infrastructure will consist of playfields, equipment, coaches and teachers of physical education as part of the School Improvement Programme. Available open spaces in urban areas will be reserved for playgrounds, if necessary by legislation. Efforts will be made to establish sports institutions and hostels where specialised attention will be given to sports activities and sports-related studies, along with normal education. Appropriate encouragement will be given to those talented in sports and games. Due stress will be laid on indigenous traditional games.]*

YOGA

8.21 [As a system, which promotes an integrated development of body and mind, Yoga will receive special attention. Efforts will be made to introduce Yoga in all schools. To this end, it will be introduced in teacher training courses.]*

THE ROLE OF YOUTH

8.22 Opportunities will be provided for the youth to involve themselves in national and social development through educational institutions and outside them. Students will be required to participate in one or the other of existing schemes, namely, the National Service Scheme, National Cadet Corps, etc. Outside the institutions, the youth will be encouraged to take up programmes of development, reform and extension. The National Service Volunteer Scheme will be strengthened.

THE EVALUATION PROCESS AND EXAMINATION REFORM

8.23 Assessment of performance is an integral part of any process of learning and teaching. As part of sound educational strategy, examinations should be employed to bring about qualitative improvements in education.

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* *Substituted by Revised Policy Formulations*

8.24 The objective will be to re-cast the examination system so as to ensure a method of assessment that is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning; in functional terms, this would mean:

i) The elimination of excessive element of chance and subjectivity;

ii) The de-emphasis of memorisation;

iii) Continuous and comprehensive evaluation that incorporates both scholastic and non-scholastic aspects of education, spread over the total span of instructional time;

iv) Effective use of the evaluation process by teachers, students and parents;

v) Improvement in the conduct of examination;

vi) The introduction of concomitant changes in instructional materials and methodology;

vii) Instruction of the semester system from the secondary stage in a phased manner; and

viii) The use of grades in place of marks.

8.25 [The above goals are relevant both for external examinations and evaluations within educational institutions. Evaluation at the institutional level will be streamlined and the predominance of external examinations reduced. A National Examination Reform Framework would be prepared to serve as a set of guidelines to the examining bodies, which would have the freedom to innovate and adapt the framework to suit the specific situations.]*

PART IX

THE TEACHER

9.1 The status of the teacher reflects the socio-cultural ethos of a society; it is said that no people can rise above the level of its teachers. The Government and the community should

* *Substituted by Revised Policy Formulation*

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endeavour to create conditions, which will help motivate and inspire teachers on constructive and creative lines. Teachers should have the freedom to innovate, to devise appropriate methods of communication and activities relevant to the needs and capabilities of and the concerns of the community.

9.2 The methods of recruiting teachers will be reorganised to ensure merit, objectivity and conformity with spatial and functional requirements. The pay and service conditions of teachers have to be commensurate with their social and professional responsibilities and with the need to attract talent to the profession. Efforts will be made to reach the desirable objective of uniform emoluments, service conditions and grievance-removal mechanisms for teachers throughout the country. Guidelines will be formulated to ensure objectivity in the postings and transfers of teachers. A system of teachers evaluation -- open, participative and data-based -- will be created and reasonable opportunities of promotion to higher grades provided. Norms of accountability will be laid down with incentives for good performance and disincentives for non-performance. Teachers will continue to play a crucial role in the formulation and implementation of educational programmes.

9.3 Teachers' associations must play a significant role in upholding professional integrity, enhancing the dignity of the teacher and in curbing professional misconduct. National level associations of teachers, could prepare a Code of Professional Ethics for Teachers and see to its observance.

TEACHER EDUCATION

9.4 Teacher Education is a continuous process, and its pre-service and in-service components are inseparable. As the first step, the system of teacher education will be overhauled.

9.5 The new programmes of teacher-education will emphasise continuing education and the need for teachers to meet the thrusts envisaged in this Policy.

9.6 District Institutes of Education and Training (DIET) will be established with the capability to organise pre-service and in-service courses for elementary school teachers and for the personnel working in non-formal and adult education. As DIETs get established, sub-standard institutions will be phased out. Selected Secondary Teacher Training Colleges will be upgraded to complement the work of State Councils of Educational Research and Training. The National

Council of Teacher Education will be provided the necessary resources and capability to accredit institutions of teacher-education and provide guidance regarding curricula and methods. Networking arrangements will be created between institutions of teacher education and university departments of education.

PART X

THE MANAGEMENT OF EDUCATION

10.1 An overhaul of the system of planning and the management of education will receive high priority. The guiding considerations will be:

a) Evolving a long-term planning and management perspective of education and its integration with the country's developmental and manpower needs;

b) Decentralisation and the creation of a spirit of autonomy for educational institutions;

c) Giving pre-eminence to people's involvement, including association of non-governmental agencies and voluntary effort;

d) Inducting more women in the planning and management of education;

e) Establishing the principle of accountability in relation to given objectives and norms.

NATIONAL LEVEL

10.2 The Central Advisory Board of Education will play a pivotal role in reviewing educational development, determining the changes required to improve the system and monitoring implementation. It will function through appropriate Committees and other mechanisms created to ensure contact with, and co-ordination among, the various areas of Human Resource Development. The Departments of Education at the Centre and in the States will be strengthened through the involvement of professionals.

INDIAN EDUCATION SERVICE

10.3 A proper management structure in education will entail the establishment of the Indian Education Service as an All-India Service. It will bring a national perspective to this vital sector. The basic principles, functions and procedures of recruitment to this service will be decided in consultation with the State Governments.

STATE LEVEL

10.4 State Governments may establish State Advisory Boards of Education on the lines of CABE. Effective measures should be taken to integrate mechanisms in the various State departments concerned with Human Resource Development.

10.5 Special attention will be paid to the training of educational planners, administrators and heads of institutions. Institutional arrangements for this purpose should be set up in stages.

DISTRICT AND LOCAL LEVEL

10.6 District boards of Education will be created to manage education up to the higher secondary level. State Governments will attend to this aspect with all possible expedition. Within a multi-level framework of educational development, Central, State and District and Local level agencies will participate in planning, co-ordination, monitoring and evaluation.

10.7 A very important role must be assigned to the head of an educational institution. Heads will be specially selected and trained. School complexes will be promoted on a flexible pattern so as to serve as networks of institutions and synergic alliances to encourage professionalism among teachers, to ensure observance of norms of conduct and to enable the sharing of experiences and facilities. It is expected that a developed system of school complexes will take over much of the inspection functions in due course.

10.8 Local communities, through appropriate bodies, will be assigned a major role in programmes of school improvement.

VOLUNTARY AGENCIES AND AIDED INSTITUTIONS

10.9 Non-government and voluntary effort including social activist groups will be encouraged, subject to proper management, and financial assistance provided. At the same time, steps will be taken to prevent the establishment of institutions set up to commercialise education.

REDRESS OF GRIEVANCES

10.10 [Educational tribunals, fashioned after Administrative Tribunals, will be established at the national and state levels][*].

PART XI

RESOURCES AND REVIEW

11.1 The Education Commission of 1964-66, the National Education Policy of 1968 and practically all others concerned with education have stressed that the egalitarian goals and the practical, development-oriented objectives of Indian society can be realised only by making investments in education of an order commensurate with the nature and dimensions of the task.

11.2 Resources, to the extent possible, will be raised by mobilising donations, asking the beneficiary communities to maintain school buildings and supplies of some consumables, raising fees at the higher levels of education and effecting some savings by the efficient use of facilities. Institutions involved with research and the development of technical and scientific manpower should also mobilise some funds by levying a cess or charge on the user agencies, including Government departments, and entrepreneurs. All these measures will be taken not only to reduce the burden on State resources but also for creating a greater sense of responsibility within the educational system. However, such measures will contribute only marginally to the total funding. The Government and the community in general will find funds for such programmes as: the universalisation of elementary education; liquidating illiteracy; equality of access to educational opportunities to all sections throughout the country; enhancing the social

[*] Substituted by Revised Policy Formulations

relevance, quality and functional effectiveness of educational programmes; generating knowledge and developing technologies in scientific fields crucial to self-sustaining economic development and creating a critical consciousness of the values and imperatives of national survival.

11.3 The deleterious consequences of non-investment or inadequate investment in education are indeed very serious. Similarly, the cost of neglecting vocational and technical education and of research is also unacceptable. Sub-optimal performance in these fields could cause irreparable damage to the Indian economy. The network of institutions set up from time to time since Independence to facilitate the application of science and technology would need to be substantially and expeditiously updated, since they are fast becoming obsolete.

11.4 [In view of these imperatives, education will be treated as a crucial area of investment for national development and survival. The National Policy on Education, 1968, had laid down that the investment on education be gradually increased to reach a level of 6 per cent of the national income as early as possible. Since the actual level of investment has remained far short of that target, it is important that greater determination is shown now to find the funds for the programmes laid down in this Policy. While the actual requirements will be computed from time to time on the basis of monitoring and review, the outlay on education will be stepped up to ensure that during the Eighth Five Year Plan and onwards it will uniformly exceed 6 per cent of the national income.]*

REVIEW

11.5 The implementation of the various parameters of the New Policy must be reviewed every five years. Appraisals at short intervals will also be made to ascertain the progress of implementation and the trends emerging from time to time.

* *Substituted by Revised Policy Formulations*

PART XII

THE FUTURE

12.1 The future shape of education in India is too complex to envision with precision. Yet, given our tradition, which has almost always put high premium on intellectual and spiritual attainment, we are bound to succeed in achieving our objectives.

12.2 The main task is to strengthen the base of the pyramid, which might come close to a billion people at the turn of the century. Equally, it is important to ensure that those at the top of the pyramid are among the best in the world. Our cultural well springs had taken good care of both ends in the past; the skew set in with foreign domination and influence. It should now be possible to further intensify the nation-wide effort in Human Resource Development, with Education playing its multifaceted role.

NATIONAL POLICY ON EDUCATION, 1968

Education has always been accorded an honoured place in Indian society. The great leaders of the Indian freedom movement realised the fundamental role of education and throughout the nation's struggle for independence, stressed its unique significance for national development. Gandhiji formulated the scheme of basic education, seeking to harmonise intellectual and manual work. This was a great step forward in making education directly relevant to the life of the people. Many other national leaders likewise made important contributions to national education before independence.

2. In the post-independence period, a major concern of the Government of India and of the States has been to give increasing attention to education as a factor vital to national progress and security. Problems of educational reconstruction were reviewed by several commissions and committees, notably the University Education Commission (1948-49) and the Secondary Education Commission (1952-53). Some steps to implement the recommendations of these Commissions were taken; and with the passing of the Resolution on Scientific Policy under the leadership of Jawaharlal Nehru, the development of science, technology and scientific research received special emphasis. Toward the end of the third Five Year Plan, a need was felt to hold a comprehensive review of the educational system with a view to initiating a fresh and more determined effort at educational reconstruction; and the Education Commission (1964-66) was appointed to advise Government on " the national pattern of education and on the general principles and policies for the development of education at all stages and in all aspects." The Report of the Education Commission has since been widely discussed and commented upon. Government is happy to note that a consensus on the national policy on education has emerged in the course of these discussions.

3. The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the education commission is essential for economic and cultural development of the country, for national integration and for realising the ideal of a socialistic pattern of society. This will involve a transformation of the system to relate it more closely to life of the people; a continuous effort to expand educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability

committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening the national integration. This is necessary if the country is to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities.

4. The Government of India accordingly resolves to promote the development of education in the country in accordance with the following principles:

(1) **Free and Compulsory Education:** Strenuous efforts should be made for the early fulfilment of the Directive principle under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14. Suitable programmes should be developed to reduce the prevailing wastage and stagnation in schools and to ensure that every child who is enrolled in schools successfully completes the prescribed course.

(2) **Status, Emoluments and Education of Teachers:** (a) Of all the factors which determine the quality of education and its contribution to national development, the teacher is undoubtedly the most important. It is on his personal qualities and character, his educational qualifications and professional competence that the success of all educational endeavours must ultimately depend. Teachers must, therefore, be accorded an honoured place in society. Their emoluments and other service conditions should be adequate and satisfactory having regard to their qualifications and responsibilities.

(b) The academic freedom of teachers to pursue and publish independent studies and researches and to speak and write about significant national and international issues should be protected.

(c) Teacher education, particularly in-service education, should receive due emphasis.

(3) **Development of languages:** (a) *Regional Languages:* The energetic development of Indian Languages and literature is a *sine qua non* for educational and cultural development. Unless this is done, the creative energies of the people will not be released, standards of education will not improve, knowledge will not spread to the people and the gulf between the intelligentsia and masses will remain if not widen further. The

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regional languages are already in use as media of education at the primary and secondary stages. Urgent steps should now be taken to adopt them as media of education at the university stage.

(b) *Three-Language Formula*: At the secondary stage, the State Governments should adopt, and vigorously implement, the three-language formula which includes the study of a modern Indian language, preferably one of the southern languages, apart from Hindi and English in the Hindi-speaking States, and of Hindi along with the regional language and English in the Non-Hindi-speaking States. Suitable courses in Hindi and/or English should also be available in universities and colleges with a view to improving the proficiency of students in these languages up to the prescribed university standards.

(c) *Hindi*: Every effort should be made to promote the development of Hindi. In developing Hindi as the link language, due care should be taken to ensure that it will serve, as provided for in Article 351 of the Constitution, as a medium of expression for all the elements of the composite culture of India. The establishment, in non-Hindi States, of colleges and other institutions of higher education which use Hindi, as the medium of education should be encouraged.

(d) *Sanskrit*: Considering the special importance of Sanskrit to the growth and development of Indian languages and its unique contribution to the cultural unity of the country, facilities for its teaching at the school and university stages should be offered on a more liberal scale. Development of new methods of teaching the language should be encouraged, and the possibility explored of including the study of Sanskrit in those courses (such as modern Indian languages, ancient Indian history, Indology and Indian philosophy) at the first and second degree stages, where such knowledge is useful.

(e) *International Languages*: Special emphasis needs to be laid on the study of English and other international languages. World knowledge is growing at a tremendous pace, especially in science and technology. India must not only keep up this growth but should also make her own significant contribution to it. For this purpose, study of English deserves to be specially strengthened.

(4) Equalisation of Educational Opportunity: Stimulative efforts should be made to equalise educational opportunity.

(a) Regional imbalances in the provision of educational facilities should be corrected and good educational facilities should be provided in rural and other backward areas.

(b) To promote social cohesion and national integration the Common School System as recommended by the Education Commission should be adopted. Efforts should be made to improve the standard of education in general schools. All special schools like public schools should be required to admit students on the basis of merit and also to provide a prescribed proportion of free studentships to prevent segregation of social classes. This will not, however, affect the rights of minorities under Article 30 of the Constitution.

(c) The education of girls should receive emphasis, not only on grounds of social justice, but also because it accelerates social transformation.

(d) More intensive efforts are needed to develop education among the backward classes and especially among the tribal people.

(e) Educational facilities for the physically and mentally handicapped children should be expanded and attempts should be made to develop integrated programmes enabling the handicapped children to study in regular schools.

(5) **Identification of Talents:** For the cultivation of excellence, it is necessary that talent in diverse fields should be identified at as early an age as possible, and every stimulus and opportunity given for its full development.

(6) **Work - Experience and National Service:** The school and the community should be brought closer through suitable programmes of mutual service and support. Work-experience and national service including participation in meaningful and challenging programmes of community service and national reconstruction should accordingly become an integral part of education. Emphasis in these programmes should be on self-help, character formation and on developing a sense of social commitment.

(7) **Science Education and Research:** With a view to accelerating the growth of the national economy, science education and research should receive high priority. Science and mathematics should be an integral part of general education till the end of the school stage.

(8) Education for Agriculture and Industry: Special emphasis should be placed on the development of education for agriculture and industry.

(a) There should be at least one agricultural university in every State. These should, as far as possible, be single campus universities, but where necessary, they may have constituent colleges on different campuses. Other universities may also be assisted, where the necessary potential exists, to develop strong departments for the study of one are more aspects of agriculture.

(b) In technical education, practical training in industry should form an integral part of such education. Technical education and research should be related closely to industry, encouraging the flow of personnel both ways and providing for continuous co-operation in the provision, design and periodical review of training programmes and facilities.

(c) There should be a continuous review of the agricultural, industrial and other technical manpower needs of the country and efforts should be made continuously to maintain a proper balance between the output of the educational institutions and employment opportunities.

(9) Production of Books: The quality of books should be improved by attracting the best writing talent through a liberal policy of incentives and remuneration. Immediate steps should be taken for the production of high quality textbooks for schools and universities. Frequent changes of textbooks should be avoided and their prices should be low enough for students of ordinary means to buy them.

The possibility of establishing autonomous book corporations on commercial lines should be examined and efforts should be made to have a few basic textbooks common throughout the country. Special attention should be given to books for children and to university level books in regional languages.

(10) Examinations: A major goal of examination reforms should be to improve the reliability and validity of examinations and to make evaluation a continuous process aimed at helping the student to improve his level of achievement rather than at 'certifying' the quality of his performance at a given moment of time.

(11) Secondary Education: (a) Education opportunity at the secondary (and higher) level is a major instrument of social change and transformation. Facilities for Secondary education should accordingly be extended expeditiously to areas and classes, which have been denied these in the past.

(b) There is need to increase facilities for technical and vocational education at this stage. Provision of facilities for secondary and vocational education should conform broadly to requirements of the developing economy and real employment opportunities. Such linkage is necessary to make technical and vocational education at the secondary stage effectively terminal. Facilities for technical and vocational education should be suitably diversified to cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts, secretarial training, etc.

(12) University Education: (a) the number of whole-time students to be admitted to a college or university department should be determined with reference to the laboratory, library and other facilities and to the strength of the staff.

(b) Considerable care is needed in establishing new universities. These should be started only after an adequate provision of funds has been made for the purpose and due care has been taken to ensure proper standards.

(c) Special attention should be given to the organisation of postgraduate courses and to the improvement of standards of training and research at this level.

(d) Centres of advanced study should be strengthened and a small number of 'cluster of centres' aiming at the highest possible standards in research and training should be established.

(e) There is need to give increased support to research in universities generally. The institutions for research should, as far as possible, function within the fold of universities or in intimate association with them.

(13) Part-time Education and Correspondence Courses: Part time education and correspondence courses should be developed on a large scale at the university stage. Such facilities should also be developed for secondary school students, for teachers and for agricultural, industrial and other workers. Education through part-time and correspondence courses should be given the same status as full-time education. Such facilities will smoothen transition from school to work, promote the cause of education and provide opportunities to the large number of people who have the desire to educate themselves further but cannot do so on a full-time basis.

(14) Spread of Literacy and Adult Education: (a) The liquidation of mass illiteracy is necessary not only for promoting participation in the working of democratic institutions and for accelerating programmes of production, especially in agriculture, but for quickening the tempo of national development in general. Employees in large commercial, industrial and other concerns should be made functionally literate as early as possible. A lead in this direction should come from the industrial undertakings in the public sector. Teachers and students should be actively involved in organising literacy campaigns, especially as part of the Social and National Service Programme.

(b) Special emphasis should be given to the education of young practising farmers and to the training of youth for self-employment.

(15) Games and Sports: Games and sports should be developed on a large scale with the object of improving the physical fitness and sportsmanship of the average student as well as of those who excel in this department. Where playing field and other facilities for developing a nation-wide programme of physical education do not exist, these should be provided on a priority basis.

(16) Education of Minorities: Every effort should be made not only to protect the rights of minorities but to promote their educational interests as suggested in the statement issued by the Conference of the Chief Ministers of States and Central Ministers held in August, 1961.

(17) The Educational Structure: It will be advantageous to have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage of two years being located in schools, colleges or both according to local conditions.

5. The reconstruction of education on the lines indicated above will need additional outlay. The aim should be gradually to increase the investment in education so as to reach a level of expenditure of 6 per cent of the national income as early as possible.

6. The Government of India recognises that reconstruction of education is no easy task. Not only are the resources scarce but the problems are exceedingly complex. Considering the key role which education, science and research play in developing the material and human resources of the country, the Government of India will, in addition to undertaking programmes in the Central sector, assist the State Governments for the development of programmes of national importance where co-ordinated action on the part of the States and the Centre is called for.

7. The Government of India will also review, every five years, the progress made and recommend guidelines for future development.

National Curriculum Framework 2005

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

FOREWORD

I have had the privilege of participating in a remarkable process of social deliberation initiated by NCERT to focus public attention on what should be taught to our children and how. In the course of this wide-ranging churning of ideas and expectations, I have worked closely with a large number of very special individuals for the preparation of the National Curriculum Framework presented in this document. The names of these individuals are given in this document.

There is much analysis and a lot of advice. All this is accompanied by frequent reminders that specificities matter, that the mother tongue is a critical conduit, that social, economic and ethnic backgrounds are important for enabling children to construct their own knowledge. Media and educational technologies are recognised as significant, but the teacher remains central. Diversities are emphasised but never viewed as problems. There is a continuing recognition that societal learning is an asset and that the formal curriculum will be greatly enriched by integrating with that. There is a celebration of plurality and an understanding that within a broad framework plural approaches would lead to enhanced creativity.

The document frequently revolves around the question of curriculum load on children. In this regard we seem to have fallen into a pit. We have bartered away understanding for memory-based, short-term information accumulation. This must be reversed, particularly now that the mass of what could be memorised has begun to explode. We need to give our children some taste of understanding, following which they would be able to learn and create their own versions of knowledge as they go out to meet the world of bits, images and transactions of life. Such a taste would make the present of our children wholesome, creative and enjoyable; they would not be traumatised by the excessive burden of information that is required merely for a short time before the hurdle race we call examination. The document suggests some ways of getting out of this self-imposed adversity. Achieving some degree of success in this area would also signify that we have learnt to appreciate the capacity for learning and the futility of filling up children's memory banks with information that is best kept as ink marks on paper or bits on a computer disc.

Education is not a physical thing that can be delivered through the post or through a teacher. Fertile and robust education is always created, rooted in the physical and cultural soil of the child, and nourished through interaction with parents, teachers, fellow students and the community. The role and dignity of teachers in this function must be strengthened and underlined. There is a mutuality to the genuine construction of knowledge. In this

transaction the teacher also learns if the child is not forced to remain passive. Since children usually perceive and observe more than grown-ups, their potential role as knowledge creators needs to be appreciated. From personal experience I can say with assurance that a lot of my limited understanding is due to my interaction with children. The document does dwell on this aspect.

The rich and comprehensive nature of this document would not have been achieved without a special ignition that enveloped all those who got involved. I do not know who struck the spark — perhaps it was no one in particular. Perhaps the effort happened at a point in time when a critical mass of discomfort had accumulated. Enough is enough, was the feeling amongst most of the participants. Perhaps the enthusiasm of a few was infectious.

It was tempting to assign blame for many things that have not gone as well as we wished many decades ago. We have tried to avoid playing the blame game – perhaps due to the fact that we are all responsible in one way or another. Most of us are responsible as members of a middle class that had begun to emotionally secede from the mass of people in the country. I was struck by the frequency of words like 'pluralism', 'equity' and 'equality' during our discussions. I do not believe that they are part of a political rhetoric, because we talked very little politics in our extensive discussions. I believe this came about because we were led to a conviction that our strength lies in the presently deprived three-fourths of our people. Marrying their socially acquired competences and skills with academic pursuits in our educational institutions would lead to a special flowering of talent and skills.

The document suggests ways of moving in that direction. Some of the systemic changes suggested would definitely help. I hope we can become operational on ideas of a common school system, work and education, and letting children enter the world of formal learning through the language of their home and environment.

We do not feel daunted by the task. We feel it is doable. I hope this effort might start a freedom movement for the education of our young — away from some of the tyrannies in which we have enveloped ourselves.

Yash Pal

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National Curriculum Framework (NCF) 2005 owes its present shape and form to the flurry of ideas generated through a series of intensive deliberations by eminent scholars from different disciplines, principals, teachers and parents, representatives of NGOs, NCERT faculty, and several other stakeholders at various levels. It received significant contributions from state Secretaries of Education and Directors of SCERTs, and participants of the regional seminars organised at the RIEs. Experiences shared by principals of private schools and Kendriya Vidyalayas and by teachers of rural schools across the country helped in sharpening our ideas. Voices of thousands of people—students, parents, and public at large—through regular mail and electronic media helped in mapping multiple viewpoints.

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EXECUTIVE SUMMARY

The Executive Committee of NCERT had taken the decision, at its meeting held on 14 and 19 July 2004, to revise the National Curriculum Framework, following the statement made by the Hon'ble Minister of Human Resource Development in the Lok Sabha that the Council should take up such a revision. Subsequently, the Education Secretary, Ministry of HRD communicated to the Director of NCERT the need to review the National Curriculum Framework for School Education (NCFSE – 2000) in the light of the report, *Learning Without Burden* (1993). In the context of these decisions, a National Steering Committee, chaired by Prof. Yash Pal, and 21 National Focus Groups were set up. Membership of these committees included representatives of institutions of advanced learning, NCERT's own faculty, school teachers and non-governmental organisations. Consultations were held in all parts of the country, in addition to five major regional seminars held at the NCERT's Regional Institute of Education in Mysore, Ajmer, Bhopal, Bhubaneswar and Shillong. Consultations with state Secretaries, SCERTs and examination boards were carried out. A national conference of rural teachers was organised to seek their advice. Advertisements were issued in national and regional newspapers inviting public opinion, and a large number of responses were received.

The revised National Curriculum Framework (NCF) opens with a quotation from Rabindranath Tagore's essay, *Civilisation and Progress,* in which the poet reminds us that a 'creative spirit' and 'generous joy' are key in childhood, both of which can be distorted by an unthinking adult world. The opening chapter discusses curricular reform efforts made since Independence. The National Policy on Education (NPE, 1986) proposed the National Curriculum Framework as a means of evolving a national system of education, recommending a core component derived from the vision of national development enshrined in the Constitution. The Programme of Action (POA, 1992) elaborated this focus by emphasising relevance, flexibility and quality.

Seeking guidance from the Constitutional vision of India as a secular, egalitarian and pluralistic society, founded on the values of social justice and equality, certain broad aims of education have been identified in this document. These include independence of thought and action, sensitivity to others' well-being and feelings, learning to respond to new situations in a flexible and creative manner, predisposition towards participation in democratic processes, and the ability to work towards and contribute to economic processes and social change. For teaching to serve as a means of strengthening our democratic way of life, it must respond to the presence of first generation school-goers, whose retention is imperative owing to the Constitutional amendment that has made

elementary education a fundamental right of every child. Ensuring health, nutrition and an inclusive school environment empowering all children in their learning, across differences of caste, religion, gender, disability, is enjoined upon us by the Constitutional amendment. The fact that learning has become a source of burden and stress on children and their parents is an evidence of a deep distortion in educational aims and quality. To correct this distortion, the present NCF proposes five guiding principles for curriculum development: (i) connecting knowledge to life outside the school; (ii) ensuring that learning shifts away from rote methods; (iii) enriching the curriculum so that it goes beyond textbooks; (iv) making examinations more flexible and integrating them with classroom life; and (v) nurturing an overriding identity informed by caring concerns within the democratic polity of the country.

All our pedagogic efforts during the primary classes greatly depend on professional planning and the significant expansion of Early Childhood Care and Education (ECCE). Indeed, the revision of primary school syllabi and textbooks needs to be undertaken in the light of the well-known principles of ECCE. The nature of knowledge and children's own strategies of learning are discussed in Chapter 2, which formulates a theoretical basis for the recommendations made in Chapter 3 in the different curricular areas. The fact that knowledge is constructed by the child implies that curricula, syllabi and textbooks should enable the teacher in organising classroom experiences in consonance with the child's nature and environment, and thus providing opportunities for all children. Teaching should aim at enhancing children's natural desire and strategies to learn. Knowledge needs to be distinguished from information, and teaching needs to be seen as a professional activity, not as coaching for memorisation or as transmission of facts. Activity is the heart of the child's attempt to make sense of the world around him/her. Therefore, every resource must be deployed to enable children to express themselves, handle objects, explore their natural and social milieu, and to grow up healthy. If children's classroom experiences are to be organised in a manner that permits them to construct knowledge, then our school system requires substantial systemic reforms (Chapter 5) and reconceptualisation of curricular areas or school subjects (Chapter 3) and resources to improve the quality of the school ethos (Chapter 4).

In all the four familiar areas of the school curriculum, i.e. language, mathematics, science and social sciences, significant changes are recommended with a view to making education more relevant to the present day and future needs, and in order to alleviate the stress with which children are coping today. This NCF recommends the softening of subject boundaries so that children can get a taste of integrated knowledge and the joy of understanding. In addition, plurality of textbooks and other material, which could incorporate local knowledge and traditional skills, and a stimulating school environment

that responds to the child's home and community environment, are also suggested. In language, a renewed attempt to implement the three-language formula is suggested, along with an emphasis on the recognition of children's mother tongues, including tribal languages, as the best medium of education. The multilingual character of Indian society should be seen as a resource to promote multilingual proficiency in every child, which includes proficiency in English. This is possible only if learning builds on a sound language pedagogy in the mother tongue. Reading and writing, listening and speech, contribute to the child's progress in all curricular areas and must be the basis for curriculum planning. Emphasis on reading throughout the primary classes is necessary to give every child a solid foundation for school learning.

The teaching of mathematics should enhance the child's resources to think and reason, to visualise and handle abstractions, to formulate and solve problems. This broad spectrum of aims can be covered by teaching relevant and important mathematics embedded in the child's experience. Succeeding in mathematics should be seen as the right of every child. For this, widening its scope and relating it to other subjects is essential. The infrastructural challenge involved in making available computer hardware, and software and connectivity to every school should be pursued.

The teaching of science should be recast so that it enables children to examine and analyse everyday experiences. Concerns and issues pertaining to the environment should be emphasised in every subject and through a wide range of activities involving outdoor project work. Some of the information and understanding flowing from such projects could contribute to the elaboration of a publicly accessible, transparent database on India's environment, which would in turn become a most valuable educational resource. If well planned, many of these student projects could lead to knowledge generation. A social movement along the lines of *Children's Science Congress* should be visualised in order to promote discovery learning across the nation, and eventually throughout South Asia.

In the social sciences, the approach proposed in the NCF recognises disciplinary markers while emphasising integration on significant themes, such as water. A paradigm shift is recommended, proposing the study of the social sciences from the perspective of marginalised groups. Gender justice and a sensitivity towards issues related to SC and ST communities and minority sensibilities must inform all sectors of the social sciences. Civics should be recast as political science, and the significance of history as a shaping influence on the child's conception of the past and civic identity should be recognised.

This NCF draws attention to four other curricular areas: work, the arts and heritage crafts, health and physical education, and peace. In the context of work, certain radical steps to link learning with work from the pre-primary stage upwards are suggested on the

ground that work transforms knowledge into experience and generates important personal and social values, such as self-reliance, creativity and cooperation. It also inspires new forms of knowledge and creativity. At the senior level, a strategy to formally recognise out-of-school resources for work is recommended to benefit children who opt for livelihood-related education. Such out-of-school agencies need accreditation so that they can provide 'work benches' where children can work with tools and other resources. Craft mapping is recommended to identify zones where vocational training in craft forms involving local craftpersons can be made available to children.

Art as a subject at all stages is recommended, covering all four major spheres, i.e. music, dance, visual arts and theatre. The emphasis should be on interactive approaches, not instruction, because the goal of art education is to promote aesthetic and personal awareness and the ability to express oneself in different forms. The importance of India's heritage crafts, both in terms of their economic and aesthetic values, should be recognised as being relevant to school education.

The child's success at school depends on nutrition and well-planned physical activity programmes, hence resources and school time must be deployed for the strengthening of the midday meal programme. Special efforts are needed to ensure that girls receive as much attention in health and physical education programmes as boys from the pre-school stage upwards.

Peace as a precondition for national development and as a social temper is proposed as a comprehensive value framework that has immense relevance today in view of the growing tendency across the world towards intolerance and violence as a way of resolving conflicts. The potential of peace education for socialising children into a democratic and just culture can be actualised through appropriate activities and a judicious choice of topics in all subjects and at all stages. Peace education as an area of study is recommended for inclusion in the curriculum for teacher education.

The school ethos is discussed as a dimension of the curriculum as it predisposes the child towards the aims of education and strategies of learning necessary for success at school. As a resource, school time needs to be planned in a flexible manner. Locally planned and flexible school calendars and time tables which permit time slots of different lengths required for different kinds of activities, such as project work and outdoor excursions to natural and heritage sites, are recommended. Efforts are required for preparing more learning resources for children, especially books and reference materials in regional languages, for school and teacher reference libraries, and for access to interactive rather than disseminative technologies. The NCF emphasises the importance of multiplicity and fluidity

of options at the senior secondary level, discouraging the entrenched tendency to place children in fixed streams, and limiting opportunities of children, especially from the rural areas.

In the context of systemic reforms, this document emphasises strengthening *Panchayati Raj* institutions by the adoption of a more streamlined approach to encourage community participation as a means of enhancing quality and accountability. A variety of school-based projects pertaining to the environment could help create the knowledge base for the *Panchayati Raj* institutions to better manage and regenerate local environmental resources. Academic planning and leadership at the school level is essential for improving quality and strategic differentiation of roles is necessary at block and cluster levels. In teacher education, radical steps are required to reverse the recent trend towards the dilution of professional norms as recommended by the Chattopadhyaya Commission (1984). Pre-service training programmes need to be more comprehensive and lengthy, incorporating sufficient opportunities for observation of children and integration of pedagogic theory with practice through school internship.

Examination reforms constitute the most important systemic measure to be taken for curricular renewal and to find a remedy for the growing problem of psychological pressure that children and their parents feel, especially in Classes X and XII. Specific measures include changing the typology of the question paper so that reasoning and creative abilities replace memorisation as the basis of evaluation, and integration of examinations with classroom life by encouraging transparency and internal assessment. The stress on pre-board examinations must be reversed, and strategies enabling children to opt for different levels of attainment should be encouraged to overcome the present system of generalised classification into 'pass' and 'fail' categories.

Finally, the document recommends partnerships between the school system and other civil society groups, including non-governmental organisations and teacher organisations. The innovative experiences already available should be mainstreamed, and awareness of the challenges implied in the Universalisation of Elementary Education (UEE) should become a subject of wide-ranging cooperation between the state and all agencies concerned about children.

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CONSTITUTION OF INDIA

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizen:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

"When I was a child I had the freedom to make my own toys out of trifles and create my own games from imagination. In my happiness my playmates had their full share; in fact the complete enjoyment of my games depended upon their taking part in them. One day, in this paradise of our childhood, entered a temptation from the market world of the adult. A toy bought from an English shop was given to one of our companions; it was perfect, big and wonderfully life-like. He became proud of the toy and less mindful of the game; he kept that expensive thing carefully away from us, glorying in his exclusive possession of it, feeling himself superior to his playmates whose toys were cheap. I am sure if he could have used the modern language of history he would have said that he was more civilised than ourselves to the extent of his owning that ridiculously perfect toy. One thing he failed to realise in his excitement – a fact which at the moment seemed to him insignificant – that this temptation obscured something a great deal more perfect than his toy, the revelation of the perfect child. The toy merely expressed his wealth, but not the child's creative spirit, not the child's generous joy in his play, his open invitation to all who were his compeers to his play-world".

From ***Civilisation and Progress*** by Rabindranath Tagore

Chapter 1: Perspective

1.1 Introduction

India is a free nation with a rich variegated history, an extraordinarily complex cultural diversity and a commitment to democratic values and well-being for all. Ever since 1986 when the National Policy on Education was approved by Parliament, efforts to redesign the curriculum have been focused on the creation of a national system of education. Given the enormity and importance of the task of educating the country's children, it is necessary that, from time to time, we create occasions to collectively sit back and ask ourselves, "What is it that we are doing in our engagement with this task? Is it time for us to refresh what we provide to our children in the name of education?"

If we look at what the system of education has accomplished since Independence, perhaps we have much to be satisfied with. Today, our country engages nearly 55 lakh teachers spread over around 10 lakh schools to educate about 2,025 lakh children. While 82 per cent of habitations have a primary school within a radius of

one kilometre, there is an upper primary school within 3 kilometres for 75 per cent of habitations. At least 50 per cent of our children who appear at the school-leaving examinations pass out of the secondary school system. Despite these trends, 37 per cent people in India lack literacy skills, about 53 per cent children drop out at the elementary stage, and over 75 per cent of our rural schools are multigrade. Further, there is a deep disquiet about several aspects of our educational practice: (a) the school system is characterised by an inflexibility that makes it resistant to change; (b) learning has become an isolated activity, which does not encourage children to link knowledge with their lives in any organic or vital way; (c) schools promote a regime of thought that discourages creative thinking and insights; (d) what is presented and transmitted in the name of learning in schools bypasses vital dimensions of the human capacity to create new knowledge; (e) the "future" of the child has taken centre stage to the near exclusion of the child's "present", which is detrimental to the well-being of the child as well as the society and the nation.

The basic concerns of education—to enable children to make sense of life and develop their potential, to define and pursue a purpose and recognise the right of others to do the same—stand uncontested and valid even today. If anything, we need to reiterate the mutual interdependence of humans, and, as Tagore says, we achieve our greatest happiness when we realise ourselves through others. Equally, we need to reaffirm our commitment to the concept of equality, within the landscape of cultural and socio-economic diversity from which children enter into the portals of the school. Individual aspirations in a competitive economy tend to reduce education to being an instrument of material success. The perception, which places the individual in exclusively competitive relationships, puts unreasonable stress on children, and thus distorts values. It also makes learning from each other a matter of little consequence. Education must be able to promote values that foster peace, humaneness and tolerance in a multicultural society.

This document seeks to provide a framework within which teachers and schools can choose and plan experiences that they think children should have. In order to realise educational objectives, the curriculum should be conceptualised as a structure that articulates required experiences. For this, it should address some basic questions:

(a) What educational purposes should the schools seek to achieve?

(b) What educational experiences can be provided that are likely to achieve these purposes?

(c) How can these educational experiences be meaningfully organised?

(d) How do we ensure that these educational purposes are indeed being accomplished?

The review of the National Curriculum Framework, 2000 was initiated specifically to address the problem of curriculum load on children. A committee appointed by the Ministry of Human Resource Development in the early 1990s had analysed this problem, tracing its roots to the system's tendency to treat information as knowledge. In its report, *Learning Without Burden,* the committee pointed out that learning at school cannot become a joyful experience unless we change our perception of the child as a receiver of knowledge and move beyond the convention of using textbooks as the basis for examination. The impulse to teach everything arises from lack of faith in children's own creative instinct and their capacity to construct knowledge out of their experience. The size of textbooks has been growing over the years, even as the pressure to include new

topics mounts and the effort to synthesise knowledge and treat it holistically gets weaker. Flabby textbooks, and the syllabi they cover, symbolise a systemic failure to address children in a child-centred manner. Those who write such encyclopaedic textbooks are guided by the popular belief that there has been an explosion of knowledge. Therefore, vast amounts of knowledge should be pushed down the throats of little children in order to catch up with other countries. *Learning Without Burden* recommended a major change in the design of syllabi and textbooks, and also a change in the social ethos, which places stress on children to become aggressively competitive and exhibit precocity. To make teaching a means of harnessing the child's creative nature, the report recommended a fundamental change in the matter of organising the school curriculum, and also in the system of examination, which forces children to memorise information and to reproduce it. Learning for the sake of being examined in a mechanical manner takes away the joy of being young, and delinks school knowledge from everyday experience. To address this deep structural problem, the present document draws upon and elaborates on the insights of *Learning Without Burden*.

Rather than prescribe, this document seeks to enable teachers and administrators and other agencies involved in the design of syllabi and textbooks and examination reform make rational choices and decisions. It will also enable them to develop and implement innovative, locale-specific programmes. By contextualising the challenges involved in curriculum renewal in contemporary social reality, this document draws attention to certain specific problems that demand an imaginative response. We expect that it will strengthen ongoing processes of reform, such as devolution of decision making to teachers and elected local-level bodies, while it also identifies new areas for attention such as the need for plurality of textbooks and urgent improvement in the examination system.

1.2 RETROSPECT

Mahatma Gandhi had visualised education as a means of awakening the nation's conscience to injustice, violence and inequality entrenched in the social order. *Nai Talim* emphasised the self-reliance and dignity of the individual, which would form the basis of social relations characterised by non-violence within and across society. Gandhiji recommended the use of the immediate environment, including the mother tongue and work, as a resource for socialising the child into a transformative vision of society. He dreamt of an India in which every individual discovers and realises her or his talents and potential by working with others towards restructuring the world, which continues to be characterised by conflicts between nations, within society and between humanity and nature.

After Independence, the concerns of education articulated during the freedom struggle were revisited by the National Commissions — the Secondary Education Commission (1952 - 53) and the Education Commission (1964 - 66). Both Commissions elaborated on the themes emerging out of Mahatma Gandhi's educational philosophy in the changed socio-political context with a focus on national development.

Education under the Indian Constitution until 1976 allowed the state governments to take decisions on all matters pertaining to school education, including curriculum, within their jurisdiction. The Centre could only provide guidance to the States on policy issues. It is under such circumstances that the initial attempts of the National Education Policy of 1968 and the Curriculum Framework designed by NCERT in 1975 were formulated. In 1976, the Constitution was amended to include education in the Concurrent List,

and for the first time in 1986 the country as a whole had a uniform National Policy on Education. The NPE (1986) recommended a common core component in the school curriculum throughout the country. The policy also entrusted NCERT with the responsibility of developing the National Curriculum Framework, and reviewing the framework at frequent intervals.

NCERT in continuation of its curriculum-related work carried out studies and consultations subsequent to 1975, and had drafted a curriculum framework as a part of its activity in 1984. This exercise aimed at making school education comparable across the country in qualitative terms and also at making it a means of ensuring national integration without compromising on the country's pluralistic character. Based on such experience, the Council's work culminated in the National Curriculum Framework for School Education, 1988. However, the articulation of this framework through courses of studies and textbooks in a rapidly changing developmental context resulted in an increase in 'curricular load' and made learning at school a source of stress for young minds and bodies during their formative years of childhood and stress for young minds and bodies during their formative years of childhood and adolescence. This aspect has been coherently brought out in *Learning Without Burden, 1993,* the report of the Committee under the chairmanship of Professor Yash Pal.

1.3 National Curriculum Framework

In spite of the recommendations of the NPE, 1986 to identify competencies and values to be nurtured at different stages, school education came to be driven more and more by high-stake examinations based on information-loaded textbooks. Despite the review of the Curriculum Framework in 2000, the vexed issues of curriculum load and the tyranny of examinations remained unresolved. The current review exercise takes into cognizance both positive and negative developments in the field, and attempts to address the future requirements of school education at the turn of the century. In this endeavour, several interrelated dimensions have been kept in mind, namely, the aims of education, the social milieu of children, the nature of knowledge in its broader sense, the nature of human development, and the process of human learning.

The term National Curriculum Framework is often wrongly construed to mean that an instrument of uniformity is being proposed. The intention as articulated in the NPE, 1986 and the Programme of Action (PoA) 1992 was quite the contrary. NPE proposed a national framework for curriculum as a means of evolving a national system of education capable of responding to India's diversity of geographical and cultural milieus while ensuring a common core of values along with academic components. "The NPE - PoA envisaged a child-centred approach to promote universal enrolment and universal retention of children up to 14 years of age and substantial improvement in the quality of education in the school" (PoA, P. 77). The PoA further elaborated on this vision of NPE by emphasising relevance, flexibility and quality as characteristics of the National Curriculum Framework. Thus, both these documents envisioned the National Curriculum Framework as a means of modernising the system of education .

1.4 Guiding Principles

We need to plan and pay attention to systemic matters that will enable us to implement many of the good ideas that have already been articulated in the past. Paramount among these are :

> The National System of Education will be based on a national curricular framework, which contains a common core along with other components that are flexible. The common core will include the history of India's freedom movement, the constitutional obligations and other content essential to nurture national identity. These elements will cut across subject areas and will be designed to promote values such as India's common cultural heritage, egalitarianism, democracy and secularism, equality of sexes, protection of environment, removal of social barriers, observance of small family norm and inculcation of scientific temper. All educational programmes will be carried on in strict conformity with secular values. India has always worked for peace and understanding between nations, treating the whole world as one family. True to this hoary tradition, education has to strengthen this world-view and motivate the younger generations for international cooperation and peaceful co-existence. This aspect cannot be neglected. To promote equality, it will be necessary to provide for equal opportunity for all, not only in access but also in the conditions of success. Besides, awareness of the inherent equality of all will be created through the core curriculum. The purpose is to remove prejudices and complexes transmitted through the social environment and the accident of birth.
>
> National Policy on Education, 1986

- connecting knowledge to life outside the school,
- ensuring that learning is shifted away from rote methods,
- enriching the curriculum to provide for overall development of children rather than remain textbook centric,
- making examinations more flexible and integrated into classroom life and,
- nurturing an over-riding identity informed by caring concerns within the democratic polity of the country.

In the present context, there are new developments and concerns to which our curriculum must respond. The foremost among these is the importance of including and retaining all children in school through a programme that reaffirms the value of each child and enables all children to experience dignity and the confidence to learn. Curriculum design must reflect the commitment to Universal Elementary Education (UEE), not only in representing cultural diversity, but also by ensuring that children from different social and economic backgrounds with variations in physical, psychological and intellectual characteristics are able to learn and achieve success in school. In this context, disadvantages in education arising from inequalities of gender, caste, language, culture, religion or disabilities need to be addressed directly, not only through policies and schemes but also through the design and selection of learning tasks and pedagogic practices, right from the period of early childhood.

UEE makes us aware of the need to broaden the scope of the curriculum to include the rich inheritance of different traditions of knowledge, work and crafts. Some of these traditions today face a serious threat from market forces and the commodification of knowledge in the context of the globalisation of the economy. The development of self-esteem and ethics, and the need to cultivate children's creativity, must receive primacy. In the context of a fast-changing world and a competitive global context, it is imperative that we respect children's native wisdom and imagination.

Decentralisation and emphasis on the role of Panchayati Raj Institutions (PRIs) are to be viewed as major steps towards systemic reforms. PRIs offer an opportunity to make the system less bureaucratic,

The formal approach, of *equality of treatment*, in terms of equal access or equal representation for girls, is inadequate. Today, there is a need to adopt a substantive approach, towards *equality of outcome*, where diversity, difference and disadvantage are taken into account.

A critical function of education for equality is to enable all learners to claim their rights as well as to contribute to society and the polity. We need to recognise that *rights and choices in themselves cannot be exercised until central human capabilities are fulfilled*. Thus, in order to make it possible for marginalised learners, and especially girls, to claim their rights as well as play an active role in shaping collective life, education must empower them to overcome the disadvantages of unequal socialisation *and enable them to develop their capabilities of becoming autonomous and equal citizens.*

teachers more accountable, and the schools more autonomous and responsive to the needs of children. These steps should also stimulate questions and entanglements with local physical conditions, life and environment. Children acquire varied skills naturally while growing up in their environment. They also observe life and the world around them. When imported into classrooms, their questions and queries can enrich the curriculum and make it more creative. Such reforms will also facilitate the practice of the widely acknowledged curricular principles of moving from "known to the unknown", from "concrete to abstract", and from "local to global". For this purpose, the concept of critical pedagogy has to be practised in all dimensions of school education, including teacher education. It is here that, for instance, productive work can become an effective pedagogic medium for (a) connecting classroom knowledge to the life experiences of children; (b) allowing children from marginalised sections of society, having knowledge and skills related to work, to gain a definite edge and respect among their peers from privileged sections; and (c) facilitating a growing appreciation of cumulative human experience, knowledge and theories by building rationally upon the contextual experiences.

Making children sensitive to the environment and the need for its protection is another important curricular concern. The emergence of new technological choices and living styles witnessed during the last century has led to environmental degradation and vast imbalances between the advantaged and the disadvantaged. It has become imperative now more than ever before to nurture and preserve the environment. Education can provide the necessary perspective on how human life can be reconciled with the crisis of the environment so that survival, growth and development remain possible. The National Policy on Education, 1986 emphasised the need to create awareness of environmental concerns by integrating it in the educational process at all stages of education and for all sections of society.

Living in harmony within oneself and with one's natural and social environment is a basic human need. Sound development of an individual's personality can take place only in an ethos marked by peace. A disturbed natural and psycho-social environment often leads to stress in human relations, triggering intolerance and conflict. We live in an age of unprecedented violence—local, national, regional and global. Education often plays a passive, or even insidious role, allowing young minds to be indoctrinated into a culture of intolerance, which denies the fundamental importance of human sentiments and the noble truths discovered by different civilisations. Building a culture of peace is an incontestable goal of education. Education to be meaningful should empower individuals to choose peace as a way of life and enable them to become

managers rather than passive spectators of conflict. Peace as an integrative perspective of the school curriculum has the potential of becoming an enterprise for healing and revitalising the nation.

As a nation we have been able to sustain a robust democratic polity. The vision of democracy articulated by the Secondary Education Commission (1952) is worth recalling:

> *Citizenship in a democracy involves many intellectual, social and moral qualities…a democratic citizen should have the understanding and the intellectual integrity to sift truth from falsehood, facts from propaganda and to reject the dangerous appeal of fanaticism and prejudice … should neither reject the old because it is old nor accept the new because it is new, but dispassionately examine both and courageously reject what arrests the forces of justice and progress…..*

For us to foster democracy as a way of life rather than only a system of governance, the values enshrined in the Constitution assume paramount significance.

- The Constitution of India guarantees equality of status and opportunity to all citizens. Continued exclusion of vast numbers of children from education and the disparities caused through private and public school systems challenge the efforts towards achieving equality. Education should function as an instrument of social transformation and an egalitarian social order.
- Justice—social, economic and political—to all citizens is integral to strengthening democracy.
- Liberty of thought and action is a fundamental value embedded in our Constitution. Democracy requires as well as creates a kind of citizen who pursues her own autonomously chosen ends and respects others' right to do so as well.
- A citizen needs to internalise the principles of equality, justice and liberty to promote fraternity among all.
- India is a secular democratic state, which means that all faiths are respected, but at the same time the Indian state has no preference for any particu lar faith. The felt need, today, is to inculcate among children a respect for all people regardless of their religious beliefs.

India is a multicultural society made up of numerous regional and local cultures. People's religious beliefs, ways of life and their understanding of social relationships are quite distinct from one another. All the groups ha ve equal rights to co-exist and flourish, and the education system needs to respond to the cultural pluralism inherent in our society. To strengthen our cultural heritage and national identity, the curriculum should enable the younger generation to reinterpret and re-evaluate the past with reference to new priorities and emerging outlooks of a changing societal context. Understanding human evolution should make it clear that the existence of distinctness in our country is a tribute to the special spirit of our country, which allowed it to flourish. The cultural diversity of this land should continue to be treasured as our special attribute. This should not be considered a result of mere tolerance. Creation of a citizenry conscious of their rights and duties, and commitment to the principles embodied in our Constitution is a prerequisite in this context.

1.5 THE QUALITY DIMENSION

Even as the system attempts to reach every child, the issue of quality presents a new range of challenges. The belief that quality goes with privilege is clearly irreconcilable with the vision of participatory democracy that India upholds and practises in the political sphere. Its practise in the sphere of education

Democracy is based on faith in the dignity and worth of every single individual as a human being. … The object of a democratic education is, therefore, the full, all-round development of every individual's personality. … i.e. an education to initiate the students into the many-sided art of living in a community. It is obvious, however, that an individual cannot live and develop alone. …. No education is worth the name which does not inculcate the qualities necessary for living graciously, harmoniously and efficiently with one's fellow men. (Secondary Education Commission, 1952 - 53, p. 20)

demands that the education available to all children in different regions and sections of society has a comparable quality. J.P. Naik had described equality, quality and quantity as the 'elusive triangle' of Indian education. Dealing with this metaphorical triangle requires a deeper theoretical understanding of quality than has been available. UNESCO's recently published global monitoring report discusses systemic standards as the appropriate context of the quality debate. From this point of view, the child's performance needs to be treated as an indicator of systemic quality. In a system of education that is divided between a fast-growing private sector and a larger state sector marked by shortages and the uneven spread of resources, the issue of quality poses complex conceptual and practical questions. The belief that private schools have higher quality treats examination results as the sole criterion for judging quality. This kind of perception ignores the ethos-related limitations of the privileged private schools. The fact that they often neglect the child's mother tongue warrants us to wonder about the opportunities that they are able to provide to the child for constructing knowledge in meaningful ways. Moreover, the exclusion of the poor from their admission process implies the loss of learning opportunities that occur in a classroom with children from diverse socio-economic and cultural backgrounds.

Physical resources by themselves cannot be regarded as an indicator of quality; yet, the extreme and chronic shortage of physical resources, including basic infrastructural amenities, in schools run by the state or local bodies does present a serious quality constraint. The availability of qualified and motivated teachers who perceive teaching as a career option applies to all sectors of schools as a necessary precondition for quality. Recent suggestions for the dilution of standards in teacher recruitment, training and service conditions articulated in the NPE, and, before it, by the Chattopadhyaya Commission (1984), arouse anxiety. No system of education can rise above the quality of its teachers, and the quality of teachers greatly depends on the means deployed for selection, procedures used for training, and the strategies adopted for ensuring accountability.

The quality dimension also needs to be examined from the point of view of the experiences designed for the child in terms of knowledge and skills. Assumptions about the nature of knowledge and the child's own nature shape the school ethos and the approaches used by those who prepare the syllabi and textbooks, and by teachers as well. The representation of knowledge in textbooks and other materials needs to be viewed from the larger perspective of the challenges facing humanity and the nation today. No subject in the school curriculum can stay aloof from these larger concerns, and therefore the selection of knowledge proposed to be included in each subject area requires careful examination in terms of socio-economic and cultural conditions and goals. The

greatest national challenge for education is to strengthen our participatory democracy and the values enshrined in the Constitution. Meeting this challenge implies that we make quality and social justice the central theme of curricular reform. Citizenship training has been an important aspect of formal education. Today, it needs to be boldly reconceptualised in terms of the discourse of universal human rights and the approaches associated with critical pedagogy. A clear orientation towards values associated with peace and harmonious coexistence is called for. Quality in education includes a concern for quality of life in all its dimensions. This is why a concern for peace, protection of the environment and a predisposition towards social change must be viewed as core components of quality, not merely as value premises.

1.6 THE SOCIAL CONTEXT OF EDUCATION

The education system does not function in isolation from the society of which it is a part. Hierarchies of caste, economic status and gender relations, cultural diversity as well as the uneven economic development that characterise Indian society also deeply influence access to education and participation of children in school. This is reflected in the sharp disparities between different social and economic groups, which are seen in school enrolment and completion rates. Thus, girls belonging to *SC* and *ST* communities among the rural and urban poor and the disadvantaged sections of religious and other ethnic minorities are educationally most vulnerable. In urban locations and many villages, the school system itself is stratified and provides children with strikingly different educational experiences. Unequal gender relations not only perpetuate domination but also create anxieties and stunt the freedom of both boys and girls to develop their human capacities to their fullest. It is in the interest of *all* to liberate human beings from the existing inequalities of gender.

Schools range from the high- cost 'public' (private) schools, to which the urban elite send their children, to the ostensibly 'free', poorly functioning local- body - run primary schools where children from hitherto educationally deprived communities predominate. A striking recent feature is the growth of multigrade schools in rural areas, based on the mechanical application of 'teacher - pupil ratios' to the need to provide a school within 1 km. of each habitation, yet unsupported by the necessary curricular concepts or clarity on materials or pedagogy. Such developments unintentionally reinforce privilege and exclusion in education and undermine the constitutional values of equality of opportunity and social justice. If 'free' education is understood as the 'removal of constraints' to education, then we must realise the importance of other sectors of the state's social policy for supporting and facilitating the achievement of UEE.

Globalisation and the spread of market relations to every sphere of society have important implications for education. On the one hand, we are witnessing the increasing commercialisation of education, and, on the other hand, inadequate public funding for education and the official thrust towards 'alternative' schools. These factors indicate a shifting of responsibility for education from the state to the family and the community. We need to be vigilant about the pressures to commodify schools and the application of market-related concepts to schools and school quality. The increasingly competitive environment into which schools are being drawn and the aspirations of parents place a tremendous burden of stress and anxiety on all children, including the very young, to the detriment of their personal growth

and development, and thus hampering the inculcation of the joy of learning.

The 73rd and 74th Constitutional amendments, and the institutionalised statutory space they provide for local communities to participate in decision making in education for their children, are important developments. However, parental aspirations for education are belied by endemic poverty and unequal social relations, and by lack of adequate provision of schooling of equitable quality. The concerns of the burgeoning population of the urban poor are still not reflected in planning. The expectations and aspirations of the poor for education cannot be set aside as being outside the frame of curricular concerns.

The social context of education in India thus presents a number of challenges, which must be addressed by the curriculum framework, both in its design as well as its implementation. The discussion on guiding principles has drawn attention to these challenges as well as some of the ways in which they can be addressed. Opening the concept of knowledge to include new areas of knowledge and experience, inclusivity in selecting learning tasks, pedagogic practices that are alert to promoting participation, building self-confidence and critical awareness, and an openness to engaging with the community to explain and share curricular decisions are among the new ideas discussed in different sections of this document.

1.7 Aims of Education

The aims of education serve as broad guidelines to align educational processes to chosen ideals and accepted principles. The aims of education simultaneously reflect the current needs and aspirations of a society as well as its lasting values, and the immediate concerns of a community as well as broad human ideals. At any given time and place they can be called the contemporary and contextual articulations of broad and lasting human aspirations and values.

Educational aims turn the different activities undertaken in schools and other educational institutions into a creative pattern and give them the distinctive character of being 'educational'. An educational aim helps the teacher connect her present classroom activity to a cherished future outcome without making it instrumental, and therefore give it direction without divorcing it from current concerns. Thus, an aim is a foreseen end: it is not an idle view of a mere spectator; rather, it influences the steps taken to reach the end. An aim must provide foresight. It can do this in three ways: First, it involves careful observation of the given conditions to see what means are available for reaching the end, and to discover the hindrances in the way. This may require a careful study of children, and an understanding of what they are capable of learning at different ages. Second, this foresight suggests the proper order or sequence that would be effective. Third, it makes the choice of alternatives possible. Therefore, acting with an aim allows us to act intelligently. The school, the classroom, and related learning sites are spaces where the core of educational activity takes place. These must become spaces where learners have experiences that help them achieve the desired curricular objectives. An understanding of learners, educational aims, the nature of knowledge, and the nature of the school as a social space can help us arrive at principles to guide classroom practices.

The guiding principles discussed earlier provide the landscape of social values within which we locate our educational aims. The first is a commitment to democracy and the values of equality, justice, freedom, concern for others' well-being, secularism, respect for human dignity and rights. Education should aim to build

a commitment to these values, which are based on reason and understanding. The curriculum, therefore, should provide adequate experience and space for dialogue and discourse in the school to build such a commitment in children.

Independence of thought and action points to a capacity of carefully considered, value-based decision making, both independently and collectively.

A sensitivity to others' well-being and feelings, together with knowledge and understanding of the world, should form the basis of a rational commitment to values.

Learning to learn and the willingness to unlearn and relearn are important as means of responding to new situations in a flexible and creative manner. The curriculum needs to emphasise the processes of constructing knowledge.

Choices in life and the ability to participate in democratic processes depend on the ability to contribute to society in various ways. This is why education must develop the ability to work and participate in economic processes and social change. This necessitates the integration of work with education. We must ensure that work-related experiences are sufficient and broadbased in terms of skills and attitudes,that they foster an understanding of socio-economic processes, and help inculcate a mental frame that encourages working with others in a spirit of cooperation. Work alone can create a social temper.

Appreciation of beauty and art forms is an integral part of human life. Creativity in arts, literature and other domains of knowledge is closely linked.

Ah, my son is off to school !..... Luckily I managed to get one of these from the airport !
(Courtesy : R. K. Laxman in the Times of India)

Education must provide the means and opportunities to enhance the child's creative expression and the capacity for aesthetic appreciation. Education for aesthetic appreciation and creativity is even more important today when aesthetic gullibility allows for opinion and taste to be manufactured and manipulated by market forces. The effort should be to enable the learner to appreciate beauty in its several forms. However, we must ensure that we do not promote stereotypes of beauty and forms of entertainment, that might constitute an affront to women and persons with disabilities.

Chapter 2: Learning and Knowledge

This chapter establishes the need to recognise the child as a natural learner, and knowledge as the outcome of the child's own activity. In our everyday lives outside the school, we enjoy the curiosity, inventiveness and constant querying of children. They actively engage with the world around them, exploring, responding, inventing and working things out, and making meaning. Childhood is a period of growth and change, involving developing one's physical and mental capacities to the fullest. It involves being socialised into adult society, into acquiring and creating knowledge of the world and oneself in relation to others in order to understand, to act, and to transform. Each new generation inherits the storehouse of culture and knowledge in society by integrating it into one's own web of activities and understanding, and realising its 'fruitfulness' in creating afresh.

2.1 Primacy of the Active Learner

Informal learning in society builds on the learners' natural ability to draw upon and construct their own knowledge, to develop their

capacities, in relating to the environment around them, both physical and social, and to the task at hand. For this to happen, opportunities to try out, manipulate, make mistakes and correct oneself are essential. This is as true of learning language as it is of a craft skill or a discipline. Schools as institutions provide new opportunities for all learners to learn about themselves, others, and society, to access their inheritance and engage with it irrespective of and outside the access provided by one's birth into a family and a community. The formal processes of learning that school makes possible can open up new possibilities of understanding and relating to the world.

Our current concern in curriculum development and reform is to make it an inclusive and meaningful experience for children, alongwith the effort to move away from a textbook culture. This requires a fundamental change in how we think of learners and the process of learning. Hence the need to engage in detail with the underpinnings and implications of 'child-centred' education.

'Child-centred' pedagogy means giving primacy to children's experiences, their voices, and their active participation. This kind of pedagogy requires us to plan learning in keeping with children's psychological development and interests. The learning plans therefore must respond to physical, cultural and social preferences within the wide diversity of characteristics and needs. Our school pedagogic practices, learning tasks, and the texts we create for learners tend to focus on the socialisation of children and on the 'receptive' features of children's learning. Instead, we need to nurture and build on their active and creative capabilities—their inherent interest in making meaning, in relating to the world in 'real' ways through acting on it and creating, and in relating to other humans. Learning is active and social in its character. Frequently, the notions of 'good student' that are promoted emphasise obedience to the teacher, moral character, and acceptance of the teacher's words as 'authoritative' knowledge.

2.2 LEARNERS IN CONTEXT

Children's voices and experiences do not find expression in the classroom. Often the only voice heard is that of the teacher. When children speak, they are usually only answering the teacher's questions or repeating the teacher's words. They rarely do things, nor do they have opportunities to take initiative. The curriculum must enable children to find their voices, nurture their curiosity—to do things, to ask questions and to pursue investigations, sharing and integrating their experiences with school knowledge—rather than their ability to reproduce textual knowledge. Reorienting the curriculum to this end must be among our highest priorities, informing the preparation of teachers, the annual plans of schools, the design of textbooks,

Common sources of physical discomfort

- *Long walks to school.*
- *Heavy school bags.*
- *Lack of basic infrastructure, including support books for reading and writing.*
- *Badly designed furniture that gives children inadequate back support and cramps their legs and knees.*
- *Time tables that do not give young children enough breaks to stretch, move and play, and that deprive older children of play/sports time, and encourage girls to opt out.*
- *Especially for girls, the absence of toilets and sanitary requirements.*
- *Corporal punishment—beating, awkward physical postures.*

learning materials and teaching plans, and evaluation and examination patterns.

Children will learn only in an atmosphere where they feel they are valued. Our schools still do not convey this to *all* children. The association of learning with fear, discipline and stress, rather than enjoyment and satisfaction, is detrimental to learning. Our children need to feel that each one of them, their homes, communities, languages and cultures, are valuable as resources for experience to be analysed and enquired into at school; that their diverse capabilities are accepted; that all of them have the ability and the right to learn and to access knowledge and skills; and that adult society regards them as capable of the best. We are becoming more aware of the importance of these needs as our schools expand and increasingly include children from all sections of society. The midday meal and the provisioning of infrastructural support and pedagogic concern for inclusive education are among the most significant developments in recent times. A strong stand must be taken against all forms of corporal punishment. The boundaries of the school need to become more porous to the community. At the same time, the problems of curriculum load and examination-related stress require urgent attention in all their dimensions. Physical and emotional security is the cornerstone for all learning, right from the primary to the secondary school years, and even afterwards.

2.3 Development and Learning

The period from infancy to adolescence is one of rapid growth and change. The curriculum must have a holistic approach to learning and development that is able to see the interconnections and transcend divisions between physical and mental development, and between individual development and interaction with others.

2.3.1 The precondition for all development is healthy physical growth of all children. This requires that the basic needs in terms of adequate nutrition, physical exercise and other psycho-social needs are addressed. Participation of all children in free play, informal and formal games, yoga and sports activities is essential for their physical and psycho-social development. The range of abilities as a result of games, sports and yoga will improve stamina, fine and gross motor skills and dexterities, self-awareness and control, and coordination in team games. Simple adaptation of playgrounds, equipment and rules can make activities and games accessible to all children in the school. Children can achieve high levels of excellence in sports, athletics, gymnastics, yoga and performing arts such as dance. When the emphasis shifts from enjoyment to achievement, such training can make demands of discipline and practice that can create stress at this stage. Whereas all students must be involved in health and physical education activities, those who choose to excel in games and sports need to be provided adequate opportunities.

Physical development supports mental and cognitive development, especially in young children. The capacity to think, reason and make sense of the self and the world, and to use language, is intimately connected with acting and interacting—doing things by oneself and with others.

2.3.2 Cognition involves the capacity to make sense of the self and the world, through action and language. Meaningful learning is a generative process of representing and manipulating concrete things and mental representations, rather than storage and retrieval of information. Thinking, language (verbal or sign) and doing things are thus intimately inter-twined. This is a process that begins in infancy, and develops through independent and mediated activities. Initially, children are cognitively oriented to the here and now, able to

There is a range of schools, both private and government, catering to different socio-economic groups. According to the Kothari Commission: "In a situation of the type we have in India, it is the responsibility of the education system to bring the different social classes and groups together and thus promote the emergence of an egalitarian and integrated society. But at present instead of doing so, the education system itself is tending to increase social segregation and to perpetuate and widen class distinctions. …What is worse, this segregation is increasing and tending to widen the gulf between the classes and the masses…" (1966:10). Are we telling our children that we value them differently? If the answer is 'Yes', we urgently need to take steps for realising the goal that the Kothari Commission had placed before us by recommending a system of common schools. A common school system can be defined as a national system of education that is founded on the ideals and values of the Constitution of India, and which has the capacity to provide education of a comparable quality to all children in an equitable manner irrespective of their caste, creed, gender, class or location. In such a system, all categories of schools presently in vogue (i.e. government, local body, or private) have the responsibility of providing for basic infrastructural and pedagogic norms and ensuring free education to all children residing in the vicinity of the school.

reason and act logically on concrete experiences. As their linguistic capabilities and their ability to work in the company of others develop, it opens up possibilities of more complex reasoning in tasks that involve abstraction, planning and dealing with ends that are not in view. There is an overall increase in the capability of working with the hypothetical, and reasoning in the world of the possible.

Conceptual development is thus a continuous process of deepening and enriching connections and acquiring new layers of meaning. Alongside is the development of theories that children have about the natural and social worlds, including themselves in relation to others, which provide them with explanations for why things are the way they are, the relationships between causes and effects, and the bases for decisions and acting. Attitudes, emotions and morals are thus an integral part of cognitive development, and are linked to the development of language, mental representations, concepts and reasoning. As children's metacognitive capabilities develop, they become more aware of their own beliefs and capable of regulating their own learning.

- All children are naturally motivated to learn and are capable of learning.
- Making meaning and developing the capacity for abstract thinking, reflection and work are the most important aspects of learning.
- Children learn in a variety of ways—through experience, making and doing things, experimentation, reading, discussion, asking, listening, thinking and reflecting, and expressing oneself in speech, movement or writing—both individually and with others. They require opportunities of all these kinds in the course of their development.
- Teaching something before the child is cognitively ready takes away from learning it at a later stage. Children may 'remember' many facts but they may not understand them or be able to relate them to the world around them.
- Learning takes place both within school and outside school. Learning is enriched if the two arenas interact with each other. Art and work provide opportunities for holistic learning that is rich in tacit and aesthetic components. Such experiences are essential for linguistically known things,

especially in moral and ethical matters, to be learnt through direct experience, and integrated into life.

- Learning must be paced so that it allows learners to engage with concepts and deepen understanding, rather than remembering only to forget after examinations. At the same time learning must provide variety and challenge, and be interesting and engaging. Boredom is a sign that the task may have become mechanically repetitive for the child and of little cognitive value.
- Learning can take place with or without mediation. In the case of the latter, the social context and interactions, especially with those who are capable, provide avenues for learners to work at cognitive levels above their own.

2.3.3 Adolescence is a critical period for the development of self-identity. The process of acquiring a sense of self is linked to physiological changes, and also learning to negotiate the social and psychological demands of being young adults. Responsible handling of issues like independence, intimacy, and peer group dependence are concerns that need to be recognised, and appropriate support be given to cope with them. The physical space of the outside world, one's access to it, and free movement influence construction of the self. This is of special significance in the case of girls, who are often constrained by social conventions to stay indoors. These very conventions promote the opposite stereotype for boys, which associates them with the outdoors and physical process. These stereotypes get especially heightened as a result of biological maturational changes during adolescence. These physiological changes have ramifications in the psychological and social aspects of an adolescent's life. Most adolescents deal with these changes without full knowledge and understanding, which could make them vulnerable to risky situations like sexually transmitted diseases, sexual abuse, HIV/AIDS and drug and substance abuse.

It is a time when the given and internalised norms and ideas are questioned, while at the same time the opinions of the peer group become very important. It is important to recognise that adolescents need social and emotional support that may require reinforcement of norms of positive behaviour, acquisition of skills essential to cope with the risky situations that they encounter in their lives, manage peer pressure and deal with gender stereotypes. The absence of such support can lead to confusion and misunderstanding about these changes, and affect their academic and extracurricular activities.

2.3.4 It is important to create an inclusive environment in the classroom for all students, especially those who are at risk of marginalisation, for instance, students with disabilities. Labelling an individual student or a group of students as learning disabled etc. creates a sense of helplessness, inferiority and stigmatisation. It tends to overshadow difficulties that children may be facing in schools due to diverse socio-cultural backgrounds and inappropriate pedagogical approaches being used in the classroom. A student with a disability has an equal right to membership of the same group as all other students. Differences between students must be viewed as resources for supporting learning rather than as a problem. Inclusion in education is one of the components of inclusion in society.

Schools, therefore, have a responsibility of providing a flexible curriculum that is accessible to all students. This document can form a starting point for planning a curriculum that meets the specific needs of individual students or groups of students. The curriculum must provide appropriate challenges and create enabling opportunities for students to experience

success in learning and achievement to the best of their potential. Teaching and learning processes in the classroom should be planned to respond to the diverse needs of students. Teachers can explore positive strategies for providing education to all children, induding those perceived as having disabilities. This can be achieved in collaboration with fellow teachers or with organisations outside the school.

2.4 IMPLICATIONS FOR CURRICULUM AND PRACTICE

2.4.1 Teaching for Construction of Knowledge

In the constructivist perspective, learning is a process of the construction of knowledge. Learners actively construct their own knowledge by connecting new ideas to existing ideas on the basis of materials/activities presented to them (experience). For example, using a text or a set of pictures/visuals on a transport system coupled with discussions will allow young learners to be facilitated to construct the idea of a transport system. Initial construction (mental representation) may be based on the idea of the road transport system, and a child from a remote rural setting may form the idea centred around the bullock cart. Learners construct mental representations (images) of external reality (transport system) through a given set of activities (experiences). The structuring and restructuring of ideas are essential features as the learners progress in learning. For instance, the initial idea of a transport system built around road transport will be reconstructed to accommodate other types of transport systems—sea and air—using appropriate activities. The engagement of learners, through relevant activities, can further facilitate in the construction of mental images of the relationships (cause-effect) between a transport system and human life/economy. However, there is a social aspect in the construction process in the sense that knowledge needed for a complex task can reside in a group situation. In this context, collaborative learning provides room for negotiation of meaning, sharing of multiple views and changing the internal representation of the external reality. Construction indicates that each learner individually and socially constructs meaning as he/she learns. Constructing meaning is learning. The constructivist perspective provides strategies for promoting learning by all.

The teacher's own role in children's cognition could be enhanced if they assume a more active role in relation to the process of knowledge construction in which children are engaged. A child constructs her/his knowledge while engaged in the process of learning. Allowing children to ask questions that require them to relate what they are learning in school to things happening outside, encouraging children to answer in their own words and from their own experiences, rather than simply memorising and getting answers right in just one way — all these are small but important steps in helping children develop their understanding. 'Intelligent guessing' must be encouraged as a valid pedagogic tool. Quite often, children have an idea arising from their everyday experiences, or because of their exposure to the media, but they are not quite ready to articulate it in ways that a teacher might appreciate. It is in this 'zone' between what you know and what you almost know that new knowledge is constructed. Such knowledge often takes the form of skills, which are cultivated outside the school, at home or in the community. All such forms of knowledge and skills must be respected. A sensitive and informed teacher is aware of this and is able to engage children through well-chosen tasks and questions, so that they are able to realise their developmental potential.

Active engagement involves enquiry, exploration, questioning, debates, application and reflection, leading

to theory building and the creation of ideas/positions. Schools must provide opportunities to question, enquire, debate, reflect, and arrive at concepts or create new ideas. An element of challenge is critical for the process of active engagement and learning various concepts, skills and positions through the process. What is challenging for a particular age group becomes easy and uninteresting for the other age group, and may be remote and uninteresting at another stage.

So often, in the name of 'objectivity', teachers sacrifice flexibility and creativity. Very often teachers, in government as well as private schools, insist that all children must give identical answers to questions. The argument given for not accepting other answers is that, "They cannot give answers that are not there in the textbook." "We discussed it in the staffroom and decided that we will only accept this answer as right!", or that "There will be too many types of answers. Then should we accept them all?" Such arguments make a travesty of the meaning of learning and only serve to convince children and parents that schools are irrationally rigid. We must ask ourselves why we only ask children to *give* answers to questions. Even the ability to make a set of questions for given answers is a valid test of learning.

2.4.2 The Value of Interactions

Learning takes place through interactions with the environment around, nature, things and people, both through actions and through language. The physical activity of moving, exploring and doing things, on one's own, with one's peers or in the company of adults, and using language — to read, to express or ask, to listen and to interact — are the key processes through which learning occurs. The context in which learning takes place is thus of direct cognitive significance.

Framing Questions…

If the answer is '5', what might be the questions? Here are some 'answers'.

What is four and one make?

What is thirty-three take away twenty-seven plus one?

How many burfees do you want?

I reached my grandmother's house on Sunday and I left on Thursday. How many days did I spend there?

A, B, C came. Then E, F, G, H joined them. Then A and G left. Then G came back, and B went away. How many were left finally?

***If the answer is,* 'It was red', what might be the questions?**

What was the colour of the flower?

Why did you put the letter into that box?

Why did she stop so suddenly at the traffic light?

Much of our school learning is still individual based (although not individualised!). The teacher is seen as transmitting 'knowledge', which is usually confused with information, to children, and organising experiences in order to help children learn. But interaction with teachers, with peers, as well as those who are older and younger can open up many more rich learning possibilities. Learning in the company of others is a process of interacting with each other and also through the learning task at hand. This kind of learning is enriched when schools enrol children from different socio-economic backgrounds.

In the early primary school years, a beginning has been made in the area of group work. Projects and activities that can be carried out by groups need to

Constructivist Learning Situation

Process	Science	Language
	Situation Learners read a text on mammals and view a video on the life of mammals in different locales. Such events or activities consist of mammals moving in groups on land or in water, grazing, attacking a prey, giving birth, flocking together at the time of danger and related events.	*Situation* Learners read the story 'Kabuliwallah'. Later, they are given background material with illustrations of certain scenes of the story and brief descriptions. A few learners enact one or two scenes depicted in the illustrations.
Observation	Learners make note of the key events or behaviour or activities of mammals.	Learners watch the scenes enacted.
Contextualisation	They relate their analysis to the text.	They relate the story of the text with the illustrations of the background material.
Cognitive apprenticeship	Teacher illustrates how he/she would analyse and interpret such information using the example of mammals.	Using a scene enacted, the teacher models how to integrate reading the story and the illustrations of the background material.
Collaboration	Learners form groups to work on the task while the teacher suggests/guides them as they proceed.	Learners work in groups to generate interpretations while the teacher suggests/ guides them as they proceed.
Interpretation construction	Learners analyse and generate evidence to verify their hypothesis related to mammals living on land or water, etc.	They analyse and generate their own interpretations of the story.
Multiple interpretations	They provide explanations and defend their ideas or hypotheses using their analyses and text both within and between groups. Evidence and arguments along with the text expose them to various ways of finding answers or interpreting data.	Comparing the interpretations within and between groups gives the learners the idea that people can have different reactions to the story, 'Kabuliwallah'.
Multiple manifestations	By going back and forth through the process and relating each contextual background on various events and the behaviour of mammals, the learners notice that the general principles embedded in what they are doing become manifested.	Using the text, background illustrations and their own reflections, the learners see how the same characters and themes can be manifested in several ways.

Role of the Teacher : *In this context, the teacher is a facilitator who encourages learners to reflect, analyse and interpret in the process of knowledge construction.*

become a feature of learning in the middle and high school also. There are ways in which such group learning can be assessed and evaluated. Schools could also consider giving mixed age groups of children projects to do together. In such mixed groups, there is much that children can learn from each other, such as team work and social values. In the company of others, one has opportunities of participating in larger tasks where one may find a niche to contribute to, thus achieving something above one's own potential, and one may be able to try out what one does not fully know. Group learning tasks, taking responsibility, and contributing to a task at hand are all important facets of not only acquiring knowledge but also in the learning of arts and crafts . In a multi-grade class situation, such vertical grouping, which cuts across different grades, and which allows a single activity to be used across different age groups, could provide a pedagogically feasible and sound curriculum plan.

2.4.3 Designing Learning Experiences

The quality of the learning task influences its learnability and its value for the learner. Tasks that are too easy or too difficult, that are repetitive and mechanical, that are based on recalling the text, that do not permit self-expression and questioning by the child and that depend solely on the teacher for correction, make the child assume the passive stance of obedience. Learners learn not to value their own ability to think and reason, that knowledge is created by others and that they must only receive it. The onus falls teacher to 'motivate' children who do not seem to be naturally motivated. Learners accept being controlled and learn to want to control. These are ultimately detrimental to the growth of cognitive self-reflexivity and flexibility which are essential if learning is to empower the learner. By the time they reach Class VII, many children who have grown up in this kind of learning environment, lose their self-confidence and their ability to express themselves or make meaning out of their experiences in school. They repeatedly resort to mechanical rote memorisation to pass examinations.

Instead, tasks that are challenging and allow independent thinking, and multiple ways of being solved, encourage independence, creativity and self-discipline in learners. Instead of a culture of quizzing, of answering quickly and always knowing the right answer, we need to allow learners to spend time on deeper, meaningful learning.

Learning tasks that are designed to ensure that children will be encouraged to seek out knowledge from sites other than the textbook, in their own experience, in the experiences of people at home and in the community, in libraries and other sites outside the school, communicate the philosophy that learning and knowledge are to be sought out, authenticated and thereby constructed, and that neither the textbook nor the teacher is an authority. In this context, heritage sites assume great significance as sites of learning. Not only the history teacher, but also teachers of all subjects need to inculcate in the children under their care a sense of respect for sites of archaeological significance and the desire to explore and understand their importance.

There have been efforts aimed at improving the classroom environment and curriculum planning for children in Classes I and II in recent years. While these need to be reviewed and strengthened, there is also a need to engage with questions of designing learning experiences for older children that help them understand concepts and create and 'own' the knowledge that they learn. We are now seeing a small shift away from the focus on 'factual knowledge', but teacher preparation, planning of classroom practice, textbook preparation, and evaluation need to support this shift more decisively.

There is a need for incorporating flexibility in planning and adapting textbook content to designing topic learning, so as to move towards the NPE-86 goal of breaking out of watertight compartments. For this, it is necessary to build the capabilities and confidence of teachers to autonomously plan their teaching in response to the needs and demands of children's learning. Currently, pedagogic reform efforts are still very centralised. Effective decentralisation would be possible through the greater involvement of Cluster and Block Resource Centres, the availability of local resource persons, and of resource and reference materials for the use of teachers.

2.4.4 Approaches to Planning

Our educational practice is still based on limited 'lesson plans' aimed at achieving measurable 'behaviours'; according to this view, the child is akin to a creature that can be trained, or a computer that can be programmed. Hence, there is too much focus on 'outcomes', and presenting knowledge divided into bits of information to be memorised directly from the text or through activities after 'motivating' children, and finally on evaluating to see if children remember what they have learnt. Instead, we need to view the child as 'constructing knowledge' all the time. This is true not only of 'cognitive subjects' such as mathematics and science, language and social science, but equally of values, skills and attitudes.

This perspective on the learner may sound 'obvious', but, in fact, many teachers, evaluators, and textbook writers still lack the conviction that this can become a reality.

- The term 'activity' is now a part of the registerof most elementary schoolteachers, but in many cases this has just been grafted onto the 'Herbartian' lesson plan, still driven by 'outcomes' at the end of each lesson. There is now more talk of competencies, but these competencies are still pegged onto lessons much in the manner of 'outcomes'. Instead, teachers need to develop the ability to plan 'units' of four or five sessions for each topic. The development of understanding and of competencies is also possible only through repeated opportunities to use the competencies in different situation, and in a variety of ways. While the development of knowledge, understanding and skills can be assessed both at

Organising experiences

Observing something happen, say, the process of seed germination, in a real situation or observing different stages of milk collection, processing and packaging different kinds of products in a dairy farm.

Participating in an exercise involving body and mind such as planning a role play around a theme and presenting it.

Talking about and reflecting on something the child has experience of (e.g. dialogue on gender-differentiated practices in the family and society or participating in a mental game of numbers).

Making something, say, a system of gear wheels or trying out an experiment to lift a load using a system of pulleys.

After the experience, teachers could organise a discussion, an exercise involving, writing, drawing and display. She could identify along with the children questions to be thought about and answered.

She could connect the experience with textbook knowledge and other references and deepen the experience.

Such experiences and post - experience activities would be valuable at any level of schooling. Only the nature and complexity of the experience would need to change over the years. Language is key to organising experiences. Hence, there should be a proper coordination between the kind of experience and the level of language development.

the end of a unit, and revisited at a later date, the assessment cycle for competencies needs to be longer.

- Activities could enable teachers to give individualised attention to children, and to make alterations in a task depending on their requirements and variations in the level of interest. In fact, teachers could also consider involving children and older learners in planning the class work, such variety would bring tremendous richness to the classroom processes. It would also allow teachers to respond to the special needs of some children without making it seem as if it is an obvious exception. There is still not enough engagement on the part of the teacher with the learning of each child; children are treated en masse, and only those who are regarded as 'stars' or 'problematic' are noticed. All children would benefit from such attention.
- A lesson plan or unit plan for an inclusive class should indicate how the teacher alters the ongoing activity to meet the different needs of children. Failure to learn is currently being mechanically addressed through 'remediation', which usually means simply repeating lessons. Many teachers are also looking for 'cures' to set right the problems that some children may experience. They still find it difficult to individualise learning for children by building upon the strengths that children may have.
- Teachers need to understand how to plan lessons so that children are challenged to think and to try out what they are learning, and not simply repeat what is told to them. A new problem is that in the name of 'activities' and 'play way' methods, a lot of learning is being diluted by giving children things to do that are far below their capability. One concern is that a focus on activities would become too time consuming and make greater demands on teachers, time. Certainly, doing activities requires that time be spent in planning and preparing for activities. Initially, teachers need to make an effort to establish the classroom culture for activities and to establish the rules that will govern the space and use of materials.
- Planning with the support of appropriate material resources for individualised, small group and whole group work is the key to effective management of instruction in a multigrade, multiability or vertically grouped classroom. Instead of finding ways of juggling lesson plans based on mono-grade textbooks, teachers would need to devise, in advance, thematic topic plans in order to engage learners with exercises created for their level.
- The practices of teachers in classrooms, the materials they use, and the evaluation techniques employed must be internally consistent with each other.

2.4.5 Critical Pedagogy

Teacher and student engagement is critical in the classroom because it has the power to define whose knowledge will become a part of school-related knowledge and whose voices will shape it. Students are not just young people for whom adults should devise solutions. They are critical observers of their own conditions and needs, and should be participants in discussions and problem solving related to their education and future opportunities. Hence children need to be aware that their experiences and perceptions are important and should be encouraged to develop the mental skills needed to think and reason independently and have the courage to dissent. What children learn

out of school — their capacities, learning abilities, and knowledge base — and bring to school is important to further enhance the learning process. This is all the more critical for children from underprivileged backgrounds, especially girls, as the worlds they inhabit and their realities are under represented in school knowledge.

Participatory learning and teaching, emotion and experience need to have a definite and valued place in the classroom. While class participation is a powerful strategy, it loses its pedagogic edge when it is ritualised, or merely becomes an instrument to enable teachers to meet their own ends. True participation starts from the experiences of both students and teachers.

Critical pedagogy provides an opportunity to reflect critically on issues in terms of their political, social, economic and moral aspects. It entails the acceptance of multiple views on social issues and a commitment to democratic forms of interaction. This is important in view of the multiple contexts in which our schools function. A critical framework helps children to see social issues from different perspectives and understand how such issues are connected to their lives. For instance, understanding of democracy as a way of life can be chartered through a path where children reflect on how they regard others (e.g. friends, neighbours, the opposite sex, elders, etc.), how they make choices (e.g. activities, play, friends, career, etc.), and how they cultivate the ability to make decisions. Likewise, issues related to human rights, caste, religion and gender can be critically reflected on by children in order to see how these issues are connected to their everyday experiences, and also how different forms of inequalities become compounded and are perpetuated. Critical pedagogy facilitates collective decision making through open discussion and by encouraging and recognising multiple views.

Why should stereotypes persist?

A matter of serious concern is the persistence of stereotypes regarding children from marginalised groups, including SC *and* ST*, who traditionally have not had access to schooling or learning. Some learners have been historically viewed as uneducable, less educable, slow to learn, and even scared of learning. There is a similar stereotype regarding girls, which encourages the belief that they are not interested in playing games, or in mathematics and science. Yet another set of stereotypes is applied to children with disabilities, perpetuating the notion that they cannot be taught along with other children. These perceptions are grounded in the notion that inferiority and inequality are inherent in gender, caste and physical and intellectual disability. There are a few success stories, but much larger are the numbers of learners who fail and thus internalise a sense of inadequacy. Realising the constitutional values of equality is possible only if we prepare teachers to treat all children equally. We need to train teachers to help them cultivate an understanding of the cultural and socio-economic diversity that children bring with them to school.*

Many of our schools now have large numbers of first-generation school goers. Pedagogy must be reoriented when the child's home provides any direct support to formal schooling. First-generation school goers, for example, would be completely dependent on the school for inculcating reading and writing skills and fostering a taste for reading, and for familiarising them with the language and culture of the school, especially when the home language is different from the language of school. Indeed they need all the assistance they can get. Many such children are also vulnerable to conditions prevailing at home, which might make them prone to lack of punctuality, irregularity and inattentiveness in the classroom. Mobilising intersectoral support for freeing children from such constraints, and for designing a curriculum sensitive to these circumstances, therefore is essential.

When children and teachers share and reflect on their individual and collective experiences without fear of judgement, it gives them opportunities to learn about others who may not be a part of their own social reality. This enables them to understand and relate to differences instead of fearing them. If children's social experiences are to be brought into the classroom, it is inevitable that issues of conflict will need to be addressed. Conflict is an inescapable part of children's lives. They constantly encounter situations that call for moral assessment and action, whether in relation to subjective experiences of conflict involving the self, family and society, or in dealing with exposure to violent conflict in the contemporary world. To use conflict as a pedagogic strategy is to enable children to deal with conflict and facilitate awareness of its nature and its role in their lives.

Learning to question received knowledge critically, whether it is found in a 'biased' textbook, or other literary sources in their own environments, can be built by encouraging learners to comment, compare and think about elements that exist in their own environment. Women and dalit activists have used songs as a powerful medium for discussion, comment and analysis. Repositories of knowledge exist in different mediums, hence all these forms, whether television programme, advertisements, songs, paintings, etc., need to be brought into create a dynamic interaction among learners themselves.

A pedagogy that is sensitive to gender, class, caste and global inequalities is one that does not merely affirm different individual and collective experiences but also locates these within larger structures of power and raises questions such as, who is allowed to speak for whom? Whose knowledge is most valued? This requires evolving different strategies for different learners. For example, encouraging speaking up in class may be important for some children, while for others it may be learning to listen to others.

The role of teachers is to provide a safe space for children to express themselves, and simultaneously to build in certain forms of interactions. They need to step out of the role of 'moral authority' and learn to listen with empathy and without judgement, and to enable children to listen to each other. While consolidating and constructively stretching the limits of the learner's understanding, they need to be conscious of how differences are expressed. An atmosphere of trust would make the classroom a safe space, where children can share experiences, where conflict can be acknowledged and constructively questioned, and where resolutions, however tentative, can be mutually worked out. In particular, for girls and children from under-privileged social groups, schools and classrooms should be spaces for discussing processes of decision making, for questioning the basis of their decisions, and for making informed choices.

2.5 KNOWLEDGE AND UNDERSTANDING

The question, 'What should be taught to the young'? derives from a deeper question, namely, What aims are worth pursuing in education? The answer is a vision of the capabilities and values that every individual must have and a socio-political and cultural vision for society. This is not a single aim, but a set of aims. So also the content selected seeks to do justice to the entire set of aims; it has to be comprehensive and balanced. The curriculum needs to provide experiences that build the knowledge base through a progressive introduction to the capabilities of thinking rationally, to understand the world through various disciplines, foster aesthetic appreciation and sensitivity towards others, to work and to participate in economic processes. This section discusses the nature and forms of knowledge and

Talking Pictures

Show the class a picture of a household with various members of the family performing different tasks. The difference is that the father is cooking, the mother fixing a light bulb, the daughter returning from school on a bicycle, and the son milking a cow, the other sister climbing a mango tree, and the other son sweeping the floor. The grandfather is sewing on a button, and the grandmother is doing the accounts.
Ask the children to talk about the picture.
What are the 'works' they can identify?
Do they think that there is any work that these people should not be doing?
Why?
Involve them in a discussion on the dignity of labour, equality and gender.
Discuss the importance of each individual being self - sufficient and complete.

This can be done for other topics such as good and bad work, caste stereotyping and the value - added nature of work through similar talking pictures.

understanding as necessary elements terrains for making informed curricular choices and approaches to content.

Knowledge can be conceived as experience organised through language into patterns of thought (or structures of concepts), thus creating meaning, which in turn helps us understand the world we live in. It can also be conceived of as patterns of activity, or physical dexterity with thought, contributing to acting in the world, and the creating and making of things. Human beings over time have evolved many *bodies of knowledge,* which include a repertoire of *ways of thinking, of feeling and of doing things,* and constructing more knowledge. All children have to re-create a significant part of this wealth for themselves, as this constitutes the basis for further thinking and for acting appropriately in this world. It is also important to learn to participate in the very process of knowledge creation, meaning making and human action, i.e. work. Conceiving knowledge in this broad sense directs us to the importance of examining knowledge in terms of not only the 'product', but also the underlying principles of how it is created, how it is organised, who accesses it, and what it is used for. It suggests that in the curriculum, there must be as much focus on the process of learning, on how learners engage with and reconstruct knowledge, as on the content of what is learnt.

If, on the other hand, knowledge is regarded as a finished product, then it is organised in the form of information to be 'transferred' to the child's mind. Education would concern itself with maintaining and transmitting this store - house of human knowledge. In this view of knowledge, the learner is conceived of as a passive receiver, while in the former there is a dynamic engagement with the world through observing, feeling, reflecting, acting, and sharing.

The curriculum is a plan to develop capabilities that are likely to help achieve the chosen educational aims. The range of human capabilities is very wide, and through education we cannot develop them all. The concern is therefore with those that are necessary and significant in relation to our aims, which offer potential for further development, and for which we have some pedagogic knowledge.

2.5.1 Basic Capabilities

Children's basic capabilities are those that form the broad basis for the development of understanding, values and skills.

a. **Language** and other forms of expression provide the basis for meaning making, and sharing with others. They create possibilities of development of understanding and knowledge, providing the ability to symbolise, codify, and to remember and record. Development of language for a child is synonymous with development of understanding and identity, and also the capability of relating with others. It is not only verbal languages with scripts, but also languages without scripts, sign languages, scripts such as Braille and the performing arts, that provide the bases for making meaning and the expression.

b. **Forming and sustaining relationships** with the social world, with the natural world, and with one's self, with emotional richness, sensitivity and values. This gives meaning to life, providing it with emotional content and purpose. This is also the basis for ethics and morality.

c. **Capabilities for work and action** involves the coordination of bodily movement with thought and volition, drawing on skill and understanding, and directing oneself to achieve some purpose or create something. It also involves handling tools and technologies, and the ability to manipulate and organise things and experiences, and to communicate.

2.5.2 Knowledge in Practice

A vast array of human activities and practices sustain social living and culture. Crafts such as weaving, carpentry and pottery, and occupations such as farming and shopkeeping, constitute alongwith and performing and visual arts and sports a valuable form of knowledge. These forms of knowledge are of a practical nature, tacit and often only partially articulated.

Many of them involve abilities that are developed. These include the ability to conceptualise and imagine products that are useful or aesthetic, the knowledge of and ability to work with materials to fashion a product, knowledge of one's own abilities, appreciation of team work, and attitudes of persistence and discipline. This is true whether it is an object being fashioned or whether it is a play a to be presented to an audience.

Describing these activities as skills draws attention to only the dexterities that are involved, but not to the considerable understanding of the social and natural world and the self that each of these forms of practice involves. Like accepted academic disciplines, these crafts and trades too have their traditions and expert practitioners. The knowledge relevant to each of these crafts, occupations and art forms is cumulatively developed and is passed on through experience and reflection to the next generation of practitioners. Therefore, each one of them is a discipline of practical knowledge. The Indian heritage of such forms of

> A craft like carpentry involves the ability to conceptualise and design the object to be made, an understanding of its value in the society (socio-cultural, aesthetic and economic significance), knowledge of materials available and the most suitable in terms of quality and cost for the product to be made, knowledge of where to source materials, the ability to plan and execute the fashioning of the product from beginning to end, using one's own skills and sourcing relevant skills from others, maintaining the necessary tools, judging for quality, creativity and excellence in craftsmanship.
>
> A sport like *kabaddi* involves physical stamina and endurance, knowledge of rules of the game, skills and physical dexterity, and knowledge of one's own capacities, ability to plan and coordinate as a team, to assess the other team, and to strategise to win.

Oral and Craft Traditions

The oral lore and traditions of craft are a unique intellectual property, varied and sophisticated, preserved by innumerable groups in our society, including women, marginalised, and communities, and tribal people. By including these in the curriculum for all children, we could provide them with windows of understanding and kernels of ideas, skills and capabilities that could be worked into forms and inventions that could enrich their own lives and society. School privileges the literate, but cannot afford to continue to ignore the oral. Sustaining oral skills of all kinds is important.

practical knowledge is vast, varied and rich. As productive skills, they are an invaluable part of the economy.

More reflection and research is needed in order to understand the epistemological structure of these practical disciplines. Understanding how they are practised and learnt, and how to formalise their learning, are questions of sociological importance as traditional occupations are linked to caste groups and are gendered. It is necessary to realise their curricular significance, not only as forms of work but equally as forms of knowledge, and as mediums for other learning. This important area of human knowledge needs to become a substantial part of the school curriculum.

2.5.3 Forms of Understanding

Knowledge can be categorised based on distinct kinds of concepts and meanings involved and processes of validation and justification. Each involves its own kind of 'critical thinking', its own way of verifying and authenticating knowledge, and its own kind of 'creativity'.

Mathematics has its own distinctive concepts, such as prime number, square root, fraction, integer and function. It also has its own validation procedure, namely, a step-by-step demonstration of the necessity of what is to be established. The validation procedures of mathematics are never empirical, never based on observation of the world or on experiment, but are demonstrations internal to the system specified by an appropriate set of axioms and definitions.

The *Sciences*, like the systems of mathematics, have their own concepts, often interconnected through theories, and are attempts to describe and explain the natural world. Concepts include atom, magnetic field, cell, and neuron. Scientific inquiry involves observation and experimentation to validate predictions made by theory (hypotheses), which may be aided by instruments and controls. Formalisation into theory and model building can sometimes involve mathematics, but it is only with reference to observations and not to mathematical accuracy that truth is tested. The attempt is to furnish a narrative that in some way 'corresponds' to reality.

The Social Sciences and *Humanities* have their own concepts, for example, community, modernisation, culture, identity, and polity. The Social Sciences aim at developing a generalised and critical understanding of human beings and human groups in society. The Social Sciences concern themselves with description, explanation and prediction in the social world. The Social Sciences deal with hypotheses that are about human behaviour in collective living, and their validation finally depends on the observations made in the society. With regard to the process of knowledge formation, Science and the Social Sciences are almost identical. But there are two differences that are of great relevance in curriculum planning. First, the Social Sciences study human behaviour which is governed by 'reasons', while nature is governed by 'cause and effect'. Second, the findings of the Social Sciences often raise issues of

ethics and desirability while natural phenomena can be understood, raising ethical questions only when they enter into the domain of human action.

Art and aesthetics have many words in common, such as rhythm, harmony, expression and balance, though giving them new senses or new ranges of application. Art productions cannot be judged against reality or investigated for 'truth'. Although there is ample scope for subjective judgement in art, it is also possible to educate the artistic imagination to critically assess what is good and what is not.

Ethics is concerned with all human values, and with the rules, principles, standards and ideals which give them expression. In relation to action and choice, therefore, ethics must be conceded primacy over each of the forms of understanding. Ethical understanding involves understanding reasons for judgements—for what makes some things and some acts right and others wrong—regardless of the authority of the persons involved. Furthermore, such reasons will be reasons for anyone; reason, equality and personal autonomy are therefore very intimately connected concepts.

Philosophy involves a concern, on the one hand, with analytical clarification, evaluation and synthetic coordination of the aforementioned forms of understanding in relation to life, and, on the other hand, with the whole, the ultimate meaning and the transcendent.

The basic capabilities, the knowledge of practice and the forms of understanding are the core ways in which human experience has been elaborated in the course of history. All but the simplest kinds of human activity draw upon them—the liberal professions, technology, industry and commerce. They are central to human culture. Imagination and critical thinking are linked in obvious ways with the development of understanding and reason, and so are the emotions.

Each of these knowledge areas involves a special vocabulary, concepts, theories, descriptions and methodologies. Each provides a 'lens' through which to view the world, to understand, to engage, and to act in it. These areas have developed, and continue to grow, through the contributions of people in the past. They have also changed in their structure and emphasis. A variety of intelligence and forms of knowing come into play while learning these areas: 'formal modes' of explicit reasoning and articulation; looking for and evaluating evidence; 'experiential' and tacit knowing through doing and undergoing the experience; coordinating and observing; and 'practical' engagement, either by oneself or in coordination with others in making or accomplishing something, in addressing problems and issues while charting a course of action. Creativity and excellence are integral to all these forms of knowledge and knowing.

This accumulation of human culture and knowledge, and ways of knowing and doing things, is

Layers of understanding

Comprehension: understanding the language, and the (linguistic) contents of what is said.

Reference: understanding what is being talked about—what the terms and concepts refer to.

Epistemic: understanding what counts as evidence, what makes a statement true, how to seek evidence and judge truth.

Relational and Significant: understanding through developing interconnections between different facts and concepts and weaving them into an interconnected web of 'known things', understanding relationships between different things, and the significance of each in relation to the other.

a valuable part of the inheritance of human society. All our children have a right to access this knowledge, to educate and enrich their common sense, to develop and discover themselves and the world of nature and people, through these lenses and tools.

2.6 RECREATING KNOWLEDGE

These capabilities, practices, and skills of understanding are what we seek to develop through the school curriculum. Some of them readily lend themselves to being formulated as 'subjects' of study such as mathematics, history, science, and the visual arts. Others, such as ethical understanding, need to be interwoven into subjects and activities. The basic capabilities of language require both approaches, and aesthetic understanding also readily lends itself to both approaches. All these areas require opportunities for project activities, thematic and interdisciplinary courses of studies, field trips, use of libraries and laboratories.

This approach to knowledge necessitates a move away from 'facts' as ends in themselves, and a move towards locating facts in the process through which they come to be known, and moving below the surface of facts to locate the deeper connections between them that give them meaning and significance.

In India, we have traditionally followed a subject-based approach to organising the curriculum, drawing on only the disciplines. This approach tends to present knowledge as 'packaged', usually in textbooks, along with associated rituals of examinations to assess, knowledge acquisition and marks as a way of judging competence in the subject area. This approach has led to several problems in our education system. First, those areas that do not lend themselves to being organised in textbooks and examined through marks become sidelined and are then described as 'extra' or 'co-curricular', instead of being an integral part of the curriculum. These rarely receive the attention they deserve in terms of preparation by teachers or school time. Areas of knowledge such as crafts and sports, which are rich in potential for the development of skill, aesthetics, creativity, resourcefulness and team work, also become sidelined. Important areas of knowledge such as work and associated practical intelligences have been completely neglected, and we still do not have an adequate curriculum theory to support the development of knowledge, skills and attitudes in these areas.

Second, the subject areas tend to become watertight compartments. As a result, knowledge seems fragmented rather than interrelated and integrated. The discipline, rather than the child's way of viewing the world, tends to become the starting point, and boundaries get constructed between knowledge in the school and knowledge outside.

Third, what is already known gets emphasised, subverting children's own ability to construct knowledge and explore novel ways of knowing. Information takes precedence over knowledge, lending itself to producing bulky textbooks, 'quizzing' and methods of mechanical retrieval rather than understanding and problem solving. This tendency of mistaking information for knowledge leads to 'loading' the curriculum with too many facts to be memorised.

Fourth, there is the issue of including 'new subjects'. The need for subjects addressing contemporary concerns of society is important. But there has been a misplaced tendency to address these concerns in the school curriculum by 'creating' new subjects, producing related textbooks and devising methods of evaluation for them. These concerns may be far better addressed if they are incorporated in the curriculum through existing subjects and ongoing activities. Needless to say, adding new areas as 'subjects'

only increases the curriculum load, and perpetuates undesirable compartmentalisation of knowledge.

Finally, the principles for selecting knowledge for inclusion in the curriculum are not well worked out. There is insufficient consideration of developmental appropriateness, logical sequencing and connection between different grades, and overall pacing, with a few or no opportunities to return to earlier concepts. Further, concepts that cut across subject areas, such as in secondary school mathematics and in physics, are not placed in relation to one another

2.7 Children's Knowledge and Local Knowledge

The child's community and local environment form the primary context in which learning takes place, and in which knowledge acquires its significance. It is in interaction with the environment that the child constructs knowledge and derives meaning. This area has generally been neglected both in the conceptualisation of textbooks and in pedagogic practices. Hence, in this document, we emphasise the significance of contextualising education: of situating learning in the context of the child's world, and of making the boundary between the school and its natural and social environment porous. This is not only because the local environment and the child's own experiences are the best 'entry points, into the study of disciplines of knowledge, but more so because the aim of *knowledge is to connect with the world.* It is not a means to an end, but both means and end. This does not require us to reduce knowledge to the functional and immediately relevant, but to realise its dynamism by connecting with the world through it.

Unless learners can locate their individual standpoints in relation to the concepts represented in textbooks and relate this knowledge to their own experiences of society, knowledge is reduced to the level of mere information. If we want to examine how learning relates to future visions of community life, it is crucial to encourage reflection on *what it means to know something*, and how to use what we have learnt. The learner must be recognised as a proactive participant in his or her own learning.

Day after day children bring to school their experiences of the world around them the trees that they have climbed, the fruits they have eaten, the birds they have admired. All children are alive to the natural cycles of day and night, of the weather, the water, the plants and the animals that surround them. Children, when they enter Class I already have a rich language base of small numbers, and the rudiments of operations are already in place. Yet rarely do we hear the knowledge that they already have and which they bring into the classroom. Rarely do we ask children to

Selecting Knowledge

Domains of knowledge have grown enormously, so that it is necessary to select what is to be included in the curriculum.

Relevance: This could lead to very functionalist choices, with mistaken notions relating to usefulness in later adult life. This may be completely unsuited to children's engagement in knowledge construction in the present, and hence in no way contributes to learning for the future.

Interest: A useful measure, but this should not be reduced to simplistic notions of what children enjoy, such as 'cartoon' figures or games. Rather the measure should be the ability to engage a child and keep her interested and self - motivated to engage in the task at hand.

Meaningful: The most important measure. Only if the child finds the activity or knowledge being learnt meaningful, will its inclusion in the curriculum be justified.

talk about or refer to the world outside the school during our lessons and teaching. Instead we resort to the convenience of the printed word and picture, all of which are poor replicas of the natural world. Worse still, today in the name of computer-aided learning, the living world is being turned into animation strips that children are expected to watch on their computer screens. Before starting a lesson on living and non-living, if a teacher was to take her class out on a walk through a field near the school, and on returning asked each child to write the names of ten living things and ten non-living things that she/he saw, the results would be amazing. Children in Mahabalipuram in Tamil Nadu may include in their list of things sea shells, pebbles and fish, and those in Chhattisgarh near the Dandakaranya forest may include nest, bee hive, and anklet. Instead, children are usually required to look at a drawing in the textbook, or a list of words, and sort the things out as living and non-living. During a lesson on water pollution, children could examine the water sources and water bodies and then connect these with different types of pollution. This exercise could also raise issues regarding how lack of safe water affects health. Instead, children are expected to see pictures of polluted water and comment on them. When studying the moon and its phases, how many teachers actually ask the children to look at the moon at night and then talk about it the next day? Instead of asking children the names of local birds and trees, our textbooks name 'ubiquitous' things that seem to belong everywhere and yet belong nowhere. Only if children in, say Class VIII, can connect the chapter on photosynthesis with the real plants around would they think of asking questions such as, 'How do crotons, which have coloured leaves but no green leaves, manage to manufacture their food?' Only when the living world around becomes available for critical reflection within the school will children become alive to the issues of the environment and nurture their concern for it.

The local environment is thus a natural learning resource, which must be privileged when making choices regarding what should be included, what

Participating in the Generation of Knowledge

Given its intrinsic variability, each manifestation of the environment tends to be unique. Its understanding cannot, therefore, be arrived at solely on the basis of the classical scientific approach of experimentation, calling for extensive replication. Instead, an understanding of such complex systems requires extensive locale-and time-specific observations, careful documentation, and an elucidation of the patterns and underlying processes based on comparisons of systems that differ from each other in some specific ways. There is hardly any good quality documentation available today of the many facets of India's environment, such as the depth of the underground water table, and it is feasible to create such documentation on the basis of student projects. It would be possible to upload the results of such projects on a publicly accessible website, thereby creating a transparent and comprehensive database on India's environment. By inviting not only experts, but also all interested citizens to assess the quality of such projects and augment their results, a self-correcting system could be set up that would lead to an organic growth of our understanding of the Indian environmental scenario and concrete ways of undertaking positive action. Such information collated annually over the years, and also shared with and compared with other regions, and collated centrally would produce a significant understanding of ecological changes and develop a perspective on what is happening and why through comparisons. Including such knowledge-generation activities as a part of the educational process would also greatly enhance the quality of the educational experience.

concrete examples should be cited in planning for their transaction in the classroom. In the case of content selection for the Social Sciences and language, it is important to keep in mind the ideals and values enshrined in the Constitution. Inclusion of the local context in classroom transaction would imply a serious attempt by the teacher to make choices in a manner that is pedagogically imaginative and ethically sound. When children living in Kerala are introduced to the habitat of the desert in Rajasthan, the descriptions must be rich and detailed so that they can get a feel of the natural world there, in all its particularities and diversity, rather than evoking images of the typical sand dune and the camel. They should wonder how in a place so hot people wear more rather than fewer clothes. They should also be able to compare life there with life around them in their local community, and ask what things would happen in the same way, and what things would happen differently.

The local environment consists not only of the physical and natural world but also the socio-cultural world. All children have a voice at home, and it is essential for the school to ensure that their voices continue to be heard in the classroom as well. Communities also have rich cultural resources: local stories, songs, jokes and riddles, and art, all of which can enrich language and knowledge in schools. They also have rich oral histories. By imposing silence we stifle children.

2.8 SCHOOL KNOWLEDGE AND THE COMMUNITY

Experiences of the socio-cultural world also need to become a part of the curriculum. Children need to find examples of the plurality of peoples and ways of life represented in the textbooks. These portrayals need to ensure that no community is oversimplified, labelled, or judged. It may even be better for children to study and generate portrayals of the local social groups as a part of their social science studies. They can then directly interact with the gram panchayat representative, who may be invited to the school to speak about the extent to which decentralisation has helped in addressing local civic issues. Local oral history could also be connected with regional history and national history. But the social context also calls for a much greater critical awareness and critical engagement on the part of curriculum developers and teachers. Community-based identities, of gender, caste, class and religion are primary identities, but they can also be oppressive and reaffirm social inequalities and hierarchies. School knowledge can also provide a lens

Local Knowledge Traditions

Many communities and individuals in India are a rich storehouse of knowledge about many aspects of India's environment, acquired over generations and handed down as traditional knowledge, as well as through an individual's practical experience. Such knowledge may pertain to: naming and categorising plants, or ways of harvesting and storing water, or of practising sustainable agriculture. Sometimes these may be different from the ways in which school knowledge approaches the subject. At other times, it may not be recognised as something that is important. In these situations, teachers could help children develop projects of study based on local traditions and people's practical ecological knowledge; this may also involve comparing these with the school approach. In some cases, as in the case of classifying plants, the two traditions may be simply parallel and be based on different criteria considered significant. In other cases, for example the classification and diagnosis of illnesses, it may also challenge and contradict local belief systems. However, all forms of local knowledge must be mediated through Constitutional values and principles.

through which children can develop a critical understanding of their social reality. It could also provide them space to talk about their experiences and anxieties within their homes.

Communities may also have questions about the inclusion or exclusion of particular knowledge and experiences in the school curriculum. The school must then be prepared to engage with communities to listen to their concerns, and to persuade them to see the educational value of such decisions. For this, teachers must know the reasons why something is included while something else is not. They must also be able to win the trust of parents in matters like allowing children to use home language in school, or teaching about sexuality and reproduction, or play-way methods in primary school, or encouraging boys to sing and dance. It is not a good enough explanation to say that the decisions were taken at the state level. If we are to ensure participation of children of all groups in our secular education, we will have to discuss our curricular choices with others who are legitimate stakeholders in education.

2.9 Some Developmental Considerations

Children's interests, physical skills, linguistic capacity, and ability for abstract thinking and generalisation develop over the span of schooling, from the pre-school period through higher secondary school. This is a period of intensive growth and development, and also of fundamental shifts and changes in interests and capabilities. Hence, it is an important dimension of determining the approach to, and selection and organisation of the areas of the curriculum.

The creation or recreation of knowledge requires an experiential base, language abilities, and interaction with other humans and the natural world. Children entering school for the first time have already begun constructing knowledge of the world. Everything they learn later will be in relation to this knowledge that they bring into the classroom. This knowledge is also intuitive. School provides opportunities to build on this in a more conscious and engaged manner. At the early stage of learning, from pre-school to the primary

Some principles regarding the approach to knowledge in the curriculum :

- √ Acquiring a critical perspective on social reality and the natural environment through the lenses provided by the subject matter.
- √ Connecting with the local and the contextualised in order to 'situate' knowledge and realising its 'relevance' and 'meaningfulness'; to reaffirm one's experiences outside school; to draw one's learning from observing, interacting with, classifying, categorising, questioning, reasoning and arguing in relation to these experiences.
- √ Making connections across disciplines and bringing out the interrelatedness of knowledge.
- √ Realising the 'fruitfulness' and 'openness' of enquiry, and the provisional nature of truth.
- √ Engaging with 'local knowledge'/indigenous practices in the local area, and relating these to school knowledge wherever possible.
- √ Encouraging questions and leaving space open for the pursuit of new questions.
- √ Being sensitive to the issues of 'equality' in classroom transaction as well as established stereotypes and discrimination regarding learnability of the knowledge area by different groups (e.g. girls not being given field-based projects, the blind being excluded from the option of learning mathematics, etc.).
- √ Developing the imagination, and keeping imagination and fantasy alive.

school years, an important place must be given to language and mathematics in all activities across the curriculum. The division into subjects is not very significant, and the knowledge areas discussed above can be totally integrated and presented to children in the form of learning experiences of the environment. This should include an enriching interaction with the natural and social environment, working with one's hands, and understanding of social interactions, and developing one's aesthetic abilities. These early integrated experiences of the natural and social environment would later become demarcated into science and the social sciences in the middle school years.

The upper primary or middle school period may be the place for the emergence of better defined subject areas, taking into consideration the above-mentioned forms of knowledge. At this stage it should be possible to create spaces across subjects in which children engage in the process of data collection, natural, social, mathematical or linguistic, to classify and categorise, and also analyse the same through certain knowledge areas such as ethical understanding and critical thinking. The creation of a space for explorations into social issues and knowledge without boundaries could at this stage go a long way in encouraging rational thinking.

By the time children reach the secondary stage of education, they have acquired a sufficient knowledge base, experience, language abilities and maturity to engage with different forms of knowledge in the full sense: concepts, structure of body of knowledge, investigation methods and validation procedures. Therefore, the subjects could be more closely linked with the basic forms as listed above and the disciplines as they are recognised in higher education today.

The issues of adequate representation of all forms of knowledge, and emphasis on similarities, special characteristics, and the widest possible interconnections between them, become important when the subject areas are more clearly defined.

Chapter 3: Curricular Areas, School Stages and Assessment

The main areas relevant for curricular planning have remained remarkably stable for a long time, despite major changes in social expectations and the academic study of different broad disciplines. It is important that each curricular area is revisited in depth, so that specific points of entry can be identified in the context of emerging social needs. In this respect, the status and role of the arts and health and physical education deserve special attention in view of the peculiar orbit of the 'extra-curricular' to which they were relegated almost a century ago. Aesthetic sensibility and experience being the prime sites of the growing child's creativity, we must bring the arts squarely into the domain of the curricular, infusing them in all areas of learning while giving them an identity of their own at relevant stages. Work, peace, and health and physical education have a similar case. All three have a fundamental significance for economic, social and personal development. Schools have a major role to play in ensuring that children are socialised into a culture of self-reliance, resourcefulness, peace-oriented values and health.

3.1 LANGUAGE

Language in this document subsumes bi-/multilingualism. And when we talk of home language(s) or mother tongue(s), it subsumes the languages of home, larger kinship group, street and neighbourhood, i.e. languages(s) that a child acquires naturally from her/his home and societal environment. Children are born with an innate language faculty. We know from our everyday experiences that most children, even before they start their schooling, internalise an extremely complex and rule-governed system called language, and possess full linguistic capabilities. In many cases, children come to school with two or three languages already in place at the oral-aural level. They are able to use these languages not only accurately but also appropriately. Even differently talented children who do not use the spoken languages develop equally complex alternative sign and symbol systems for expression and communication.

Languages also provide a bank of memories and symbols inherited from one's fellow speakers and created in one's own lifetime. They are also the medium through which most knowledge is constructed, and hence they are closely tied to the thoughts and identity of the individual. In fact, they are so closely bound with identity that to deny or wipe out a child's mother tongue(s) is to interfere with the sense of self. Effective understanding and use of languages(s) enables the child to make connections between ideas, people and things, and to relate to the world around.

Multilingualism, which is constitutive of the identity of a child and a typical feature of the Indian linguistic landscape, must be used as a resource, classroom strategy and a goal by a creative language teacher. This is not only the best use of a resource readily available, but also a way of ensuring that every child feels secure and accepted, and that no one is left behind on account of his/her linguistic background.

If we wish to launch any sound programme for language teaching in schools, it is important to recognise the inbuilt linguistic potential of children as well as to remember that languages get socio-culturally constructed and change in our day-to-day interactions. Language(s) in education would ideally build on this resource, and would strive to enrich it through the development of literacy (scripts including Braille) for the acquisition of academic knowledge. Children with language-related impairments should be introduced to standard sign languages, which can support their continued growth and development to the fullest. A recognition of the linguistic abilities of learners would encourage them to believe in themselves and their cultural moorings.

3.1.1 Language education

The linguistic diversity of India poses complex challenges but also a range of opportunities. India is unique not only in that a large number of languages are spoken here but also in terms of the number and variety of language families that are represented in those languages. There is no other country in the world in which languages from five different language families exist. Even though they are so distinct structurally as to merit classification as different language families, namely, Indo-Aryan, Dravidian, Austro-Asiatic, Tibeto-Burman and Andamanese, they constantly interact with each other. There are several linguistic and sociolinguistic features that are shared across languages that bear witness to the fact that different languages and cultures have coexisted in India for centuries, enriching each other. Classical languages such as Latin, Arabic, Persian,

Several studies have shown that bilingual proficiency raises the levels of cognitive growth, social tolerance, divergent thinking and scholastic achievement. Societal or national-level multilingualism is a resource that can be favourably compared to any other national resource.

Tamil and Sanskrit are rich in their inflectional grammatical structure and aesthetic value, and can illuminate our lives, as many languages keep borrowing words from them.

Today, we know for certain that bilingualism or multilingualism confers definite cognitive advantages. The three-language formula is an attempt to address the challenges and opportunities of the linguistic situation in India. It is a strategy that should really serve as a launching pad for learning more languages. It needs to be followed both in letter and spirit. Its primary aim is to promote multilingualism and national harmony. The following guidelines may help us achieve this aim:

- Language teaching needs to be multilingual not only in terms of the number of languages offered to children but also in terms of evolving strategies that would use the multilingual classroom as a resource.
- Home language(s) of children, as defined above in 3.1, should be the medium of learning in schools.
- If a school does not have provisions for teaching in the child's home language(s) at the higherlevels, primary school education must still be covered through the home language(s). It is imperative that we honour the child's home language(s). According to Article 350A of our Constitution, 'It shall be the endeavour of every State and of every local authority within the State to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups'.
- Children will receive multilingual education from the outset. The three-language formula needs to be implemented in its spirit, promoting multilingual communicative abilities for a multilingual country.
- In the non-Hindi-speaking states, children learn Hindi. In the case of Hindi speaking states, children learn a language not spoken in their area. Sanskrit may also be studied as a Modern Indian Language (MIL) in addition to these languages.
- At later stages, study of classical and foreign languages may be introduced.

3.1.2 Home/First language(s) or Mother-tongue education

It is clear that through their innate language faculty and interaction with the family and other people around them, children come to school with full-blown communicative competence in their language, or, in many cases, languages. They enter the school not only with thousands of words but also with a full control of the rules that govern the complex and rich structure of language at the level of sounds, words, sentences and discourse. A child knows not only how to understand and speak correctly but also appropriately in her language(s). She can modulate her behaviour in terms of person, place and topic. She obviously has the cognitive abilities to abstract extremely complex systems of language-from the flux of sounds. Honing these skills by progressively fostering advanced-level communicative and cognitive abilities in the classroom is the goal of first-language(s) education. From Class III

Literature can also be a spur to children's own creativity. After hearing a story, poem or song, children can be encouraged to write something of their own. They can also be encouraged to integrate various forms of creative expression.

onwards, oracy and literacy will be tools for learning and for developing higher-order communicative skills and critical thinking. At the primary stage, child's languages must be accepted as they are, with no attempt to correct them. By Class IV, if rich and interesting exposure is made available, the child will herself acquire the standard variety and the rules of correct orthography, but care must be taken to honour and respect the child's home language(s)/mother tongue(s). It should be accepted that errors are a necessary part of the process of learning, and that children will correct themselves only when they are ready to do so. Instead of focusing attention on errors and 'hard spots', it would be much better to spend time providing children comprehensible, interesting and challenging inputs.

It is indeed hard to exaggerate the importance of teaching home languages at school. Though children come equipped with basic interpersonal communicative skills, they need to acquire at school cognitively advanced levels of language proficiency. Basic language skills are adequate for meeting situations that are contextually rich and cognitively undemanding such as peer-group interaction; advanced-level skills are required in situations that are contextually poor and cognitively demanding such as writing an essay on an abstract issue. It is also now well established that higher-level proficiency skills easily transfer from one language to another. It is thus imperative that we do everything we can to strengthen the sustained learning of Indian languages at school.

Language education is not confined to the language classroom. A science, social science or mathematics class is *ipso facto* a language class. Learning the subject means learning the terminology, understanding the concepts, and being able to discuss and write about them critically. For some topics, students should be encouraged to consult books or talk to people in different languages, or gather material in English from the Internet. Such a policy of languages across the curriculum will foster a genuine multilingualism in the school. At the same time, the language class offers some unique opportunities. Stories, poems, songs and drama link children to their cultural heritage, and also give them an opportunity to understand their own experiences and to develop sensitivity to others. We may also point out that children may effortlessly abstract more grammar from such activities than through explicit and often boring grammar lessons.

While many of the differently abled learners may pick up basic language skills through normal social interactions, they could additionally be provided with especially designed materials that would assist and enhance their growth and development. Studying sign language and Braille could be included as options for learners without disabilities.

3.1.3 Second-language Acquisition

English in India is a global language in a multilingual country. A variety and range of English-teaching situations prevail here owing to the twin factors of teacher proficiency in English and pupils' exposure to English outside school. The level of introduction of English is now a matter of political response to people's aspirations rather than an academic or feasibility issue, and people's choices about the level of its introduction in the curriculum will have to be respected, with the proviso that we do not extend downwards the very system that has failed to deliver.

The goals for a second-language curriculum are twofold: attainment of a basic proficiency, such as is acquired in natural language learning, and the development of language into an instrument for abstract thought and knowledge acquisition through (for example) literacy. This argues for an across-the-curriculum approach that breaks down the barriers between English and other subjects, and English and other Indian languages. At the initial stages, English may be one of the languages for learning activities that create the child's awareness of the world. At later stages, all learning happens through language. Higher-order linguistic skills generalise across languages; reading, (for example) is a transferable skill. Improving it in one language improves it in others, while reading failure in one's own languages adversely affects second-language reading.

Within the eight years of education constitutionally guaranteed to every child, it should be possible to achieve basic English-language proficiency in a span of about four years. A multilingual approach to schooling from the very outset will counter possible ill effects such as loss of one's own languages and the burden of sheer incomprehension.

English does not stand alone. The aim of English teaching is the creation of multilinguals who can enrich all our languages; this has been an abiding national vision. English needs to find its place along with other Indian languages in different states, where children's other languages strengthen English teaching and learning; and in "English-medium" schools, where other Indian languages need to be valorised to reduce the perceived hegemony of English. The relative success of "English-medium" schools shows that language is learnt when it is not being taught as language, through exposure in meaningful context. Thus English must be seen in relation to other subjects; a language across the curriculum is of particular relevance to primary education, and later all teaching is in a sense language teaching. This perspective will bridge the gap between "English as subject" and "English as medium". We should in this way move towards a common school system that does not make a distinction between " teaching a language" and "using a language as a medium of instruction".

Input-rich communicational environments are a prerequisite for language learning, whether first or second. Inputs include textbooks, learner-chosen texts, and class libraries, allowing for a variety of genres: print (for example, Big Books for young learners); parallel books and materials in more than one language; media support (learner magazines/newspaper columns, radio/audio cassettes); and "authentic" materials. The language environment of disadvantaged learners needs to be enriched by developing schools into community learning centres. A variety of successful innovations exists whose generalisability needs exploration and encouragement. Approaches and methods need not be exclusive but may be mutually supportive within a broad cognitive philosophy (incorporating Vygotskian, Chomskyan, and Piagetian principles). Higher-order skills (including literary appreciation and role of language in gendering) can be developed once fundamental competencies are ensured.

Teacher education needs to be ongoing and onsite (through formal or informal support systems), as well as preparatory. Proficiency and professional awareness are equally to be promoted, the latter imparted, wherever necessary, through the teachers' own languages. All teachers who teach English should have basic proficiency in English. All teachers should have

the skills to teach English in ways appropriate to their situation and levels based on some knowledge of how languages are learnt. A variety of materials should be available to provide an input-rich curriculum, which focuses on meaning.

Language evaluation need not be tied to "achievement " with respect to particular syllabi, but must be reoriented to the measurement of language proficiency. Evaluation is to be made an enabling factor for learning rather than an impediment. Ongoing assessment could document a learner's progress through the portfolio mode. National benchmarks for language proficiency need to be evolved preliminary to designing a set of optional English language tests that will balance curricular freedom with standardisation of evaluation that certification requires, and serve to counter the current problem of English (along with Mathematics) being a principal reason for failure at the Class X level. A student may be allowed to "pass without English" if an alternative route for English certification (and therefore instruction) can be provided outside the regular school curriculum.

3.1.4 Learning to Read and Write

Though we strongly advocate an integrated approach to the teaching of different skills of language, the school does need to pay special attention to reading and writing in many cases, particularly in the case of home languages. In the case of second and third, or classical or foreign languages, all the skills, including communicative competence, become important. Children appear to learn much better in holistic situations that make sense to them rather than in a linear and additive way that often has no meaning. Rich and comprehensible input should constitute the site for acquisition of all the different skills of language. In several communicative situations, such as taking notes while listening to somebody on the phone, several skills may need to be used together. We really wish children to read and write with understanding. Language – as a constellation of skills, thought encoders and markers of identity–cuts across school subjects and disciplines. Speech and listening, reading and writing, are all generalised skills, and children's mastery over them becomes the key factor affecting success at school. In many situations, all of these skills need to be used together. This is why it is important to view language education as everybody's concern at school, and not as a responsibility of the language teacher alone. Also, the foundational role of the skills associated with language does not stop with the primary or elementary classes, but extends all the way up to secondary and senior secondary classes as new needs arise in the subject areas. Development of life skills such as critical thinking skills, interpersonal communication skills, negotiation/ refusal skills, decision making/ problem-solving skills, and coping and self-management skills is also very critical for dealing with the demands and challenges of everyday life.

The conventionally trained language teacher associates the training of speech with *correctness* rather than with the expressive and participatory functions of language. This is why talking in class has a negative value in our system, and a great deal of the teacher's energy goes into keeping children quiet, or getting them to pronounce correctly. If teachers see the child's talk as a resource rather than as a nuisance, the vicious cycle of resistance and control would have a chance to be turned into a cycle of expression and response. There is a vast body of knowledge available on how talk can be used as a resource, and pre- and in-service teacher education programmes must introduce teachers to this. Designers of textbooks and teacher manuals could also plan and provide precise guidance to teachers regarding

ways in which the subject matter can be explored further with the help of small group talk among children, and undertaking activities that nurture the abilities to compare and contrast, to wonder and remember, to guess and challenge, to judge and evaluate. In the orbit of listening, similar detailed planning of activities for incorporation in textbooks and teacher manuals would go a long way in resurrecting the significant skill and value area. It covers the ability to pay attention, to value the other person's point of view, to stay in touch with the unfolding utterance, and to make flexible hypotheses about the meaning of what is being said. Listening, thus, forms as complex a web of skills and values as talking does. Locally available resources include folklore and storytelling, community singing and theatre. Storytelling is appropriate not only for pre-school education, but continues to be significant even later. As a narrative discourse, orally told the stories lay the foundations of logical understanding even as they expand the imagination and enhance the capacity to participate vicariously in situations distant from one's life. Fantasy and mystery play an important role in child development. As a sector of language learning, listening also needs to be enriched with the help of music, which includes folk, classical and popular compositions. Folklore and music also deserve a place in the language textbook as discourses capable of being developed with the help of exercises and activities unique to them.

While reading is readily accepted as a focus area for language education, school syllabi are burdened with information-absorbing and memorising tasks, so much so that the pleasure of reading for its own sake is missed out. Opportunities for individualised reading need to be built at all stages in order to promote a culture of reading, and teachers must set the example of being members of such a culture. This requires the

Why don't children learn to read?

- √ *Teachers lack basic pedagogic skills (understanding where the learner is, explaining, asking appropriate questions and, an understanding of the processes of learning to read, which range from bottom-up processes such as syllable recognition and letter-sound matching, to top-down processes of whole-word recognition and meaning making from texts. They also often lack class-management skills. They tend to focus on errors or hard spots rather than on imaginative input and articulation.*
- √ *Pre-service training does not give the teacher adequate preparation in reading pedagogy, and neither does in-service training address the issue.*
- √ *Textbooks are written in an ad-hoc fashion, with no attempt to follow a coherent strategy of reading instruction.*
- √ *Children from disadvantaged backgrounds, especially first-generation learners, do not feel accepted by the teacher, and cannot relate to the textbook.*

A workable approach to beginning reading

- √ *The classroom needs to provide a print-rich environment, displaying signs, charts, work-organising notices, etc. that promote 'iconic' recognition of the written symbols, in addition to teaching letter-sound correspondences.*
- √ *There is a need for imaginative input that is read by a competent reader with appropriate gestures, dramatisation, etc.*
- √ *Writing down experiences narrated by children, and then having them read the written account.*
- √ *Reading of additional material: stories, poems, etc.*
- √ *First-generation school goers must be given opportunities to construct their own texts and contribute self-selected texts to the classroom.*

nurturing of school and community libraries. The perception that the reading of fiction is a waste of time acts as a major means of discouraging reading. The development and supply of a range of supplementary reading material relevant to all school subjects and across the grades require urgent attention. A great deal of such material, though of varying quality, is available in the market, and could be utilised in a methodical manner to expand the scope of classroom teaching of a subject. Teacher training programmes need to familiarise teachers with such material, and to give them yardsticks by which to select and use it effectively.

The importance of writing is well recognised, but the curriculum needs to attend to its innovative treatments. Teachers insist that children write in a correct way. Whether they express their own thoughts and feelings through writing is not considered too important. Just as the prematurely imposed discipline of pronunciation stifles the child's motivation to talk freely, in his or her own dialect, for instance, the demand for writing in mechanically correct ways blocks the urge to use writing to express or to convey one's ideas. Teachers need to be persuaded and trained to place writing in the same domain as artistic expression, and to cease perceiving it as an office skill. During the primary years, writing abilities should be developed holistically in conjunction with the sensibilities associated with talking, listening, and reading. At middle and senior levels of schooling, note making should receive attention as a skill-development training exercise. This will go a long way in discouraging mechanical copying from the blackboard, textbooks and guides. It is also necessary to break the routinisation of tasks like letter and essay writing, so that imagination and originality are allowed to play a more prominent role in education.

Some problems in school Mathematics education

1. *A majority of children have a sense of fear and failure regarding Mathematics. Hence, they give up early on, and drop out of serious mathematical learning.*
2. *The curriculum is disappointing not only to this non-participating majority, but also to the talented minority by offering them no challenges.*
3. *Problems, exercises and methods of evaluation are mechanical and repetitive, with too much emphasis on computation. Areas of Mathematics such as spatial thinking are not developed enough in the curriculum.*
4. *Teachers lack confidence, preparation and support.*

3.2 MATHEMATICS

Developing children's abilities for mathematisation is the main goal of mathematics education. The narrow aim of school mathematics is to develop 'useful' capabilities, particularly those relating to numeracy–numbers, number operations, measurements, decimals and percentages. The higher aim is to develop the child's resources to think and reason mathematically, to pursue assumptions to their logical conclusion and to handle abstraction. It includes a way of doing things, and the ability and the attitude to formulate and solve problems.

This calls for a curriculum that is ambitious, coherent and teaches important principles of mathematics. It should be ambitious in the sense that it seeks to achieve the higher aim mentioned above, rather than only the narrower aim. It should be coherent in the sense that the variety of methods and skills available piecemeal (in arithmetic, algebra, geometry) cohere into an ability to address problems that come from other

domains such as science and social studies in high school. It should be important in the sense that students feel the need to solve such problems, that teachers and students find it worth their time and energy to address these problems. The twin concerns of the Mathematics curriculum are: what can mathematics education do to engage the mind of every student, and how can it strengthen the student's resources?

As mathematics is a compulsory subject at the secondary stage, access to quality mathematics education is the right of every child. In the context of univeralisation of education, the first question to ask is, what mathematics can be offered in eight years of schooling that will stand every child in good stead rather than be a preparation for higher secondary education alone? Most of the skills taught in primary school mathematics are useful. However, a reorientation of the curriculum towards addressing the 'higher aims' mentioned above will make better use of the time that children spend in school in terms of the problem-solving and analytical skills that it builds, and in preparing children to better meet a wide variety of problems in life. Also, the tall shape of mathematics (where mastery of one topic is a prerequisite for the next) can be de-emphasised in favour of a broader-based curriculum with more topics that starts from the basics. This will serve the needs of different learners better.

3.2.1 Vision for School Mathematics

- Children learn to enjoy mathematics rather than fear it.
- Children learn important mathematics: Mathematics is more than formulas and mechanical procedures.
- Children see mathematics as something to talk about, to communicate through, to discuss among themselves, to work together on.
- Children pose and solve meaningful problems.
- Children use abstractions to perceive relation-ships, to see structures, to reason out things, to argue the truth or falsity of statements.
- Children understand the basic structure of Mathematics: Arithmetic, algebra, geometry and trigonometry, the basic content areas of school Mathematics, all offer a methodology for abstraction, structuration and generalisation.
- Teachers engage every child in class with the conviction that everyone can learn mathematics.

Many general tactics of problem solving can be taught progressively during the different stages of school: abstraction, quantification, analogy, case analysis, reduction to simpler situations, even guess-and-verify exercises, are useful in many problem-solving contexts. Moreover, when children learn a variety of approaches (over time), their toolkit becomes richer, and they also learn which approach is the best. Children also need exposure to the use of heuristics, or rules of thumb, rather than only believing that Mathematics is an 'exact science'. The estimation of quantities and approximating

Visualising proof:
Why is 3X5 = 5X3?

Three groups of five *Five groups of three*

solutions is also essential skill. When a farmer estimates the yield of a particular crop, he uses considerable skills in estimation, approximation and optimisation. School Mathematics can play a significant role in developing such useful skills.

Visualisation and representation are skills that Mathematics can help to develop. Modelling situations using quantities, shapes and forms are the best use of mathematics. Mathematical concepts can be represented

in multiple ways, and these representations can serve a variety of purposes in different contexts. All of this adds to the power of Mathematics. For example, a function may be represented in algebraic form or in the form of a graph. The representation p/q can be used to denote a fraction as a part of the whole, but can also denote the quotient of two numbers, p and q. Learning this about fractions is as important, if not more, than learning the arithmetic of fractions.

There is also a need to make connections between Mathematics and other subjects of study. When children learn to draw graphs, they should also be encouraged to think of functional relationships in the sciences, including geology. Our children need to appreciate the fact that Mathematics is an effective instrument in the study of science.

The importance of systematic reasoning in Mathematics cannot be overemphasised, and is intimately tied to notions of aesthetics and elegance so dear to mathematicians. Proof is important, but in addition to deductive proof, children should also learn when pictures and constructions provide proof. Proof is a process that convinces a sceptical adversary; school mathematics should encourage proof as a systematic way of argumentation. The aim should be to develop arguments, evaluate arguments, make and investigate conjectures, and understand that there are various methods of reasoning.

Mathematical communication is precise and employs unambiguous use of language and rigour in formulation, which are important characteristics of mathematical treatment. The use of jargon in Mathematics is deliberate, conscious and stylised. Mathematicians discuss what is appropriate notation since good notation is held in high esteem and believed to aid thought. As children grow older, they should be taught to appreciate the significance of such conventions and their use. For instance, this means that setting up of equations should get as much coverage as solving them.

Problem posing

√ *If you know that 235 + 367 = 602, how much is 234 + 369? How did you find the answer?*

√ *Change any one digit in 5384. Did the number increase or decrease? By how much?*

In discussing many of these skills and processes, we have referred to a multiplicity of approaches and procedures. These are all crucial for liberating school Mathematics from the tyranny of applying them only to those algorithms that are taught.

3.2.2 The Curriculum

At the pre-primary stage, all learning occurs through play rather than through didactic communication. Rather than the rote learning of the number sequence, children need to learn and understand, in the context of small sets, the connection between word games and counting, and between counting and quantity. Making simple comparisons and classifications along one dimension at a time, and identifying shapes and symmetries, are appropriate skills to acquire at this stage. Encouraging children to use language to freely express one's thoughts and emotions, rather than in predetermined ways, is extremely important at this and at later stages.

Having children develop a positive attitude towards, and a liking for, Mathematics at the primary stage is as important, if not more than the cognitive skills and concepts that they acquire. Mathematical games, puzzles and stories help in developing a positive attitude and in making connections between mathematics and everyday thinking. It is important to

note that mathematics is not just arithmetic. Besides numbers and number operations, due importance must be given to shapes, spatial understanding, patterns, measurement and data handling. The curriculum must explicitly incorporate the progression that learners make from the concrete to the abstract while acquiring concepts. Apart from computational skills, stress must be laid on identifying, expressing and explaining patterns, on estimation and approximation in solving problems, on making connections, and on the development of skills of language in communication and reasoning.

At the upper primary stage, students get the first taste of the power of Mathematics through the application of powerful abstract concepts that compress previous learning and experience. This enables them to revisit and consolidate basic concepts and skills learnt at the primary stage, which is essential from the point of view of achieving universal mathematical literacy. Students are introduced to algebraic notation and its use in solving problems and in generalisation, to the systematic study of space and shapes, and for consolidating their knowledge of measurement. Data handling, representation and interpretation form a significant part of the ability of dealing with information in general, which is an essential 'life skill'. The learning at this stage also offers an opportunity to enrich students' spatial reasoning and visualisation skills.

At the secondary stage, students begin to perceive the structure of Mathematics as a discipline. They become familiar with the characteristics of mathematical communication: carefully defined terms and concepts, the use of symbols to represent them, precisely stated propositions, and proofs justifying propositions. These aspects are developed particularly in the area of geometry. Students develop their facility with algebra, which is important not only in the application of mathematics, but also within mathematics in providing justifications and proofs. At this stage, students integrate the many concepts and skills that they have learnt into a problem-solving ability. Mathematical modelling, data analysis and interpretation taught at this stage can consolidate a high level of mathematical literacy. Individual and group exploration of connections and patterns, visualisation and generalisation, and making and proving conjectures are important at this stage, and can be encouraged through the use of appropriate tools that include concrete models as in Mathematics laboratories and computers.

The aim of the Mathematics curriculum at the higher secondary stage is to provide students with an appreciation of the wide variety of the application of Mathematics, and equip them with the basic tools that enable such application. A careful choice between the often conflicting demands of depth versus breadth needs to be made at this stage. The rapid explosion of Mathematics as a discipline, and of its range of application, favours an increase in the breadth of coverage. Such increase must be dictated by mathematical considerations of the importance of topics to be included. Topics that are more naturally the province of other disciplines may be left out of the Mathematics curriculum. The treatment of topics must have an objective, that is, the communication of mathematical insights and concepts, which naturally arouse the interest and curiosity of students.

3.2.3 Computer Science

The tremendous effectiveness of the computer and computing technology in shaping modern society has created the need for an educated public that can utilise such technology most effectively for the betterment of society and humankind. There is, therefore, a

growing realisation of the need to have a place for these domains of knowledge in the school curriculum.

A distinction must be made between the Information Technology (IT) curriculum, which involves the use and application of tools of the information and computer age, and the Computer Science (CS) curriculum, which is concerned with how these tools are designed and deployed. Both of these have their place in school education.

While several countries have implemented CS and/or IT curricula in schools, we need to be aware of the challenges that Indian school students face. The first of these is the paucity of technology resources for computer science. It is absurd to teach computer science (let alone computer usage) without access to computing resources. Providing computer access and connectivity for all children is a tremendous technological and economic challenge. However, given the pervasive impact of computer technologies, we need to address this infrastructure challenge seriously and explore viable and innovative alternatives with regard to hardware, software and connectivity technologies appropriate for rural and urban Indian schools.

We also need to address the issue of the development of a comprehensive and coherent curriculum model in computer science and IT, which can serve as the basis for the beginning of a discussion between educators, administrators, and the general public. Certain core elements are common to several CS and IT curricula, and are applicable to Indian schools as well. These include the concepts of iterative processes and algorithms, general problem-solving strategies arising from computing, possibilities of computer usage, the place occupied by computers in the modern world, and the societal issues that arise thereby.

3.3 SCIENCE

One important human response to the wonder and awe of nature from the earliest times has been to observe the physical and biological environment carefully, look for any meaningful patterns and relations, make and use new tools to interact with nature, and build conceptual models to understand the world. This human endeavour has led to modern science. Broadly speaking, the scientific method involves several interconnected steps: observation, looking for regularities and patterns, making hypotheses, devising qualitative or mathematical models, deducing their consequences, verification or falsification of theories through observations and controlled experiments, and thus arriving at the principles, theories and laws governing the natural world. The laws of science are never viewed as fixed eternal truths. Even the most established and universal laws of science are always regarded as provisional, subject to modification in the light of new observations, experiments and analyses.

Science is a dynamic, expanding body of knowledge, covering ever-new domains of experience. In a progressive forward-looking society, science can play a truly liberating role, helping people escape from the vicious cycle of poverty, ignorance and superstition. The advances in science and technology have transformed traditional fields of work such as agriculture and industry, and led to the emergence of wholly new fields of work. People today are faced with an increasingly fast-changing world where the most important skills are flexibility, innovation and creativity. These different imperatives have to be kept in mind in shaping science education.

Good science education is true to the child, true to life and true to science. This simple observation leads to the following basic criteria of validity of a science curriculum:

1. *Cognitive validity* requires that the content, process, language and pedagogical practices of

Asking questions

"Air is everywhere" is a statement that every schoolchild learns. Students may know that the earth's atmosphere consists of several gases, or that there is no air on the moon. We might be happy that they know some science. But consider this exchange in a Class IV classroom.

Teacher: Is there air in this glass?

Students (in chorus): Yes!

The teacher was not satisfied with the usual general statement, "Air is everywhere." She asked the students to apply the idea in a simple situation, and found, unexpectedly, that they had formed some "alternative conceptions".

Teacher: Now I turn the glass upside down. Is there still air in it?

Some students said "yes", others said "no", still others were undecided.

Student 1: The air came out of the glass!

Student 2: There was no air in the glass.

In Class II, the teacher put an empty glass over a burning candle and the candle went out!

The students had performed an activity whose memory had remained vivid even two years later, but some of them at least had taken away an incorrect conclusion from it.

After some explanation, the teacher questioned the students further. Is there air in this closed cupboard? Is there air in the soil? In water? Inside our body? Inside our bones? Each of these questions brought up new ideas and presented an opportunity to clear some misunderstandings. This lesson was also a message to the class: do not accept statements uncritically. Ask questions. You may not find all the answers but you will learn more.

the curriculum are age appropriate, and within the cognitive reach of the child.

2. *Content validity* requires that the curriculum must convey significant and correct scientific information. Simplification of content, which is

What biology do students know?

"These students don't understand science. They come from a deprived background!" We frequently hear such opinions expressed about children from rural or tribal backgrounds. Yet consider what these children know from everyday experience.

Janabai lives in a small hamlet in the Sahyadri hills. She helps her parents in their seasonal work of rice and tuar farming. She sometimes accompanies her brother in taking the goats to graze in the bush. She has helped in bringing up her younger sister. Nowadays she walks 8 km. every day to attend the nearest secondary school.

Janabai maintains intimate links with her natural environment. She has used different plants as sources of food, medicine, fuelwood, dyes and building materials; she has observed parts of different plants used for household purposes, in religious rituals and in celebrating festivals. She recognises minute differences between trees, and notices seasonal changes based on shape, size, distribution of leaves and flowers, smells and textures. She can identify about a hundred different types of plants around her — many times more than her Biology teacher can — the same teacher who believes Janabai is a poor student.

Can we help Janabai translate her rich understanding into formal concepts of Biology? Can we convince her that school Biology is not about some abstract world coded in long texts and difficult language. Rather it is about the farm she works on, the animals she knows and takes care of, the woods that she walks through every day. Only then will she truly learn science.

necessary for adapting the curriculum to the cognitive level of the learner, must not be so trivialised as to convey something basically flawed and/or meaningless.

3. *Process validity* requires that the curriculum should engage the learner in acquiring the methods and processes that lead to the generation and validation of scientific knowledge and nurture the natural curiosity and creativity of the child in science. Process validity is an important criterion since it helps the student in 'learning to learn' science.
4. *Historical validity* requires that the science curriculum be informed by a historical perspective, enabling the learner to appreciate how the concepts of science evolve over time. It also helps the learner to view science as a social enterprise and to understand how social factors influence the development of science.
5. *Environmental validity* requires that science beplaced in the wider context of the learner's environment, local and global, enabling him/her to appreciate the issues at the interface of science, technology and society, and equipping him/her with the requisite knowledge and skills to enter the world of work.
6. *Ethical validity* requires that the curriculum promote the values of honesty, objectivity, cooperation, and freedom from fear and prejudice, and inculcate in the learner a concern for life and preservation of the environment.

3.3.1 The Curriculum at different Stages

Consistent with the criteria given above, the objectives, content, pedagogy and assessment for different stages of the curriculum are summarised below:

At the primary stage, the child should be engaged in joyfully exploring the world around and harmonising with it. The objectives at this stage are to nurture the curiosity of the child about the world (natural environment, artifacts and people), to have the child engage in exploratory and hands-on activities for acquiring the basic cognitive and psychomotor skills through observation, classification, inference, etc.; to emphasise design and fabrication, estimation and measurement as a prelude to the development of technological and quantitative skills at later stages; and to develop basic language skills: speaking, reading and writing not only for science but also through science. Science and social science should be integrated as 'environmental studies' as at present, with health as an important component. Throughout the primary stage, there should be no formal periodic tests, no awarding of grades or marks, and no detention.

At the upper primary stage, the child should be engaged in learning the principles of science through familiar experiences, working with hands to design simple technological units and modules (e.g. designing and making a working model of a windmill to lift weights) and continuing to learn more about the environment and health, including reproductive and sexual health, through activities and surveys. Scientific concepts are to be arrived at mainly from activities and experiments. Science content at this stage is not to be regarded as a diluted version of secondary school science. Group activities, discussions with peers and teachers, surveys, organisation of data and their display through exhibitions, etc. in schools and the neighbourhood should be important components of pedagogy. There should be continuous as well as periodic assessment (unit tests, term-end tests). The system of 'direct' grades should be adopted. There should be no detention. Every child who attends eight years of school should be eligible to enter Class IX.

At the secondary stage, students should be engaged in learning science as a composite discipline,

in working with hands and tools to design more advanced technological modules than at the upper primary stage, and in activities and analyses on issues concerning the environment and health, including reproductive and sexual health. Systematic experimentation as a tool to discover/verify theoretical principles, and working on locally significant projects involving science and technology, are to be important parts of the curriculum at this stage.

At the higher secondary stage, science should be introduced as separate disciplines, with emphasis on experiments/technology and problem solving. The current two streams, academic and vocational, being pursued as per NPE-1986, may require a fresh look in the present scenario. Students may be given the option of choosing the subjects of their interest freely, though it may not be feasible to offer all the different subjects in every school. The curriculum load should be rationalised to avoid the steep gradient between secondary and higher secondary syllabi. At this stage, the core topics of a discipline, taking into account recent advances in the field, should be identified carefully and treated with appropriate rigour and depth. The tendency to cover a large number of topics of the discipline superficially should be avoided.

3.3.2 Outlook

Looking at the complex scenario of science education in India, three issues stand out clearly. First, science education is still far from achieving the goal of equity enshrined in our Constitution. Second, science education in India, even at its best, develops competence but does not encourage inventiveness and creativity. Third, the overpowering examination system is basic to most, if not all, the fundamental problems of science education in India.

The science curriculum must be used as an instrument for achieving social change in order to reduce the divide based on economic class, gender, caste, religion and region. We must use textbooks as one of the primary instruments for equity, since for a great majority of school-going children, as also for their teachers, it is the only accessible and affordable resource for education. We must encourage alternative textbook writing in the country within the broad guidelines laid down by the National Curriculum Framework. These textbooks should incorporate activities, observation and experimentation, and encourage an active approach to science, connecting it with the world around the child, rather than information-based learning. Additionally, materials such as workbooks, co-curricular and popular science books, and children's encyclopaedia would enhance children's access to information and ideas that need not go into the textbook, loading it further, but would enrich learning that takes place through project work. There is a dearth of such materials with rich visuals in regional languages.

The development of science corners, and providing access to science experimentation kits and laboratories, in rural areas are also important ways of equitably provisioning for science learning. Information and Communication Technology (ICT) is an important tool for bridging social divides. ICT should be used in such a way that it becomes an opportunity equaliser by providing information, communication and computing resources in remote areas. ICT if used for connecting children and teachers with scientists working in universities and research institutions would also help in demystifying scientists and their work.

For any qualitative change from the present situation, science education in India must undergo a paradigm shift. Rote learning should be discouraged. Inquiry skills should be supported and strengthened

by language, design and quantitative skills. Schools should place much greater emphasis on co-curricular and extra-curricular activities aimed at stimulating investigative ability, inventiveness and creativity, even if these are not part of the external examination system. There should be a massive expansion of such activities along the lines of the Children's Science Congress, being held successfully at present. A large-scale science and technology fair at the national level (with feeder fairs at cluster/district/state levels) may be organised to encourage schools and teachers to participate in this movement. Such a movement should gradually spread to every corner of India and even across South Asia, unleashing a wave of creativity and scientific temper among young students and their teachers.

Examination reform should be initiated as a national mission, supported by adequate funding and high-quality human resources. The mission should bring teachers, educationists and scientists on a common platform; launch new ways of testing students that would reduce the high level of examination-related stress; curb the maddening multiplicity of entrance examinations; and undertake research on ways of testing multiple abilities other than formal scholastic competence.

These reforms, however, fundamentally need the overarching reform of teacher empowerment. No reform, however well motivated and well planned, can succeed unless a majority of teachers feel empowered to put it in practice. With active teacher participation, the reforms suggested above could have a cascading effect on all stages of science teaching in our schools.

3.4 Social Sciences

The social sciences encompass diverse concerns of society, and indude a wide range of content drawn from the disciplines of History, geography, political science, economics, sociology and anthropology. Social Science perspectives and knowledge are indispensable to building the knowledge base for a just and peaceful society. The content should aim at raising students' awareness through critically exploring and questioning of familiar social reality.The possibilities of including new dimensions and concerns, especially in view of students' own life experiences, are considerable. Selecting and organising material into a meaningful curriculum, one that will enable students to develop a critical understanding of society, is therefore a challenging task.

Because the social sciences tend to be considered non-utility subjects and are given less importance than the natural sciences, it is necessary to emphasise that they provide the social, cultural, and analytical skills required to adjust to an increasingly interdependent world, and to deal with political and economic realities.

It is believed that the social sciences merely transmit information and are text centred. Therefore, the content needs to focus on a conceptual understanding rather lining up facts to be memorised for examinations. Reiterating the recommendations of '*Learning Without Burden* (1993), emphasis has to be laid on developing concepts and the ability to analyse socio-political realities rather than on the mere retention of information without comprehension.

There is also a peception that not many career options are open to students specialising in the social sciences. On the contrary, the social sciences are becoming increasingly relevant for jobs in the rapidly exapanding service sector, and also in developing skills of analysis and creativity.

In a pluralistic society like ours, it is important that all regions and social groups be able to relate to the textbooks. Relevant local content should be part of the teaching-learning process, ideally transacted through activities drawing on local resources.

It is also necessary to recognise that the social sciences lend themselves to scientific inquiry just as much as the natural and physical sciences do, as well as to indicate ways in which the methods employed by the social sciences are *distinct* (but in no way inferior to those of the natural and physical sciences).

The social sciences carry a normative responsibility of creating a strong sense of human values, namely, freedom, trust, mutual respect, and respect for diversity. Social science teaching should aim at generating in students a critical moral and mental energy, making them alert to the social forces that threaten these values.

The disciplines that make up the social sciences, namely, History, geography, political science, and economics, have distinct methodologies that often justify the retaining of boundaries. At the same time, cross disciplinary approaches that are possible should also be indicated. For an enabling curriculum, certain themes that facilitate interdisciplinary thinking need to be incorporated.

3.4.1 The Proposed Epistemological Frame

Based on the above considerations of popular perceptions, and the issues to be addressed in the study of the social sciences, the National Focus Group on the Teaching of the Social Sciences proposes that the following points be treated as basic for the revised syllabi. (Textbooks themselves should be seen as opening up avenues for further enquiry, and students should be encouraged to go beyond the textbook to further reading and observaion.)

As pointed out by the Kothari Commission, the social science curriculum hitherto emphasised developmental issues. These are important but not sufficient for understanding the normative dimension, like issues of equality, justice, and dignity in society and polity. The role of individuals in contributing to this 'development' has often been overemphasised. An epistemological shift is suggested so as to accommodate the multiple ways of imagining the Indian nation. The national perspective needs to be balanced with reference to the local. At the same time, Indian History should not be taught in isolation, and there should be reference to developments in other parts of the world.

It is suggested that instead of Civics, the term Political Science be used. Civics appeard in the Indian school curriculum in the colonial period against the background of increasing 'disloyalty' among Indians towards the Raj. Emphasis on obedience and loyalty were the key features of Civics. Political Science treats civil society as the sphere that produces sensitive, interrogative, deliberative, and transformative citizens.

Gender concerns need to be addressed in terms of making the perspectives of women integral to the discussion of any historical event and contemporary concerns. This requires an epistemic shift from the patriarchal preconceptions that inform much of the social studies at present.

The concerns related to the health of children, and also those related to social aspects of changes and developments occurring in them during adolescence like changing relationships with parents, peer group, the opposite sex and the adult world in general, need to be addressed appropriately. The responses to the health needs of children and adolescents/youth through policies and programmes at different levels are closely related elements of these concerns.

The concept of human rights has a universal frame of reference. It is imperative that children are introduced to universal values in a manner appropriate for their age. Reference to day-to-day issues, e.g. the problem of getting water, can be discussed so that young students become aware of issues related to human dignity and rights.

3.4.2 Planning the Curriculum

For the primary grades, the natural and the social environment will be explained as integral parts of languages and mathematics. Children should be engaged in activities to understand the environment through illustrations from the physical, biological, social, and cultural spheres. The language used should be gender sensitive. Teaching methods should be in a participative and discussion-oriented mode.

For Classes III to V, the subject Environment Studies (EVS) will be introduced. In the study of the natural environment, emphasis will be on its preservation and the urgency of saving it from degradation. Children will also begin to be sensitised to social issues like poverty, child labour, illiteracy, caste and class inequalities in rural and urban areas. The content should reflect the day-to-day experiences of children and their life worlds.

WATER AND THE ENVIRONMENT	
Where does water come from? How are seas, oceans, rivers formed?	NATURAL SOURCES OF WATER Rivers, lakes, seas, underground water
What are our local water resources?	WATER RESOURCE MAPPING Local/regional/national
Why do wells dry up? How do handpumps work?	RELATIONSHIP BETWEEN NATURAL AND MAN-MADE SOURCES OF WATER
Are big dams more beneficial than small dams?	Understanding the water table Handpump System of irrigation Environmental impact of big dams
How do people in desert areas procure water? What causes droughts?	WATER IN DIFFERENT ECO-SYSTEMS Water sources in desert areas Water sources in mountainous regions Droughts and floods
SOCIAL ASPECTS OF WATER	
Who controls the village well?	CASTE AND CLASS Purity and pollution control over water resources
Who fetches water?	GENDER DIVISION OF LABOUR AND AVAILABILITY OF WATER
Do we have enough water?	Local and regional conflicts over drinking and irrigation water Water as a market force
Why is dean water essential?	HEALTH Body's need for water Right to potable clean water Water-borne diseases

At the upper primary stage, Social Studies will draw its content from History, geography, political science and economics. History will take into account developments in different parts of India, with sections on events or developments in other parts of the world. Geography can help develop a balanced perspective related to issues concerning the environment, resources and development at different levels, from local to global. In Political Science, students will be introduced to the formation and functioning of governments at local, state, and central levels and the democratic processes of participation. The economics component will enable students to observe economic institutions like the family, the market and the state. There will also be a section that will indicate a multidisciplinary approach to these themes.

At the secondary stage, the Social Sciences comprise History, geography, sociology, political science and economics. The focus will be on Contemporary India, and the learner will be initiated into a deeper understanding of the social and economic challenges facing the nation. In keeping with the epistemic shift proposed, these will be discussed from multiple perspectives, including those of the SC and ST and disenfranchised populations. Efforts should be made to relate the content as much as possible to the children's everyday lives. In History, India's freedom movement and other aspects of its modern History can be studied, as well as significant developments in other parts of the world. History should be taught with the intent of enabling students better understand their own world and their own identities came into being as shaped by a rich and varied past. History should now help them discover processes of change and continuity in their world, and to compare ways in which power and control were and are exercised. Geography should be taught keeping in mind the need to inculcate in the child a critical appreciation for conservation and environmental concerns along with developmental issues. In Political Science, the focus should be on discussing the philosophical foundations that underlie the value framework of the Indian Constitution, i.e. in-depth discussion of equality, liberty, justice, fraternity, secularism, dignity, plurality, and freedom from exploitation. As the discipline of Economics is being introduced to the child at this level, it is important that the topics should be discussed from the perspective of the people.

The higher secondary stage is important as it offers a choice of subjects to students. For some students, this stage may be the end of their formal education, leading to the world of work and employment; for others, the foundation for higher education. They may choose either specialised academic courses or job-oriented vocational courses. The foundation at this stage should equip them with basic knowledge and the necessary skills to make a meaningful contribution in the field they choose. A range of courses from the social sciences and commerce may be offered, and students may exercise their choice. Subjects need not be grouped into separate 'streams', and students should have the freedom to opt for subjects or courses according to their need, interest and aptitude. The social sciences will include disciplines like political science, geography, History, economics, sociology and psychology. Commerce may include business studies and accountancy.

3.4.3 Approaches to Pedagogy and Resources

Social science teaching needs to be revitalised for helping the learner acquire knowledge and skills in an interactive environment. The teaching of the social sciences must adopt methods that promote creativity, aesthetics, and critical perspectives, and enable children to draw

Theatre in Education

Theatre is one of the most powerful, yet least utilised art forms in education. In the exploration of self in relation to others, the development of understanding of the self, and of critical empathy, not only for humans but also towards the natural, physical and social worlds, theatre is a medium par excellence.

Dramatising texts is only one small part of theatre. Much more significant experiences are possible through role play, theatre exercises, body and voice control and movement, and group and spontaneous enactments.

Such experiences are important not only for teachers in their own development, but also for teachers to provide to children.

relationships between past and present, to understand changes taking place in society. Problem solving, dramatisation and role play are some hitherto underexplored strategies that could be employed. Teaching should utilise greater resources of audio-visual materials, including photographs, charts and maps, and replicas of archaeological and material cultures.

In order to make the process of learning participative, there is a need to shift from mere imparting of information to debate and discussion. This approach to learning will keep both the learner and the teacher alive to social realities.

Concepts should be clarified to students through the lived experiences of individuals and communities. It has often been observed that cultural, social and class differences generate their own biases, prejudices and attitudes in classroom contexts. The approach to teaching therefore needs to be open-ended. Teachers should discuss different dimensions of social reality in the class, and work towards creating increasing self-awareness amongst themselves and the learners.

3.5 Art Education

For decades now, the importance of the arts in the education system has been repeatedly debated, discussed and recommended, but without much progress in this direction. The need to integrate art education in the formal schooling of our students now requires urgent attention if we are to retain our unique cultural identity in all its diversity and richness. Far from encouraging the pursuit of the arts, our education system has steadily discouraged young students and creative minds from taking to the arts or, at best, permits them to consider the arts to be 'useful hobbies' and 'leisure activities'. The arts are reduced to tools for enhancing the prestige of the school on occasions like Independence Day, Founder's Day, Annual Day, or during an inspection of the school's progress and working. Before or after that, the arts are abandoned for the better part of a child's school life, and the student is headed towards subjects that are perceived as being more worthy of attention. General awareness of the arts is also ebbing steadily among not just students, but also their guardians, teachers and even among policy makers and educationists.

> On a winter morning, the teacher asked the children to draw a 'morning scene'. One child completed the drawing and then darkened the background, almost hiding the sun. "I asked for a morning scene! The sun should be bright!" the teacher exclaimed. She didn't notice the child's eyes darting to the window; it was still dark today, and the sun was behind heavy wintry grey clouds.

Schools and school authorities encourage the arts of a superficial and popular nature and take pride in

putting up events that showcase song and dance performances and plays that may entertain, but have little aesthetic quality. We can no longer afford to ignore the importance of the arts and must concentrate all possible energies and resources towards nurturing artistic capabilities and creating cultural and artistic awareness amongst the students of the vast and varied cultural inheritance we have. The arts in India are living examples of the country's secular fabric and cultural diversity. They include a variety of folk and classical forms of music and dance, theatre, puppetry, day work, visual arts, and crafts from every region of India. Learning any of these arts would enrich the lives of our young citizens, not only in their school years but also throughout their lives.

The arts, visual and performing, need to become an important component of learning in the curriculum. Children must develop skills and abilities in these areas, and not treat these as a mere entertaining fringe. Through the arts curriculum students must be introduced to the rich and varied artistic traditions of the country. Arts education must become both a tool and a subject taught in every school as a compulsory subject (up to Class X), and facilities for the same may be provided in every school. All the four main streams covered by the term the arts, i.e. music, dance, visual arts and theatre, should be included. Awareness also needs to be built among parents and guardians, school authorities and administrators regarding the importance of the arts. Emphasis should be given to learning rather than teaching, and the approach should be participatory, interactive, and experiential rather than instructive.

Throughout the years of school, during all stages, the mediums and forms of art allow children to develop both a playful as well as a disciplined exploration of themselves and diverse materials, and allows them to experiment with many forms of expression. Music,

Heritage Craft Traditions

Craft is a productive process, a wonderful indigenous technology that is far from outmoded. The raw materials are all indigenously available, and environmentally friendly. There is a rich resource of living craft skills, techniques, designs and products that would and could form a rich core resource for the curricular areas of both art and work. Working with hands, with materials and with techniques helps in understanding processes, becoming resourceful, taking initiative, and in problem solving. Such experiences are of irreplaceable value for all children. This area is also well suited as a meaningful site for inclusive education.

Craft must be taught both as a creative and aesthetic activity and as work. It could be integrated into the study of History, social and environmental studies, geography and economics. Developing a perspective on gender, environment and community should also be an integral part of 'critical' craft learning.

- *Crafts could enter into the curriculum as a part of 'art', with an emphasis on creative and aesthetic aspects.*
- *Crafts persons themselves should be teachers and trainers for craft, and ways of enabling them to serve schools on a part-time basis need to be evolved.*
- *Crafts should be taught as a lively, experiential exercise.*
- *Crafts should be taught as projects, and not as classroom exercises.*
- *Different curricula should be planned for different crafts; resources such as design books, samplers,source books, tool guides, and crafts maps are needed.*
- *Craft labs equipped with adequate materials and tools need to be developed.*
- *Craft melas could be organised to expose children to crafts persons and craft traditions, and also for children to showcase their own creative endeavours.*

dance and theatre all contribute to the development of the self, both cognitive and social. The importance of such experiences during the pre-primary and primary school years cannot be overemphasised.

Language, exploration of nature, and an understanding of the self and others can all be experientially learnt and understood by children through various art forms. By their very nature, the art forms allow all children to participate.

Resources for the integration of the arts and heritage crafts should be available in every school. Thus, it is important that the curriculum provide adequate time for a range of art activities. Block periods of about one hour to one and half hours are necessary, especially where theatre, dance, and clay work are involved. The emphasis should not be on attaining some adult standards or notions of 'perfect art', but on supporting the child's own expression and style through exposure to material, skills and technique, but without overemphasising them. Over the years, teachers would help children to move towards formulating and executing their own art projects independently with dedication and persistence, while cultivating a sense of aesthetic quality and excellence.

In the secondary and higher secondary school stages, the art curriculum may allow children to specialise in some areas of their interest. Along with learning the skills and practising them, children could also at this stage learn about the theory of art and aesthetic experience, which could deepen their appreciation and also help them understand the significance of this area of knowledge. Discussions about popular cultural art forms, different kinds of art traditions (cultural differences) and creativity would also provide them with a perspective on the variety of forms and the development of 'taste'. It is important, therefore, that the curriculum not be biased and judgemental about high or low forms of culture, nor treat classical and folk art forms differently. It would also prepare those who wish to choose an art form for specialised study during the +2 stage, or even consider pursuing a career in the arts.

More resource material on arts education should be made available for arts education teachers. Teacher education and orientation must include a significant component that will enable teachers to include arts education efficiently and creatively. In addition, more Bal Bhavans, which have played an important role in the urbanscape, should be established at district headquarters, and eventually at all block centres as well. These would facilitate the additional teaching of arts and crafts activities, and provide opportunities for children to learn these at first hand.

3.6 Health and Physical Education

It is widely acknowledged that health is influenced by biological, social, economic, cultural and political forces. Access to basic needs like food, safe drinking water supply, housing, sanitation and health services influences the health status of a population, and these are reflected through mortality and nutritional indicators. Health is a critical input for the overall development of the child, and it influences enrolment, retention and school completion rates significantly. This curriculum area adopts a holistic definition of health within which physical education and yoga contribute to the physical, social, emotional and mental development of a child.

Undernourishment and communicable diseases are the major health problems faced by the majority of children in India, from the pre-primary to the higher secondary school stages. Therefore, the need to address this aspect at all levels of schooling, with special attention to vulnerable social groups and girl children. It is proposed that the midday meal programme and medical

check-ups be made a part of the curriculum and education about health be provided that address the age-specific concerns at different stages of development. The idea of a comprehensive school health programme, conceived in the 1940s, included six major components, viz., medical care, hygienic school environment, and school lunch, health and physical education. These components are important for the overall development of the child, and hence need to be included in the curriculum. The more recent addition to the curriculum is yoga. The entire group must be taken together as a comprehensive health and physical education curriculum, replacing the fragmentary approach current in schools today. As a core part of the curriculum, time allocated for games and for yoga must not be reduced or taken away under any circumstances.

There is growing realisation that the health needs of adolescents, particularly their reproductive and sexual health needs, require to be addressed. Since these needs predominantly relate to sex and sexuality, which is culturally a very sensitive area, they are deprived of opportunities to get the appropriate information. As such, their understanding of reproductive and sexual health and their behaviour in this regard are guided predominantly by myths and misconceptions, making them vulnerable to risky situations, such as drug/substance abuse and HIV/AIDS transmission. Age- appropriate context-specific interventions focused on adolescent reproductive and sexual health concerns, including HIV/AIDS and drug/substance abuse, therefore, are needed to provide children opportunities to construct knowledge and acquire life skills, so that they cope with concerns related to the process of growing up.

3.6.1 Strategies

Given the multidimensional nature of health, there are many opportunities for cross-curricular learning and integration. Activities such as the National Service Scheme, Bharat Scouts and Guides, and the National Cadet Corps are some such areas. The sciences provide opportunities for learning about physiology, health and disease, and the interdependencies between various living organisms and the physical habitat. The social sciences could provide insights into community health as well as an understanding of the spread, control and cure of infectious diseases from a global socio-economic perspective. This subject lends itself to applied learning, and innovative approaches can be adopted for transacting the curriculum.

The importance of this subject to overall development needs to be reinforced at the policy level, with participation by administrators, other subject teachers in schools, the Health Department, parents and children. Recognising this subject as a core subject Health and Physical Education must continue to be a compulsory subject from the primary, to the secondary stages, and as an optional subject at the higher secondary stage. However, it needs to be given equal status with other subjects, a status that is not being given at present. In order to transact the curriculum effectively, it is essential to ensure that the minimum essential physical space and equipment are available in every school, and that doctors and medical personnel visit school regularly. Teacher preparation for this area needs well-planned and concerted efforts. This subject area, consisting of health education, physical education and yoga, must be suitably integrated into the elementary and secondary pre-service teacher education courses. The potential of the existing physical education training institutes should be reviewed and utilised adequately. Similarly, their appropriate syllabi and teacher training for transaction of yoga in schools need to be reviewed and reformulated. It is also essential to ensure that these concerns are integrated into the activities of the National

Service Scheme, the Scouts and Guides, and the National Cadet Corps.

The 'needs-based approach' could guide the dimensions of the physical, psychosocial and mental aspects that need to be included at different levels of schooling. A basic understanding of the concerns is necessary, but the more important dimension is that of experience and development of health, skills and physical well being through practical engagement with play, exercise, sports, and practices of personal and community hygiene. Collective and individual responsibilities for health and community living need to be emphasised. Several national health programmes like Reproductive and Child Health, HIV/AIDS, Tuberculosis and Mental Health have been targeting children as a focus group with prevention in view. These demands on children need to be integrated into existing curricular activities rather than adding these on.

Yoga may be introduced from the primary level onwards in informal ways, but formal introduction of yogic exercises should begin only from Class VI onwards. All interventions, including even health and hygiene education, must rely on the practical and experiential dimensions of children's lives. There may be more emphasis on the inclusion of sports and games from the local area.

It should be possible to organise the utilisation of school space, at the block level at least, for special sports programmes both before school hours and after school hours to enable children with special talents for sports to come here for special training and during vacation periods. It should also be possible to develop these sports facilities so that many more children can avail of these for leisure-time sports activities and engage with team games such as basketball, throwball, volleyball, and local forms of sports.

3.7 Work and Education

Work, understood simply, is an activity directed toward making or doing something. It also means making one's work or capabilities, or both, available for someone else's purposes for monetary or other forms of return. A number of these activities are related to producing food, articles of daily use, looking after the physical and mental well-being of people, and other activities related to the administration and organisation of society. In any society, in addition to these, two basic dimensions (producing goods and establishing smooth functioning), various other activities also contribute to human well-being, and in that sense are considered forms of work.

Understood in this sense, work implies a commitment to other members of the society and/or community as one is contributing one's work and capabilities for fulfilling their needs. Second, it implies that one's contribution made through work will be submitted to public standards of performance and hence will be valued and judged by others. Third, work implies contributing to the functioning of social life as it either produces something that makes life possible or helps in the functioning of society in general. Finally, work enriches human life as it opens up new dimensions of appreciation and enjoyment.

However, we must not forget that children are often socialised into discriminatory practices and values and that adults socialise children within the dominant socio-cultural paradigm. It is important to recognise that both adults and children are socialised in the same way. We also have to remember that work as forced labour is perhaps the most demeaning of all coercions. There have to be adequate measures in place to ensure that introduction of work as an integral part of the curriculum should never

lead to a situation where work is thrust on unwilling children, or that the 'work' itself is a hindrance to the child's education and normal growth and development. Routine and repetitive activity carried on for the sake of production or work that is associated with the division of labour based on caste and gender should be strictly avoided. Also, a teacher making children work without him/herself participating in the work is unlikely to achieve the objectives of integrating work with the curriculum. The inclusion of work within the school must also never be used as the justification for the exploitation of children.

Work is also an arena for learning for children, whether in the home, the school, the society or the workplace. Children begin to absorb the concept of work as early as the age of two years. Children imitate their elders and like pretending to do work. For example, it is not unusual to see very young children pretending to 'sweep' the floor, or 'hold meetings', or 'build houses', or 'cook'. Work as an educational tool is used by many pedagogies. For example, the Montessori system integrates work concepts and skills from the very beginning. Cutting vegetables, cleaning the classroom, gardening and washing clothes are all a part of the learning cycle. Beneficial work that is in keeping with the child's age and ability, and which contributes to the child's normal growth and development, when introduced into children's lives can serve to enable children to learn values, basic scientific concepts, skills and creative expression. Children gain an identity through work, and feel useful and productive as work adds meaning and brings with it membership to society and enables children to construct knowledge.

Through work one learns to find one's place in society. It is an educational activity with an inherent potential for inclusion. Therefore, an experience of involvement in productive work in an educational setting should make one appreciate the worth of social life and what is valued and appreciated in society. Since work defines some achievable targets and creates a web of interdependence, it entails making efforts in a disciplined manner, thus creating possibilities for greater self-control, focusing mental energies and keeping emotions under check. The value of work, particularly skills that involve good finish, are undervalued as a means of achieving excellence and learning self-discipline. The discipline exercised by the material (say, clay or wood) is more effective and qualitatively different from the discipline exercised by one human being over another. Work involves interaction with materials or other people (mostly both), thus creating a deeper comprehension and increased practical knowledge of natural substances and social relationships. All this is in addition to the usual physical skills involved in learning a trade that may be turned into a means of earning a livelihood. The aspects of work mentioned here draw attention to the meaning-making and knowledge-construction dimension of work. This is the pedagogic function that work can play in the curriculum.

Benefits of this nature can be drawn from work only if it becomes an integral part of the school curriculum. Pursued in an academic setting, work carries the remarkable potential of generating new forms of creativity and understanding while opening up the possibility of transforming the nature of work itself. This has become even more essential as in a majority of families in India contributing to household work and family trade is a way of living, but this pattern is changing due to the pressure of school on children's time and the rampant competition in memorisation of information. Academic activity tends to be imprisoned within disciplinary boundaries. When

academic learning and work are simultaneously collocated, there is a chance of greater creativity in academic pursuits as also in the methods and tools of doing work. A synergetic enhancement can take over. That is how efficient hand pumps were designed. High-flying polythene balloons used to burst while going through the extremely cold stratosphere untill a scientifically minded worker suggested that putting a little carbon powder in the fabric would help to keep it warm by absorbing sunlight. Indeed, all great inventors were tinkerers who knew a little science. Edison, Ford and Faraday belonged to this category, so also those who invented the first pair of spectacles or the telescope. There is little doubt that much of the traditional knowledge of our potters, craftsmen, weavers, farmers and medical men has come through such pursuits – where these individuals were simultaneously engaged in physical work and academic thinking. We need to infuse such a culture of innovation, curiosity and practical experience in our education system.

However, schools at present are not geared for work as a part of the curriculum in terms of infrastructure or learning material. Work is necessarily an interdisciplinary activity. Therefore, integrating work into the school curriculum would require a substantial amount of pedagogical understanding of how it would be integrated with learning and the mechanisms for assessment and evaluation.

Institutionalising work in the school curriculum will require creative and bold thinking that breaks out of its stereotyped location in periods of Socially Useful and Productive Work (SUPW), something about which all children and teachers are justifiably sceptical. We need to examine how the rich work knowledge base and skills of marginalised children can be turned into a source of their own dignity as well as a source of learning for other children. This is especially important in the context of the growing alienation of the middle-upper-class children from their cultural roots and the central role played by the education system in aggravating and accelerating this process. There is immense potential for utilising the knowledge base of the vast productive sections of society as a powerful means for transforming the education system. Work seen as a form of 'valid' knowledge allows one to re-examine the invisibility of the contributions of women and non-dominant groups to what is regarded as valuable in society. Productive work would need to find a place at the centre of the curriculum in order to act as a powerful corrective to the 'bookish', information-oriented and generally unchallenging character of school education and, in turn, help relate the latter to the life needs of the child. Pedagogical experience in using work would become an effective and critical developmental tool at different stages of childhood and adolescence. Thus, 'work-centred education' is different from vocational education.

The school curriculum from the pre-primary to the senior secondary stages should be reconstructed for realising the pedagogic potential of work as a pedagogic medium in knowledge acquisition, developing values and multiple-skill formation. As the child matures, there is a need for the curriculum to recognise the child's need to be prepared for the world of work, and a work-centred pedagogy can be pursued with increasing complexity while always being enriched with the required flexibility and contextuality. A set of work-related generic competencies (basic, interpersonal and systemic) could be pursued at all stages of education. This includes critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethic of collaborative functioning, and entrepreneurship-cum-social

Activities for Peace Awareness

Age 5 + Handle with Care: Let children stand in a row. Give them a paper leaf of a teak tree or canna or banana plant. Let them pass the leaf over their heads in any way they want until it reaches the back of the row. A child then brings the leaf to the front and the cycle starts again. Children are then asked to look at the damage caused to the leaf as it has been handled. This activity could lead to a discussion about leaves and the different trees from which they come from. Damage to a single leaf is representative of damaging nature. The leaf stands for the whole of creation.

Age 7+ Sharing Feelings: Let children sit in a circle and ask each other, "Which was the happiest day in your life? Why was it so happy?" Let each child answer the question. Let some of the children role play one or more of the experiences. As, children become more familiar with the idea of sharing their feelings, ask more difficult questions such as "What makes you really afraid? Why do you feel that way? How do you feel when you watch someone fighting? Why do you feel that way? What makes you really sad? Why?"

Age 10 + Overcome Injustice with Justice: Explain that there are many reasons for injustice in this world, that justice is a basic means for creating peace in the world. Give two or three examples of injustice. Ask the children to give more examples. Then ask the questions: "What was the cause of the injustice? How would you feel in the same situation?" Have some children share their answers with the rest of the class.

Age 12 + Be a Peace Lawyer: Tell the children that they are peace lawyers drawing up peace laws for a country. List five of the most important laws that they would each suggest? Which of the laws suggested by others are you prepared to add to your list? Which laws are you not prepared to accept? Why not?

accountability. For this evaluation, parameters would also need to be redesigned. Without an effective and universal programme of work-centred education, it is unlikely that UEE (and later Universal Secondary Education too) would ever succeed.

3.8 EDUCATION FOR PEACE

We live in an age of unprecedented levels of violence, with constant threats posed by intolerance, fanaticism, dispute and discordance. Ethical action, peace and welfare are facing new challenges. War and violence occur due to unresolved conflicts, though conflicts may not always lead to violence and war. Violence is one of the many possible responses to conflict. Non-violent conflict-resolution skills could be nurtured and applied constructively to disputes between the individuals, groups and nations. The space for peace education within the framework of National School Curriculum document is compellingly clear in the light of the escalating trends of, and taste for, violence globally, nationally and locally. Education is a significant dimension of the long-term process of building up peace – tolerance, justice, intercultural understanding and civic responsibility. However, education as practised in schools often promotes forms of violence, both real and symbolic. Under these circumstances, the need to reorient education and therefore the school curriculum takes priority. As a value, it cuts across all other curricular areas, and coincides with and complements the values emphasised therein. It is, therefore, a concern cutting across the curriculum and is the concern of all teachers.

Education for peace seeks to nurture ethical development, inclucating the values, attitudes and skills required for living in harmony with oneself and with others, including nature. It embodies the joy of living and personality development with the qualities of love,

hope and courage. It encompasses respect for human rights, justice, tolerance, cooperation, social responsibility, and respect for cultural diversity, in addition to a firm commitment to democracy and non-violent conflict resolution. Social justice is an important aspect of peace education. The concern for equality and social justice, which refers to practising non-exploitation towards the have-nots, the poor and the underprivileged and creating a non-violent social system, is the hallmark of education for peace. Similarly, human rights are central to the concept of peace. Peace cannot prevail if the rights of individuals are violated. Basic to human rights are the values of non-discrimination and equality, which contribute to building a culture of peace in society. These issues are inter related. Peace education is thus a host of overlapping values.

Suggestions for Peace Activities

- √ *Set up special clubs and reading rooms in schools that concentrate on peace news and events that violate the norms of social justice and equality.*
- √ *Compile a list of films — documentaries and feature films— that promote the values of justice and peace. Screen them from time to time in schools.*
- √ *Co-opt the media as a stakeholder in education for peace. Invite influential journalists and editors to address children. Ask for space in news papers and journals for children's views to be published at least once a month.*
- √ *Celebrate the cultural and religious diversity of India in schools.*
- √ *Organise programmes to promote an attitude of respect and responsibility towards women.*

Peace education must be a concern that permeates the entire school life – curriculum, co-curriculum, classroom environment, school management, teacher-pupil relationship, teaching-learning processes, and the entire range of school activities. Hence, it is important to examine the curriculum and examination system from the point of view of how they may contribute to children's sense of inadequacy, frustration, impatience and insecurity. Also, the need to consciously counter the negative influence of the increasing violence around them, and its representation in the media, on the minds of children, and in its place promote a reflective engagement with more meaningful aspects of living an ethical and peaceful life. Education in the true sense should empower individuals to clarify their values; to enable them to take conscious and deliberate decisions, taking into consideration the consequences of their actions; to choose the way of peace rather than violence; to enable them to be makers of peace rather than only consumers of peace.

3.8.1 Strategies

Ethical development does not mean the imposition of do's and don'ts. Rather it calls for devising means and ways of helping children learn to make choices and decide what is right, what is kind, and what is best for the common good, keeping in view the broader implications for personal and social values.

Children can understand almost everything they hear and see, but are often not able to reconcile contradictions between what is said and what is done. Even a minor disagreement at home can affect children very deeply. A state of permanent disaffection amongst the elders in the house or a disintegrating relationship between parents creates the kind of incalculable fear and depression that is often manifested as aggression a few years later in early youth. There is a need to bring

parents and teachers together for more than only academic purposes. The responsibility of development of personal ethics does not rest solely with either parents or with the school.

Ethical development follows different patterns characterising different age groups. During the primary years, children are still exploring their immediate environment and developing a consciousness of their own self. Their behaviour revolves around avoiding punishment and seeking rewards. They form notions of good and bad, right and wrong depending upon what is approved or disapproved by their elders. At this stage, what they see in the behaviour and action of adults prompts them to construct their own understanding of ethical behaviour.

As children grow older, their reasoning capabilities develop. However, they are still not mature enough to question assumptions and norms. Inspired by the need to impress others and validate their self-image as strong and capable individuals, they tend to violate rules. At this stage, facilitating reflection on the basis of rules and norms, restrictions, constraints, duties and obligations, etc., through discussion and dialogue, produces insights into the linkage between the collective good, the value of restraint, sacrifice, compassion, etc., which constitute the moral ways of being.

Still later, as abstract thinking is fully developed, individuals can make well -reasoned judgements about what constitutes ethical behaviour. This may lead to the acceptance and internalisation of ethical principles, which then can be sustained in the long run. Even in the absence of an external authority, ethically mature individuals behave in just and appropriate ways, and understand the basis of rules and, norms, and appreciate how these contribute to overall peace and order in society.

Our earliest and best teachers found stories and anecdotes the best way to get across an important spiritual teaching or social message. Along with this is the universal fact that every child, no matter how dull or uninspired his home life, has something to say, some insight to contribute to a class discussion. The teacher needs to draw out the children, gain their confidence, and avoid using threatening language or hostile body language.

Work done by other living beings

Ask children to choose an animal or bird they know well and then list the 'work' they do, specifying if it is the male, female or young of the species. Discuss the reason for such distribution of labour and the rationale behind this. Ask them to write a poem or essay on what they have learnt and put these up as posters in the classroom.

Teaching values has often meant exhortations about desirable behaviour. It has also meant the suppression and denial of "improper" and "unacceptable" feelings and desires. This often leads children to hide their own real feelings, desires, thoughts and convictions and simply pay lip service to moral values and ideals, without making any commitment. Hence the need to move away from mere talk, to a meaningful discussion of experiences and reflections, eschewing a simplistic approach to moral behaviour, and instead exploring and understanding complex motivations and ethical dilemmas associated with human behaviour and actions.

Teachers should make deliberate attempts to infuse and reinforce the importance of peace-related values that are commensurate with the textual material taught in school and the developmental stages of children. For example, teachers can take advantage of the hidden components in a lesson by using appropriate strategies to awaken positive feelings, identifying experiences worth reflecting and, exploring, discovering, constructing understanding peace-related values.

Strategies like questions, stories, anecdotes, games, experiments, discussions, dialogues, clarification of values, examples, analogies, metaphors, role playing, and simulation are helpful in promoting peace through teaching-learning. The teaching and practise of ethics go from the personal sphere to social and community-oriented thinking and then link up with global perspectives. A teacher who is oriented to the perspective of peace can introduce such opportunities for reflecting at these scales, and identifying the inter linkages between them. Teacher education programmes should consider introducing peace education as an optional subject of study.

3.9 HABITAT AND LEARNING

The habitat is where any species finds conditions that permit it to thrive. Learning is a vital faculty of all animal species. Animals learn about the features of their own habitat by picking up clues as to where they may expect to find food or meet social companions or encounter enemies. For our ancestors, knowledge thus began with the exploration of their habitat. But as human beings' control over the environment has increased, and as people have begun to mould the world more and more to suit their needs, this component of knowledge has diminished so much that today formal education has become largely alienated from the habitat of the students. But as environmental degradation proceeds at an uprecedented pace, we are beginning to realise the importance of taking good care of our habitat. Humankind must, therefore, make an attempt to comprehend its roots, to re-establish links with its habitat, and to understand and take good care of it. In substance and spirit, then the theme ' Habitat and Learning' is equivalent to environmental education.

These significant concerns are best realised by infusing the components of environmental education as part of different disciplines while ensuring that adequate time is earmarked for pertinent activities. This approach can be meaningfully employed in the treatment of content in Physics, Mathematics, chemistry, Biology, geography, History, political science, health and physical education, art, music etc. Actvities constructed for life situations become a meaningful means for the engagement of learners. Rainfall, for instance, exhibits intricate variations over space and time. Data on such variations are available and can be used to promote many interesting activities in Physics and Mathematics. In Physics, simple experiments may be devised to visualise patterns of flow of fluids over uneven terrain, as well as to demonstrate how the ascent of air leads to cooling and precipitation and descent to the opposite effects. In Mathematics, a careful analysis of data for a longer period, say, 50 years, on decline in rainfall provides excellent possibilities for projects relating to data representation, visualisation and interpretation. Likewise, effluents from sewage treatment plants can form meaningful raw material for a variety of projects in chemistry. Besides, schools could work with panchayats, municipalities and city corporations to document biodiversity resources and associated knowledge. Schools can take up projects in Biology addressing specific issues of interest, such as the occurrence and utilisation of medicinal plants or the protection of rare and endangered fish in a body of water. People's representations of the environment and its specifics (animals, forests, rivers, plants etc.) through various forms of art, music, dance and craft illustrate their understanding of biodiversity. Such an understanding is also linked to the life of members of Scheduled Caste and Scheduled Tribe communities as they often depend on natural biodiversity resources to sustain their livelihoods. Recording such knowledge is part of the mandate of preparing of people's

biodiversity registers, and students can fruitfully be engaged in projects on the preparation of such registers. Projects assessing the nutritional role of wild plants, which provide important nutritional supplements in the diets of tribal communities, can be worthwhile components of health education. Likewise, preparation of maps of the immediate environment, documentation of environmental History, and analysis of political issues related to the environment may be made part of projects in geography, History and political science. Conflicts over water at the local, state, national and international levels offer a rich source for designing a variety of activities and projects connecting these descriptions of knowledge.

3.10 SCHEMES OF STUDY AND ASSESSMENT

The word 'school' all over the country by and large refers to Classes I to X, extending to class XII in some states, while in other states Classes XI and XII are regarded as pre-university or junior college. Some schools also include two to three years of pre-school classes. The breaking up of schooling into four 'stages' extends far beyond mere administrative convenience. From the point of view of curriculum design and teacher preparation, these stages have a developmental validity. Seen from a stage-wise perspective, curriculum thinking and school organisation can overcome problems created by the current preoccupation with 'monograde' classrooms as being the norm, with rigid application of age-based grouping of children, and class-wise teaching and learning objectives. Single and two- teacher primary schools could be reconceptualised as a learning group with different abilities and learning needs rather than as 'multigrade' classrooms requiring time- management techniques. Assessing children for what they have learnt could also then take place over a longer cycle of years spent in school, rather than as yearly requirements spelt out for each class, in hierarchical progression. This would allow more respect for children's pace of learning. Schemes such as the Minimum Levels of Learning (MLL) reinforced not only the rigid adherence to year-end outcomes, but also allowed for these to be further narrowed to lessons. Describing the characteristics and concerns of the curriculum, pedagogy and assessment in stages allow syllabi, textbooks and learning resources, and for teachers to plan for children's development and the gradual and cumulative deepening of abilities, competencies and concepts.

3.10.1 Early Childhood Education

The early childhood stage, until the age of 6–8 years, is the most critical period when the foundations are laid for life-long development and the realisation of full potential; research shows that there are 'critical periods' at this stage for full development of the brain's potential. The formation of later attitudes and values as well as the desire to learn are also influenced at this stage, while lack of support or neglect can lead to negative consequences, sometimes irreversible. Early Childhood Care and Education (ECCE) requires that young children be provided care, opportunities and experiences that lead to their all-round development — physical, mental, social and emotional, and school readiness. A holistic and integrated perspective views the health and nutritional needs of children as integrally related with their psychosocial/educational development. The curriculum framework and pedagogy for ECCE must be based on this holistic perspective, taking into account the various domains of development, the characteristics of children at each sub-stage, and their learning needs in terms of experiences.

It is well known that children have a natural desire to learn and make sense of the world around them.

Learning in the early years must hence be directed by the child's interests and priorities, and should be contextualised by her experiences rather than being structured formally. An enabling environment for children would be one that is rich in stimulation and experiences, that allows children to explore, experiment and freely express themselves, and one that is embedded in social relations that give them a sense of warmth, security and trust. Playing, music, rhyming, art and other activities using local materials, along with opportunities for speaking, listening and expressing themselves, and informal interaction are essential components of learning at this stage. It is important that the language used in early education is one that the child is familiar with in the immediate environment, while an informal multilingual classroom would help children to comfortably adjust to the early introduction of a second language (English) and the medium of instruction from Class I onwards. As the children who come under the purview of ECCE are a heterogeneous group, ranging from infants to pre-schoolers, it is important that activities and experiences for them are developmentally appropriate.

Early identification of disabilities assessment and the provision of appropriate stimulation would go a long way in preventing the aggravation of disadvantage on this account. The caution would be against pressurising children into the three R's (reading, writing and arithmetic) and the early introduction of formal instruction, i.e. against making pre-schools into training centres for admission to primary schools. In fact, the suggestion is that ECCE cover the age group 0–8 years (i.e. so as to include the early primary school years). This is in order that the holistic perspective of ECCE and its methodologies (all- round and integrated development, activity-based learning, listening and speaking a language before learning to write it, contextuality and continuity between home and school) can inform learning experiences of children throughout the childhood stage and lead to a smooth transition into the elementary school stage.

The ECCE programmes present a picture of plurality, with government, non-government (voluntary sector) and private agencies providing a variety of services. However, the coverage of these programmes is extremely narrow, and the quality of services provided is variable and largely poor. A vast majority of children, especially those belonging to poor and marginal groups, are not covered by early care programmes and are left to fend for themselves. Pre-school programmes range from those that subject children to a dull and monotonous routine to those where children are exposed to structured formal learning, often in English, made to do tests and homework, and denied their right to play. These are undesirable and harmful practices that result from misguided parental aspirations and the growing commercialisation of pre-schooling, and are detrimental to children's development and motivation to learn. Most of these problems derive from the still 'unrecognised' status of ECCE as a part of the mainstream education system. Polarised services both reflect and perpetuate the multiple overlapping social divides in our country. The deep gender bias and pervasive patriarchal values in Indian society are responsible for the failure to recognise the need for cre'ches and day-care facilities, especially for children of poor rural and urban working women; this neglect has also had an adverse impact on the education of girls.

Good quality ECCE programmes have a positive impact on children's all-round development. This in itself is reason enough to demand that all children have a right to ECCE, and it is hence unfortunate that the 0–6 age

group has been excluded from the purview of Article 21. In addition, ECCE is also seen to have critical linkages with enrolment of children in schools and learning outcomes. To provide ECCE of equitable quality to all children, it is not only necessary to vastly enhance the funds committed for this purpose, but also to address through different strategies the five basic dimensions of quality, namely, developmentally appropriate curriculum, trained and adequately rewarded teachers, appropriate teacher-child ratio and group size, infrastructure supportive of children's needs, and an encouraging style of supervision. While there is need for decentralisation, flexibility and contextuality in these programmes, there is also an urgent need to evolve appropriate norms and guidelines and set in place a regulatory framework so that children's development is not compromised. Capacity building at all levels in relation to the plurality of roles that different functionaries play, as well as fair wages, must also be ensured.

3.10.2 Elementary School

The period of elementary school (from Class I to Class VIII) is now also recognised as the period of compulsory schooling vide the constitutional amendment making education a fundamental right. The beginning of this period marks the formal introduction of the child to reading, writing and arithmetic, culminating in the introduction of the formal disciplines such as the sciences and the social sciences towards the end of elementary school. This period of eight years is one of tremendous cognitive development, shaping reason, intellect and social skills, as well as the skills and attitudes necessary for entering the work place.

As the effort to achieve UEE is stepped up, the elementary school classes now cater to many children of school-going age coming from diverse backgrounds. Plurality and flexibility without compromising on standards need to become the hallmark of education for this period. Education during this period must be of an integrated character, enabling children to acquire facility in language and expression and to grow in self-confidence as learners, both within and outside school.

The first concern of the school is on the development of the child's language competence: issues related to articulation and literacy, and the ability to use language to create, to think and to communicate with others. Special stress is needed to ensure that there are maximum opportunities for those who wish to study in their mother tongue, including tribal languages and linguistic pockets, even if the number of students is small. The ability of the system to promote and nurture these options, along with working out mechanisms to ensure that future options remain open, should become a marker of its ability to provide for quality education. To achieve this, there must be a creative and concerted effort to maintain the multilingual genius of Indians and implement the three-language formula. While English may be taught during this period, it must not be at the expense of learning Indian languages.

The development of mathematical thinking, beginning with learning numeracy and moving towards the enjoyment of and facility with more abstract ideas, needs to be supported with concrete experiences and work with manipulations. It is in the early years, up to Class IV, that efforts at diagnosing learning difficulties and addressing remedial work in language and mathematics must be directed.

Such concrete experiences are also essential in the introduction to the integrated study of the environment through which children's intuitive knowledge of the world is integrated into school knowledge. Over the years, this study should move towards a more disciplinary approach, but with integrative themes, within which there are located opportunities to develop

concepts and learn the vocabulary and methods of the discipline.

The study of arts and crafts is essential for developing not only the aesthetic sensibility but also for learning how to manipulate materials and developing attitudes and skills essential for work. The curriculum must expose children to practical life skills and work experiences of varied kinds. Physical development through sports activities is also a must. A variety of activities at this stage of schooling should be made available, including participating in cultural programmes, organising events, travelling to places outside the school, providing experiences to develop socially and emotionally into creative and confident individuals sensitive to others, and capable of taking initiative and responsibility. Teachers with a background in guidance and counselling can design and lead activities to meet the developmental needs of children, thus laying the foundation for the necessary attitudes and perceptions towards the self and the world of work. They can also provide the needed support and guidance to children belonging to various strata of society for their sustenance through the elementary school years. The approach to the whole curriculum should be process oriented rather than outcome oriented. All these arenas of development should be made available to all children. Care must be taken to ensure that the curriculum does not reinforce stereotypes about preferences, choices and capabilities of different groups. In this context, the gradual inclusion of vocationally oriented skills as a part of exposure to work would be an important aspect of an inclusive curriculum.

3.10.3 Secondary School

Secondary school is a period of intense physical change and formation of identity. It is also the period of intense vibrancy and energy. The ability for abstract reasoning and logical thinking emerges, allowing children the possibility of deep engagement with both understanding and generating knowledge beyond the here and now. A critical understanding of the self in relation to society also emerges during this period.

The courses at this level generally aim at creating an awareness of the various disciplines and introduces students to the possibilities and scope of study in them. Through such engagement, they also discover their own interests and aptitudes and begin to form ideas on what courses of study and related work they might like to pursue later. Such needs could be effectively met by guidance and counselling interventions of an organised nature with the support of trained teachers and professional counsellors. For a large number of children, this is also a terminal stage, when they leave school and begin acquiring productive work skills. Those for whom this stage becomes terminal on account of socio-economic circumstances need opportunities for learning creative and productive work skills while the system as a whole moves towards universalising secondary education. Providing access to libraries and experience in laboratories is essential, and hence there must be a concerted effort to ensure that all children have access to such facilities.

These two years are shadowed by the spectre of achieving respectable 'board examination' marks in this examination since this will determine future options. Schools often proudly state that they finish the entire syllabus for Class X by the end of the first term, and spend the rest of the year (two terms) on revision, so that students are well prepared for their examination. Class IX of this stage, and later Class XI, are sacrificed for the same reason. This preoccupation with the examination, and its deleterious effect on learning, needs to be reviewed and challenged. Is it worth

wasting a year of perhaps the most fruitful period of a child's life in such non-productive engagement? Is it not possible that by pacing learning more evenly through out the year, we may serve preparation for the examination itself in a much better way? On account of the examinations, many other curricular areas, especially sports and arts, are also compromised. It is necessary to ensure that these areas are protected, and also that a serious attempt is made to institute meaningful experiences of work during this period.

Most boards in the country offer limited or no optional courses in this period; two languages (one of which is English), Mathematics, science and social sciences are the typical examination subjects. In this group, the courses of Mathematics and English, which are responsible for the 'failure' of a large number of students, need to be revisited and redesigned. The policy of declaring pass–fail in the whole examination, and the meaning of the 'pass mark', may also need to be reviewed. Related issues are discussed in Chapter 5, in the section on examination reforms.

A few boards also encourage students to choose an optional course from a range that includes economics, music and cookery. Such options could be increased, and the possibilities of substituting the more traditional disciplines with these options could also be considered. Vocational options could also be introduced. Many such vocational options may arise from the world of productive work in the local community. For example, auto maintenance in garages, tailoring and paramedical services offer possibilities for collaboration to create meaningful vocational courses; school boards could accredit such learning and thereby also recognise the many sites of learning that are situated outside school. In our country, many vocational stream courses have deteriorated in their quality, and hence are unable to provide students with meaningful work-related knowledge and skills. In many cases, these courses have degraded into routine credentialing courses, and make no distinction between learning to do a job versus learning to get a job.

3.10.4 Higher Secondary School

The status of the academic and vocational streams at the higher secondary stage needs to be reviewed in view of the continued preoccupation with and influence of the board and entrance examinations, and in view of the continued privilege given to the so-called academic stream and the failure of the vocational stream to take off. During this period of two years students make choices based on their interests, aptitudes and needs regarding their future life.

The possibilities of choosing optional courses of study for exploring and understanding different areas of knowledge, both in relation to one's interest and one's future career, is integral to this stage. Exploring disciplines and approaching problems and issues from rich interdisciplinary perspectives are possible at this stage. There is a need to allow for such investigations to take place between and outside the 'subjects' chosen for study.

Most boards of study offer a variety of subject areas in addition to the compulsory language courses. There is a concern about the formal or informal restrictions that operate to narrow the choice of subjects of study for students. Several boards restrict the combinations in the form of 'the science stream', 'the arts stream' and 'the commerce stream'. The CBSE does not restrict the possibility of combinations that students can choose, but in view of the increasing popularity of some combinations of subjects of study, and also because of a perception of status of subjects in relation to each other, many such options are now foreclosed to students. Further, universities also need to review their admission criteria as they currently restrict admission

based on the kinds and combinations of courses studied at the +2 stage. As a consequence, many significant and meaningful combinations of study, such as, for example, Physics, Mathematics and Philosophy, or Literature, Biology and History, are closed to students.

Recent trends of schools tailoring their classes to medical and engineering courses have led to an artificial restriction on the courses they offer in school, arguably on grounds of popularity and timetabling. In many parts of the country, students who want to study the arts and liberal subjects are left with very few options. Schools also discourage students from opting for unconventional combinations, often on account of timetabling considerations. We believe it is essential to keep all options open for students. In case there are not enough students in a school opting for a particular subject, schools could consider working out arrangements with other schools in the neighbourhood so that they could employ a resource teacher together. Such resource teachers could also be employed at the block level to teach such special subjects that would not otherwise be available in a school. School boards may also consider a more active role in promoting subjects and streams of study.

The courses offered at the +2 stage need to be alive to recent and current developments in the disciplines, as new knowledge areas are carved out, disciplinary boundaries shift and multidisciplinary studies develop. To allow students to engage with areas of study that are growing in importance within the disciplines and fields, courses could also be designed to offer optional modules, rather than trying to cover everything and packing courses with too much information. For example, History could have an optional module to study either Archaeology or World History; similarly, Physics could offer the options of Astronomy, Space Science and Rocketry etc.

Under pressure to 'cover' vast syllabi, many important aspects of learning such as practicals and field trips, and ways of learning such as reference work, project work and presentations, are not fully utilised, to the detriment of overall learning. Well -equipped laboratories and libraries, and access to computers, are essential, and all efforts must be made to ensure that schools and junior colleges are well equipped with such resources.

The vocational stream originally was meant to address the needs of those who would enter the work force earlier than those who would enter the professions via the traditional academic streams, or those who would pursue study and research. We recommend infusing productive work as a pedagogic medium for knowledge acquisition, developing values and multiple skill formation at all stages of education, including the +2 stage.

Given the developmental nature of this stage, guidance and counselling by trained professionals must be made available to children. Interventions to enhance self/career awareness, career exploration and planning are also essential. Besides, this stage coincides with adolescence, a period in an individual's life that is marked by personal, social and emotional crises created due to the demands of adjustment required in family, peer group and school situations. The provision of these services in schools would help create the support system required to cope with increasing academic and social pressures.

3.10.5 Open Schooling and Bridge Schooling

Beginning with the National Open School, open school boards, which have begun to function in a few states, now are able to provide much more flexibility and options for students. The range of subjects they offer is wide. With more flexibility in examination taking,

The purpose of evaluation is not

- √ *to motivate children to study under threat.*
- √ *to identify or label children as 'slow learners', or 'bright students', or 'problem children'. Such categories segregate children, placing the onus for learning solely on them, and detract from the role and purpose of pedagogy.*
- √ *to identify children who need remediation (this need not wait for formal assessment; it can be detected by the teacher in the course of teaching and attended to as a part of pedagogic planning, through individualised attention).*
- √ *to diagnose learning difficulties and problem areas—while broad indications about conceptual difficulties can be identified via evaluation and formal testing. Diagnosis requires special testing instruments and training. It is also specific to foundational areas of literacy and numeracy, and is not meant for subject areas.*

and the possibility of credit transfer from other boards, open schools have been able to provide a more humane approach to the process of certification. Knowledge about and access to open schools could be more widely disseminated along with efforts to address misconceptions regarding equivalence with other board examinations. By scheduling these examinations closer to the dates of other board examinations, it would also be possible to ensure that students do not lose a school year.

Bridge courses are conducted widely in many parts of the country to enable children who are out of school to study in programmes and become integrated into classes suitable to their age. In the medium term, it is essential to have well - conceived programmes that are able to meet this curricular objective. Anything less than this would exacerbate the deprivation that these children have already suffered, and constitute a flagrant disregard of their rights. Rigorous research and development of the pedagogy and materials required for such programmes to succeed, stringent implementation norms and provisioning of facilities, as well as continued academic and social support for these children after they have been placed in school are essential.

3.11 ASSESSMENT AND EVALUATION

In the Indian education system, the term evaluation is associated with examination, stress and anxiety. All efforts at curriculum definition and renewal come to naught if they cannot engage with the bulwark of the evaluation and examination system embedded in schooling. We are concerned about the ill effects that examinations have on efforts to make learning and teaching meaningful and joyous for children. Currently, the board examinations negatively influence all testing and assessment through out the school years, beginning with pre-school.

At the same time, a good evaluation and examination system can become an integral part of the learning process and benefit both the learners themselves and the educational system by giving credible feedback. This section addresses evaluation and assessment as they are relevant to the normal course of teaching-learning in the school, as a part of the curriculum. Issues relating to the examination system, and in particular to the board examinations, are addressed separately in Chapter 5.

3.11.1 The Purpose of Assessment

Education is concerned with preparing citizens for a meaningful and productive life, and evaluation should be a way of providing credible feedback on the extent to which we have been successful in imparting such an

education. Seen from this perspective, current processes of evaluation, which measure and assess a very limited range of faculties, are highly inadequate and do not provide a complete picture of an individual's abilities or progress towards fulfilling the aims of education.

But even this limited purpose of evaluation, of providing feedback on scholastic and academic development, can be achieved only if the teacher is prepared even before the course of teaching begins, armed with not only the techniques of assessment but also the parameters for evaluation and the various tools that will be employed. In addition to judging the quality of the students' achievements, a teacher would also need to collect, analyse and interpret their performances on various measures of the assessment to come to an understanding of the extent and nature of the students' learning in different domains. The purpose of assessment is necessarily to improve the teaching-learning process and materials, and to be able to review the objectives that have been identified for different school stages by gauging the extent to which the capabilities of learners have been developed. Needless to say, this does not mean that tests and examinations will have to be conducted frequently. On the contrary, routine activities and exercises can be employed effectively to assess learning.

Well-designed assessment and regular report cards provide learners with feedback, and set standards for them to strive towards. They also serve to inform parents about the quality of learning and the development and progress of their wards. This is not a means of encouraging competition; if one is looking for quality in education, then segregating and ranking children and injecting them with feelings of inferiority cannot do it.

Last, credible assessment provides a report, or certifies the completion of a course of study, providing other schools and educational institutions, the community and prospective employers with information regarding the quality and extent of learning.

The popular notion that evaluation can lead to identifying the needs of remediation, to be attended to with remedial teaching, has created many problems in curriculum planning. The term remediation needs to be restricted to specific/special programmes that enable children who are having a problem with literacy/reading (associated with reading failure and later with comprehension) or numeracy (especially the symbolic aspects of mathematical computation and place value). Teachers require specific training for effective diagnostic testing that can be of assistance in remediation efforts. Similarly, remedial work would require specifically developed materials and planning so that the teacher is able to give one-on-one time to work with the child,

Competencies

Competencies is an attempt to shift the focus of teaching and related assessment away from superficial textbook-based factual content. However, in the MLL approach, competencies are broken up into detailed sub-competencies and sub-skills, assuming that the sum of these sub-skills is the competency. Frequently, with the focus on behaviour and performance concepts may not even feature in the assessment. This logical yet mechanical listing of sub-skills and rigid timetables for their achievement does not reflect either the concern that learning and use of the competency may itself be more flexible, or that the cycle over which competencies are learnt need not follow the timing or pace described, or that the whole may be greater than the sum of the parts.

Designing learning and test items for these detailed lists, and teaching to these learning outcomes, is impractical and pedagogically unsound.

beginning with what she/he knows and moving to what she/he needs to learn, through a continuous process of assessment and careful observation. Indiscriminate usage of the term distracts from the general problems of effective pedagogy, and makes the child solely responsible for her/his learning and also learning 'failure'.

3.11.2 Assessing Learners

Any meaningful report on the quality and extent of a child's learning needs to be comprehensive. We need a curriculum whose creativity, innovativeness, and development of the whole being, the hallmark of a good education makes uniform tests that assess memorised facts and textbook -based learning obsolete. We need to redefine and seek new parameters for and ways of evaluation and feedback. In addition to the learner's achievements in specific subject areas that lend themselves to testing easily, assessment would need to encompass attitudes to learning, interest, and the ability to learn independently.

3.11.3 Assessment in the Course of Teaching

Preparing report cards is a way for the teacher to think about each individual child and review what she/he has learnt during the term, and what she/he needs to work on and improve. To be able to write such report cards, teachers would need to think about each individual child, and hence pay attention to them during their everyday teaching and interaction. One does not need special tests for this; learning activities themselves provide the basis for such ongoing observational and qualitative assessments of children. Maintaining a daily diary based on observation helps in continuous and comprehensive evaluation. An extract from the diary of a teacher for a week notes the following: "Kiran enjoyed his work. He took an instant liking to the books that were informative and brief. He says that he likes simple and clear language. In noting down facts, he goes for short answers. He says that it helps him understand things easily. He favours a practical approach." Similarly, keeping samples and notes of the child's work at different stages provides both the teacher and the learner herself or himself with a systematic record of his/her learning progress.

The belief that assessment must lead to finding learning difficulties to then be remediated is often very impractical and not founded on a sound understanding of pedagogic practice. Problems regarding conceptual development cannot and do not wait for formal tests in order to be detected. A teacher can, in the course of teaching itself, come to know of such problems by asking questions that make children think or by giving them small assignments. She can then attend to them in the process of teaching–by ensuring that her planning is flexible and responsive to the learners and their learning.

3.11.4 Curricular Areas that cannot be 'Tested for Marks'

Each area of the curriculum may not lend itself to being 'tested'; it may even be antithetical to the nature of learning in the curricular area. This includes areas such as work, health, yoga, physical education, music and art. While the skill-based component of physical education and yoga could be tested, the health aspect needs continuous and qualitative assessments. Currently, this has the effect of making these subjects and activities 'less important' in the curriculum; these areas are inadequately provided for in terms of material resources and curricular planning, and marked by a lack of seriousness. Further, the time allocated for them is also frequently sacrificed to accommodate special classes. This is a serious compromise with parts of the curriculum that have deep educational significance and potential.

Even if 'marks' cannot be given, children can be assessed for their development in these areas. Participation, interest, and level of involvement, and the extent to which abilities and skills have been honed, are some markers that can help teachers to gauge the benefits of what children learn and gain through such activities. Asking children to self-report on their learning can also provide teachers with insight into children's educational progress and give them feedback on improving curriculum or pedagogy.

3.11.5 Design and Conduct of Assessment

Assessments and examinations must be credible, and based on valid ways of gauging learning.

As long as examinations and tests assess children's ability to remember and recall textbook knowledge, all attempts to redirect the curriculum towards learning will be thwarted. First, tests in knowledge-based subject areas must be able to gauge what children have learnt, and their ability to use this knowledge for problem solving and application in the real world. In addition, they must also be able to test the processes of thinking to gauge if the learner has also learnt where to find information, how to use new information, and to analyse and evaluate the same.

The types of questions that are set for assessment need to go beyond what is given in the book. Often children's learning is restricted as teachers do not accept their answers if they are different from what is presented in the guidebooks.

Questions that are open-ended and challenging could also be used. Designing good test items and questions is an art, and teachers should spend time thinking about and devising such questions. The interest and ability of teachers to design good questions can be promoted through district- or state-level competitions. All question papers must be designed graded for difficulty in order to permit all children to experience a level of success, and to gain confidence in their ability to answer and solve problems.

Trying to devise a good and effective open-book examination can be a challenge that we must try to take up in our curricular efforts at all levels of school. This would require teachers and examination setters to emphasise the interpretation and application of learning over the arguments and facts that can be located in the book. There have been successful demonstrations that such examinations can be carried out on a large scale, and that teachers can themselves be trusted with moderating the results of such examinations. In this way, the assessment of projects and lab work can also be made credible and sound.

It is important that after receiving their corrected papers, children rewrite the answers and that these are again reviewed by teachers to ensure that children have learnt and gained something out of the ordeal.

Posing Questions

State four considerations to be kept in mind while setting up an iron-smelting plant.

Versus

If an industrialist wanted to establish an iron - smelting plant, which site should she choose and why?

How does the shape of a bird's beak help in adaptation?

Versus

Draw the beak of a common bird seen in your neighbourhood. Based on the shape of the beak, explain what are likely to be the bird's food habits and where in your neighbourhood it is likely to find its food.

Competition is motivating, but it is an extrinsic rather than intrinsic form of motivation. It is, of course, much easier to establish and to manipulate, and therefore frequently resorted to by teachers and school systems as a way creating and nurturing the drive for excellence. Schools begin 'ranking' children as early as their pre-primary years as a way of inculcating in them a competitive spirit. Such a competitive drive has several negative side effects on learning; often superficial learning is sufficient to create and maintain impressions, and over time students lose their ability to take initiative or do things for the fulfilment of one's own interest; hence, areas that cannot be 'marked' are neglected. This has unhealthy consequences for classroom culture, making children individualistic and unsuited to team work. There is an absurd and unnecessary importance given to term examinations, often accompanied by extreme arrangements of invigilation and secrecy. While the physical and psychological effects of this may not be readily visible until middle school, they frequently lead to high levels of stress in children, and cause early burnout. Schools and teachers need to ask themselves whether there is really much to be gained out of such practices and to what extent learning requires such systems of marking and ranking.

3.11.6 Self-assessment and Feedback

The role of assessment is to gauge the progress that both learner and teacher have made towards achieving the aims that have been set and appraising how this could be done better. Opportunity for feedback, leading to revision and improvement of performance, should constantly be available, without exams and evaluations being used as a threat to study.

Grading and correction carried out in the presence of students and providing feedback on the answers they get right and wrong, and why. Asking children about why they answered what they did assists teachers in going beyond the written answer to engage with children's thinking. Such processes also take away the frightening judgemental quality of marks obtained in a test, and enable children to understand and focus on their mistakes and learn through these mistakes. Sometimes head teachers object, claiming that correction in the presence of the child reduces 'objectivity'. This is a misplaced concern for 'objectivity', stemming from a competitive system that believes in judging children. Such a concern for 'objectivity' is misplaced in evaluation, which is consistent with educational goals.

Not only learning outcomes but also learning experiences themselves must be evaluated. Learners happily comment on the totality of their experience. Exercises, both individual and collective, can be designed to enable them to reflect on and assess their learning experiences. Such experiences also provide them with self-regulatory capabilities essential for 'learning to learn'. Such information is also valuable feedback to the teacher, and can be used to modify the learning system as a whole.

Every classroom interaction with children requires their evaluation of their own work, and a discussion with them about what should be tested and the ways of finding out whether the competencies are being developed or not. Even very young children are able to give correct assessments of what they can or cannot do well. The role of teaching is to provide an opportunity to each child to learn to the best of his or her ability and provide learning experiences that develop cognitive qualities, physical well-being and athletic qualities, as also affective and aesthetic qualities.

Report cards need to present to children and parents a comprehensive and holistic view of the child's

development in many fields. Teachers must be able to say things about each child/student, that conveys to them a sense of individualised attention, reaffirms a positive self-image, and communicates personal goals for them to work towards. Whether it is marks or grades that are reported, a qualitative statement by the teacher is necessary to support the assessment. Only through such a relationship with each child can any teacher succeed in influencing him/her, and contributing to his/her learning. Along with the teacher assessing each child, each student could also assess himself or herself and include this self-assessment in the report card.

Currently, many report cards carry information on subject areas and have nothing to say about other aspects of the child's development, including health, physical fitness and abilities in games, social skills, and abilities in art and craft. Qualitative statements about these aspects of children's education and development would provide a more holistic assessment of educational concerns.

3.11.7 Areas that Require Fresh Thinking

There are many areas of the curriculum that can be assessed but for which we still do not have reliable and efficient instruments. This includes assessing learning that is carried out in groups, and learning in areas such as theatre, work and craft where skills and competencies develop over longer time scales and require careful observation.

Continuous and comprehensive evaluation has frequently been cited as the only meaningful kind of evaluation. This also requires much more careful thinking through about when it is to be employed in a system effectively. Such evaluation places a lot of demand on teachers' time and ability to maintain meticulous records if it is to be meaningfully executed and if it is to have any reliability as an assessment. If this simply increases stress on children by reducing all their activities into items for assessment, or making them experience the teacher's 'power', then it defeats the purpose of education. Unless a system is adequately geared for such assessment, it is better for teachers to engage in more limited forms of evaluation, but incorporating into them more features that will make the assessment a meaningful record of learning.

Finally, there is a need to evolve and maintain credibility in assessment so that they perform their function of providing feedback in a meaningful way.

3.11.8 Assessment at Different Stages

ECCE and Classes I and II of the Elementary Stage: At this stage, assessment must be purely qualitative judgements of children's activities in various domains and an assessment of the status of their health and physical development, based on observations through everyday interactions. On no account should they be made to take any form of test, oral or written.

Class III to Class VIII of the Elementary Stage: A variety of methods may be used, including oral and written tests and observations. Children should be aware that they are being assessed, but this must be seen by them as a part of the teaching process and not as a fearful constant threat. Grades or marks along with qualitative judgements of achievement and areas requiring attention are essential at this stage. Children's own self-evaluation can also be a part of the report card from Class V onwards. Rather than examinations, there could be short tests from time to time, which are criterion based. Term-wise examinations could be commenced from Class VII onwards when children are more psychologically ready to study large chunks of material and, to spend a few hours in an examination room, working at answering questions. Again, the progress card must indicate general observations on health and nutrition, specific observations on the overall

progress of the learner, and information and advice for the parents.

Class IX to class XII of the Secondary and Higher Secondary Stages : Assessment may be based more on tests, examinations and project reports for the knowledge-based areas of the curriculum, along with self-assessment. Other areas would be assessed through observation and also through self-evaluation.

Reports could include much more analysis about the students, various skill/knowledge areas and percentiles, etc., This would assist them by pointing out the areas of study that they need to focus on, and also help them by providing a basis for further choices that they make regarding what to study thereafter.

It's really cruel burdening kids like this. I had to hire that boy to help my son !

(Courtesy : R. K. Laxman in the Times of India)

Chapter 4: School and Classroom Environment

Learning takes place within a web of social relationships as teachers and pupils interact both formally and informally. Schools are institutional spaces for communities of learners, including both students and teachers. Play and scuffle with one's friends on the school grounds, free time to sit on the benches and chat with one's friends during breaks, gathering together for morning assembly and other festive and significant occasions in the school, studies carried out in the classroom, anxious turning of pages before a class test, and trips made with one's classmates and teachers to places outside the school — all these are activities bringing the community together, giving it the character of a learning community. Behind the scenes, but still significant in giving the school its character, are the teachers and the headmaster, planning and carrying out daily routines, examinations and special events that mark the school calendar. How can we organise the environment in the school and classroom so that such interactions support and enhance both teaching and learning? How can the space of the school be nurtured as a context where children feel safe, happy and wanted, and which teachers

find meaningful and professionally satisfying? The physical and psychological dimensions of the environment are important and are interrelated. In this chapter we examine these environments to understand how they significantly influence children's learning.

4.1 The Physical Environment

Children are constantly interacting with the physical environment of their schools during structured or unstructured time, consciously or unconsciously. Yet not enough attention is paid to the importance of physical environment for learning. Often classrooms are overcrowded, with no alternative spaces to learn, nor are they attractive, inviting or sensitive towards children's needs. Inappropriate school design may drastically affect the teacher's productive output and classroom management. In fact, the role of this all - encompassing, physical environment has been restricted merely to shelter the educational activity.

When children are asked about the kinds of spaces they like, very often they want to be in a place that is colourful, friendly, and peaceful, with lots of open space offering with small nooks and corners, animals, plants, flowers, trees, and toys. In order to attract and retain children, the school environment must have all these elements in and around them.

Classrooms can be brightened up by first ensuring adequate natural light inside and then made lively by displaying children's work on the classroom walls as well as in different parts of the school. Drawings, art and craftwork put up on the walls and shelves send out a powerful message to children and their parents that their work is appreciated. These must be displayed at locations and heights that are physically and visually comfortably accessible to children of various ages. Many of our schools continue to function in dilapidated and dingy buildings, presenting a dull, drab and

Learning through the physical space:

Children perceive their world through multiple senses, especially the tactile and visual senses. A three-dimensional space can offer a unique setting for a child to learn because it can introduce a multiple sensory experience to accompany the textbook or blackboard. Spatial dimensions, textures, shapes, angles, movements and spatial attributes like inside – outside, symmetry, up – down, can be used to communicate some basic concepts of language, science, mathematics and the environment. These concepts can be applied to existing as well as new, to - be - built spaces.

√ ***Classroom space:*** *A window security grill can be designed to help children practise pre-writing skills or understand fractions; a range of angles can be marked under a door shutter on the floor to explain the concept of angles; or a classroom cupboard can be modified to be used as a library; or a ceiling fan can be painted with a range of colour wheels for children to enjoy the ever-changing formations.*

√ ***Semi-open or outdoor space:*** *The moving shadows of a flag-pole acting like a sundial to understand the different ways of measuring time; planting winter deciduous trees that shed their leaves in winter and are green in summer to make a comfortable outdoor learning space; an adventure playground could be developed here using discarded tyres; a counter space to simulate a bus/train/ post office/shop counter; an activity space for playing with mud and sand and making one's own mountains, rivers, and valleys in an outline map of India; or space exploration and discovery; space to explore three dimensions; or the outdoor natural environment with plants and trees that allow children to explore and create their own learning materials, colours, discover nooks and corners; grow a herbal garden; and actually see and practise rainwater harvesting.*

unstimulating physical setting. This can be changed with simple innovations, with the combined efforts of schoolteachers, administrators and architects.

Buildings are the most expensive physical assets of a school. Maximum educational value should be derived from them. Creative and practical solutions can be used to maximise this educational value while repairing or upgrading existing schools or making new buildings. The enhancement of the physical environment through this can bring about not just a cosmetic change but also an inherent transformation in the way that physical space connects with the pedagogy and the child. In many parts of the country, schools and classrooms have large permanent displays painted on the walls. Such visuals are over-stimulating, and with time they become monotonous and cease to enhance the quality of the space. Instead, smaller sized, judiciously chosen murals may be a better way of adding colour to the school. Most of the wall display area should be utilised for children's own work, or charts made by the teacher, and these should be replaced every month. Preparing such wall displays, and participating in putting them up, can be also valuable learning activities for children.

Many schools lack playgrounds for outdoor learning activities. This compromises the quality of learning provided through the curriculum.

Ensuring that minimum requirements of infrastructure and materials are available, and supporting flexible planning that will help achieve curricular aims are important features that heads of school, cluster and block functionaries should focus on in their support to teachers. This applies to almost all aspects of school life. The many new pedagogies that have been promoted through efforts such as the one suggested by DPEP — that the physical layout of the classroom could be altered so that children can sit together in small groups, or gather in a large circle for story telling, or sit on their own for carrying out some individual reading or writing tasks, or assemble in a group near the radio or TV for a broadcast. For this, the arrangement of desks and chairs, benches and *daris* could be altered. Many schools have begun to acquire simple furniture that is suitable for such flexible organisation. Single small *chowkis*, or desks and chairs for individual or pairs of children, and *daris* are well suited for such classrooms, and could be adapted or altered to suit the needs of children with disabilities. But still many schools invest in heavy metal benches and long desks, which can only be placed in rows, and which reinforce the teacher and blackboard-centred system of learning. Worse still, many of these do not have adequate place for children to keep their books and belongings, nor are they wide enough or with back support suitable for the physical comfort of the child. Such furniture should be banned from school spaces.

The maximum use can be made of available school and classroom spaces as pedagogic resources. In some areas, the walls of primary school classrooms

> *'Class size' is an important factor that influences the choice of desirable methods and practices that the teacher uses in the process of curriculum transaction. National and international experiences have shown that a ratio higher than 1:30 is not desirable at any stage of school education. Way back in 1966, the Kothari Commission Report had warned that large classes would do 'serious damage to the quality of teaching' and that 'in crowded classrooms, all talk of creative teaching ceases to have any significance' (1966 : p. 233 and 234).*

till the height of about 4 feet have been painted black so that they serve as a free slate and drawing board for children. In some schools geometric designs that can be used for activities are painted on the floor. A corner of the room may be used to organise learning materials, to keep some appropriate story books, puzzle or riddle cards, and other self-access learning materials. When some children finish their assigned lessons befor the allotted time, they should feel free to come and pick up something from this corner to occupy themselves.

Children can be encouraged to participate in activities to make the school and classroom attractive for study, work and play. Most government schools have the healthy practice of giving children the charge of cleaning, thereby encouraging the inclusion of work into the routine of the school. But it is also distressing to note that there are schools where it is the girls or children from the lower the castes who are expected to do this work. In elite schools, children do not take on any such responsibilities, and cleaning activities are often meted out as 'punishments' for misdemeanours. Such practices stem from and reinforce cultural norms of the division of labour, and the association of distasteful jobs with traditional hereditary occupations of lower – caste groups. As schools are public spaces that must be informed by the values of equality as well as respect for labour/work of all kinds, it is important that teachers consciously avoid distributing tasks on the basis of cultural notions. On the other hand, keeping the classroom clean and putting things in place are important curricular experiences through which children learn to take individual and collective responsibility and to keep their classrooms and schools as attractive as possible. The understanding of being part of a larger collective, and the abilities needed to work within a collective, can be internalised in children in a variety of ways as they interact in groups within the classroom and the school.

In fact, the structuring of infrastructural facilities is essential for paving the way for creating a learner - friendly and activity-centric context. Setting norms and standards, especially relating to space, building and furniture, would help in fostering a discerning sense of quality.

- **Space** Norms are related to age, to group size, the teacher – child ratio, and to the nature of activities to be carried out.
- **Building** Building materials, architectural styles and craftsmanship are also location-specific and culture-specific in relation to climate, ecology, and availability, while safety and hygiene are non-negotiable. Low-cost designs for toilets are plentiful, and the same standardised school building need not be found across India.
- **Furniture** Norms must be related to age and the nature of the activities, with preference given to the easily relocated, except in case of laboratories and other specialised spaces.
- **Equipment** Lists of essential and desirable equipment (including books) should be specified, emphasising the use of local materials and products, which may be culture specific, low cost, and easily available.
- **Time** The need for location and age-specific norms also apply to time tables and seasonal calendars.

4.2 Nurturing an Enabling Environment

As public spaces, schools must be marked by the values of equality, social justice and respect for diversity, as well as of the dignity and rights of children. These values must be consciously made part of the perspective of the school and form the foundation of school practice. An enabling learning environment is one where

'On an average, teachers and children spend around 6 hours a day, and over 1,000 hours a year, in school. The physical environment in which they go about their tasks must be congenial, providing a level of comfort, and offering a pleasant space to work in. For this, the school must have minimum facilities that include essential furniture, basic amenities (toilets, drinking water) and so on. There are a large number of schools in rural areas, especially in SC *and tribal habitations, as well as in poor urban settlements, which have not been able to provide these basic facilities, although there are official norms for the same.*

Teachers, including the headmaster and the Village Education Committee or School Development and Monitoring Committee, need to be aware of the official norms of the state regarding the essential physical infrastructure and amenities. In places where they are not adequate, efforts need to be made for their provision so that the school routine proceeds with minimum discomfort. If the official response is not forthcoming or is delayed, local communities should lobby for these. With their involvement and willingness to make this effort fruitful, the school would assist teachers in concentrating on academic work.

children feel secure, where there is absence of fear, and which is governed by relationships of equality and equity. Often this does not require any special effort on the part of the teacher, except to practise equality and not discriminate among children. Teachers should also nurture their classroom spaces as places where children can ask questions freely, engaging in a dialogue with the teacher as well as their peers, during an ongoing lesson. Unless they can share their related experiences, clarify their doubts and ask questions, they will not engage with learning. If, instead of ignoring children's comments or sealing their tongues with strict rules of silence and restrictions on the language to be used, teachers encourage children to talk, they would find that the classroom is a more lively place and that teaching is not predictable and boring, but rather an adventure of interacting minds. Such an environment will facilitate the self-confidence and self-esteem of learners of all ages; it will also go a long way in improving the quality of learning itself.

Teachers and children are part of the larger society where identities based on membership of caste, gender, religious and linguistic group, as well as economic status inform social interaction, though this varies in different social, cultural and regional contexts. SC and *ST* communities, members of minority groups, and women are usually placed in situations of disadvantage because of their identities, and are denied equal access to valued resources in society and participation in different institutions. Research on school processes suggests that identities of children continue to influence their treatment within schools, thereby denying them meaningful and equal opportunities to learn. As part of the experience of schooling, children also receive implicit messages through interpersonal relations, teacher attitudes, and norms and values that are part of the culture of the school. These often reinforce notions of purity and pollution in relation to social hierarchies, desirable qualities of 'masculinity' and 'feminity', and privilege in certain ways of living, mainly that of the urban middle class, while rendering all others invisible. Children belonging to SC and ST groups, and other socially discriminated against groups such as sex workers and parents with HIV, are often subjected to demeaning treatment in the classroom, not only by teachers but also by their peers. Girls are

often subject to stereotypical expectations based on notions of their future roles as wives and mothers rather than enabling them to develop their capabilities and claim their rights. Children with disability often confront insensitive environments where their needs are completely ignored. Schools must be conscious of the importance of creating equitable classroom environments in which students are not subjected to unfair treatment and denied opportunities on the basis of their sex or membership of a caste, tribe or minority group. On the other hand, the culture of the school must be one that highlights the students, identities as 'learners' and creates an environment that enhances the potential and interests of each child.

4.3 Participation of All Children

Participation by itself has little meaning. It is the ideological framework surrounding participation that defines it and gives it a political construct. For example, work participation within an authoritarian frame would give participation a very different form from participation within a democracy. Today, the participation of 'civil society' has become part of the rhetoric in developmental circles, but the nature of that civil society and the object of that participation have been moulded by a specific interpretation of what it means to be a citizen. Today, civil society participation has come to mean NGO participation, and attempts to enable the participation of individual citizens, for example, in local governance is posing a major challenge.

India is one of the largest and oldest democracies in the world; this curriculum framework is built on an understanding of this foundation. Education defines the fabric of a nation, and has the capacity to provide each child a positive experience of democratic functioning. Like the texture, colour, strength, and nature of each thread that is woven into a tapestry, each Indian child can be enabled to not only participate in a democracy, but to also learn how to interact and form partnerships with others to preserve and enhance democracy. It is the quality and nature of the interrelationships among individuals that determines the socio-political fabric of our nation. However, children are often socialised in to discriminatory practices. Children and adults learn from what they experience at home, the community and the world around them. It is important to recognise that adults socialise children within the dominant socio-cultural paradigm. This paradigm would include the role models that children see the mass media including television. This experience conditions their perceptions of caste and class, gender, democracy and justice. These perceptions, if and when reinforced by repeated experiences of the same kind, are converted into values. At a community level, when a group of people have the same experience and therefore share the same values, these values get converted into culture, and sometimes even ideology. This is a spiral, and each time the cycle is repeated the values and culture get reinforced unless there is a variation in the experience. The counter - experience needs to be strong and real enough to transform the earlier perceptions. Children cannot wake up one fine morning when they are 18 and know how to participate in, preserve and enhance a democracy, especially if they have had no prior personal or even second - hand experience of it, nor any role models to learn from.

The participation of children is a means to a much larger end, that of preserving and adding a new vibrancy to our culture of egalitarianism, democracy, secularism and equality. These values can be best realised through an integrated and well-designed curriculum that enables children's participation. The existing environment of unhealthy competition in schools

promotes values that are the antithesis of the values enshrined in our Constitution. A positive 'experience' of democracy and democratic participation must be provided both within and outside the school. This experience must actively engage children and young people in ways that encourage values of inclusion, eventually leading the way to the realisation of the vision of a participatory democracy.

Enabling democratic participation is also a means of empowering the weak and the marginalised. If India is to realise her dream of a nation based on egalitarianism, democracy and secularism, where all her citizens enjoy justice, liberty, equality and fraternity, enabling the participation of children would be the most fundamental step in this process. Enabling learning through participation in the life of a community and the nation at large is crucial to the success of schooling. The failure to provide this will result in the failure of the system, and hence needs to be treated as the utmost priority. It is not only as essential as the teaching of mathematics and science, but takes on even greater importance as an indispensable component of all disciplines. It is a running theme, and has to be integrated into all learning processes and arenas, and given top priority in the development of all curricula and syllabi.

4.3.1 Children's Rights

India has signed the Convention on the Rights of the Child (CRC). The three most important principles of this Convention are the rights to participation, to association or the right to organisation, and the right to information. These are essential rights if children and youth are to realise all their other rights. CRC does not concern itself only with the protection of children and the delivery or provision of services and programmes, but also ensures that children have the right to determine the quality and nature of these services and programmes. Moreover, all the articles of the CRC have to be seen within the overarching principle, that

- √ *Inclusive education is about embracing all.*
- √ *Disability is a social responsibility — accept it.*
- √ *No selection procedures to be adopted for denying admission to learners with disabilities.*
- √ *Children do not fail, they only indicate failure of the school.*
- √ *Accept difference… celebrate diversity.*
- √ *Inclusion is not confined to the disabled. It also means non-exclusion.*
- √ *Learn human rights … conquer human wrongs.*
- √ *Handicap is a social construct, deconstruct handicap.*
- √ *Make provisions — not restrictions; adjust to the needs of the child.*
- √ *Remove physical, social and attitudinal barriers.*
- √ *Partnership is our strength such as*

  school – community; school – teachers; teachers – teachers; teachers – children; children – children; teachers – parents; school systems and outside systems.
- √ *All good practices of teaching are practices of inclusion.*
- √ *Learning together is beneficial for every child.*
- √ *Support services are essential services.*
- √ *If you want to teach, learn from the child. Identify strengths not limitations.*
- √ *Inculcate mutual respect and inter-dependence.*

of upholding and preserving the best interests of children.

Although CRC guarantees children the right to express their views freely in all matters affecting them, and to exercise freedom of expression, children are frequently denied the opportunity to participate in decision-making processes and activities that effect their lives and futures. The right to participation also depends on the realisation of other primary rights such as access to information, the freedom of association, and the right to formulate opinions free from influence and coercion. The principle of participation should be integrated into all areas of concern for children.

In reality, social, political and economic structures are still very much hierarchical; children and youth are the most marginalised sections of society; their effective participation depends largely on the extent to which they are given the opportunity to organise themselves. Coming together gives them visibility, strength and a collective voice. The participation of individual, 'hand-picked' children or youth is fraught with discrimination, and is ineffective because such 'representatives' represent no one but themselves; it excludes the less vocal and less visible; and it gives more room for manipulation.

On the other hand, the organised participation of children and youth, especially the more disadvantaged children, gives children strength, access to more information, confidence, an identity and ownership. Individual children or youth representing such groups voice the views and aspirations of the collective. Their coming together also enables them to find collective ways to solve problems. However, what needs to be ensured is that all children and youth have an equal right to participate in the development of this collective voice.

4.3.2. Policy of Inclusion

A policy of inclusion needs to be implemented in all schools and throughout our education system. The participation of all children needs to be ensured in all spheres of their life in and outside the school. Schools need to become centres that prepare children for life and ensure that all children, especially the differently abled, children from marginalised sections, and children in difficult circumstances get the maximum benefit of this critical area of education. Opportunities to display talents and share these with peers are powerful tools in nurturing motivation and involvement among children. In our schools we tend to select some children over and over again. While this small group benefits from these opportunities, becoming more self - confident and visible in the school, other children experience repeated disappointment and progress through school with a constant longing for recognition and peer approval. Excellence and ability may be singled out for appreciation, but at the same time opportunities need to be given to all children and their specific abilities need to be recognised and appreciated.

This includes children with disabilities, who may need assistance or more time to complete their assigned tasks. It would be even better if, while planning for such activities, the teacher discusses them with all the children in the class, and ensures that each child is given an opportunity to contribute. When planning, therefore, teachers must pay special attention to ensuring the participation of all. This would become a marker of their effectiveness as teachers.

Excessive emphasis on competitiveness and individual achievement is beginning to mark many of our schools, especially private schools catering to the urban middle classes. Very often, as soon as children join, houses are allocated to them. Thereafter, almost every activity in the school is

counted for marks that go into house points, adding up to an end-of-the-year prize. Such 'house loyalties' seem to have the superficial effect of getting all children involved and excited about winning points for their houses, but also distorts educational aims, where excessive competitiveness promotes doing better than someone else as an aim, rather than excelling on one's own terms and for the satisfaction of doing something well. Often placed under the monitoring eye of other children, this system distorts social relations within schools, adversely affecting peer relations and undermining values such as cooperation and sensitivity to others. Teachers need to reflect on the extent to which they want the spirit of competition to enter into and permeate every aspect of school life—performing more of a function in regulating and disciplining than in nurturing learning and interest.

Schools also undermine the diverse capabilities and talents of children by categorising them very early, on narrow cognitive criteria. Instead of relating to each child as an individual, early in their lives children are placed on cognitive berths in the classroom: the 'stars', the average, the below - average, and the 'failures'. Most often they never have a chance to get off their berth by themselves. The demonising effect of such labelling is devastating on children. Schools go to absurd lengths to make children internalise these labels, through verbal name calling such as 'dullard', segregating them in seating arrangements, and even creating markers that visually divide children into achievers and those who are unable to perform. The fear of not having the right answer keeps many children silent in the classroom, thus denying them an equal opportunity to participate and learn. Equally paralysed by the fear of failure are the so-called achievers, who lose their capacity to try out new things arising from the fear of failure, doing less well in examinations, and of losing their ranks. It is important to allow making errors and mistakes to remain an integral part of the learning process and remove the fear of not achieving 'full marks'. The school needs to send out a strong signal to the community, parents who pressurise children from an early age to be perfectionists. Instead of spending time in tuitions or at home learning the 'perfect answers', parents need to encourage their children to spend their time reading storybooks, playing and doing a reasonable amount of homework and revision. Instead of looking for courses on stress management for their pupils, school heads and school managements need to de-stress their curricula, and advise parents to de-stress children's life outside the school.

Schools that emphasise intense competitiveness must not be treated as examples by others, including state-run schools. The ideal of common schooling advocated by the Kothari Commission four decades ago continues to be valid as it reflects the values enshrined in our Constitution. Schools will succeed in inculcating these values only if they create an ethos in which every child feels happy and relaxed. This ideal is even more relevant now because education has become a fundamental right, which implies that millions of first-generation learners are being enrolled in schools . To retain them, the system — including its private sector — must recognise that there are many children that no single norm of capacity, personality or aspiration can serve in the emerging scenario. School administrators and teachers should also realise that when boys and girls from different socio-economic and cultural backgrounds and different levels of ability study together, the classroom ethos is enriched and becomes more inspiring.

4.4 Discipline and Participatory Management

The pupils 'own' the school as much as the teachers and headmasters, especially in government schools. There is a relationship of interdependency between the teacher and the pupils, especially in this era where learning transaction is based on access to information, and knowledge creation is based on a foundation of resources of which the teacher is the pivot. One cannot function without the other. Educational transaction has to shift from the benefactor (teacher) and the beneficiary (pupil) to a motivator and facilitator and learner, all of whom have rights and responsibilities in ensuring that educational transaction takes place.

At present, school rules, norms and conventions define permitted 'good' and 'proper' behaviour for individual and groups of students. Maintaining discipline in schools is usually the prerogative of teachers and adults in positions of authority (often the sports master and administrators). Frequently, they also induct children as 'monitors' and 'prefects' and delegate the responsibility of maintaining 'order' and ensuring control. Punishment and reward play an important role in this. Those who implement rarely question the rules, or the implications that ensuring compliance may have for children's overall development, self-esteem and also their interest in learning. Forms of disciplining such as corporal punishment and, verbal and non-verbal abuse of children, continue to feature in many schools, and are used to humiliate children in front of their peers. Yet many teachers and even parents still believe that such punishment is important, unaware of the immediate and long-term detrimental effects of these practices. It is important for teachers to reflect on the rationale that underlies the rules and conventions that govern schools, and whether these are consistent with our aims of education. For instance, rules such as the length of socks and the whiteness of sports shoes are of no educationally defensible importance. Rules regarding maintaining silence in classrooms, answering 'one at a time', and answering only if you know the right answer, can undermine the values of equality and equal opportunity. Such rules may also discourage processes that are integral to children's learning, the development of a sense of community among peers, though they may make the class 'easy to manage' for the teacher and facilitate 'covering the syllabus'.

Inculcating the value/habit of self-discipline is important for the systematic pursuit of learning and the development of the child's interests and potential. Discipline must enable the performance of, and be conducive to, the task at hand. It should enable freedom, choice and autonomy for both teacher and child. It is necessary to involve children themselves in evolving rules, so that they understand the rationale behind a rule, and feel a sense of responsibility in ensuring that it is followed. In this way they would also learn the process of setting codes of self-governance and the skills required to participate in decision making and democratic functioning. Similarly, the children themselves could also evolve mechanisms for conflict resolution between teachers and students, and among students. The teacher should ensure that there are as few rules as possible, and that only rules that can be reasonably followed are created. It does no one any good to humiliate children for breaking rules, particularly when there are good reasons for the rule being broken. For instance, 'noisy classrooms' are frowned upon by teachers as well as headmasters, but it is possible that rather than the noise being evidence of the teacher not being in control, it may be evidence of a lively and participatory class.

Similarly, headmasters can be unreasonably strict about punctuality. A child who is late for an examination on account of a traffic jam must not be penalised, and yet we find such rules being imposed in the name of higher values. Unreasonableness on the part of authorities in such matters can demoralise children, their parents, and also teachers. It may help to remember to first ask a child why he or she broke a rule, to listen to what the child says, and act accordingly. It is befitting a school head or teacher to exercise authority rather than power. Arbitrariness and unreasonableness are characteristics of power, and are feared, not respected. Systems for the participatory management of the school by children and schoolteachers and administrators need to be evolved. Children should be encouraged to elect their own representatives to children's councils, and similarly the teachers and administrators of a given school need to be organised themselves, so also the parents.

4.5 Space for Parents and the Community

The school is a structured space for guided learning, but the process of constructing knowledge is a continuous one, which goes on even outside the school. If learning is continuous, and takes place in arenas other than the school, such as home, the workplace, the community, etc., then school assignments or homework should be planned differently. It need not depend on parents reinforcing what the school has already done. It could set different kinds of activities for children to do, on their own or with their parents. This could also provide opportunities for parents to understand a little more about what their child is learning in the school and give children the initial impetus to explore and recognise the world outside the school as an arena for learning.

Schools could also invite the community into their premises, and give the larger world outside a role in influencing the curricular process. Parents and community members could come into the school as resource persons to share their knowledge and experiences in relation to a particular topic being studied. For example, for a lesson on machines, local mechanics could talk about sharing their experiences on repairing and also talk about how they learnt to repair vehicles.

1. The participation of the community in the child's world of education and learning should allow for the community to:
   a. Transfer oral history (dealing with folklore, migration, environmental degradation, traders, settlers, etc.) and traditional knowledge (sowing and harvesting, monsoons, processes related to traditional crafts, etc.) to children, while the school encourages critical reflection wherever it is required
   b. Influence the content of subjects and add local, practical, and appropriate examples
   c. Support children in their exploration and creation of knowledge and information
   d. Support children in their practise of democracy through their participation in information generation, planning, monitoring and evaluation with local governments and schools
   e. Monitor the realisation of children's rights as well as violations of these rights
   f. Participate in addressing the constraints faced by children
   g. Participate in setting criteria for vocational training
   h. Enable the village to become a learning environment for children realising the concept of the 'village as a school'.

Similarly, while helping children to use their home language and make a transition to the school language,

teachers may seek inputs from local language speakers to facilitate communication in the mother tongue(s), teaching of languages and creating material. The choice would depend upon the particular curricular plan adopted and the kinds of expertise that are available and accessible. The school must explore opportunities for active engagement by parents and the community in the process of learning. This relationship will help in sharing the content and pedagogy of institutionalised learning.

All schools need to look for ways in which parental participation and involvement can be encouraged and sustained. Many schools do not treat parents' questions and concerns regarding the activities of the school as valid questions. Frequently, private schools turn parents into mere consumers and ask them to take away their wards if they do not like something that the school is doing. Others treat poor parents as not having any legitimate stand when they come to make enquiries about their wards. Both types of attitudes are disrespectful of parents and their legitimate concern for their children.

Overall, in order to make the school environment supportive of children, and to strengthen the relationship of the school with parents and the local community, there are institutionalised structures such as parent-teacher associations, local - level committees, and also alumni associations in some schools. In events held to celebrate national festivals and other occasions such as cultural day and sports day, most schools invite parents to participate. By inviting alumni and local residents also, the importance of the school as a community site can increase. Community involvement can also be sought for maintaining the school and its facilities. There are examples of local contributions for building school boundary walls, augmenting facilities, and so on. However, community participation must not mean the economic burdening of poor families. On the other hand, there can be an understanding that school space can be shared with the community for local events and that there will be some collective responsibility in maintaining its premises.

4.6 Curriculum Sites and Learning Resources

4.6.1 Texts and Books

Popular perception treats the textbook as the prime site for curriculum designing. Though curriculum planning is a much wider process, curriculum reform seldom goes beyond changing the textbook. **Improved textbooks** that are carefully written and designed, professionally edited and tested, offering not merely factual information but also interactive spaces for children are important. But curricular reform can go much farther if textbooks are accompanied by several other kinds of materials. Subject **dictionaries,** for instance, can relieve the main textbook from becoming encyclopaedic, burdened by carrying definitions of technical terms, and instead allow the teacher to focus on understanding concepts. The triangular relationship between high-speed classroom teaching, heavy homework and private tuition, which is a major source of stress, can be weakened if textbook writers focus on elaboration of concepts, activities, spaces for wondering about problems, exercises encouraging reflective thinking and small-group work, leaving the definition of technical terms to a subject dictionary.

Supplementary books, workbooks, and extra reading come next. In certain subjects, such as languages, the importance of such material needs no fresh recognition, but the concept of such material does call for fresh thinking. Current textbooks contain uninteresting content covering different genres, and workbooks simply repeat exercises of the type already

found in textbooks. In mathematics, and the natural and social sciences, such supplementary materials still need to be developed. Such books could draw children's attention away from the text to the world around them. Indeed, for subjects like art, workbooks may form the main classroom material. There are fine examples of such materials produced for the study of the environment, introducing children to the observation of trees, birds and the natural habitat. Such resources need to become available to the teacher and for use in the classroom.

Atlases have a similar role to play in enriching the child's understanding of the earth, both as a natural and as a human habitat. Atlases of stars, flora and fauna, people and life patterns, history and culture, etc. can greatly enlarge the scope of geography, history and economics at all levels. Posters on these areas of knowledge, as well as other matters of concern on which general awareness needs to be promoted, can also enhance learning. Some of these concerns include gender bias, inclusion of children with special needs, and Constitutional values. Such material could be available in a resource library and at the cluster level to be borrowed by schools for use, or they could be placed in the school library, or made available by teachers.

Manuals and resources for teachers are just as important as textbooks. Any move to introduce a new set of textbooks or a new kind of textbook should include the preparation of handbooks for teachers. These handbooks should reach principals and teachers before the new textbooks do. Teachers' handbooks can be designed in many different ways. They need not cover the content of the textbook chapter-wise, though that can be one of the approaches. Other formats can be equally valid: offering a critique of established methods and suggesting new ones, and including lists of resource materials, audio and video materials and sites on the Internet. These would provide tips for teachers, which they could use for lesson planning. Such source books need to be available during in - service training of teachers and during meetings when they plan their teaching units.

Vertically organised group classrooms (multigrade or multiability) require a shift away from textbooks designed for monograde classrooms, which assume that all children are being addressed by the teacher together and that they are all at the same stage and are all expected to do the same thing. Instead, there is a need for alternative types of materials to be made available to teachers as a basis of planning lessons and units:

- Thematic lesson with a variety of exercises and activities at different levels for different groups.
- Graded self - access materials that children can engage with on their own with minimum scaffolding from the teacher, allowing them to work on their own or with other children.
- Whole - group activity plans, say, storytelling or performing a small drama, based on which children can do different activities. For example, all children from Classes I to V may enact the folk story of the rabbit and the lion together, and after this Groups I and II may work with flashcards with the names of various animals; Group III and IV may make a series of drawings and then write out the story against each drawing, working in small groups; and Group V may rewrite the story, suggesting alternative endings to it. Without the support of appropriate materials, most teachers find themselves trying to juggle monograde class groups, with the result that for the majority of children, time on the task becomes very low.

4.6.2 Libraries

School libraries have been a subject of policy recommendations for a long time, but a functioning library in the school continues to be a rarity. It is important that future planning treats the library as an essential component of the school at all levels. Both teachers and children need to be motivated and trained to use the library as a resource for learning, pleasure, and concentration. The school library should be conceptualised as an intellectual space where teachers, children and members of the community can expect to find the means to deepen their knowledge and imagination. A system of cataloguing books and other materials available in the library needs to be developed so that children can become self-reliant library users. Apart from books and magazines, a school library should provide access to the new information technology to enable children and teachers to connect with the wider world. In the initial stages of planning, block-level or cluster-level libraries can be set up. In the future, India must move towards equipping every school, irrespective of its level, with a library. In many parts of the country, community libraries are functioning in rural areas, and government libraries exist in many district headquarters. Futuristic planning would require the amalgamation of such structures in a school library network in order to maximise the use of resources. The Raja Ram Mohan Roy Library Foundation can be given additional resources to act as a nodal agency for conceptualising a library network for schools and for monitoring it after it has been created.

In the day-to-day life of a school, the library can serve many different kinds of purposes. Restricting the use of the library to one period a week seldom allows children to cultivate a taste for reading. Facilities are to be provided to allow children to borrow books.

Libraries

One period a week to be devoted to library reading. During this time, children sit and read silently in the library. They return the books borrowed the previous week and borrow new ones.

If there is no library room, the teacher can bring out books appropriate to the age group and allow children to choose from the set. It is important to let the child choose rather than having the teacher distribute the books.

Library books can be brought into the language class.

For class projects, children can be asked to look up a reference in the library.

Children can be asked to write about the book they have read that week during the language class.

Children can be asked to share a story they have read with the other children in class.

The school library should be kept open during vacations.

Training of teachers in library management and use is required to meet the demands of this situation. Where the size of the school building permits a separate room for the library, it is important to pay attention to creating a positive ethos in this space by providing good lighting and seating arrangements. It should even be possible for a teacher to conduct a class in the library by drawing upon its resources. It could also serve as a place for holding discussions, watching a craftsman from the community giving a demonstration, or listening to a storyteller. Creating such resource libraries to support teachers at the cluster and block levels will complement and strengthen curriculum renewal. Each block could

specialise in a subject area so that together there are adequate resources in the district.

4.6.3 Educational Technology

The significance of Educational Technology (ET) as a site for curriculum planning has been widely recognised, but detailed guidelines and strategies for its educationally optimum use have not yet been worked out. Generally, technology has been used as a medium to disseminate information, and as a way of addressing the scarcity of good teachers—usually the consequence of poor recruitment policies. ET, which is used to redress the problem of quality of teaching, can only exacerbate the disillusionment of teachers with teaching. If ET is to become a means of enhancing curricular reform, it must treat the majority of teachers and children not merely as consumers but also as active producers. There must be widespread consultation regarding use during development and implementation. ET facilities need to be used at all levels of schools — cluster and block resource centres, district, state and national level institutions — in order to provide hands-on experience in using ET. Such experiences provided to children, teachers and teacher educators, could include something as simple as the audio-recording of an interview with a village elder, to making a video film or a video game. Providing children more direct access to multimedia equipment and Information Communication Technology (ICT), and allowing them to mix and make their own productions and to present their own experiences, could provide them with new opportunities to explore their own creative imagination.

For primary school children, video simulations and demonstrations cannot substitute for hands-on experiences and learning.

Such an experience of ET production, rather than only watching and listening to programmes in a passive way, can lay the foundation for far better utilisation of the country's enormous ET facilities. Interactive, Net - enabled computers, rather than only CD-based computer usage, would facilitate a meaningful integration of computers and enhance the school curriculum in rural and remote areas by increasing connectivity and enhancing access to ideas and information. It is such two-way interactivity rather than one-way reception that would make technology educational.

Rather than trying to reproduce and mimic classroom situations, or teaching the textbook content, or animating lab experiments, ET could realise far better potential if topics are taken up but developed into non-didactic explorations, leaving learners free to relate to the knowledge web progressively, and learn at their own levels of interest. Such access to knowledge in regional languages is still very limited, and is one of the main reasons for the persistent and growing divide between learners from urban and rural schools, and learners from regional - language and English - medium schools. The potential of such encyclopaedias and documentaries for children is still underdeveloped. Materials such as textbooks, workbooks and handbooks for teachers can be designed with the awareness of existing stocks of good-quality audio or video material and sites where extra resources are available on the Net. Classics of cinema need to be made accessible through such measures. For instance, a child studying about village life should have easy access to Satyajit Ray's classic, *Pather Panchali,* either as a CD to be borrowed from the CRC or to be viewed on a nationally managed website. Future textbooks need to be conceptualised

and designed in ways that might integrate knowledge in different subjects and experiences, thus facilitating the assimilation of knowledge. For instance, a middle - school textbook that discusses the history of Rajasthan and mentions Meera should be able to offer the text of a *bhajan* composed by her, and also refer to a source where that *bhajan* has been archived, so that children can listen to M.S. Subbulakshmi singing it.

Integration of knowledge and experience along these lines would take away the sense of burden and boredom that our present-day education induces. In science and mathematics, and in teaching children with disabilities, the potential of ET, including IT, is widely appreciated. It is important to realise this potential in achieving curricular goals, with more age-specific planning on the use of ET. Governments and other agencies responsible for financial planning need to take this fuller range of ET's demands and benefits.

4.6.4 Tools and Laboratories

Equipping the school with tools that are necessary for art and craft work is an imperative. These curricular areas can contribute to achieving the aim of making the school space a creative space, only if we can mindfully plan for resources. The heritage crafts require, in their weekly or fortnightly cycles of routine, tools and instruments such as looms, lathes, scissors and embroidery frames, depending on the craft. It is important not to let this sector of curricular planning suffer from gender or caste bias, or else one of its key promises will be lost, namely, the promise of promoting a culture of active engagement with one's material and human environment, with imagination and cooperation. The same is true for the arts, which in addition to being integrated into other curricular areas would also need specialised materials and tools. The opportunity to handle tools and acquire dexterity in using them, and also learning to take care of and maintain them, are invaluable experiences for all children. Investment in training of the child's senses and faculties with the help of the arts plays a vital role in strengthening literacy and developing a culture of peace.

Schools, particularly those in rural areas, are poorly equipped with science labs, or equipment for mathematical activities. The absence of such facilities drastically narrows subject options for children, denying them equal opportunities for learning and future life chances. It is hence important that resources are made available for laboratories with adequate facilities in schools. While elementary schools can benefit from a science and mathematics corner, secondary and higher secondary schools require well-equipped laboratories.

4.6.5 Other Sites and Spaces

Sites of curriculum that are physically located outside the school premises are just as important as the ones discussed so far. These are sites like local monuments and museums, natural physical features such as rivers and hills, everyday spaces such as marketplaces and post offices. The teacher's ability to plan the school schedule in a manner that permits imaginative use of such resources directly affects the quality of education that children might receive at a school. Restriction of classroom activities to what is written in the textbook implies a serious impediment to the growth of children's interests and capabilities. Quite a few such impediments result from the rigid observation of the school's daily or annual routine. The night sky is not available for the study of stars simply because the school does not open its gates or allow access to its roof at night. Watching the setting sun or observing the arrival of the monsoon in June fall outside the school's timetable. Exchange visits between schools in different parts of the country, and even the neighbouring SAARC

countries, could become important ways of promoting mutual understanding.

Teachers and educational administrators would have to join hands to release the system from such rigidities. In addition, syllabus makers and the writers of textbooks and teachers, handbooks would also have to get into the details of the planning of learning activities, which would widen the scope of the curriculum. This would require breaking away from the mindset that excursions and activities related to the arts and crafts are 'extra-curricular'.

Any experience that the teacher regards as necessary for the child's development is curricular, irrespective of how or whereit is organised. This reconceptualisation of the curriculum can be accomplished only if it receives the understanding, support and acceptance of official authorities.

4.6.6 Need for Plurality and Alternative Materials

The pluralistic and diverse nature of Indian society definitely makes a strong case for preparing a variety of not only textbooks but also other materials, so as to promote children's creativity, participation and interest, thereby enhancing their learning. No one textbook can cater to the diverse needs of different groups of students. Further, the same content/ concept can be taught in different ways. Schools, government or private, could have the choice of textbooks to follow for different subjects. Boards or textbook bureaus could consider developing more than one series of books, or even endorsing books published by other publishers, and allowing schools to choose from a range. As far back as 1953, the Report of the Secondary Education Commission made a number of recommendations for removing the defects in textbooks, wherein it was pointed out that: "No single textbook should be prescribed for any subject of study, but a reasonable number of books which satisfy the standards laid down should be recommended, leaving the choice to the school concerned". In its section on the Essentials for Curricula Development, the Kothari Commission Report emphasised that the curricular revision had been of an ad-hoc character and that the curriculum is prepared at the state level and prescribed uniformly for all schools. Such procedures undermine the agency of teachers and head teachers, and render the spirit of exploration and innovation impossible. The Report categorically stated that basic to the success of any attempt at curriculum improvement is the preparation of suitable textbooks, teachers, guides and other kinds of learning resources.

4.6.7 Organising and Pooling Resources

Teaching aids and other materials, as well as books, toys and games, help make school interesting for children. In some states of the country, good use has been made of the funding assistance through DPEP and other programmes for acquiring and developing teaching-learning materials. A lot of ready-made materials do exist, and teachers, cluster and block - level resource persons need to become better acquainted with the range of materials available and ways of using them. There are also many new kinds of printed materials for teachers and children being produced by NGOs and small entrepreneurs. In addition, there are locally available materials that cost little but which are very useful for keeping in a classroom, especially in the primary school grads. Teachers need to explore various types of raw materials that can be used to make teaching aids that will last

year after year, so that the precious time they invest in making these things is put to good use. Styrofoam and cardboard are neither strong enough nor attractive for this purpose. Other materials such as rexine, rubber and cloth are interesting alternatives.

Other kinds of resource materials, such as maps and picture folders, and specific equipments could be shared among schools if they are placed in the cluster centre, which can then serve as a resource library so that for the period of teaching the teacher borrows materials from the cluster and thereafter returns them to the cluster to enable some other teachers to borrow them. In this way, the resources gathered by one teacher can also be utilised by others, and it would become possible to have multiple sets necessary for the whole class to use.

The availability of such resources depends on the funds available and the member of schools that need assistance. How can the school build such resources? Some government programmes, for instance, Operation Blackboard, have laid down norms for the minimum materials that should be available in each Primary and Upper Primary school. Similarly, there are new schemes that allow for cycles and toys to be purchased for a cluster of schools. Schools could benefit from these opportunities, and also explore the possibilities that are available at the local level for augmenting their teaching-learning and play material. There is a growing emphasis on Educational Technology for 'effective' learning. Some schools are now being equipped with computers, and in some areas radio and TV-based instruction is being introduced.

Ultimately, the use of such materials requires planning if it is to be effective and become a part of the overall plan to enhance participation and understanding. Teachers would need to prepare and plan if the materials he/she introduces into the classroom are for the purpose of demonstration. If an activity is being planned, then there must be enough sets for everyone in the class to use, individually or in small groups. If only one child is able to handle materials while all the others watch, it is a waste of learning time.

Laboratories have always been talked about as a part of science teaching in middle and high school. Yet these are still not available on the scale required. As a part of the effort to provide all children with the necessary hands - on experience of equipment and experiments given in their science curriculum, at least at the cluster level, the resource centre may serve as a clusterlab. Schools in the cluster could plan their timetable so that for half a day, once a week, their science lab class is held at the cluster - level lab. Craft labs too could be developed at least at the cluster or block levels in order to facilitate access to better equipment.

In engendering a culture of learning, not only the classroom but also in the space of the school itself and the world outside, the school could become the landscape in which a range of activities are organised. Teachers can devise activities, projects and studies, both drawing from textbooks and going beyond them, to encourage children to explore, investigate and construct knowledge.

4.7 TIME

Earlier documents have all included a section on recommendations on instructional time. Important concerns that we endorse from earlier documents include the need for the system to ensure that the total number of instructional days are not compromised, and that the total number of days for the curriculum should be 200 days as recommended in NCF-1988. Within this, we suggest ways in which we can work

out possibilities and methods for enriching the total time spent by each child in school from the point of view of learning.

The school annual calendar is currently decided at the state level. Several suggestions have been made in the past that the annual calendar could be planned at a more decentralised level, so that it is closer to the calendar of local activities and climate/weather. The plan for such calendars could be decentralised to the district level, and decided in consultation with the *zilla panchayats*.

Considerations for making any required changes could be based on local weather conditions. For example, where monsoons are very heavy and areas are prone to flooding, it is better for schools to remain closed and have a vacation period at that time. Parents in some areas ask schools to function during summer months as it is too hot to go out even to play. There are also areas where parents would prefer that the vacation coincides with at the time of harvest so that children can participate in the family occupation. Such adjustments would permit children to learn from the world in which they live which by acquiring important lifeskills and attitudes, instead of forgoing their lives in the local community and becoming alienated from it for the sake of attending school. Local holidays could be decided at the block level. The scheduling of various school events would need to be planned by all school faculty together, along with inputs from the village/ school education committee. Thematic learning across the school grades and excursions would also need to be planned in advance.

Needless to say, we need to safeguard against the misuse of such flexibility. Not all communities are benign spaces for children. It would go against the educational aims of the school if the community takes advantage of such flexibility to perpetuate cultural practices that are discriminatory or stereotype children along the lines of gender, religion or caste. It also could lend itself to children getting drawn into child labour. Children have a right to leisure and to play, and have time for themselves. Some local traditions and cultures are supportive of such a childhood, others less so. Often girls are burdened from an early age with domestic chores. Increasingly children are under great pressure to study, and are

The concept of ***time on task*** *is an essential reckoner for taking stock of the total time that children spend actively on learning. This would include time spent on listening, reading, writing, doing activities, discussing, etc. It would not include waiting for one's turn, copying from the board or revising. Particularly in multigrade classes, planning and designing of learning activities for children need to ensure that children's time on task is maximised.*

Total study time *that is expected from students in both face-to-face and self - study or homework needs to be accounted for while planning the syllabus or course of study for students, especially as they go into higher grades.*

Total homework time

Primary: No homework up to Class II and two hours a week from Class III.

Middle school: One hour a day (about five to six hours a week).

Secondary and Higher Secondary: Two hours a day (about 10 to 12 hours a week). Teachers need to work together to plan and rationalise the amount of homework that they give children.

placed in tuition classes before and after school, and hence they get little time to play. Schools must engage with children's families and their communities in a continuous dialogue to argue for and protect these rights of children.

The **timings of the school day** could be decided at each school level, in consultation with the *gram panchayat*, keeping in mind issues such as how far children need to travel to get to school. This flexibility is suggested only in order to facilitate children's participation in school. While saying this, we strongly maintain that the time spent in school itself, and on learning in the school, cannot be in any way compromised or reduced below six hours a day (and three hours for the ECCE period). Where teachers and children travel to school from a far - off place, it would befit the overall societal concern for children if bus timings are changed to enable teachers and students to reach the school and leave at a convenient time, instead of compelling them to routinely come late and leave early.

The school day, week, month, term and year need to be planned for as a **mixture of routine and variation,** as children need a little of both, and the kinds of learning we would like them to experience have different requirements. We share some organisational ideas that could form the basis for planning and enriching children's time spent in school, and also some aspects that relate to institutional arrangements for the same.

In most schools, the day begins with a **morning assembly,** when the entire school gathers to do things together. This time can be used for reading the headlines of the morning newspaper, performing some physical exercises and singing the national anthem. Other activities could also be added, for example, singing together, or listening to a story, or inviting a person from the local community or an outside guest to speak to the children, or hold small events to mark some significant local or national happening. Classes that have undertaken some interesting projects could also use this time to share their work with the whole school. If not everyday, such longer morning assemblies could be planned once or twice a week. In composite schools, depending on the theme, a junior school assembly and a senior school assembly could be held separately. News headlines that are significant, for example, the bus journey to Muzaffarabad, could provide a theme for a special session on that day, and be woven into the curriculum.

Morning Assembly

The day begins with teachers and children getting the school and class rooms ready for the day ahead. Cleaning the rooms, including the toilets, putting up display boards in the classrooms, organising materials and getting equipment, all these activities conveys a sense of ownership among students and teachers and foster a sense of responsibility towards the material and space they use. This also gives them time to talk to each other and catch up on the events of the previous day. This reduces the need for such talk during class time.

During the general assembly, everybody sits together, not according to their classes or in lines, but younger ones in front and older ones behind. One day a week they listen to an inspiring story. On another day they listen to music, a guest talk, or share a moving experience, read out and discuss an interesting report from the newspaper. Then everyone goes to class.

In most documents, a **period** has been presented as a basic unit of 45 minutes of teaching-learning in the timetable. Frequently, however, this is compromised into 30 to 35 minutes, which cannot constitute a meaningful length to engage with learning. A period can, in general, serve as an organisational unit for many text-based lessons.

But there is also a need for the school timetable to allow for other kinds of longer periods lasting an hour, or one and a half hours (a double period), for other kinds of activities such as craft or art work, projects, and lab work. Such lengths of time are also essential for undertaking cross-subject integrated learning, and for effective group work. Needless to say, in a multigrade class situation, the teacher needs a more flexible way of planning for children's learning time in sessions that are teacher led, those that are self-directed, those in which two or more grades could be combined, etc. While certain subject areas such as language and mathematics need learning time everyday, others do not. The weekly time table could allow for variation from the regular routine but should be balanced over the week. It is essential to take stock of the time spent in learning different subject areas and to introduce corrections if the teacher finds that more or less time is being spent or is needed, than originally foreseen/planned.

4.8 Teacher's Autonomy and Professional Independence

Teacher autonomy is essential for ensuring a learning environment that addresses children's diverse needs. As much as the learner requires space, freedom, flexibility, and respect, the teacher also requires the same. Currently, the system of administrative hierarchies and control, examinations, and centralised planning for curriculum reform, all constrain the autonomy of the headmaster and teacher. Even when there is curricular freedom, teachers do not feel confident that they can exercise it without being taken to task by the administration for doing things differently. It is therefore essential to enable and support them in exercising choice. As much as the classroom needs to nurture a democratic, flexible and accepting culture, so also the school institution and the bureaucratic structure need to do the same. Not only should the teacher receive orders and information, but equally the voice of the teacher should be heard by those higher up, who often take decisions that affect the immediate classroom life and culture in the school. Relationships between teachers and their heads and principals must be informed by equality and mutual respect, and decision making must be on the basis of dialogue and discussion. The annual, monthly and weekly calendars of activities need to provide time for such staff interactions for reviewing and planing. There is a need to encourage an atmosphere that facilitates collaborative efforts among teachers. There must also be mechanisms for conflict resolution.

Often technologies such as radio and TV are introduced into their classrooms without consulting teachers on whether they would like to have these and what they would like these to do for them. Once these there in the classroom, teachers are expected to use them, when they have no control over what will be delivered, or how it will integrate with their own teaching plans.

4.8.1 Time for Reflection and Planning

- On a daily basis (at least 45 minutes) to review the day, make notes on children to follow up the next day, and organise materials for the next day's lessons (this is in addition to the

time that they may need to correct homework).

- On a weekly basis (at least two/three hours) to take stock of learning, to work out details of activities and projects proposed, and to plan a group of lessons (unit) for the coming week.
- On a monthly/term basis (minimum of one day) to review their own work, children's learning, and map the contours of the learning activities planned for the groups they teach.
- At the beginning and the end of the year, two or three days each need to be allocated to evolve an annual plan for the school, in which they locate activities such as local holidays, annual events (national events, sports days, cultural events) and days for parent-teacher meetings that would involve the whole school. They would also plan excursions and field trips for their class groups, and for any projects that two or more classes would do together. They would also be involved in activities of preparing the school and class environment, putting up and changing posters and displays, organising children's work, etc. Such planning time is also essential for the school to review its relationship with the community, and identify points of focused action in the year such as enrolment, retention, school attendance and school achievement.
- Current in-service training-related time allocation (compulsory 20 days per year) could be partly diverted towards making time available for such reviewing, reflecting and planning.

Topic plan for the week: Machines (middle school, inclusive Classes V-VI)

Class I: *Game. When I say the word, write down all the things that come to your mind. Then (pairs or groups) discuss the list. Categorise these machines based upon some similarities.*

Think of some other way of categorising these and reclassifying them. Children to volunteer to make charts of machines of different types, to collect pictures and/or make drawings and paste them.

Class II: *Write down as many questions about machines as you would like to find answers to. Check those to which you already know the answers as well as those that you don't.*

Teacher visits each child, and suggests to him/her how he/she can find answers by referring to particular books or other sources, including talking to people.

Children think about questions for homework: "Which is the 'best' machine you know? Give reasons why you think it is so good." This question is to be discussed at home with parents, siblings and friends.

Class III: *Children discuss their homework question. They continue to seek answers to the questions from students in Class III, and show their work to the teacher. Teacher also asks if anyone knows a poem about a machine, and if not, he/she teaches them*

(she must come prepared).

Class IV: *Now read the chapter on machines in the textbook. See what more we can learn about machines from it. Answer the questions that follow.*

Class V: *Children make a 'tipper truck' toy, following the instructions in a reference book. Materials have already been collected and are available in the classroom. Or the teacher can provide a list at the end of Class IV and ask the children to come prepared.*

Class VI: *Time to catch up and complete the work. Topic ends with the teacher asking children to put down any additional questions that they want to explore for themselves after the class.*

Extending this topic for children in inclusive Classes VII – VIII

Science: *Can anyone explain what a machine is? Do not give examples, but an explanation. Let's now refer to a dictionary, and write the meaning on the blackboard. Next let's check a science textbook or science dictionary. Compare the two meanings. Is there a difference? Which definition is easier to understand, or which do you think is more precise? Can we now also differentiate between a tool, an instrument and a machine?*

Social Studies: *Who would like to find out when the first printing press, telephone, bulb, automobile, radio/television, wheel- chair, hearing aid, cooking gas and stove, sewing machine, refrigerator, and computer were made, by whom, and in which country. Let's try to imagine, and later find out, how people lived before the invention of a particular machine or tool or instrument. What would it mean not to have that machine in everyday life? What could be used instead?*

Discussion topic: *Are there mere machines invented for work used by (i) the privileged sections or the under privileged, (ii) women, or (iii) men. Explain why. Who uses machines more—men or women?*

English: *Essay topics: A machine that changed my life (hearing aid, wheel - chair or any other). Or the machine I would like to buy and why.*

Projects: *Machines that changed our lives—positive, negative. Machines that we have/don't have, and how they affect our lives in terms of time, ease/convenience, cost? OR Can you visualise how a machine (pick any) might be improved in the future? You can draw or describe, or design a machine for the future.*
OR What considerations go into designing a car, motorcycle, bullock cart, or wheelchair? How can its efficiency and aesthetic appeal be enhanced?

- Monthly meetings organised for teachers at the cluster level could be based on groups of teachers teaching similar subjects and grade levels, so that they can share ideas and plan teaching for the forthcoming month together.

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, Rytu 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 developed.
- 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-appraisal, 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 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 textbooks 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.

EPILOGUE

This framework for curriculum presents a vision of what is desirable for our children. It seeks to enable those who are involved with children and their schooling with the bases on which they can make choices that determine the curriculum. This provides an understanding of issues relating to children's learning, the nature of knowledge and the school as an institution. This approach to the curriculum draws attention to the importance of the school ethos and culture, the classroom practices of teachers, learning sites outside the school, and learning resources, as much as to the dimensions of the system that exert direct and indirect influence. The designing of large-scale curricular interventions, key activities such as the preparation of syllabus and textbooks, and examination reform must be consistent with each other and with educational aims for progress and improvement in the quality of education that we provide to our children. Hundreds of parents and teachers sent messages to NCERT in response to advertisements inviting public contributions for the National Curriculum Framework. One of these messages was from a Mumbai-based mother and teacher, Mrs. Neeta Mohla. She wrote:

Today as students my children face the same learning experiences as me 20 years ago. Everywhere around the world new methods of teaching and evaluation are being practised but our children continue to just copy exercises from the board, mug them up and reproduce them in the exam. If there are changes, they are for the worse. Children now have access to more information channels, yet more and more subjects and content are added to the school bag. Computers, Moral Science etc., etc. recently became hit and G.K. was introduced as a new subject because the quiz show "Kaun Banega Crorepati…

Our syllabus gets more massive and moves beyond the teaching capacity of the teachers, so they rush through the contents with tedious methodology. Students cannot meet the attention span requirement in the classrooms and either fail at comprehension or blank out into daydreaming. Newer topics of many different subjects are covered even before the previous ones have been chewed over. The burden of the syllabus is then passed on to the parents or tuition classes. Little children burdened with loads of education on their shoulders, trip from school to tuition classes, bypassing childhood. A section of students study harder and harder to beat each other for the top slot. Majority of the students are hounded by parents and teachers to study harder and become stressed, some requiring even clinical treatment. Only children who excel in the main subjects are regarded as successful. Children with accomplishments in other fields like sports and arts are underrated. They are earnestly discouraged from pursuing sports and hobbies as these don't count in the mark list. The curriculum and success dynamics demand that they shut out the real world with real experiences and lock themselves up in the world of books. Even sixth standard. students must study four hours in addition to school hours if they want to enter into the race for marks.

When children in their developmental years spend more time in books than in the real world, they have every chance of becoming fragmented. Education ventures into a negative course. It splits a student's mind into two. A bookish worldview that he memorises without proper comprehension and the real world that is not in his/her control due to lack of focus. Take the example of a typical fourth standard child; he knows how stopping cattle grazing on hilltops can prevent soil erosion but he

cannot keep track of his/her notebooks and pencils. Ultimately he grows into an adult with a lot of knowledge sense but no common sense, a "padha likha bevakoof" (an educated fool). Good characters and personalities develop through focus on their development. Instead, a lot is taught which he cannot relate with his/her day-to-day life experiences and surroundings. For those who blank out into daydreaming education fails to make any impression, leaving them vulnerable to other dangerous influences. There is no support system for children in need of it. Parents today are just as stressed as their wards. A staggering 75 percent children preparing for Board Examinations today suffer from stress-related disorders.

Mrs. Neeta Mohla offers several concrete suggestions, some of which are the following :

- Balance what should be taught in favour of what can possibly be learnt. The structures of nature are architectural marvels wherein each part functions in coordination with the whole. The real challenge is to plan the curriculum so that it has the main elements that work to keep the broad objectives of education on course, and are well grounded in the realities of availabilities and constraints.
- Instead of a structure built to promote success for a select few, we must adopt a structure that engages participation in learning by all. The base should be sturdy so it lasts a whole life. The pillars should be broadened and redefined. New pillars like personality, character, physical fitness, creative and critical thinking should be laid alongside the old academic pillars of maths, science, history, etc.
- Contents must be linked to the challenges of life and career at different stages. Students and teachers must be given the requisite time to focus on them. Acquisition of pure knowledge should be for the purpose of self-discovery of the child's own interest. This should be covered through alternative study methodology like project method and alternative evaluation models like open-book exams. We need only implant the seeds of every subject. Whole plants do not have to be hammered in. Education should inspire children to become learners for life.
- We must humanise education and make it relevant for the pursuit of the wide variety of human aptitudes. Alternative evaluation and grading models must be sought to encourage the diversity of talents among the learners. Achievers in sports, arts and crafts should get due recognition at par with academic achievers. Expanding the achievement list would definitely de-stress parents and children by spreading them out on to more tracks. The change to grading would shift the society's focus away from the social Darwinian implications of the curriculum.

Let us hope that curriculum, syllabi and textbook designers across the country will pay adequate and urgent attention to this mother's words.

APPENDIX – I

SUMMARY

CHAPTER 1

- Strengthening a national system of education in a pluralistic society.
- Reducing the curriculum load based on insights provided in 'Learning Without Burden'.
- Systemic changes in tune with curricular reforms.
- Curricular practices based on the values enshrined in the Constitution, such as social justice, equality, and secularism.
- Ensuring quality education for all children.
- Building a citizenry committed to democratic practices, values, sensitivity towards gender justice, problems faced by the Scheduled Castes and the Scheduled Tribes, needs of the disabled, and capacities to participate in economic and political processes.

CHAPTER 2

- Reorientation of our perception of learners and learning.
- Holistic approach in the treatment of learners' development and learning.
- Creating an inclusive environment in the classroom for all students.
- Learner engagement for construction of knowledge and fostering of creativity.
- Active learning through the experiential mode.
- Adequate room for voicing children's thoughts, curiosity, and questions in curricular practices.
- Connecting knowledge across disciplinary boundaries to provide a broader frame work for insightful construction of knowledge.
- Forms of learner engagement — observing, exploring, discovering, analysing, critical reflection, etc. — are as important as the content of knowledge.
- Activities for developing critical perspectives on socio-cultural realities need to find space in curricular practices.
- Local knowledge and children's experiences are essential components of text books and pedagogic practices.
- Children engaged in undertaking environment-related projects may contribute to generation of knowledge that could help create a transparent public database on India's environment.
- The school years are a period of rapid development, with changes and shifts in

children's capabilities, attitudes and interests that have implications for choosing and organising the content and process of knowledge.

CHAPTER 3

Language

- Language skills — speech and listening, reading and writing — cut across school subjects and disciplines. Their foundational role in children's construction of knowledge right from elementary classes through senior secondary classes needs to be recognised.
- A renewed effort should be made to implement the three-language formula, emphasising the recognition of children's home language(s) or mother tongue(s) as the best medium of instruction. These include tribal languages.
- English needs to find its place along with other Indian languages.
- The multilingual character of Indian society should be seen as a resource for the enrichment of school life.

Mathematics

- Mathematisation (ability to think logically, formulate and handle abstractions) rather than 'knowledge' of mathematics (formal and mechanical procedures) is the main goal of teaching mathematics.
- The teaching of mathematics should enhance children's ability to think and reason, to visualise and handle abstractions, to formulate and solve problems. Access to quality mathematics education is the right of every child.

Science

- Content, process and language of science teaching must be commensurate with the learner's age-range and cognitive reach.
- Science teaching should engage the learners in acquiring methods and processes that will nurture their curiosity and creativity, particularly in relation to the environment.
- Science teaching should be placed in the wider context of children;s environment to equip them with the requisite knowledge and skills to enter the world of work.
- Awareness of environmental concerns must permeate the entire school curriculum.

Social Sciences

- Social science content needs to focus on conceptual understanding rather than lining up facts to be memorised for examination, and should equip children with the ability to think independently and reflect critically on social issues.
- Interdisciplinary approaches, promoting key national concerns such as gender, justice, human rights, and sensitivity to marginalised groups and minorities.
- Civics should be recast as political science, and the significance of history as a shaping influence on the children's conception of the past and civic identity should be recognised.

Work

- School curricula from the pre-primary stage to the senior secondary stage need to be reconstructed to realise the pedagogic potential of work as a pedagogic medium in knowledge acquisition, developing values and multiple-skill formation.

Art

- Arts (folk and classical forms of music and dance, visual arts, puppetry, clay work, theatre, etc.) and heritage crafts should be recognised as integral components of the school curriculum.
- Awareness of their relevance to personal, social, economic and aesthetic needs should be built among parents, school authorities and administrators.
- The arts should comprise a subject at every stage of school education.

Peace

- Peace-oriented values should be promoted in all subjects throughout the school years with the help of relevant activities.
- Peace education should form a component of teacher education.

Health and Physical Education

- Health and physical education are necessary for the overall development of learners. Through health and physical education programmes (including yoga), it may be possible to handle successfully the issues of enrolment, retention and completion of school.

Habitat and Learning

- Environmental education may be best pursued by infusing the issues and concerns of the environment into the teaching of different disciplines at all levels while ensuring that adequate time is earmarked for pertinent activities.

CHAPTER 4

- Availability of minimum infrastructure and material facilities, and support for planning a flexible daily schedule, are critical for improved teacher performance.
- A school culture that nurtures children's identities as 'learners' enhances the potential and interests of each child.
- Specific activities ensuring participation of all children — abled and disabled — are essential conditions for learning by all.
- The value of self-discipline among learners through democratic functioning is as relevant as ever.
- Participation of community members in sharing knowledge and experience in a subject area helps in forging a partnership between school and community.
- Reconceptualisation of learning resources in terms of
  - textbooks focused on elaboration of concepts, activities, problems and exercises encouraging reflective thinking and group work.
  - supplementary books, workbooks, teachers' handbooks, etc. based on fresh thinking and new perspectives.

- multimedia and ICT as sources for two-way interaction rather than one-way reception.
- school library as an intellectual space for teachers, learners and members of the community to deepen their knowledge and connect with the wider world.

- Decentralised planning of school calendar and daily schedule and autonomy for teacher professionalism practices are basic to creating a learning environment.

CHAPTER 5

- Quality concern, a key feature of systemic reform, implies the system's capacity to reform itself by enhancing its ability to remedy its own weaknesses and to develop new capabilities.
- It is desirable to evolve a common school system to ensure comparable quality in different regions of the country and also to ensure that when children of different backgrounds study together, it improves the overall quality of learning and enriches the school ethos.
- A broad framework for planning upwards, beginning with schools for identifying focus areas and subsequent consolidation at the cluster and block levels, could form a decentralised planning strategy at the district level.
- Meaningful academic planning has to be done in a participatory manner by headmasters and teachers.
- Monitoring quality must be seen as a process of sustaining interaction with individual schools in terms of teaching–learning processes.
- Teacher education programmes need to be reformulated and strengthened so that the teacher can be an :
  - encouraging, supportive and humane facilitator in teaching–learning situations to enable learners (students) to discover their talents, to realise their physical and intellectual potentialities to the fullest, to develop character and desirable social and human values to function as responsible citizens; and
  - active member of a group of persons who make conscious efforts for curricular renewal so that it is relevant to changing social needs and the personal needs of learners.
- Reformulated teacher education programmes that place thrust on the active involvement of learners in the process of knowledge construction, shared context of learning, teacher as a facilitator of knowledge construction, multidisciplinary nature of knowledge of teacher education, integration theory and practice dimensions, and engagement with issues and concerns of contemporary Indian society from a critical perspective.
- Centrality of language proficiency in teacher education and an integrated model of teacher education for strengthening professionalisation of teachers assume significance.
- In-service education needs to become a catalyst for change in school practices.
- *The Panchayati Raj* system should be strengthened by evolving a mechanism to regulate the functioning of parallel bodies at the village level so that democratic participation in development can be realised.
- Reducing stress and enhancing success in examinations necessitate:
  - a shift away from content-based testing to problem solving skills and understanding. The prevailing typology of questions asked needs a radical change.
  - a shift towards shorter examinations.

- an examination with a 'flexible time limit'.
- setting up of a single nodal agency for coordinating the design and conduct of entrance examinations.

- Institutionalisation of work-centred education as an integrated 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.
- Vocational Education and Training (VET) need to be 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 in collaboration with the nation wide spectrum of facilities already existing in this sector.
- Availability of multiple textbooks to widen teachers' choices and provide for the diversity in children's needs and interests.
- Sharing of teaching experiences and diverse classroom practices to generate new ideas and facilitate innovation and experimentation.
- Development of syllabi, textbooks and teaching-learning resources could be carried out in a decentralised and participatory manner involving teachers, experts from universities, NGOs and teachers' organisations.

APPENDIX – II

भारतेन्द्र सिंह बसवान
शिक्षा सचिव
B.S. BASWAN
EDUCATION SECRETARY

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21-7-2004

Dear Professor Dixit,

The National Policy on Education 1986, as modified in 1992, envisages the following:

"11.5 The implementation of the various parameters of the New Policy must be reviewed every five years. Appraisals at short intervals will also be made to ascertain the progress of implementation and trends emerging from time to time".

2. The Programme of Action (POA) 1992, prepared under the National Policy on Education 1986 lays down some of the concerns to be addressed through the review. Your attention is drawn to Chapter 8 of the POA.

3. Since the present curriculum framework was released four years ago, it is time to initiate the process of review and renewal of the curriculum. The NCERT may initiate action for curriculum renewal.

4. While undertaking the review, you may kindly ensure that the processes as laid down or that have evolved over a period of time, are not violated. You are aware of the criticism regarding the short-circuiting and the inadequacies of procedures followed during the finalisation of the earlier review.

5 The textbooks of the NCERT have drawn serious academic criticism during the last few years. You are already in the process of handling the controversy regarding the History books. While understating the present review, you may like to address the question of how the books emanating from a new curriculum framework could be insulated from such distortions.

6. While undertaking the review, we are sure you would take into account the Yashpal Committee report on 'Learning Without Burden' and Chapter 8 of the POA.

7. The NCFSE should always be in harmony with the idea of India, as enshrined in its Constitution. It could be worthwhile to keep reminding everyone associated with the

review of the following words in which the noble idea of India has been given in the Preamble to the Constitution:

> "**WE, THE PEOPLE OF INDIA**, having solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens:
>
> **JUSTICE**, social, economic and political;
>
> **LIBERTY** of thought, expression, belief, faith and worship;
>
> **EQUALITY** of status and of opportunity;
>
> and to promote among them all
>
> **FRATERNITY** assuring the dignity of the individual and the unity and integrity of the **Nation**....."

8. We are confident that the formulation of the new NCFSE will generate enthusiasm among the academic community and the wider civil society. You may accordingly set in motion all the attendant activities for this purpose.

With regards and best wishes for this venture.

sd/-
[B.S. Baswan]

Prof. H.P. Dixit
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National Council for Educational Research and Training
17-B, Sri Aurobindo Marg
New Delhi- 110016

भारतेन्द्र सिंह बसवान
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D.O.No.11-17/2004-Sch.4 **2 May, 2005**

Dear Professor Krishna Kumar,

Kindly recollect the discussions we had on the National Curriculum Framework for School Education (NCFSE). In this regard please refer to my D.O. letter of even number dated 21.7.2004 regarding initiating the process of review and the renewal of the National Curriculum Framework for School Education (NCFSE)-2000. I had mentioned in para 6 of this letter to take into account the Yash Pal Committee report on "Learning Without Burden", while undertaking the review of NCFSE-2000. Now that the National Curriculum Framework has been prepared by the NCERT, we hope that, while preparing the textbooks based on the new curriculum, the principles underlined in the 'Learning Without Burden' report will be fully taken into account.

With regards and best wishes.

sd/-
(B.S. BASWAN)

Prof. Krishna Kumar
Director, NCERT
Sri Aurobindo Marg
NEW DELHI-110016

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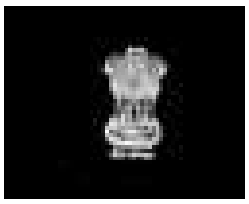
NATIONAL POLICY
ON
EDUCATION

1968



MINISTRY OF EDUCATION-GOVERNMENT OF INDIA

National Policy on Education 1968

Education has always been accorded an honoured place in Indian society. The great leaders of the Indian freedom movement realised the fundamental role of education and throughout the nation's struggle for independence, stressed its unique significance for national development. Gandhiji formulated the scheme of basic education seeking to harmonize intellectual and manual work. This was a great step forward in making education directly relevant to the life of the people. Many other national leaders likewise made important contributions to national education before independence.

2. In the post-independence period, a major concern of the Government of India and of the States has been to give increasing attention to education as a factor vital to national progress and security. Problems of educational reconstruction were reviewed by several commissions and committees, notably the University Education Commission (1948-49) and the Secondary Education Commission (1952-53). Some steps to implement the recommendations of these Commissions were taken; and with the passing of the Resolution on Scientific Policy under the leadership of Jawaharlal Nehru, the development of science, technology and scientific research received special emphasis. Towards the end of the third Five Year Plan, a need was felt to hold a comprehensive review of the educational system with a view to initiating a fresh and more determined effort at educational reconstruction; and the Education Commission (1964-66) was appointed to advise Government on "the national pattern of education and on the general principles and policies for the development of education at all stages and in all aspects. The Report of the Education Commission has since been widely discussed and commented upon. Government is happy to note that a general consensus on the national policy on education has emerged in the course of these discussions.

3. The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the Education Commission is essential for economic and cultural development of the country, for national integration and for realising the ideal of a socialistic pattern of society. This will involve a transformation of the system to relate it more closely to the life of the

people; a continuous effort to expand educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening national integration. This js necessary if, the country is to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities.

4. The Government of India accordingly resolves to promote the development of education in the country in accordance with the following principles:

(1) Free and Compulsory Education: Strenuous efforts should be made for the early fulfillment of the Directive Principle under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14. Suitable programmes should be developed to reduce the prevailing wastage and stagnation in schools and to ensure that every child who is enrolled in school successfully completes the prescribed course.

(2) Status, Emoluments and Education of Teachers: (a) Of all the factors which determine the quality of education and its contribution to national development, the teacher is undoubtedly the most important. It is on his personal qualities and character, his educational qualifications and professional competence that the success of all educational endeavour must ultimately depend. Teachers must, therefore, be accorded an honoured place in society. Their emoluments and other service conditions should be adequate and satisfactory having regard to their qualifications and responsibilities..

(b) The academic freedom of teachers to pursue and publish independent studies and researches and to speak and write about significant national and international issues should be protected.

(c) Teacher education, particularly in-service education, should receive due emphasis.

(3) Development of Languages: (a) Regional *Languages*: The energetic development of Indian languages and literature is a *sine qua non* for educational and cultural development. Unless this is done, the creative energies of the people will not be released, standards of education will not improve, knowledge will not spread to the people, and the gulf between the intelligentsia and the masses will remain if not widen further. The regional languages are already in use as media of education at the primary and secondary stages. Urgent steps should now be taken to adopt them as media of education at the university stage.

(b) *Three-Language Formula:* At the secondary stage, the State Governments should adopt, and vigorously implement, the three-language formula which includes the study of a modern Indian language, preferably one of the southern languages, apart from Hindi and English in the Hindi-speaking States, and of Hindi along with the regional language and English in the non-Hindi speaking States. Suitable courses in Hindi and/or English should also be available in universities and colleges with a view to improving the proficiency of students in these languages up to the prescribed university standards.

(c) *Hindi:* Every effort should be made to promote the development of Hindi. In developing Hindi as the link language, due care should be taken to ensure that it will serve as provided for in Article 351 of the Constitution, as a medium of expression for all the elements of the composite culture of India. The establishment, in non-Hindi States, of colleges and other institutions of higher education which use Hindi as the medium of education should be encouraged.

(d) *Sanskrit:* Considering the special importance of Sanskrit to the growth and development of Indian languages and its unique contribution to the cultural unity of the country, facilities for its teaching at the school and university stages should be offered on a more liberal scale. Development of new methods of teaching the language should be encouraged, and the possibility explored of including the study of Sanskrit in those courses (such as modern Indian languages, ancient Indian history, Ideology and Indian philosophy) at the first and second degree stages, where such knowledge is useful.

(e) *International Languages:* Special emphasis needs to be laid on the study of English and other international languages. World knowledge is growing at a tremendous pace, especially in science and technology. India must not only keep up this growth but should also make her own significant contribution to it. For this purpose, study of English deserves to be specially strengthened.

(4) Equalisation of Educational Opportunity: Strenuous efforts should be made to equalise educational opportunity.

(a) Regional imbalance in the provision of educational facilities should be corrected and good educational facilities should be provided in rural and other backward areas.

(b) To promote social cohesion and national integration the Common School System as recommended by the Education Commission should be adopted. Efforts should be made to improve the standard of education in general schools. All special schools like Public Schools should be required to admit students on the basis of merit and also to provide a prescribed proportion of free-studentships to prevent segregation of social classes. This will not, however, affect the rights of minorities under Article 30 of the Constitution.

(c) The education of girls should receive emphasis, not only on grounds of school justice, but also because it accelerates social transformation.

(d) More intensive efforts are needed to develop education among the backward classes and especially among the tribal people.

(e) Educational facilities for the physically and mentally handicapped children should be expanded and attempts should be made to develop integrated programmes enabling the handicapped children to study in regular schools.

(5) Identification of Talent: For the cultivation of excellence, it is necessary that talent in diverse fields should be identified at as early an age as possible, and every stimulus and opportunity given for its full development.

(6) Work-Experience and National Service: The school and the community should be brought closer through suitable programmes of mutual service and support. Work-experience and national service including participation in meaningful and challenging

programmes of community service and national reconstruction should accordingly become an integral part of education. Emphasis in these programmes should be on self-help, character formation and on developing a sense of social commitment.

(7) Science Education and Research: With a view to accelerating the growth of the national economy, science education and research should receive high priority. Science and mathematics should be an integral part of general education till the end of the school stage.

(8) Education for Agriculture and Industry: Special emphasis should be placed on the development of education for agriculture and industry.

(a) There should be at least one agricultural university in every State. These should, as far as possible, be single campus universities; but where necessary, they may have constituent colleges on different campuses. Other universities may also be assisted, where the necessary potential exists, to develop strong departments for the study of one or more aspects of agriculture.

(b) In technical education, practical training in industry should form an integral part of such education. Technical education and research should be related closely to industry, encouraging the flow of personnel both ways and providing for continuous cooperation in the provision, design and periodical review of training programmes and facilities.

(c) There should be a continuous review of the agricultural, industrial and other technical manpower needs of the country and efforts should be made continuously to maintain a proper balance between the output of the educational institutions and employment opportunities.

(9) Production of Books: The quality of books should be improved by attracting the best writing talent through a liberal policy of incentives and remuneration. Immediate steps should be taken for the production of high quality text- books for schools and universities. Frequent changes of text- books should be avoided and their prices should be low enough for students of ordinary means to buy them.

The possibility of establishing autonomous book corporations on commercial lines should be examined and efforts should be made to have a few basic textbooks common throughout the country. Special attention should be given to books .for children and to university level books in regional languages.

(10) Examinations: A major goal of examination reforms should be to improve the reliability and validity of examinations and to make evaluation a continuous process aimed at helping the student to improve his level of achievement rather than at 'certifying' the quality of his performance at a given moment of time.

(11) Secondary Education: (a) Educational opportunity at the secondary (and higher) level is a major instrument of social change and transformation. Facilities for Secondary education should accordingly be extended expeditiously to areas and classes which have been denied these in the past.

(b) There is need to increase facilities for technical and vocational education at this stage. Provision of facilities for secondary and vocational education should conform broadly to requirements of the developing economy and real employment opportunities. Such linkage is necessary to make technical and vocational education at the secondary stage effectively terminal. Facilities for technical and vocational education should be suitably diversified to cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts, secretarial training, etc.

(12) University Education: (a) The number of whole- time students to be admitted to a college or university .department should be determined with reference to the laboratory, library and other facilities and to the strength of the staff.

(b) Considerable care is needed in establishing new universities. These should be started only after an adequate pro- vision of funds has been made for the purpose and due care has been taken to ensure proper standards.

(c) Special attention should be given to the organisation of postgraduate courses and to the improvement of standards of training and research at this level.

(d) Centres of advanced study should be strengthened and a small number of 'clusters of centres' aiming at the highest possible standards in research and training should be established.

(e) There is need to give increased support to research in universities .generally. The .institutions for research should, as far as possible, function within the fold of universities or in intimate association with them.

(13) Part-time Education and Correspondence Courses: Part-time education and correspondence courses should be developed on a large scale at the university stage. Such facilities should also be developed for secondary school students, for teachers and for agricultural, industrial and other workers. Education through part-time and correspondence courses should be given the same status as full-time education. Such facilities will smoothen transition from school to work, promote the cause of education and provide opportunities to the large number of people who have the desire to educate themselves further but cannot do so on a full-time basis.

(14) Spread of Literacy and Adult Education: (a) The liquidation of mass illiteracy is necessary not only for promoting participation in the working of democratic institutions and for accelerating programmes of production, especially in agriculture, but for quickening the tempo of national development in general. Employees in large commercial, industrial and other concerns should be made functionally literate as early as possible. A lead in this direction should come from the industrial undertakings in the public sector. Teachers and students should be actively involved in organising literacy campaigns, especially as part of the Social and National Service Programme.

b) Special emphasis should be given to the education of young practicing farmers and to the training of youth for self- employment.

(15) Games and Sports: Games and sports should be developed on a large. scale with the object of improving the physical fitness and sportsmanship of the average student as well as of those who excel in this department. Where playing field and other facilities for developing a nation-wide programme of physical education do not exist, these should be provided on a priority basis.

(16) Education of Minorities: Every effort should be made not only to protect the rights of minorities but to promote their educational interests as suggested in the statement issued by the Conference of the Chief Ministers of States and Central Ministers held in August 1961.

(17) The Educational Structure: It will be advantageous to. have a broadly uniform educational structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage of two years being located in schools, colleges or both according to local conditions.

5. The reconstruction of education on the lines indicated above will need. additional. outlay. The aim should be gra- dually to increase the investment in education so as to reach a level of expenditure of 6 per cent of the national income as early as possible.

6. The Government of India recognizes that reconstruction of education is no easy task. Not only are the resources scarce but the problems are exceedingly complex. Considering the key role which education, science and research play in developing the material and human resources of the country, the Government of India will, in addition to undertaking programmes in the Central sector, assist the State Governments for the development of programmes of national importance where coordinated action on the part of the States and the Centre is called for.

7. The Government of India will also review, every five years; the progress made and recommend guidelines for future development.

L7 Edu 68- 10,000-12-8-68-GIPF.

THE RIGHT OF CHILDREN TO FREE AND COMPULSORY EDUCATION ACT, 2009

Clarification on Provisions

Chapter 1: Preliminary

Section 2 defines words and expressions used in the Act.

Chapter 2: Right to Free and Compulsory Education

Section 3 provides to every child of the age of six to fourteen years the right to free and compulsory education in a neighbourhood school till the completion of elementary education. The idea of neighbourhood schools can be traced to the National System of Education as elaborated in the Kothari Commission report, whereby the neighbourhood school is meant to be a common space, where all children cutting across caste, class, gender lines learn together in the best inclusive manner. It is therefore meant to be a site for inclusion, so that the school becomes a common space for education. This concept has been incorporated in the RTE Act.

In providing for the right of every child to free and compulsory education in a *neighbourhood* school, the RTE Act does not restrict the choice of the child to seek admission in a school which may not be in the *neighbourhood* of the child's residence. In other words, there is no compulsion on the child to seek admission only in the school in his or her *neighbourhood*.

The term 'free education' is explained to mean that no child shall be liable to pay any kind of fee or charges or expenses which may prevent him or her from pursuing and completing elementary education. The term 'free education' must be read in consonance with the provisions of section 12(1)(a)-(c) which specify the extent of the school's responsibility for free and compulsory education.

It further provides that the provisions of the Persons with Disabilities (Equal Opportunities, Protection and Full Participation) Act, 1996 will apply in the case of children suffering from disability as defined under that Act.

Section 4 provides children above six years, who have either not been admitted to any school or, having been admitted have not completed elementary education and have dropped out, the right to be admitted to a school in a class appropriate to his or her age for completing elementary education.

A majority of out-of-school children belong to disadvantaged communities: scheduled castes, scheduled tribes, Muslim minorities, migrants, children with special needs, urban deprived children, working children, children in difficult circumstances, for example, those living in difficult terrain, children from displaced families, and areas affected by civil strife, etc. This provision in the RTE Act enables these out-of-school children to be admitted to an age-appropriate class and complete elementary education. The overall objective of age appropriate admission for these children is to save them from the humiliation and embarrassment of sitting with younger children. When older children are forced to sit in a class younger than their age, they tend to be teased, taunted, suffer lower self esteem, and consequently drop out. The Act facilitates a child admitted to an age appropriate class to be given Special Training to enable him or her to be at par with other children. Given the varied life experiences of these children, it is recognised in the field of education that their mental capabilities are higher than that of entry level 6-year old children, and that they are indeed capable of accelerated learning. At the end of the Special Training, the child will be assessed and his/her suitability for being placed in a particular class will be reviewed. For example, if a 10-year old child was admitted to class IV, and received two years of Special Training till age 12, an assessment may be made as to whether the child could cope better in class V or VI in the formal school, and the child appropriately placed. If such child is found suitable for class V, she/he will be placed in class V, rather than mechanically being placed in class VI – because if she/he is mechanically placed in class VI, she/he might again drop out, and that would defeat the whole purpose of this provision. That is the rationale for the provision that allows the child to be provided free and compulsory education even beyond age 14. Even after a child is appropriately placed in the formal school she may continue to receive special attention by the teacher to enable her to successfully integrate with the rest of the class, academically and emotionally.

The SSA Framework of Implementation has been revised to provide support for Special Training as envisaged under the RTE Act to ensure that out-of-school children are integrated into the school system. Such support will be in the form of residential or non-residential courses, as needed and such children will continue even beyond 14 years of age to complete elementary education. The country is committed to creating an educated citizenry and environment, and therefore it would not be appropriate to impose an age ceiling for these children to complete elementary education.

The obligation under section 4 is on the schools established by the State Government and local authority. Private aided and unaided institutions have no obligations under section 4.

Section 5 provides children the right to seek transfer from a Government or Government aided school to another such school in order to complete elementary

education and for immediate issue of Transfer Certificate to a child seeking admission to another school. It provides that delay in producing Transfer Certificate shall not be a reason for denying or delaying admission in another school. This provision should lead to States instituting reform to remove procedural barriers to obtaining Transfer Certificates.

Chapter-III: Duties of Appropriate Government, Local Authority and Parents.

Section 6: The rationale of this provision is to provide all children access to elementary education. Universal access requires schooling facilities within reasonable reach of all children. If schools are not located in or near the habitations where children reside, children may not complete schooling, even if they are formally enrolled in schools, on account of distance factors. The RTE Act therefore mandates the appropriate governments and local authorities to provide for children's access to elementary schools within the defined area or limits of *neighbourhood*.

The RTE Act deliberately does not define the limits or area of *neighbourhood* as a centralised norm, but requires the appropriate Government to notify such limits or area in the RTE Rules. This is on account of the very diverse geographical, climatic terrain and the varied development requirements of the different States, and the conscious decision that States would be better placed to define the '*neighbourhood*', keeping the best interests of different children in mind.

However, the Central Government has attempted to exemplify this in the Model RTE Rules circulated to States, which provide for distance norms of one kilometre for children in classes I-V, and three kilometres for children in classes VI-VIII, as also provision for relaxation of norms in places with difficult terrain where there may be risk of landslides, floods, lack of roads and in general, danger for young children in the approach from their homes to the school. The Model Rules also provide that access of children to school should not be hindered on account of social and cultural factors. Such norms should be laid down keeping in view local contexts and requirements, rather than centrally prescribed through a law. These have also been incorporated in the Central RTE Rules applicable to all UTs without Legislature.

States /UTs need to arrive at a clear picture of current availability of schools within defined area or limits of neighbourhoods. In order to do this, State/UTs need to (i) define the neighbourhood norms keeping in view that all primary and upper primary schools and composite schools (with primary and upper primary sections), established by the State Government and local bodies would be *neighbourhood* schools for the purpose of section 3(1), and (ii) map the neighbourhoods or habitations and link them to specific schools. It is possible that a neighbourhood may be linked to more than one school.

Similarly, a school may be linked to more than one neighbourhood. The mapping exercise will help identify gaps and areas where new schools need to be opened to ensure universal access.

Section 7(1) – (5) provides for financial and other responsibilities of the Central Government and the State Governments for carrying out the provisions of the proposed Act. The Central Government has estimated a total requirement of Rs 2.31 lakh crore over a five year period from 2010-11 to 2014-15 to implement the RTE Act. Separately, the 13th Finance Commission has also provided a grant of Rs 24,068 crore specifically for elementary education. The grant of the 13th Finance Commission is released directly on an annual basis to the State Governments from the Finance Ministry. This amount is deducted from the overall estimate of Rs 2.31 lakh crore, and the balance amount of Rs 2.07 lakh crore will be shared between the Central and State Governments in the 65:35 ratio for the implementation of RTE through the SSA programme. In the case of States in the North East Region, the fund sharing pattern will be in the 90:10 ratio.

Section 7(6) provides for the formulation of a National Curriculum Framework. The Central Government has notified the NCERT as the designated authority for this purpose. The National Curriculum Framework, 2005, formulated by the NCERT has been hailed nationally and internationally as trendsetting in defining learning processes, assessment, quality and integration of various aspects of education geared towards producing a creative citizen of the country, and has been accepted as the Curriculum Framework under the RTE Act.

Section 8 assigns duties to the appropriate Government to ensure that it provides free and compulsory elementary education to every child, in a neighbourhood school. The term 'compulsory education' is explained to mean obligation of the appropriate Government to provide free elementary education and ensure compulsory admission, attendance and completion of elementary education. It further provides that where a child is not admitted to a school which is established, owned, controlled or substantially funded by the appropriate Government or local authority, such child or his or her parents will not be entitled to claim reimbursement of the cost of elementary education. It lays down the duties of the appropriate Government to ensure *inter alia* that children belonging to weaker sections and disadvantaged groups are not discriminated against and prevented from pursuing and completing elementary education, that admission, attendance and completion of elementary education by every child is monitored, that school building, teaching staff and learning equipment are provided, good quality elementary education conforming to norms and standards is provided, curriculum and courses of study are prescribed in a timely manner, and teachers are trained.

Section 9 assigns duties to the local authority to ensure that it provides free and compulsory elementary education to every child, in a neighbourhood school. It lays down the duties of the local authority to ensure *inter alia* that children belonging to weaker sections and disadvantaged groups are not discriminated against and prevented from pursuing and completing elementary education, maintain records of children residing within its jurisdiction, ensure and monitor admission, attendance and completion of elementary education by every child, including migrant children, ensure that school building, teaching staff and learning equipment and good quality elementary education conforming to norms and standards is provided, decide on the academic calendar.

Section 10: This provision casts a moral responsibility on every parent/guardian to admit their children/wards to school, and ensure that children are not deprived of their right to elementary education. This includes, for example, child labour, children in ecologically deprived areas where they are required to fetch fuel, water, fodder and do other household chores, children in very poor slum communities and uprooted urban habitations, children of families of scavengers and other such stigmatised professions, children of itinerant or seasonal labour who have mobile and transient lifestyle like construction workers, road workers and workers on large construction sites, children of landless agriculture labour who are required to augment family incomes. This provision should be read together with the responsibility of the appropriate Government and local authority to provide free and compulsory elementary education in a *neighbourhood* school. It is not the intention of this provision to compel parents/guardians and children/wards, who do not wish to avail of free and compulsory education, to necessarily admit their children/wards in *neighbourhood* school.

Suggestions were made to incorporate penal provisions against parents/ guardians who do not send their children to school, but the fact remains that the maximum number of children who do not attend school are children from weaker sections and disadvantaged groups. Penalising their parents would be tantamount to penalizing poverty and deprivation. Further, there are many first generation learners, who are deprived of a learning environment at home, and drop out on account of difficulties in coping with the curriculum. Inflicting penalties on parents because their children have dropped out or have been pushed out of the education system would be discriminatory. Therefore, it is a conscious decision to abstain from imposing penal provisions against parents and guardian.

Instead the RTE Act casts a duty or compulsion on the appropriate government to ensure admission, attendance and completion of elementary education. This would lead to significant systemic reform in universalising elementary education. In many instances however, the Government would have to collaborate with the civil society in persuading

parents who experience genuine problems in sending their wards to school for them to fulfil their duty to ensure that their children do attend schools regularly, particularly in the case of older girls.

Section 11 provides that the appropriate government *may* make necessary arrangements for pre-school education.

Chapter –IV: Responsibilities of Schools and Teachers.

Section 12 explains the responsibility of schools for providing free and compulsory education to children, namely:

(a) All Government schools shall provide free and compulsory education to all children

(b) Government aided institutions shall provide free and compulsory education to such percentage of students in elementary classes which equals the percentage of recurring aid received by it from the Government to the annual recurring expenditure incurred by the school, subject to a minimum of 25%

(c) Private unaided institutions and special category schools shall provide free and compulsory education to at least 25% children belonging to disadvantaged groups and weaker sections admitted to class I or pre-primary classes. Such schools would be entitled to reimbursement at the per-child cost incurred by the Government. It has also since been clarified that residential private unaided schools, which do not start at class I, would not be required to admit 25% children from disadvantaged groups and weaker sections in their schools.

There have been misgivings among certain groups about the admission of children from disadvantaged groups and weaker sections in class I in private unaided schools. In this context it is important to refer to the Statement of Objects and Reasons (SOR) attached to the Right of Children to Free and Compulsory Education Bill, 2008, which states:

The Right of Children to Free and Compulsory Education Bill, 2008, is anchored in the belief that the values of equality, social justice and democracy and the creation of a just and humane society can be achieved only through provision of inclusive elementary education to all. Provision of free and compulsory education of satisfactory quality to children from disadvantaged and weaker sections is, therefore, not merely the responsibility of schools run or supported by the appropriate Governments, but also of schools which are not dependent on Government funds.

The idea that schooling should act as a means of social cohesion and inclusion is not new; it has been oft repeated. Inequitable and disparate schooling reinforces existing social and economic hierarchies, and promotes in the educated sections of society an indifference towards the plight of the poor.

The currently used term 'inclusive' education implies, as did earlier terms like 'common' and 'neighbourhood' schools, that children from different backgrounds and with varying interests and ability will achieve their highest potential if they study in a shared classroom environment. The idea of inclusive schooling is also consistent with Constitutional values and ideals, especially with the ideals of fraternity, social justice and equality of opportunity.

For children of socio-economically weaker backgrounds to feel at home in private schools, it is necessary that they form a substantial proportion or critical mass in the class they join. The relevant universe in which the proportion needs to be considered is the class/section. It is for this reason that the RTE Act provides for admission of 25% children from disadvantaged groups and weaker sections in class I only. This implies that these children cannot be pooled together in a separate section or afternoon shift. Any arrangement which segregates, or treats these children in a differentiated manner vis-à-vis the fee-paying children will be counter- productive.

The rationale for 25% lies in the fact that the composition of caste/class indicated in the Census is fairly representative of the composition of children who are seeking admission under this provision. As per Census 2001, SCs constitute 16.2%, and STs constitute 8.2% (total 24.4%) of the population. Further, the Tendulkar Committee, set up by the Planning Commission to measure poverty, has estimated the below poverty line (BPL) population to be 37.2%. It is a fact that much of the population that suffers economic deprivation also suffers from social disadvantage. Thus, taken together, the figure of 25% for admission of children from disadvantaged groups and weaker sections is considered reasonable. Any lower proportion would jeopardize the long-term goal of the policy which is to strengthen social cohesion and bring out the best human resource potential inherent in our society as a whole. A smaller proportion would serve only a token purpose, and it will run the serious risk of creating the feeling of alienation among the children belonging to disadvantaged groups and weaker sections. Their participation in classroom interaction will be neither strong nor sufficiently manifest to enrich the overall experiential learning taking place in any given subject area. Only a critical mass can play such a role.

The RTE Act provides for admission of 25% children from disadvantaged groups and weaker sections in Class I, not across the whole school. As children admitted to class I

move to class II, new children will be admitted to class I, and so on till completion of 8 years of elementary education. The rationale for admission in class I only must be appreciated in human terms. Teachers who are used to a selective, homogeneous classroom environment cannot be expected to develop the required positive attitude and professional skills to deal with a diversified class overnight. The same applies to children. Children who have grown up to an age of nine or ten in a homogeneous or segregated environment have been socialized into a structure of norms and behaviour. They cannot be transformed on demand. Also, the overall school ethos cannot be expected to respond to a new policy in a positive manner all of a sudden. Education is indeed an act of faith and social engineering – but not quick-fix social engineering. In view of the fact that children take time to socialize and teachers take time to develop new attitudes and pedagogic skills, the RTE Act provides for admission of disadvantaged and poor children at the entry level, covering pre-school and Class I. With these children moving up, and a new cohort of children entering pre-school and Class I in each successive year, the school will gradually have a more diverse population spread across all classes. Progression at this pace will allow children the opportunity to grow up together and create bonds: bonds that can survive social walls. Progression at this pace can allow the school to develop the professional capacity to respond to the intellectual and emotional needs of children from diverse backgrounds. Children who are younger than eight years of age are yet to develop a stable social identity. Their values are still forming, and their motivation to derive meaning from experience, both concrete and social is very strong. Therefore, it is a valid argument that the policy of mixing children from different socio-economic strata has the best chance of succeeding if it starts from the formative years of nursery/kindergarten and Class I. Diversity enhances learning and development, while segregation impoverishes the classroom environment of all schools, private or government.

Admission of 25% children from disadvantaged groups and weaker sections in the neighbourhood is not merely to provide avenues of quality education to poor and disadvantaged children. The larger objective is to provide a common place where children sit, eat and live together for at least eight years of their lives across caste, class and gender divides in order that it narrows down such divisions in our society. The other objective is that the 75% children who have been lucky to come from better endowed families, learn through their interaction with the children from families who haven't had similar opportunities, but are rich in knowledge systems allied to trade, craft, farming and other services, and that the pedagogic enrichment of the 75% children is provided by such intermingling. This will of course require classroom practices, teacher training, etc. to constantly bring out these pedagogic practices, rather than merely make children from these two sections sit together. The often voiced concern about how the 25% children from disadvantaged groups and weaker sections can cope in an environment where rich children exist can be resolved when the teaching learning process and

teachers use these children as sources of knowledge so that their esteem and recognition goes up and they begin to be treated as equals.

Section 13 provides that no school or person shall collect capitation fee or subject a child to any screening procedure, and prescribes a penalty for contravention of these provisions. On the issue of screening procedure for admission, Government had consultation with several private school Principals, and has since issued guidelines under section 35(1). The Guidelines explain that the objective of the provisions of section 13(1) read with section 2(o) is to ensure that schools adopt an admission procedure that is non-discriminatory, rational and transparent, and that schools do not subject children and their parents to admission tests and interviews in order to decide whether they will admit a child or not.

Extensive educational research the world over recognises that children are born with equal potential to learn and become creative adults. The colonial beliefs that men have better brains than women, or whites have better brains than blacks, implying thereby that there were intrinsic differences in the potential to learn and in intelligence, have long been discarded and debunked. The most obvious proof of that is the acquisition of language, without which no learning can take place. All children acquire language without the agency of a school at around the same age of two years. This is held as an intrinsic stage of child brain development, which has nothing to do with caste, class, gender, high/low IQ and such other differentiation. What is well recognized, however, is that from infancy, it is the processes of nurturing at home and later during pre-school and school, that determines the depth and extent of learning. Therefore, tests and other screening procedures can only reveal differences in nurturing, rather than any intrinsic differences of the potential to learn. In such a situation it would be particularly necessary, and indeed the obligation of the State and society to provide for better nurturing through good schools to children from poor and disadvantaged sections of society.

The Guidelines issued under section 35(1), therefore, explicitly state that tests and interviews are generally a tool for profiling and eliminating children, and therefore screening to assess a child's 'intelligence should be prohibited. Availability of equal opportunities for children belonging to different social and economic backgrounds will reinforce the idea of equality enshrined in our Constitution, and ensure that children are not discriminated on the basis of their social and economic background. The Guidelines also refer to the importance of moving towards composite classrooms with children from diverse backgrounds, rather than homogenous and exclusivist schools: heterogeneity and diversity in classrooms lead to greater inter-learning, respect for differences, tolerance and creativity.

Thus in respect of 25% children representing disadvantaged groups and weaker sections for admission in class I, the Guidelines provide for random selection out of applications received. For admission to the remaining 75%, the Guidelines give schools the freedom to formulate their own admissions policy. Such policy should include the criteria for categorisation of applicants in terms of the objectives of the school on a rationale, reasonable and just basis. There should be no profiling of the child based on parental educational qualifications. This policy should be in the public domain, explicitly stated in the school prospectus and given wide publicity. There shall be no testing or interviews for any child/parent, and selection should be on random basis.

Section 14 seeks to provide for proof of age certificate of a child and that admission cannot be denied in its absence. The rationale for this provision is that birth certificates under the Births, Deaths and Marriages Certification Act, 1886 are often not available, and in their absence, children and their parent often have to run from pillar to post to obtain age proof. Thus, other documents can be deemed to be proof of age of the child for the purposes of admission in schools. Examples of other documents are (i) ANM register record, (ii) Anganwadi record, (iii) declaration of age of the child by the parent or the guardian. State Governments will identify documents, which may be in the form of affidavits or certificates that can be used for determining the age of the child for admission and suitably provide for them in the delegated legislation. Clause 14 (2) however, makes it explicit that since the child has a *right* to education, that *right* cannot be denied for lack of age proof. Therefore, admission would be given even in the absence of age proof, while an appropriate document of age proof would simultaneously be acquired.

Section 15 prohibits schools from denial of admission to a child, irrespective of the time in the academic year in which admission is sought. Admission of a child in school is a fundamental right and it cannot be denied at any point of time. Ideally, all children should be enrolled in school at the beginning of the academic session. However, in the case of children in difficult circumstances, including children affected by migration, displacement or ill health, etc schools may need to be flexible to allow admission at any time during the session. The Central RTE Rules provide that children admitted after six months of the beginning of the academic session may be provided Special Training as determined by the Head Teacher of the school to enable him/her to complete studies. Private unaided schools need not be concerned about this provision, especially with respect to the 75% admission, because if they have filled all seats at the beginning of the academic year the question of any-time admission would not arise.

Section 16 prohibits holding back and expulsion of a child from school till the attainment of elementary education. There have been some misgivings on the provisions relating to ‘no detention’ and ‘no expulsion’. The ‘no detention’ provision is made because

examinations are often used for eliminating children who obtain poor marks. Once declared 'fail', children either repeat grade or leave the school altogether. Compelling a child to repeat a class is demotivating and discouraging. Repeating a class does not give the child any special resources to deal with the **same** syllabus requirements for yet another year. Parents and friends of such children also tend to view them as being 'fit for failure', thereby reinforcing the perception which the school has already used for declaring a child 'fail'. The 'no detention' provision in the RTE Act does not imply abandoning procedures that assess children's learning. The RTE Act provides for putting in place a continuous and comprehensive evaluation procedure – a procedure that will be non-threatening, releases the child from fear and trauma of failure and enables the teacher to pay individual attention to the child's learning and performance. Such a system has the best potential to improve quality, rather than punishment, fear of failure and detention. Consistent with the arguments provided under section 13 that each child has the same potential for learning, a 'slow', 'weak' learner or a 'failed' child is not because of any inherent drawback in the child, but most often the inadequacy of the learning environment and the delivery system to help the child, realise his/her potential, meaning thereby that the failure is of the system, rather than of the child. This requires addressing the improvement of the quality of the system rather than punishing the child through detention. There is no study of research that suggests that the quality of the learning of the child improves if the child is failed. In fact, more often than not the child abandons school/ learning altogether.

As regards expulsion, there are many who give examples of deviant and aberrant behaviour of some children, adversely influencing other children, and that such deviant children should be 'expelled' in order that the others may be protected. But the implications of expulsion are that the education system has *refused* to serve the child. The notion of 'expulsion' is not compatible with the concept of 'right'. No civilized country in the world expels children from elementary school for any reasons: there are no valid grounds for doing so. If the child – and remember we are talking about 6-14 year olds, not older children – does not respond to the existing system and resorts to 'deviant' activities, then the education system must address the child differently – through counselling or by providing different curricular and co-curricular activities, which enable the child to develop self awareness, address deep rooted fears and problems and consequently change patterns of behaviour.

Section 17 prohibits any child being subjected to physical punishment or mental harassment.

There is a mistaken notion that 'discipline' of children comes from punishment and fear. Educationists the world-over are clear that what matters for creating a mature citizen is the provision of a 'learning environment' in the formative years, which is what the school must become, and not a 'correctional' centre, which has the connotations of a jail.

Physical punishment and mental trauma are counter- productive, and may cause a child to become even more defiant and rebellious than before.

The concept of childhood implies a period of impressionability and vulnerability. Both these attributes of childhood enjoin upon the adult society to treat childhood as a part of life, which requires protection and nurturance. Children's bodies are tender and vulnerable. A minor punishment can result in injury: even a slap may result in a child going deaf. There are many examples of grievous injury to children on account of physical punishment. Physical punishment is invariably accompanied by mental trauma. All physical punishment and mental trauma is potentially unsafe and injurious to health.

Article 39 (f) of the Constitution of India states:

> Art 39 (f): '*The state shall ensure that children are given opportunities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment'.* There is explicit use of the word 'dignity' in Article 39(f). It is not conceivable for dignity and punishment to co-exist.

Further, the National Policy on Education (NPE) 1986/1992 also prohibits corporal punishment. It states: *Corporal punishment will be firmly excluded from the education system.*

India is a signatory to the United Nations Convention on Child Rights (UNCRC). Article 19 of the UNCRC states: State parties shall take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in the care of parents, legal guardians or any other person who has the care of the child. Thus the provisions in the RTE Act banning corporal punishment and mental harassment are in consonance with the spirit of Article 39 ((f) of the Constitution, the National Policy on Education, and the UNCRC.

Section 18 stipulates that no private school should be established or can function without obtaining a Certificate of Recognition, and that such Certificate of Recognition would be issued to schools that fulfil the prescribed norms and standards. The Act does not have a provision for recognition of Government schools, since that would amount to Government giving recognition to its own schools, however section 19 clearly states that Government schools must meet the requirements of the schedule.

Section 19 lays down the norms and standards for schools. Any school, whether Government or private that does not fulfil the prescribed norms and standards shall do so within a period of three years from the date of commencement of the proposed Act. There appears to be a misconception that Government schools do not require to meet the norms and standards prescribed under the Act on account of a wrong insertion of a comma in the RTE Bill when it was introduced in Parliament. This has since been corrected and the provision for meeting norms and standards is applicable to all schools, ensuring that these schools also meet the norms prescribed will be monitored by the NCPCR.

Section 20 provides power to Central Government to amend the schedule on norms and standards.

Section 21 provides for constitution and functions of a School Management Committee in certain categories of schools. The setting up of such Committees has been a recommendation of nearly all previous education commissions and policies. The reason is that if the community has to be involved in the vast school system of the country, and if the parents are to be recognized as primary stakeholders in the education of their children, they must be involved in a meaningful manner in the monitoring and management of schools. The RTE Act therefore envisages that parents would form a majority in the School Management Committees, which would also include elected members of the Panchayat and school teachers. There is reason to believe that like the mother's committees that have functioned exceptionally well in some parts of the country, the parent-dominated SMC's will lead to overall improvement of the schooling system.

Private unaided institutions are exempted from the constitution of School Management Committees. Government has also introduced an Amendment Bill in the Parliament, which provides that the School Management Committee in respect of private unaided and minority institutions will only have an advisory role.

Section 22 provides for preparation of a School Development Plan (SDP) by the School Management Committee. The SDP is visualised as a comprehensive plan focusing on all aspects of school e.g. protection of children's rights, infrastructure, teacher availability, classroom transaction and child assessments, inclusiveness, etc. Private unaided institutions are not expected to prepare SDPs envisaged under the RTE Act. Further, the Amendment Bill referred to in previous paragraph provides that private unaided and minority institutions will also not be required to prepare SDPs.

Section 23 provides for qualifications and terms and conditions of service of school teachers. The Central Government has notified NCTE as the academic authority for

prescribing teacher qualifications. NCTE has laid down the requisite teacher qualifications as per its notification dated 23rd August 2010.

Section 24 provides for duties of teachers. This includes *inter alia* -that teachers attend school regularly and transact the syllabus in a timely manner, that they provide supplementary support to children who need such support, that they make an assessment of children's learning, and interact with parents.

Section 25 seeks to provide for maintenance of pupil teacher ratio, by the appropriate government and local authority. An apparent contradiction between this provision, which requires that the pupil teacher ratio shall be maintained within a period of six months, vis-à-vis the provision under section 19 mandating that the norms and standards prescribed in the Schedule should be met within three years, is proposed to be corrected through the Amendment Bill introduced in the Parliament.

The proviso to this section also provides that teachers shall not be deployed for non-academic work, barring those specified in section 27, viz., (i) decennial population census, (ii) disaster relief and (iii) elections to Parliament, State Legislatures and Local Bodies.

Section 26 provides that vacancies in schools should not exceed 10% of the teacher strength for that school. This provision will ensure that States take steps to fill up existing teacher vacancies as also rationalise deployment of teachers in schools to remove urban-rural imbalances in teacher deployment.

Section 27 prohibits deployment of teachers for non-educational purposes, other than decennial population census, disaster relief duties or duties relating to elections to local authority, state legislatures and parliament. This provision will ensure that more time is available to teachers for school/ classroom transaction, and that teachers are not deployed for work that takes them away from their classroom responsibilities.

Section 28 prohibits private tuition by teachers. Private tuition is one of the ills affecting Indian education, which needs to be addressed. This provision will ensure that teachers do not use their position for commercial gain through private tuition, which is a source of harassment to children and parents.

Chapter-V: Curriculum and Completion of Elementary Education.

Section 29 provides for curriculum and evaluation procedure in elementary schools. State Governments are required to prescribe the academic authority to lay down the

curriculum and evaluation procedure. In doing so the academic authority must ensure adherence to eight factors stated in the RTE Act These eight factors are:

1. Conformity with Constitutional values;

2. All round development of the child;

3. Building the child's knowledge, potentiality and talent;

4. Development of physical and mental abilities to the fullest extent;

5. Learning through activities, discovery and exploration in a child friendly and child-centred manner;

6. The child's mother tongue serving 'as far as practicable' as the medium of instruction;

7. Making the child free of fear, trauma and anxiety and helping the child to express views freely and

8. Comprehensive and continuous evaluation of the child's understanding and knowledge and the ability to apply it.

These factors, which have become part of educational legislation, provide comprehensive coverage of the indicators of child-centred curricular policy for the elementary stage of education spelt out in the National Policy on Education (NPE), 1986/92 and elaborated in the NCF – 2005.

Section 30 provides that no child shall be required to pass Board examinations till completion of elementary education. Board examinations induce tremendous stress and anxiety among children – especially young children. The National Curriculum Framework, 2005, while emphasising the need for flexibility in assessment, states: "*Under no circumstances should board- or state level examinations be conducted at other stages of schools, 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".*

Chapter-VI: Protection of Right of Children

Section 31 provides an institutional mechanism for protection of rights of the child through the National/ State Commissions for Protection of Child Rights. For children in-school, monitoring will involve the following issues:

(i) Provision of neighbourhood school
   1. Requisite number of classrooms and infrastructure facilities
   2. Appropriate PTR
   3. School hours

(ii) Access to school: physical and social

(iii) Admission process
   1. Denial of admission
   2. Capitation Fee
   3. Screening procedure
   4. Demand for Affidavits
   5. Any time Admission

(iv) Entitlements
   1. Textbooks
   2. Uniforms
   3. Library with books, newspapers, magazines
   4. Sports equipment
   5. Play material
   6. Mid-day Meal
   7. Special Training for age-appropriate education
   8. Transfer Certificates
   9. Completion Certificates
   10. Other expenses

(v) Classroom Transaction
   1. No discrimination
   2. No corporal punishment
   3. Appropriate Teaching methods
   4. Appropriate Evaluation Systems

(vi) School Management Committee
   1. Appointments as per rules
   2. Regular meetings
   3. Teacher Accountability
      Preparation of School Development Plan
   ~~4.~~ Other Responsibilities

For Children in Private Aided and Unaided Schools

1. Admission of children from Weaker Sections and Disadvantaged Groups

In addition NCPCR/SCPCR would monitor out-of-school children to facilitate their access and participation in the schooling system. This would include children who have never enrolled or have dropped out, children who are temporarily absent, children who are permanent migrants, who migrate seasonally with their parents.

Section 32 provides a mechanism for redressal of grievance relating to rights of the child under the proposed Act.

Section 33 provides for constitution of a National Advisory Council to give expert advice to the Central Government on implementation of provisions of the proposed Act. This Council has since been constituted and has commenced its work.

Section 34 provides for the constitution of State Advisory Councils to advise the State Governments on the implementation of the Act.

Chapter-VII: Miscellaneous

Section 35 provides for the Central Government to issue guidelines and directions to the appropriate government or local authority for effective implementation of the proposed Act. It also provides for the appropriate Government to issue guidelines and directions to Local Authorities, and for Local Authorities to give guidelines to School Management Committees.

Section 36 provides for previous sanction of an authorised officer for prosecution of offences.

Section 37 provides protection, against any legal suit or proceedings, to appropriate government, local authority, etc for any action taken in good faith.

Section 38 provides powers to the appropriate Government to make rules, and for laying of Rules and notifications made, before each House of Parliament.