VOLUME –I: CURRICULAR AREAS
1.1 Teaching of Science

EXECUTIVE SUMMARY

1. CRITERIA FOR AN IDEAL SCIENCE CURRICULUM

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–

(a) *Cognitive validity* requires that the content, process, language and pedagogical practices of the curriculum are age appropriate, and within the cognitive reach of the child.

(b) *Content validity* requires that the curriculum must convey significant and correct scientific content. Simplification of content, which is necessary to adapt the curriculum to the cognitive level of the learner, must not be so trivialised as to convey something basically flawed and/or meaningless.

(c) *Process validity* requires that the curriculum engage the learner in acquiring the methods and processes that lead to 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.

(d) *Historical validity* requires that science curriculum be informed by a historical perspective, enabling the learner to appreciate how the concepts of science evolve with time. It also helps the learner to view science as a social enterprise and to understand how social factors influence the development of science.

(e) *Environmental validity* requires that science be placed 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 preparing him / her with the requisite knowledge and skills to enter the world of work.

(f) *Ethical validity* requires that the curriculum promote the values of honesty, objectivity, co-operation, freedom from fear and prejudice, and develop in the learner a concern for life and preservation of environment.

2. SCIENCE CURRICULUM AT DIFFERENT STAGES

Consistent with the criteria 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 to acquire the basic cognitive and psychomotor skills through observation, classification, inference, etc.; to emphasise design and fabrication, estimation and measurement as a prelude to development of technological and quantitative skills of later stages; and to develop the 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 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 on environment and 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 activity, discussions with peers and teachers, surveys, organisation of data and their display through exhibitions, etc. in schools and neighbourhood are to be an important component 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 the 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 analysis on issues surrounding environment and 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. The students may be given an option to choose 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 syllabus. At this stage, core topics of a discipline, taking into account recent advances, should be carefully identified and treated with appropriate rigour and depth. The tendency to superficially cover a large number of topics of the discipline should be avoided.

3. PROBLEMS AND OUTLOOK

Looking at the complex scenario of science education in India, three issues stand out unmistakably. First, science education is still far from achieving the goal of equity enshrined in our constitution. Second, science education, 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 this position paper, the Focus Group has attempted to address a range of issues related to science curriculum and problems in its implementation, but has particularly focused on the three issues mentioned above. First, we must use science curriculum as an instrument of social change to reduce the divide related to economic class, gender, caste, religion and region. We must use the textbook 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 of the national curriculum framework. Information and Communication Technology (ICT) is also an important tool for bridging the 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.

Second, we believe that 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 give much greater emphasis on co-curricular and extra curricular elements aimed at stimulating investigative ability, inventiveness and creativity, even if these elements are not part of the external examination system. We strongly recommend a massive expansion of non-formal channels (for example, a truly large scale SCIENCE and TECHNOLOGY FAIR with feeder fairs at cluster/district/state levels) to encourage schools and teachers to implement this paradigm shift.

Third, we recommend nothing short of declaring examination reform as a National Mission (like other critical missions of the country), supported by funding and high quality human resources that such a mission demands. The mission should bring scientists, technologists, educationists and teachers on a common platform and launch new ways of testing students which would reduce the high level of examination related stress, curb the maddening multiplicity of entrance examinations, and research on ways of testing multiple abilities other than formal scholastic competence.

These reforms, however, fundamentally need the over arching 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.

1.2   Teaching of Mathematics

EXECUTIVE SUMMARY

The main goal of mathematics education in schools is the mathematisation of the child's thinking. Clarity of thought and pursuing assumptions to logical conclusions is central to the mathematical enterprise. There are many ways of thinking, and the kind of thinking one learns in mathematics is an ability to handle abstractions, and an approach to problem solving.

Universalisation of schooling has important implications for mathematics curriculum. Mathematics being a compulsory subject of study, access to quality mathematics education is every child's right. We want mathematics education that is affordable to every child, and at the same time, enjoyable. With many children exiting the system after Class VIII, mathematics education at the elementary stage should help children prepare for the challenges they face further in life.

In our vision, school mathematics takes place in a situation where: (1) Children learn to enjoy mathematics, (2) Children learn important mathematics, (3) Mathematics is a part of children's life experience which they talk about, (4) Children pose and solve meaningful problems, (5) Children use abstractions to perceive relationships and structure, (6) Children understand the basic structure of mathematics and (7) Teachers expect to engage every child in class.

On the other hand, mathematics education in our schools is beset with problems. We identify the following core areas of concern: (a) A sense of fear and failure regarding mathematics among a majority of children, (b) A curriculum that disappoints both a talented minority as well as the non-participating majority at the same time, (c) Crude methods of assessment that encourage perception of mathematics as mechanical computation, and (d) Lack of teacher preparation and support in the teaching of mathematics. Systemic problems further aggravate the situation, in the sense that structures of social discrimination get reflected in mathematics education as well. Especially worth mentioning in this regard is the gender dimension, leading to a stereotype that boys are better at mathematics than girls.

The analysis of these problems lead us to recommend: (a) Shifting the focus of mathematics education from achieving 'narrow' goals to 'higher' goals, (b) Engaging every student with a sense of success, while at the same time offering conceptual challenges to the emerging mathematician, (c) Changing modes of assessment to examine students' mathematisation abilities rather than procedural knowledge, and (d) Enriching teachers with a variety of mathematical resources.

The shift in focus we propose is from mathematical content to mathematical learning environments, where a whole range of processes take precedence: formal problem solving,

use of heuristics, estimation and approximation, optimisation, use of patterns, visualisation, representation, reasoning and proof, making connections, mathematical communication. Giving importance to these processes also helps in removing fear of mathematics from children's minds.

A crucial implication of such a shift lies in offering a multiplicity of approaches, procedures, solutions. We see this as crucial for liberating school mathematics from the tyranny of the one right answer, found by applying the one algorithm taught. Such learning environments invite participation, engage children, and offer a sense of success.

In terms of assessment, we recommend that Board examinations be restructured, so that the minimum eligibility for a State certificate be numeracy, reducing the instance of failure in mathematics. On the other hand, at the higher end, we recommend that examinations be more challenging, evaluating conceptual understanding and competence.

We note that a great deal needs to be done towards preparing teachers for mathematics education. A large treasury of resource material, which teachers can access freely as well as contribute to, is badly needed. Networking of school teachers among themselves as well as with university teachers will help.

When it comes to curricular choices, we recommend moving away from the current structure of tall and spindly education (where one concept builds on another, culminating in university mathematics), to a broader and well-rounded structure, with many topics "closer to the ground". If accommodating processes like geometric visualisation can only be done by reducing content, we suggest that content be reduced rather than compromise on the former. Moreover, we suggest a principle of postponement: in general, if a theme can be offered with better motivation and applications at a later stage, wait for introducing it at that stage, rather than go for technical preparation without due motivation.

Our vision of excellent mathematical education is based on the twin premises that **all students can learn mathematics and that all students need to learn mathematics.** It is therefore imperative that we offer mathematics education of the very highest quality to all children.

1.3 Teaching of Indian Languages

EXECUTIVE SUMMARY

Language is not only a rule-governed system of communication but also a phenomenon that to a great extent structures our thought and defines our social relationships in terms of both power and equality. The speed with which normal children become linguistically proficient in not just one but often several languages by the time they are three years old shows that we are probably born with an innate language faculty. All specific linguistic development is, of course, socio-culturally mediated, and every individual successfully creates a repertoire of multiple registers to negotiate a variety of social encounters. It is indeed a pity that educational planners and language policy makers are not able to capitalise on this innate potential of the child. In a country like India, most children arrive in schools with multilingual competence and begin to drop out of the school system because, in addition to several other reasons, the language of the school fails to relate to the languages of their homes and neighbourhoods. Most children leave schools with dismal levels of language proficiency in reading comprehension and writing skills, even in their own native languages. In addition to a variety of socio-political reasons that adversely impinge upon our educational system in general, some reasons that are primarily responsible for these low levels of proficiency include: lack of any understanding about the nature and structure of language and the processes of language teaching-learning, particularly in multilingual contexts; acute failure on the part of educational planners to appreciate the role of language across the curriculum in contributing towards the construction of knowledge; not paying enough attention to the fact that a variety of biases, including caste, race, and gender, get encoded in language; inability to appreciate the fact that language consists of much more than just poems, essays, and stories; unwillingness to accept the role of languages of the home and neighbourhood in cognitive growth and failure to notice that cognitively advanced language proficiency tends to get transferred across languages. It is becoming increasingly clear that linguistic diversity is as important for our survival as biodiversity.

It is imperative that we make provisions for education in the mother tongue(s) of the children and train teachers to maximise the utilisation of the multilingual situation often obtaining in the classroom as a resource. Recent research has demonstrated the positive correlation between multilingual language proficiency and academic achievement. It has also shown that multilingualism leads to greater cognitive flexibility and social tolerance. What we need to do is to ensure comprehensible input in anxiety-free situations and make every possible effort to eliminate caste, colour, and gender bias. Unless the educational planners pay attention to language across the curriculum in all its dimensions, the goals of equity, justice, and democracy may remain distant dreams. Our recommendations in Chapter 10 should be seen in the above context and in the context of our proposals (Appendix III) about languages in the school curriculum.

1.4   Teaching of English

EXECUTIVE SUMMARY

English in India is a global language in a multilingual country (Sec. I). 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. While endorsing prevailing academic opinion for a later but more effective introduction of English (supporting this with an assessment of the "critical period" or "sensitive window" hypothesis in Sec. IV.1), we also respond to current realities by describing what is achievable in given situations, supplemented with affirmative-action interventions where necessary (Sec. III.2.).

The goals for a language curriculum (Sec. II) 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 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 mother-tongue reading failure adversely affects second-language reading. 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 (Sec. III.4).

Input-rich communicational environments are a prerequisite for language learning (Sec. III). 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 exist 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 the 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, where necessary, through the teachers' own languages (Sec. III.6).

Language evaluation (Sec. III.7) need not be tied to "achievement" with respect to particular syllabi, but must be reoriented to the measurement of *language proficiency*. We discuss some ways of conducting ongoing evaluation of language proficiency. *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 the 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 Class X. 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.

1.5 Teaching of Social Sciences

EXECUTIVE SUMMARY

Teaching of Social Sciences

The social sciences encompass diverse concerns of society and include a wide a range of content, drawn from the disciplines of history, geography, political science, economics and sociology. The selection and organisation of material into a meaningful social science curriculum, enabling students to develop a critical understanding of society, is therefore a challenging task. The possibilities of including new dimensions and concerns are immense especially in view of the student's own life experiences.

It is important to reinstate the significance of the social sciences by not only highlighting its increasing relevance for a job in the rapidly expanding service sector, but by pointing to its indispensability in laying the foundations for an analytical and creative mindset.

It is often presumed that only natural and physical phenomena lend themselves to scientific inquiry, and that knowledge areas pertaining to the human sciences (history, geography, economics, political science etc.) cannot be, by their very nature "scientific". But it is 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 articulate the ways in which the methods employed by social sciences are distinct (but in no way inferior) to those of the natural and physical sciences.

The social sciences carry a normative responsibility to create and widen the popular base for human values, namely freedom, trust, mutual respect, respect for diversity, etc. Thus, social science teaching basically should be aimed at investing in a child a moral and mental energy so as to provide her with the ability to think independently and deal with the social forces that threaten these values, without losing her individuality. Social Science teaching can achieve this by promoting children's ability to take initiative to critically reflect on social issues that have a bearing on the creative coexistence between individual good and collective good. Critical reflection pre-supposes a comprehensive curriculum in which learners – both teachers and children – participate in generating knowledge without any latent and manifest forces of coercion. It is through this non-coercive and participatory mode that children and teachers stand the best chance of making teaching and learning interesting as well as enjoyable.

The disciplines that make up the social sciences, namely history, geography, political science and economics, have distinct methodologies that often justify the preservation of boundaries. The boundaries of disciplines need to be opened up and a plurality of approaches may be applied to understand a given phenomenon. For an enabling curriculum, certain themes that facilitate interdisciplinary thinking are required.

The Proposed Epistemological Frame

Based on certain considerations of dominant perceptions as well as issues to be addressed the following points serve as the foundational logic in the drafting of new syllabi:

- The curriculum must be able to show, how the nation and national unity figures in local perceptions of the people. Local perceptions, therefore, have to be articulated through reorienting curriculum

- The notion of textbook be changed from being merely instructive to more suggestive. It is argued that this would offer enough scope for the learner even to go beyond the very textbook, creating more appetite for further reading that is necessary to enrich the understanding of a given social phenomenon.

- The major thrust of the social science curriculum, has remained utilitarian in nature. That is to say, it puts more emphasis on developmental issues that are important but not sufficient to understand the normative dimension – issues of equality, justice and dignity of society polity. Teaching of social sciences, has thus been linked up to the role of an individual in contributing to this 'development'. In view of this gap, there is a need to achieve a shift in focus from utilitarianism to egalitarianism that would address the normative concerns as mentioned above.

- It is suggested to bring a change in nomenclature from civics to political science. Civics as a subject had appeared in the Indian school curriculum in the colonial period in the background of increasing 'disloyalty' among Indians towards the Raj. Emphasis on the obedience and loyalty of the citizens and creation of civil society according to the universal values of progress were the key features of the colonial civics. Whereas, political science suggests dynamism that involves the process that produces structure of dominations and their contestations by social forces. Political science imagines civil society as the sphere where more informed, receptive and responsible citizens could be produced.

- Gender concerns need to be addressed in terms of making the perspectives of women integral to the discussion of any historical event and contemporary concern. This shift from highlighting individuals to forefronting women's struggles both historically as well as on a daily basis, requires an epistemic shift from the patriarchal nationalist frame.

Planning the Curriculum

At the **primary stage**, the natural and social environment should be taught as an integral part of language and mathematics (with gender sensitivity). Children should be engaged in activities that would help them in promoting an understanding about the natural and social environment. Understanding at this level should be based on observation and illustration rather than

abstractions. Illustrations need to be drawn from the physical, biological, social and cultural aspects of life. It is important for the child to develop the skill of observation, identification and classification.

For classes III to V, the subject Environment Studies will be introduced. A child may be initiated to locate and comprehend the relationships between the natural and social environment, and introduced to analogies between natural diversity and socio-cultural diversity. That is to say, social science teaching based on observation and experience can create cognitive capacity within the child. It is this aspect of social science teaching that is so frequently missing in our curriculum.

At the **upper primary stage**, the subject-area of Social Science drawing its content from history, geography, political science and economics will be introduced. Simultaneously, the child may be introduced to contemporary issues and problems. Contemporary issues may be looked at from multiple perspectives introducing the child to social and economic problems of society. Emphasis needs to be given to issues like poverty, illiteracy, child and bonded labour, class, caste, gender and environment. Geography and Economics may together help in developing a proper perspective related to the issue concerning environment, resources and development at different levels from local to global. Similarly, Indian history will be taught emphasizing the concepts of plurality and change. The child will be introduced to the formation and functioning of governments at the local, state and central level and the democratic processes of participation.

At the **secondary stage**, social sciences comprise elements of history, geography, political science and economics. The main 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, contemporary India will be discussed from the perspectives of the adivasi, dalit and other disenfranchised populations and effort should be to relate the content much as possible to the children's everyday lives.

India's freedom struggle and the contributions of various sections/regions shall be studied. India's nationalist movement and its developments as an independent nation will be taught in the context of developments in the modern world. Issues relating to geography should be taught keeping in mind the need to inculcate in the child a critical appreciation for conservation and environmental concerns. In political science the focus should be on discussing the philosophical foundations that underlie the value framework of the Indian Constitution, i.e. an in-depth discussion of equality, liberty, justice, fraternity, dignity, plurality and freedom from exploitation. As the disciplinary area of economics is being introduced to the child at this level, it is important that the topics discussed are from the perspective of the masses. For example, poverty and unemployment may be derived from an understanding of the functioning of economic institutions and the inequalities sustained by economic relations.

The **higher secondary stage** is considered important as it offers diverse choice of streams to the students according to their need, interest and aptitude. For some of the students, this stage may be the end of their formal education leading to the world of work, for others, a foundation for higher education. They may choose either specialized academic courses or job oriented vocational courses depending upon their preferences. The foundation laid at this stage should be able to equip them with basic knowledge, skill and attitude to make meaningful contribution in any field, they choose.

A variety of courses from Social Sciences and Commerce may be offered to students and they may exercise their choice keeping in view their inclinations and preferences. Subjects and courses need not be grouped into separate streams but students may be given the choice of subjects or courses from any group according to their needs, interests and aptitude. At this stage, social sciences may include disciplines like Political Science, Geography, History, Economics, Sociology and Psychology. Commerce may include Business Studies and Accountancy.

Approaches to Teaching – Pedagogy and Resources

Social science teaching needs to be revitalised towards helping the learner acquire knowledge and skills in an interactive environment. The teaching of social sciences must adopt methods that promote creativity, aesthetics, and critical perspectives, and enable children to draw relationships between past and present, to understand changes taking place in society. Problem solving, dramatisation and role play are some hither-to under explored 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 teacher alive to social realities.

Concepts should be clarified to the 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 in the learners.

1.6 Habitat and Learning

EXECUTIVE SUMMARY

Taking good care of the human habitat, that is, of the environment that nurtures us, is emerging as one of the most significant concerns of the new millennium. As humanity endeavours to move onto a path of sustainable development, even as it enters the Information Age, it is evident that we need a new paradigm for education. Environmental education (EE) is ideally placed to serve as the lever for this paradigm shift that would focus, not on memorising what authoritative textbooks decree to be correct answers in order to reproduce them to get good grades, but instead on learning, on building capacity for critical thinking and problem solving. Since holistic thinking is at the heart of EE, the new paradigm would replace sectoral thinking by multidisciplinary thinking. The human habitat displays tremendous variability in space and time, and its understanding has to be locale specific, albeit in the context of a global vision. A great deal of the knowledge of the environment lies with India's barefoot ecologists, the people at the grass roots, and the new paradigm will be participatory, engaging members of local communities and will be sensitive to issues of diversity, gender and equity.

Given its intrinsic variability, each manifestation of the human habitat tends to be unique. Its understanding is, therefore, not amenable to the classical scientific approach of experimentation, usually based on replication. Instead, understanding of such complex systems requires extensive locality 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 selected parameters. 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. Including such knowledge-generation activities as a part of the educational process would greatly enhance the quality of the educational experience as well.

Of course, working towards such a paradigm shift is a major challenge and the Group recommends that we do so through efforts in six major areas:

- Curricula revision;
- Materials development: conventional media;
- Taking advantage of Information and Communication Technology (ICT);
- Teacher preparation;
- Evaluation system;
- The school habitat;

The Group has also sketched a road map for organising this effort over a period of five years, beginning serious work from the first year onwards. The Group recognises that the Hon'ble Supreme Court's judgment emphasising the necessity of teaching EE as a compulsory subject at all stages underscores the significance of the concerns addressed by our Group, and is an important impetus towards the required changes. It suggests a model of systematic infusion of EE into the curricula of all disciplines, with clearly earmarked time periods for undertaking the pertinent activities. The Group sincerely believes that if our recommendations are accepted, the resulting actions would follow the Supreme Court judgment in letter as well as in spirit.

1.7 Arts, Music, Dance and Theatre

EXECUTIVE SUMMARY

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. For decades now, the need to integrate arts in the education system has been repeatedly debated, discussed and recommended and yet, today we stand at a point in time when we face the danger of losing our unique cultural identity. One of the reasons for this is the growing distance between the arts and the people at large. Far from encouraging the pursuit of 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'. Arts are therefore, 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 etc. Before or after that, the arts are abandoned for the better part of a child's school life and the student is herded 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 their guardians, teachers and even among policy makers and educationalists. During a child's school life each student is given information about different subjects such as history, literature, sciences etc. and they are then able to make a choice of whether they would like to specialise in different streams of learning such as humanities, science or commerce. If the child is not given any exposure to the arts we are not giving the child the option to study arts at higher secondary stage.

Furthermore, we now live in times where our perception of arts stems from what we see and hear around us in the name of arts. Our young people are constantly bombarded with visuals from the worst of Bollywood, songs and accompanying music videos that titillate, and even exonerate violence and hatred. Art in schools is often equated with sketches of Disney cartoon characters such as Mickey Mouse or Donald Duck, and theatre becomes a re-enactment of television soaps. Even schools and school authorities encourage arts of this nature and take pride in putting up events that showcase songs and dances and plays that border or vulgarity. In this climate of ignorance and lack of awareness regarding the richness and diversity of the arts in India, we can no longer afford to ignore the importance of the arts and must concentrate all possible energies and resources towards creating cultural and artistic awareness amongst the students of the country before we come to the sorry realisation that we are a culturally illiterate society.

Arts in India are also living examples of its secular fabric and cultural diversity. An understanding of the arts of the country will give our youth the ability to appreciate the richness and variety of artistic traditions as well as make them liberal, creative thinkers and good citizens of the nation. Arts will enrich the lives of our young citizens through their lifetime, not merely during their school years.

During the discussions of this Focus Group over the past several weeks we have observed the following broad responses to our determined recommendation to make art education an integral and compulsory component of the school curriculum at par with any other subject –

• There seems to be virtually no opposition to the idea of making arts an important component of learning more as an extra curricular activity, but there is considerable suspicion and opposition to the idea of making it a subject that every student must study much in the manner that a child is studies math, geography, history or other subjects.

• Many have said that the "fun" of learning will be lost if music, dance, arts and theatre to be a part of the school curriculum.

• Others are of the opinion that arts are important for the personality development of a child, but must not be pursued in school. Those who have an aptitude for the arts must pursue them outside the school system and of their own free will.

Repeated recommendations for integrating arts education in the school curriculum have not been implemented so far, and if we continue to relegate the arts as a mere extra curricular activity, or as a tool to teach other subjects, we may face the prospect of further artistic and cultural ruin. If, arts education is not introduced as a subject in school curriculum, it will continue to be an amusing, entertaining fringe activity alone, to be indulged in if and when there is time to spare from other more 'useful' activities. Students will not be aware of the rich and varied artistic traditions in the country, of the vibrant and ever evolving nature of creative arts, and will continue to learn only the occasional song or dance of dubious worth.

This group realises the challenges facing the introduction of arts education as a subject in mainstream curriculum, and submits the following recommendations with the knowledge that these are but the first steps towards ensuring that India can and will be a country that respect, protects and propagates its artistic traditions. We have started an ongoing process, which we hope will be enriched and taken further by the inputs from different sources.

Broadly speaking, this Focus Group strongly recommends the following steps –

• Arts education must become 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. The four main streams covered by the term arts education are music, dance, visual arts and theatre. Special emphasis may be given to Indian traditional arts, which currently face the threat of being drowned out by so called mainstream and popular arts.

- Teacher education and orientation must include a significant component that will enable teachers to efficiently and creatively include arts education.

- School authorities must acknowledge in practice that arts are to be given significance in the curriculum and not just restricted to being so-called entertaining or prestige-earning activities. They must permit and actively encourage students to study the arts.

- Public campaign and advocacy to promote arts education as a relevant subject must be undertaken. The mind set of guardians, school authorities and even policy makers needs to be jolted to accept that the arts will enrich the development of our young minds.

- Emphasis should be given on learning than teaching in arts education and teachers should have participatory and interactive approach rather them instructive.

- Resources for research development and trainting must be allocated. More material on arts education should be made available for arts education teachers including electronic media aids.

- The group also recommended that there should be a unit of arts education having faculty in different areas of arts to empower the teachers, states and develop materials.

1.8 Heritage Crafts

EXECUTIVE SUMMARY

The Focus Group Objectives:

(i) To incorporate the cultural, social, and creative attributes of craft into the educational system, through both theory and practice.

(ii) To ensure that craft is viewed as a professional skill, leading to employment opportunities.

Why Heritage Crafts in the School Curriculum?

One out of every 200 Indians is an artisan. Hand craft is a production process and a wonderful, indigenous technology, not an outmoded tradition.**. This point needs to be emphasised in the school curriculum, and craft be taught as a professional expertise rather than a "hobby".**

Training in craft skills, whether at home, or through the traditional Guru-Shishya tradition, should be recognised as industrial training, and given the same supports as other technical and vocational education.

Craft skills should be on par with other vocational training, especially in traditional crafts pockets, part of a properly structured curriculum,

In areas where craft is the primary activity, children should be able to opt for craft as a course option, offered as a specialised stream in itself, learning ancillary skills like product design, book keeping, display, merchandising and entrepreneurial skills.

Craft can teach

- **Consideration of relationship between the student and his/her environment** and the inter-dependence of the two.
- **Societal skills** – tolerance, understanding and appreciation of difference as a means of enriching their world. It includes the means of empowerment for so-called marginalised groups.
- **Information processing skills** – how to locate and collect relevant information, compare, contrast, analyse relations between the whole and a part.
- **Reasoning skills** – give reasons for opinions, use precise language to explain.
- **Enquiry skills**: ask questions, plan activity, improve ideas
- **Creative skills** – Expressive arts, explore different ways of personal expression and involvement in school projects and with business. Entrepreneurial skills create an attitude allowing people to enjoy change, practice risk management and learning from mistakes.
- **Work related culture**.

The Focus Group concluded that
- Indian craft and its millions of practicing craftspeople are a huge and important resource of traditional knowledge and indigenous technologies.
- this resource could be used to value-add to the educational system in a number of ways.
- craft should be taught both as a vocational, creative activity and as a theoretical social science.
- craft should not only be taught as a separate subject in its right, but be integrated into the study of history, social and environmental studies, geography, arts and economics, since it is an integral part of Indian culture, aesthetics, and the economy.
- craft is particularly suited to value-add to projects of all kinds – as an illustrative teaching aid, and as a learning device.
- experiencing and working hands-on with a craft medium can lead to learning that is useful and enriching; whatever discipline or profession a child may eventually chose. Working with your hands, materials, and techniques helps you both in understanding processes and in problem solving.
- in IITs and technical institutions abroad, model making and origami are used to teach the fundamental of engineering, mathematics, and physics
- craftspeople themselves should be used as trainers and teachers, rather than training another cadre of crafts teachers.
- craft are taught as a lively, experiential exercise, and not as a revivalist lip-service to the past.
- craft is best taught as a project, rather than a classroom exercise.
- Crafts projects and interactions could be a means of linking rural and urban youth.
- Craftspeople used as resource persons or trainers should receive the same remuneration and status as other trained professionals.
- different curricula could be developed for schools in rural craft pockets where craft education could enhance existing craft vocations (Entrepreneurship, technical training, language skills, accountancy, marketing, packaging). and for schools in urban belts, where education in craft would constitute an alternative experience and a creative outlet.
- aspects like gender, environment, community, caste could not be left out of the teaching of craft.
- craft could also be a valuable entry point and asset in other careers - export, museum curators, teachers, NGO sector.

Tools and Infrastructure Required
A pool of craftspeople trained to impart basic knowledge.
Trainers/teachers from diverse backgrounds interested in the subject.

One person in school who would coordinate inputs, projects, external trainers, craft demonstrations, field visits.

A craft lab with space, facilities and raw materials.

Resource Material Required

1. Craft Mapping of India
2. Regionwise listings of craftspeople/crafts Institutions
3. Monographs on Craft
4. Films, and other visual material
5. Manuals/Handbooks on different techniques, skills, materials
6. Separate criteria for crafts people.
7. Skills to work in group
8. Having/making a space for teaching in motivation.
9. Restarting the technology and product
10. Co-relation between various Government agencies

Resource People and Institutions who Could be Tapped for help

Indira Gandhi Manav Sangrahalay, Centre for Cultural Resources and Training (CCRT), Eklavya, INTAC, Fabindia, Bharati, Jaya Jaitley, Mapin, Shantiniketan, Childrens' Book Trust (CBT), National Council of Educational Research and Training (NCERT), Films Division, The Khadi & Village Industries Corporation, National Book Trust (NBT), Dastkar, National Institute of Design, National Institute Fashion Technology, Crafts Museum, National Museum, Calico Textile Museum, Bal Bhavan, Bharat Bhavan, SPIC-MACKAY, SASHA, Crafts Councils of India, Craft Institute, Jaipur, Weavers Service Centres, DC Handicrafts & Handlooms Offices, Govt Design Cells., Handicrafts & Handlooms Export Corporation & Central Cottage Industries Corporation, Dilli Haat, Crafts Revival Trust, Shri L.C Jain, SANSKRITI, Dakshinchitra.

Art and Craft

The Group recommends that these two subjects should be merged, rather than bifurcated, and Indian craft skills and materials be used to develop the creativity and artistry of the child, in conjunction with sketching, painting, etc. Design is a very important component that should be taught as part of both subjects, with students using **craft** techniques to **design** their school environment, classrooms, uniforms, etc.

Queries and Concerns

How will it respond to the aspiration and context of different regions and different social groups?

Does it have the flexibility to provide space to marginalised voices?

How will it deal with issues of diversity and commonality?

Did the term "Heritage" Craft send out revivalist, dated messages to the young?

Ideas for Implementation

- Craft Labs in all schools
- Craft as a compulsory area of learning in Junior and Middle School, and as an elective major in Senior School, especially in crafts pockets.
- Children should work on projects to create local museums of archiveal crafts, relating it to local history, geographic conditions, flora, fauna, costumes, culture and ritual.
- Annual fair, with children developing and selling products.
- Vacation excursions and camps in craft pockets, working with craftspeople.
- Lecture-demonstrations by craftspeople (parents of school children)
- Puppetry as vehicle of instruction
- Exchanges and shared excursions between rural and urban schools, with crafts children teaching craft.

Respect for the craftsperson and for the art of craftsmanship is the integral aim of the recommendations. Allied is our awareness that the continuing existence of an extraordinary richness of craft traditions and producers is one of India's unique assets as it searches for its own identity in a world that is increasingly uniform and technological.

VOLUME –II: SYSTEMIC REFORM
2.1 Aims of Education

1. INTRODUCTION

For a fairly long time now, we have been engaged in the great task of educating the children of India, an independent *nation* with a rich variegated history, extraordinarily complex cultural diversity, and commitment to democratic values and general well-being. Given the enormity and importance of this task, it is necessary that we create occasions from time to time to sit back collectively and ask ourselves, 'What are we doing in our engagement with this task? Is there a need to ask ourselves afresh some of the basic questions such as what ought to be the purpose of education?' The constitution of the Focus Group on the Aims of Education is perhaps meant to provide such an occasion.

If we look at what the school education system has done in the last decades, perhaps we have much to be satisfied with. Products of this system have gone on to make their mark in diverse fields of national and international life. But there is also a deep disquiet about several aspects of our educational system, particularly the school system. The disquiet springs from a variety of factors, such as –

(a) the school system has come to be characterized with a kind of inflexibility that makes it very difficult to breathe fresh life into it;

(b) learning for children seems to have become a sort of isolated and perfunctory activity which they are unable to connect in any organic or vital way with the rest of their life;

(c) education has come to be perceived more and more as a *means* of ensuring the future 'well-being' of students (i.e., their place in society and their economic status which guarantees this place)—this has led to a neglect of children's *present* abilities and difficulties, which could deprive them of a quality of life much richer in content than that the education system prepares them for;

(d) what is presented and transmitted as knowledge in schools leaves out vital constituents of man's epistemic enterprise; and

(e) schools promote a regime of thought which discourages thinking and precludes new and surprising insights.

2. The Background

Education, of course, is *not* a modern practice, although it may be claimed that there is a modern way of practising it. So far as we assume it to be a system of teaching and learning, all traditional communities have devised both formal and informal ways of learning and teaching. The aim of such learning and teaching has primarily been to induct the child and the adolescent into the way of life of the community.

The most amasing bit of learning that takes place in very early childhood is learning to wield the language of the community, i.e., the native language of the child. One important aspect of this process is that there is not much of deliberate, organised teaching here. It is more a process of fairly unselfconscious entry into a specific world, the world of the community. St. Augustine said a long time ago that language lights up the world for us. And we might add that every language lights up the world in its own specific way. For a child, the process of learning its native language is almost like a particular world gradually taking a distinctive shape within its 'field of vision'. Learning one's native language also involves learning to distinguish between the right and the wrong, the truth and the untruth, of one's native community. [In view of the great importance of language for education, we have appended a separate note on language to this report.]

One main educational concern of traditional communities was the transmission of various skills, especially those related to the economic life of the community: agriculture, hunting, fishing, and caring for its environment—its trees, animals, birds, water bodies, etc. But great emphasis was also placed on transmitting skills related to the pursuit of the community's specific desires and aspirations—broadly and perhaps misleadingly classified as 'aesthetic' and 'spiritual'—which have to do with giving expression to what might be called the community's 'inner' life. These skills include music, crafts, painting or drawing pictures, carving, pottery, creating various artefacts, which may be useful, but, very importantly, have this other expressive aspect.

A community traditionally assumes a degree of continuity for itself—continuity of its constituent structures of human relationships, which give it, to a large extent, its identity and meaning. Given this assumption, the aims of education within what might, somewhat misleadingly, be called a communitarian framework, have primarily to do with the community's idea of its well-being and flourishing. The highest value that education within such a framework was expected to promote and foster was, perhaps, 'allegiance to the community'.

However, even though community continues to be a powerful presence in our own times, and despite proliferation of deliberately constructed communities, the world has for a long time been moving away from a community-centric view of human existence in two widely divergent directions: the direction of the individual and the direction of the universal or the global. The well-being of the individual is seen to be more important than the well-being of the community. This perhaps is the genesis of the idea of human rights as of many other central concepts of the modern world.

Humanity is sometimes conceived as the 'community' of all individual human beings. But this is a serious misconstrual of the idea of a community. Our attachment to the notion of community is profound and persistent. In equating humanity to a community, we not only give expression to this attachment but also invest it with a meaning it does not have.

Given the radical change of perspective that has taken place, education must now be seen as fostering values which constitute the well-being of the individual on the one hand and the well-being of humanity on the other.

But the difficulty here, of course, is to be clear about the notion of the individual independent of the complex matrix of relationships in which an individual is inevitably located? And what is this all-inclusive humanity, as distinct from this or that specific variety of humanity?

The lack of clarity about the idea of an individual and humanity as such is bound to create difficulties for us in thinking about the aims of education in our times. Thus, for instance, we have to find a way out of a seeming contradiction such as: We must encourage children to cultivate the 'scientific temper' (that is, the tendency to follow their reason beyond the dictates of culture, tradition, and community) and also teach them the unassailable values of humanity. Also, we must find a stable room for the nation between the individual and the humanity.

3. AIMS OF EDUCATION

There are, however, issues relating to education about which we have a fairly clear idea and about which there ought to be general agreement to a large extent. It would be helpful to seek an answer to the question 'what ought to be the aims of education?' by way of our engagement with these issues –

(i) School education is a deliberate and more-or-less external intervention in the life of a child. Although much learning and teaching takes place at home, in the neighbourhood community, and in actual living communities in rural and tribal India, the school introduces the child to an environment of teaching and learning that, quite by design, marks itself off from the rest of the child's environment. Tagore's experience of his first day at school is repeated with greater or less intensity in most children's first encounter with school: "...all of a sudden I found my world vanishing from around me, giving place to wooden benches and straight walls staring at me with the blank stare of the blind."[*] While the school must perhaps have boundaries of its own—as the life of the school cannot just be merged with the life of the community around it—these boundaries must not become barriers. They must, on the other hand, facilitate the creation of vital links between children's experiences at home and in the community and what the school offers them.

Tagore, Rabindranath 1996. My School. In Sisir Das (Ed.) English Writings of Tagore, Vol.II. Sahitya Akademi

(ii) Self-knowledge is diametrically opposed to self-ignorance and self-deception. To be deceived by others is bad but to be deceived by oneself is even worse. However, unfortunately, we deceive ourselves much of the time. The big fat ego, which most of us have, can remain fat only on a daily diet of self-deception. Self-knowledge can be achieved only through the knowledge of the other, and one cannot know the other without being just to the other. Education must be a continuous process of self-discovery, of learning the truth about oneself. This is a life long process; but the school, through insightful teaching and learning situations of various kinds, can bring home to the child the great importance of this process.

(iii) There is need to convince the child or the adolescent of the superiority of a life of virtues to a life of vice and wickedness. The only way to do this is to effectively demonstrate that genuine human happiness can spring only from a life lived in accordance with virtues. But, how is this to be done? How is one to counter the opposite belief that it is not the virtues but power and wealth that are constitutive of true happiness? In a world where the latter belief is pre-dominant, it may be impossible to teach the value of virtues to our children. We need, therefore, to create the possibility of profound questioning of our social structure, and show in various ways the deep connection between human discontent and a life devoid of virtues.

In this connection, and in the light of so much of breast-beating about the need of 'value education', the following points need to be made about a virtuous or moral life: First, a virtuous man is not simply one who happens to possess the virtues, say, courage, intelligence, temperance, and so on. In isolation, virtues may not have anything to do with moral life at all. Thus, e.g., courage by itself can be put to incredibly evil use; think of the courage of Nathuram Godse. The same thing can be said of intelligence. As to temperance, if it is not tempered with the vital unity of a moral life, it is in perpetual danger of degenerating into soulless, ritualistic disciplining of oneself. What is it that breathes morality into the virtues?   It is—we must have the courage to acknowledge—truth and love, or, in terms of our own powerful tradition of moral thought, *ahimsa*. Truth means freedom from self-deception; here it is never enough to speak the truth occasionally. As Wittgenstein puts it, "The truth can be spoken by someone who is already *at home* in it; not by someone who still lives in falsehood and reaches out from falsehood towards truth on just one occasion." [*]Courage, temperance, intelligence, and so on cannot come together in the vital unity of a virtuous life unless they are profoundly mediated by the love of truth. And the love of truth—when we are talking of a moral life—can flourish only in the supreme and active presence of *ahimsa*.

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* *Wiltgenstein, Ludwing 1973. Culture and Value. Blackwell*

Secondly, in the context of a moral life, the means and the end must form a continuum such that, as it were, the means and the end make a wholesome unity. The distinction between the means and the end in this context, if there is one at all, is not the same as the distinction where the means is merely instrumental in producing the end, e.g., playing football as a means of keeping physically fit. Morality is not external to a virtuous life in the way football is external to physical fitness. (The position taken here is distinct from the utilitarian position epitomised in the dictum 'honesty is the best policy'.) In the moral sphere, the process is integral to the product and the product is inalienable from the process. Here, there can be no such thing as finding the most efficient means of achieving a predetermined goal (as in, say, matters of management), for the means in the pursuit of a moral end is not replaceable.

An important corollary of this is that if value education must be a part of the education system, values or virtues must be integral to the whole process of education. Value education cannot be imparted as a separate bit of education; the whole of education has to be value education. Here, we need powerful reminders, in a variety of ways, of the Gandhian ideas of ahimsa, peace, and harmony.

(iv) Cultural diversity is one of our greatest gifts. To respect and do justice to others is also to respect and do justice to their respective cultures or communities. We, therefore, need to radically change the centre versus periphery perspective on intercultural relationships in our country. Cultures on the so-called periphery must receive as much attention as cultures in the centre. As for education, its implication is that ways of life other than one's own must be imaginatively and effectively presented as deserving of as much respect as one's own.

(v) Individual differences are as important as cultural differences. Individual children frequently have capacities and skills which do not find adequate recognition in the school environment. Development and flourishing of these skills and capacities would not only enhance the individual's life but also enrich the life of the community. Education must therefore promote and nourish as wide a range of capacities and skills in our children as possible. The gamut of such skills include the performing arts (music, dance, drama, , and so on), painting and crafts, and literary abilities (weaving stories, wielding language to portray different aspects of life, a flair for metaphorical and poetic expression, etc.). Also, skills as diverse as some children's special capacity to bond with nature—with trees, birds, and animals— need to be nurtured.

(vi) Knowledge is not a unitary concept. There are different kinds of knowledge as well as different ways of knowing. The idea that objectivity, which is a necessary constituent of knowledge, can be achieved only if knowledge is free from emotions (care, concern, and love) must be abandoned. One implication of this for education is that literary and artistic creativity is as much part man's epistemic enterprise as is seeking knowledge through laboratory experiments or deductive reasoning. The former frequently enables us to see the truth in a way that the paradigmatic scientific quest cannot.

(vii) Education must be seen as a liberating process; otherwise, all that has been said so far will be rendered pointless. The process of education must therefore free itself from the shackles of all kinds of exploitation and injustice (e.g., poverty, gender discrimination, caste and communal bias), which prevent our children from being part of the process.

(viii) It is very important that school teaching and learning takes place in an environment that is aesthetically pleasing. It is also essential that children take an active part in creating such an environment for themselves.

(ix) It ought to be possible for every child to be proud of his or her nation. But, one can be proud of something only if it is an achievement of one's own or if one is very intimately connected with those whose achievement it is. We can be proud of our own achievements, or the achievements of our children or friends. If we feel an intimacy with God or nature, we can be proud of even the skies and the whole universe. It is therefore very important that education fosters within the child an intimacy with people who are directly connected with achievements which are part of our national heritage. It is of course equally important to see that children's pride in their own nation does not negate their pride in the great achievements of humanity as a whole.

4. Some Implications for Pedagogy and Evaluation

It may be useful to consider some of the implications of what has been said so far for pedagogy and evaluation. The strangeness of the school environment can be mitigated by imaginatively linking the experience of school with the child's experience outside it in the community. While school might have many new and exciting experiences for the child, it must not appear as rejecting or even ignoring the child's experience in the community. Pedagogy will gain by incorporating children's experience of what the Greeks used to call *oikos,* and likewise it can teach them fresh ways of experiencing the world outside the school. For example, if a child has grown up in intimate contact with the nature around him, as most children in tribal communities do, school can enrich and enhance this intimacy by sharpening the child's awareness of his own natural environment—something that sadly does not happen in most of our schools. The role of the teacher here is absolutely crucial. One is reminded of the nineteen-year-old teacher who came to help Tagore with the teaching in his school:

> With him boys never felt that they were confined in the limit of a teaching class; they seemed to have their access to everywhere. They would go with him to the forest when in the spring the *sal* trees were in full blossom and he would recite to them his favourite poems, frenzied with excitement… He never had the feeling of distrust for the boys' capacity of understanding…He knew that it was not at all necessary for the boys to understand literally and accurately, but that their minds should be roused, and in this he was always successful. He was not like other teachers, a mere vehicle of text-books. He made his teaching personal, he himself was the source of it, and therefore it was made of life stuff, easily assimilable by the living human nature.*

*Tagore, Rabindranath 1996. My School. In Sisir Kumar Das (Ed.) English Writing of Tagore, vol.II. Sahitya Academi.

Pedagogy must draw upon resources of creativity and exploration, such as literature in its various forms and history in its uncovering modes, e.g., unmasking the mind of the coloniser as well as that of the colonised. It is important to establish connections between apparently discrete events and things, between things and events close to one and those distant in time and space—connections which can bring sudden light to the workings of the child's own mind.

If the whole of education is, in a sense, moral education, and if means and ends in moral matters are organically or internally connected, then the teacher, who is the primary vehicle of education, must be seen substantially as an embodiment of virtues in his role as a teacher.

Teaching should be in the conversational mode rather than in the mode of authoritarian monologue. It is in the conversational mode that the child is likely to grow in self-confidence and self-awareness and will more easily establish connections between the teachings and his own experience. Similarly, while learning discipline is an important part of education, externally imposed discipline should merge into the orderliness that children perceive as an essential part of their well-being. Enforced accountability should also therefore gradually give way to a sense of responsibility, which means that there should be more emphasis on self-assessment and shared accountability.

Intelligence is diverse, and pedagogy and evaluation should aim at making it possible for this diversity to bloom. Excellence in diverse areas should be recognised and rewarded. And it is children's responsiveness to what is taught rather than just their capacity to retain it that should be the focus of evaluation. Such responsiveness includes their ability to connect their learning to various other experiences in their life, their capacity to frame questions about the content of their learning in novel ways, and, particularly, their capacity to see deviations in their 'lessons' from the idea of the right and the good that the school might be trying to inculcate in them.

ANNEXURE: LANGUAGE, TRADITION AND RATIONALITY

We begin to learn as a part of growing up in our families. While learning to speak in our native tongue, we learn many things. We are inducted into the moral order/perspective of our family and community through language. We learn to name, identify, classify, evaluate, and define our experiences in our daily life. While growing up in our respective communities, we inherit concepts that consolidate our sense of self-identity. It is not necessary that we agree with all such views and perceptions, yet in some way we remain tied too them, e.g., it is possible to speak of originality or innovation only within the context of a practice and its traditions. Our practice of speaking a language becomes intelligible with the help of cognitive and evaluative notions such as 'grasping the meaning', 'seeing the point', 'understanding', 'recognising as correct', 'recognising the mistake', 'responding appropriately', etc.

In learning to speak a language, we develop, what Meinong called, knowledge-feelings and value-feelings. Knowledge-feelings refer to cognitive attitudes as these are expressed in judgment of knowledge and conviction, and value-feelings are expressed through valuing oneself and valuing other persons and things. In learning a language, we learn to think and recognise the

significance of communicating our thoughts to others. In our interactions with others, we experience and become aware of patterns and structures of hierarchy, power and authority, subordination and oppression. We also learn to cope with these structures by finding ways to survive either by escaping them, accepting them, or confronting and resisting them. The easy way is not to resist or challenge but to accept them. However, this acceptance becomes possible only by discouraging independent thinking.

The systematic structuring or ordering of our beliefs constitutes a theory, and a practice is developed through the consistency of our efforts. Practical knowledge serves as the bedrock of all knowledge. All theoretical knowledge is an articulation of what we have learnt through participation in the practices of our communities. In different communities, the practices and traditions vary widely.

The term 'tradition' may be interpreted in many ways. In its barest sense, it means that which is handed down or transmitted from generation to generation in a community because it consists of devices and principles that have helped the community to make sense of its experiences and activities. Perhaps, it was for this reason that Wittgenstein had rightly remarked, 'Tradition is not…. A thread he (man) can pick up when he feels like it any more than a man can choose his own ancestors.'*

Education, as a planned endeavour, at a personal level on a small scale or institutional level on a large scale, aims at making children capable of becoming active, responsible, productive, and caring members of society. They are made familiar with the various practices of the community by imparting the relevant of skills and ideas. . Ideally, education is supposed to encourage the students to analyse and evaluate their experiences, to doubt, to question, to investigate—in other words, to be inquisitive and to think independently.

As we grow, we face new and unfamiliar experiences which question our old ways of thinking as these experiences are either inconsistent with or at a considerable variance from what we had gradually learnt to take for granted. Such experiences are critical and challenging as they involve or require formulation of new concepts, revision of preconceived notions, and new ways of looking at and dealing with the world. It is this unique human ability that is called rationality, which is manifested in human behaviour in a wide variety of ways.

Our attempts to make sense of our experiences, to comprehend the world that we live in, require that we recognise patterns, structures, and order in the world. Without such recognition, we would not be able to make any judgments, we would not be in a position to be certain about anything. This quest for certainty, taken to its extreme, may become a demand for a monistic and absolute criterion by which it would be possible to draw sharp lines between the rational and the irrational, knowledge and a lack of it. In becoming captives of such a restricting vision, we forget that there are numerous ways in which we learnt to know and to reason about the world. This forgetting leads us to reduce rationality to mere formulas of deductive reasoning, placing greater value on theory over practice, natural sciences over art, and information over knowledge.

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* Wiltgenstein, Ludwing 1973. Culture and Value. Blackwell. p.76

2.2 Systemic Reforms for Curriculum Change

EXECUTIVE SUMMARY

1. It is in the context of 86th amendment to the Constitution of India and the explosive parental demand for education that we need to take a hard look at our continued failure to universalise school education at least up to Class X, to improve the quality of our schools and to transform the Indian educational system so that it is able to realise the vision of society enshrined in the Constitution of India.

2. The school must proactively work against structures of exclusion and replace it by structures for inclusion and ensure full participation of children in school. Schools must enable every child to access schooling; and facilitate those who drop out or are pushed out to get back (older children). They must assure children of their continuance in school without any disruption at least until they reach Class X. It must treat children as subjects with rights and States as duty-bearers with obligations to fulfil these rights. It must demonstrate, promote, and help to monitor the rights and well-being of all children in the community.

3. Further there must be a clear message that poor children and especially the first generation learners just do not have the support systems for learning at home. No child must be allowed to be pushed out of school for being a slow learner or for non-comprehension. The entire education system, its staff and line and the school teachers must realise that their governance system must change in an appropriate manner to be sensitive to such children.

4. It is the teacher who experiences first hand the journey of children to become 'children', and wade through all the social, cultural and linguistic barriers. The non-seriousness in transforming even a "single" non-school going child to a student dilutes the principle of universality and disempowers the teacher. Children's right to education and school participation bestows the teacher with the energy to keep the child in school and not get pushed out. Indeed there is such an intertwining of children's right to education and teacher empowerment. Trusting the teacher must be a non-negotiable.

5. The participation of the community in the classroom and the school at the primary school level requires that a part of the curriculum be formulated at the level of the school or at the level of a group of schools in the area of operation. In this process functionaries of CRC, BRC and DIETs need to be involved and indeed they must spend sufficient time in the schools as well with primary school children and over a sustained duration work with the teachers to evolve materials and ideas.

6. Systemic changes must be made to strengthen processes for democratisation of all existing educational institutions at all levels and mechanisms for gauging such processes must be in place. Democratisation of schools, departments and educational institutions occur only through a conscious strategy of decentralisation. The local governance systems would require enormous support from the staff and line at all layers of the bureaucracy. The systemic issues in this regard are in laying out the contours of a multi-layered political and

departmental system which functions at local, provincial and national levels and in understanding the indispensable role each of such layers have in supporting children's right to education. In other words decentralisation must not be construed as burdening the lower levels of hierarchy with responsibilities disproportionate to their decision-making functions. It is in granting flexibility and autonomy and the same time-taking on all the functions to formulate policies, allocate funds, issue administrative guide lines, provide academic support and a legal and normative framework which enable an autonomous decision making process at the lowest level. Ultimately, the system should be able to enhance school participation, accommodate cultural diversity, and initiate micro planning and social accountability.

7. There is a need to strengthen the community through better participation by the Gram Panchayat and empowering the teacher to perform his/her duties effectively. Yet, the call for decentralisation and local community participation is not a fundamentalist position. It is suggested because of the call for micro planning, accommodating the need for a child-wise strategy, resolving of local conflicts and solving problems at a local level. These decisions cannot be taken up at a level that is removed from the ground, and without the participation of the community as well as the local bodies. It is only in this context that respect for plurality and cultural diversities becomes inevitable, informing the curricular changes in consonance with the local contexts.

8. There should be clarity of roles and the entire structure should function based on the principle of subsidiarity. This will curtail duplication of responsibilities, wastage of time and resources and curb confusion. There should be structures for support to the 'local' and not just monitoring and fixing up targets. Most of all, the system calls for professionalisation and an intense participation of officials at all levels of the hierarchy.

9. The entire system should be process-driven apart from being target-driven. It calls for long-term intergenerational planning and not spurts of small projects for small periods of time. The system, in addition, should have a style of functioning that is receptive to the ground and provide for expertise and technical support in a systematic fashion in response to the demands made by teachers, professionals and educationists. In its annual review/ report each layer such as the CRC, BRC, DIET, SCERT, NCERT and all the Departments of Education, Boards of Examination must give a record of number of policy modifications and initiatives that they have made in response to the demands made by the schools, teachers and community. Supply-driven teacher training programmes must be avoided at all costs and time must be taken to build the confidence of the schoolteachers whenever a "top-down" program is felt necessary. Further all decisions have to be institutionalised and not to be ad-hoc based on personal responses or fund driven agendas.

10. Inclusive Curriculum: The curriculum should respect cultural diversities and formulate policies, which will not exclude the beneficiaries of the system.

11. There is a need to commission studies and reports in a continuous manner to examine the functioning of decentralisation of the education system as it is in operation and what have been the systemic and organisational changes and a constant sharing of experiences.

2.3 Curriculum, Syllabus and Textbooks

EXECUTIVE SUMMARY

Introduction: Exploring Possibilities

At the very outset, a critical analysis of the Indian School Education System reveals that it is largely a monolithic system perpetuating a kind of education which has resulted in a set of practices adopted for development of curriculum, syllabus and textbooks that is guided by the patterns and requirements of the examination system, rather than by the needs determined by a mix of criteria based on the child's learning requirement, aims of education and the socio-economic and cultural contexts of learners. A marked feature of educational practices in school are a dull routine, bored teachers and students and rote system of learning.

The position paper makes an effort to explore possibilities to provide for an enabling and flexible framework for promoting increased choices made by the schools and teachers possible, and a greater role for children and community in making those choices on a large scale. In certain cases the States themselves have attempted to redefine curriculum and develop textbooks and other teaching learning materials. In view of the above, it is important to analyse whether the existing policy and curricular framework facilitate development of diverse and appropriate curricular approaches for achieving desired aims and objectives of education.

Curriculum for Equality

The analysis of various policy documents clearly indicate that achieving equality through education has been consistently and unequivocally voiced, over the years. However, the challenge of translating the vision of equality into a curriculum framework has remained unanswered. The basic problem that emerges has been conceptualising flexibility or diversity which is closely linked to the systems inherent limitation and inability to define the role of the *'curriculum'* and its transaction. Related to this are the associated problems in defining *'syllabus'*, *'standards'* and going beyond the *'core'* curriculum. This reluctance of the system to allow for true plurality and flexibility in the curriculum, as well as the restricted meaning of the term curriculum itself is most clearly evident in the report Learning Without Burden (GOI 1993).

The past ambiguity in decentralising and diversifying curricula and textbooks reflects a perceived need for appropriate mechanisms to ensure that quality conforms with common standards of attainment as well as to a broad national democratic vision. *With a view to promoting decentralised curriculum development it is suggested that appropriate regulatory mechanisms be created by establishing an independent body at the State*

level with a federal national structure, to approve different curricular packages, which include textbooks, teacher training and recruitment processes, assessment and examinations, etc. The national structure may be answerable to the CABE, and should produce professionally developed criteria and guidelines, conduct documentation and review, and ensure appropriate consultation and sharing among the State bodies. It is also recommended that the regulatory mechanism must be professionally worked out to carefully avoid the attendant distortions and problems that may arise out of bureaucratic and political pressures, vested interests or even corrupt practices, within bodies established to approve the curricular packages[1].

Mapping, Conceptual, Field Notion of Curriculum Syllabus and Textbooks

The existing ground realities and curricular documents reveal that all the NCFs emphasise the concerns and issues but do not make a very clear connection between the concerns, aims and curricular contents. The pedagogy and the view on knowledge also remain some what hazily defined. The rational for almost all prescriptions is left un-stated. To address this, in this section the notions of curriculum, syllabus and textbooks have been examined and deliberated upon on the basis that the curriculum is a plan of facilitating learning for the child. This plan starts from where the child is, enumerates all the aspects and dimensions of learning that the considered necessary, gives reasons why such and such learning is considered necessary, and what educational aims it would serve. This plan also defines stage specific objectives, what content to teach and how to organise it. It also recommends general principles of teaching methods and evaluation, and criteria for good teaching learning material.

Justifications of the basis for making curriculum choices are very important. The key to understand the question of curriculum choice is to understand the relationship between the curriculum and the aims of education. Therefore, the curriculum is viewed more as a conceptual structure for decision making rather then details of what is to be done in the classroom.

The structure demands workable principles and criteria in most of the areas such as selection and organisation of content ways of interacting with children and classroom organisation, type of teaching-learning material etc. What is perceived to be important is what forms the basis for the choices made in syllabus, pedagogical decisions, textbooks etc. *It is also suggested that a set of foundational assumptions a curriculum framework uses needs to be internally consistent, as clearly articulated as possible, and acceptable to all stakeholders.*

Finally, operational definitions are also been placed for consideration to facilitate the process of curriculum development

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1. One number of the Focus Group has a dissenting view of this issue. She did not think that such a body should be created.

Curriculum Framework: A plan that interprets educational aims vis-a-vis both individual and society, to arrive at an understanding of the kinds of learning experiences school must provide to children.

Curriculum: Curriculum is, perhaps, best thought of as that set of planned activities which are designed to implement a particular educational aim- set of such aims - in terms of the content of what is to be taught and the knowledge, skills and attitudes which are to be deliberately fostered, together with statements of criteria for selection of content, and choices in methods, materials and evaluation". In reference to the framework above it would mean the '*curriculum core*' and '*syllabus*' put together.

Syllabus: refers to the content of what is to be taught and the knowledge, skills and attitudes which are to be deliberately fostered; together with stage specific objectives.

Groups Essential Position

The overall approach advocated should be to provide a curriculum framework that –

- facilitates schools and teachers make decisions about choice of content, pedagogy, teaching learning material, evaluation, etc. at school level; in other words, a national curriculum framework for increased autonomy of the school
- provides help to the teacher in becoming reflective practitioner who learns from her own experiences
- emphasises learning with understanding and learning to learn, and helps children develop their own understanding based on their lived experiences; and;

General Aims of Education

It is proposed that within this framework, the articulation of aims needs to serve two major purposes. Firstly, reflect collective socio-political aspirations of the whole society and second, serves a significant pedagogical purpose of provide direction to the teacher in choice of content and methods of education.. Aims are stated in two parts only as principles and no elaborate justifications and/or explanations are provided.

A. Values and Ideals: education should promote in society, as well as help the learner develop a rational commitment to –

- Equality – of status and opportunity,
- Freedom – of thought, expression, beliefs, faith and worship; as a value in life
- Autonomy of mind – as independence of thinking, based on reason,
- Autonomy of action – freedom to chose, ability and freedom to decide and ability and freedom to act,
- Care and respect for others – going beyond respecting their freedom and autonomy, concern about well being and sensitivity to all members of society,
- Justice: social, economic and political.

B. Capabilities of individual human beings

- Knowledge base – sufficiently broad knowledge base encompassing all crucial areas of socio-political life, and all basic ways of investigation and validation of knowledge
- Sensitivity to others – Sensitivity to others well beings and feelings coupled with knowledge should form basis of rational commitment to values. 'Others' should include all life forms.
- Rational/critical attitude: Critical rationality is the only way to autonomy of thought and action.
- Learning to learn – the future needs of development of knowledge, reason, sensitivity and skills can not be determined in advance. Therefore, ability to learn as new needs arise in new situations is necessary to function autonomously in a democratic society.
- Work and ability to participate in economic processes – choices in life and ability to participate in the democratic processes depends on ability to contribute to the society in its various functions.
- Aesthetic appreciation/creation – appreciation of beauty and art forms is an integral part of human life.

Stage wise Objectives

The stage wise objectives need to be arrived at by keeping in mind the general aims of education, the developmental stages of children, nature of the knowledge in general and curricular subject areas in particular, and the child's socio-political contexts. Further the objectives also have to be specific enough to be used as guidelines for content selection and organisation. It is proposed that articulation of curricular objectives should also take cue from the statement of aims. Formulation of curricular objectives for all but the last stage; can be done at the state and district level and each school can reorganise them as per the need of their children and teachers.

Principles of Content Selection and Organisation

Often demand for introducing new subjects in curriculum is voiced to emphasise certain concerns. *It is thus suggested that selection and organisation of curricular knowledge should be considered from at least four different perspectives, those of: aims of education, epistemological perspective, child's learning and mental developmental, and the child's context.*

Teaching – Learning Methods and Classroom Practices

A number of basic principles have been outlined in order to guide the choice of classroom practices –

- *Understanding that children construct their own knowledge*
- *Importance of Experiences in Learning*

- *Active Engagement of learners is important for construction of knowledge*
- *Variety of situations and multiplicity of methods important for creating diverse experiences*
- *The socio-economic context and identity of the learner*
- *An enabling Teacher Child relationship*
- *The role of and space for parents and community*

Teaching Learning Material and Textbooks

The present day classroom practices are, in almost all schools of the country, totally dominated by the textbooks. As a result it has acquired an aura and a standard format. *What is needed is not a single textbook but a package of teaching learning material that could be used to engage the child in active learning. The textbook thus becomes a part of this package and not the only teaching learning material. Therefore, a large number of packages should be developed at state and district levels with adequate provision for cluster and school level modifications and supplementary materials. The availability of a number of alternative TLM packages of all approved quality to the certainly increased choice of the teachers.*

Evaluation

Evaluation in education is always associated with objectives and implementation. By itself it is a process that determines the course of action and recommends changes for the betterment of the individual, society, nation and mankind. If we view education as preparation for meaningful life, then the process of evaluation presently been followed is limited in that it measures and assesses a very limited range of faculties of mind, is highly inadequate and lacks in giving a true picture of an individual's abilities or progress towards the aims of education.

Revamping the examination system is an important step of any meaningful educational change. In addition, making the model of continuous comprehensive evaluation effective necessarily calls for collective understanding among all concerned - child, teacher, parent, institutions of higher education and employer about what is being evaluated.

To improve the present system, the following is suggested

- *Strive for excellence in all aspects of the learning, especially in the writing of materials, correction of work, monitoring student progress, and responding to enquiries by the learners.*

- *Opportunity for revision and improvement of performance should consistently be available without exams and evaluation being used as a threat to study. Deduction of marks cannot be an alternative to motivating learners.*

- *The learning experience itself must be evaluated, and not only its outcomes. Learners are happy to comment on the totality of their experience, and this information can be used to modify the earning system as a whole. The learner must be able to assess her learning experiences, individually and as a part of a group.*

2.4 Teacher Education for Curriculum Renewal

EXECUTIVE SUMMARY

The professional preparation of teachers has been recognised to be crucial for the qualitative improvement of education since the 1960s (Kothari Commission, 1964-66), but very few concrete steps have been taken in the last three decades to operationalise this.

The Chattopadhyaya Committee Report (1983-85) observed that "...what obtains in the majority of our Teaching Colleges and Training Institutes is woefully inadequate..." "If teacher education is to be made relevant to the roles and responsibilities of the New Teacher, the minimum length of training for a secondary teacher,... should be five years following the completion of Class XII." Reiterating the need "...to enable general and professional education to be pursued concurrently", the Commission recommends that "...to begin with we may have an integrated four year programme...

The Yashpal Committee Report (1993) on Learning without Burden noted "...inadequate programmes of teacher preparation lead to unsatisfactory quality of learning in schools. ..The content of the programme should be restructured to ensure its relevance to the changing needs of school education. The emphasis in these programmes should be on enabling the trainees to acquire the ability for self-learning and independent thinking."

Therefore, the hope of revitalising school education in India, via an idealistic or ideologically driven attempt at revising curriculum will probably meet with little success, if the central agency of the teacher remains unrecognised.

Teacher Education programmes continue to train teachers to adjust to the needs of an education system in which education is seen as the transmission of information and learning reproduced from textbooks.

Large scale recruitment of para-teachers within the formal school system and an attitude of resignation towards pre-service programmes have become an integral part of state provisioning for elementary education. This trend has diluted the identity of the teacher as a professional and has led to a considerable erosion of faith in the agency of the teacher in bringing about change within the government school system and communities.

With little effort to link pre-service and in-service teacher education, the real needs of school teachers remain unaddressed to this date. School teachers, in particular, those in elementary schools continue to remain severed from centers of higher learning and are intellectually isolated.

The design and practice of current teacher education programmes is based on certain assumptions, which impede the progress of ideas and the professional and personal growth of the teacher. It is assumed for instance, that disciplinary knowledge is 'given', which the trainees 'acquire' through general education and which is independent of professional training in pedagogy.

Conventional teacher education programmes, train teachers to adjust to the needs of the existing system through (a) the meticulous planning of lessons in standardised formats, (b) the ritual of fulfilling the required number of lessons delivered and supervised, (c) the ritual of organising school assemblies and other routine activities and (d) the ritual of completing the required number of written assignment and projects. "Lesson planning, as it is taught during teacher training, is merely a formal routine which masks the acculturation of the young trainee into the profession without disturbing its underlying assumptions about knowledge and curriculum and also without making the new entrant aware of these assumptions and the consequences of the practices based on them."

Attempts have been made in Pre-Independence era by (1) Gijubhai Badheka (1920), (2) Ravindranath Tagore and by (3) Mahatma Gandhi. Their innovations address the education of a particular stage as a whole. All of them were successfully carried out and have left rich legacy to learn from.

After independence, NCERT itself took initiative to implement some innovations in TEPs its own four regional colleges of education in 1960s. But such innovations could not go beyond those institutes. In 1968, an innovation was started in Gandhi Vidyapith at Vedchchi by an individual till retirement, which was considered to be individuals' capacity based programme and others can not do it. In 1981 a welknown NGO made an attempt aiming at spiritual development of human being thought fit to educate teachers of primary level through participative mode of self-learning for school children as well as student teachers. It again remain limited to the institute. In 1994 a group of people after consulting experts in the field, field workers and welknown educationists evolved an innovative programme of educating elementary teachers at Maulana Azad Centre for Elementary and Social Education, New Delhi. It is going on for the last ten years, still has not been adopted by anyone. From 1997 onwards strong innovative practice based on participatory self-learning process is in practice to educate secondary level teachers at Banasthali Vidyapith, Rajasthan. Again it is confined to that institute only.

The study of all these innovations convinced the group to recommend this participative self-learning TE Programme to be adopted for all levels of teacher's education programmes.

Vision

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

• encouraging, supportive and humane facilitator in teaching-learning situations who enables learners (students) to discover their talents, to realise their physical and intellectual potentialities to the fullest, to develop character and desirable social and human values to function as responsible citizens; and,

- an active member of the group of persons who make conscious effort to contribute towards the process of renewal of school curriculum to maintain its relevance to the changing societal needs and personal needs of learners, keeping in view the experience gained in the past and the concerns and imperatives that have emerged in the light of changing national development goals and educational priorities.

These expectations suggest that teacher operates in a larger context and its dynamics as well as concerns impinge upon her functioning. That is to say, teacher has to be responsive and sensitive to the social context of education, the various disparities in background of learners as well as in the macro national and global contexts, national concerns for achieving the goals of equity, parity, social justice as also excellence.

To be able to realise such expectations, TE has to comprise such features as would enable each of its learners. i.e., student teachers to

- care for children/learner's and who love to be with them;
- understand children within social, cultural and political contexts;
- view learning as a search for meaning out of personal experience;
- understand the way learning occurs, possible ways of creating conductive conditions for learning, differences among students in respect of the kind, pace and styles of learning.
- view knowledge generation as a continuously evolving process of reflective learning;
- view knowledge not necessarily as an external reality embedded in textbooks but as constructed in the shared context of teaching learning and personal experiences;
- be sensitive to the social, professional and administrative contexts in which they have to operate,
- be receptive and constantly learning; own responsibility towards society and work to build a better world.
- develop appropriate competencies to be able to not only seek the above understandings in actual situations, but also be able to create them.
- have a sound knowledge-base and basic proficiency in language.
- identify their own personal expectations, perceptions of self, capacities and inclinations,
- consciously attempt to formulate one's own professional orientation this will determine his role as a teacher in situation specific context.

The process to prepare such teachers in new TE would therefore include –

- Providing opportunities to observe and engage with children, communicate with and relate to children.
- Providing opportunities for self-learning, reflection, assimilation and articulation of new ideas; developing capacities for self-directed learning and the ability to think, be self-critical and to work in groups.

- Providing opportunities for understanding self and others (including one's beliefs, assumptions and emotions); developing the ability for self-analysis, self-evaluation, adaptability, flexibility, creativity and innovation.
- Providing opportunities to enhance understanding, knowledge and examine disciplinary knowledge and social realities, relate subject matter with the social milieu and develop critical thinking.
- Providing opportunities to develop professional skills in pedagogy, observation, documentation, analysis, drama, craft, story-telling and reflective inquiry.

Newly visualised TEP –

- emphasises learning as a self-learning participatory process taking place in social context of learner's as well as wider social context of the community to nation as a whole.
- puts full faith in self learning capacity of school children and student teacher and evolving proper educative programme for education.
- views the learner as an active participative person in learning. His/her capabilities or potentials are seen not as fixed but capable of development through experiences.
- views the teacher as a facilitator, supporting, encouraging learner's learning.
- does not treat knowledge as fixed, static or confined in books but as something being constructed through various types of experiences. It is created through discussion, evaluate, explain, compare and contrasts i.e., through interaction.
- emphasises that appraisal in such an educative process will be continuous, will be self-appraisal, will be peer appraisal, will be done by teacher educators, and formal type too.

One can visualise from foregoing very brief presentation that –

- New TEP can not be a fixed programme (curriculum), i.e., it is not predetermined.
- Methods are not fixed.
- The learner's will decide about all the aspects of learning.
- There will be different learning modes and routes depending on learner's nature.
  Still however, some basic broad outline of –
– What types of individual or group field experiences need to be provided will be thought of.
– What types of guidance, encouragement, support will be needed (may take another form) and how they can be provided can be thought of.
– Which types of resource facilities will be needed in self-learning process like library, ET Tools, ICT Services etc. may be articulated.
– Forming the group of motivated people who are interested to experiment with and who are ready to take trouble to implement such TEP will be considered.
  We can make a long list of such predetermined, but not prescriptive aspects of new TEP.

Details can be worked out at the time of implementation.

2.5 Examination Reforms

EXECUTIVE SUMMARY

"Education is not the filling of a vessel but the kindling of a flame."
— *Socrates*

Summary of key recommendations of the Focus Group on Exam Reforms **on structural and procedural change**. To be read in conjunction with its recommendations on reducing stress and anxiety among students. (Please note that some of the recommendations below – especially 1,2,4, 7 and 10 — also address the problem of student stress, anxiety and suicide.)

(1) Institutions in each field (e.g engineering, law, medicine) co-ordinate with each other and design *one* entrance test applicable across the nation. A nodal agency at the national level is proposed for co-ordinating the testing schedule, ensuring security, and monitoring the timely release of rank-lists. This nodal agency should not, we emphasize, attempt to frame or grade the tests themselves.

(2) Under no circumstances should board exams be extended to other grades such as the 11th, 8th and 5th – and news that some state boards have initiated such exams cause us grave apprehension. **Indeed, it is our view that the tenth grade board exam be made optional forthwith.** Tenth-graders who intend continuing in the eleventh grade at the same school, and do not need the board certificate for any immediate purpose, should be free to take a school-conducted exam instead of the board exam.

(3) Now, with computerization of registration and grade reporting it is possible to present a wider range of performance parameters on the marksheet – absolute marks/grades, percentile rank among all candidates of that subject, *and* percentile rank among peers (e.g. schools in the same rural or urban block.) 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.

(4) Requests for re-checks have declined dramatically in states like Kerala, Gujarat, J & K and Karnataka which have given students access to their answer papers (at a charge, of course) in either scanned or xeroxed form. We laud the efforts of these and other states to make their systems more transparent. One can also be fairly sure that the more casual examiners in these states now do their job more diligently. Greater transparency breeds more accountability. We strongly recommend that all other states fix their systems to provide such access to students, on request, at reasonable (but not subsidized) cost.

(5) The practice of forcing teachers to examine is highly unlikely to lead to good examining and should be abandoned forthwith. Furthermore it should be recognized that all good teachers do not make consistent examiners and *vice versa*. If boards pay examiners better – and we recommend a rise in daily wage from the low Rs 100 or 125 per day by a factor of two or three here, not 10% or 20% more – and weed out poorly motivated examiners many of the core problems will get solved. Given that most state boards in India are in very good financial health — one small Northern state even boasts of an accumulated corpus of 84 crores – finding the money should not be problem.

(6) Paper-setting needs drastic reform. In fact, as has been successfully tried in Maharashtra (though for reasons of security rather than quality) the focus should shift to *question*-setting from *paper*-setting. It should not be necessary that individual questions are written by experts. Good questions should be canvassed around the year from teachers, college professors in that discipline, educators from other states, and even students. These questions, after careful vetting by experts should be categorised according to level of difficulty, topic area, competency being evaluated, and usage and testing record, and drawn on. After a question has been selected and used in a paper the question-writer should be suitably rewarded.

(7) (a) Most real life tasks today, in most professions, call for the ability to ACCESS information, SIFT AND EVALUATE it (for there is a lot of chaff), SORT it and ANALYZE it. These skills can be tested through well-designed multiple-choice questions (MCQs) with plausible distracters. The ubiquitous "short-answer" question usually does not do more than test recall, and can be replaced with good MCQs. MCQs have several other advantages over "short answers" –

(i)   They can be machine-marked, hence are entirely "reliable" and very quick results are possible

(ii) Copying problems can largely be eliminated by shuffling of question numbers

(iii) Extensive syllabus coverage is possible due to the brief time needed per question

Karnataka DSERT reports lower student anxiety levels, higher pass percentages, and lower urban-rural score disparities where MCQs have been tried extensively in recent years and now comprise upto 60 per cent of secondary exams.

(b) Skills of PRESENTING findings coherently, integrating them into a persuasive argument, and APPLYING them to real-life problems are also important. They are best evaluated through essay responses to open-ended questions in languages and the social sciences, and through tiered problems in sciences and maths. The relevant data/ primary source/ passage should be provided in the question paper.

(8) By protecting the identity of candidates and examiners from each other a lot of post-exam malpractice can be checked. Maharashtra has successfully implemented a system of encrypted barcodes which hides the identity of the student (and the school) from not only the examiner

but also exam board employees. When this is used in conjunction with another method which many states already adopt – randomising of exam scripts given to any particular examiner – malpractices at the level of the examiner becomes far more difficult.

(9) A major source of cheating remains help from outside the exam hall, sometimes even through ingenious means such as mirrors and drums. If candidates are not permitted to leave the exam-center in the first ninety minutes, and even thereafter not permitted to carry out question papers with them most of this can be nipped in the bud. Knight errants on the outside simply would not know what questions to provide answers to.

(10) A sensitive teacher usually picks up the unique strengths and weaknesses of students, one should utilise her insight in assessment and empower her, by empower the system of internal assessment. At the same time, to prevent its abuse by schools (as is currently the case in practical exams) internal assessment must be graded on a relative, not an absolute, scale and must be moderated and scaled against the marks obtained in the external exam.

In conclusion, it should be said that the above reforms would, belatedly, usher us into the mid or late-twentieth century, but hardly the twenty-first. In the long term (about a decade) we envision a vastly different system built upon entirely new foundations. This system would actually make the teacher the primary evaluator of her students. This system would not be one-shot but continuous; would extend beyond the cognitive domain and beyond pen and paper; and, hopefully, be seen by all not as a burden but as a tool for further learning. In this system the primary role of boards would change radically – from direct testing at present to rigorous validation of school-based, teacher-based assessment. If any direct testing by boards were still to be needed it would be of a very different type — optional, open-book, and on-demand.

The following pilot programs would provide us valuable data before the long-term changes envisioned above can be implemented. Some are listed below –

Pilot I: Already initiated in Karnataka, to move toward 60 per cent or more of all exams toward the MCQ mode.

Pilot II: Already existing in Turkey.

A minimalist end-of-school exam. One three-hour 150 MCQ exam covering all subjects studied.

Its sole purpose is to validate the school-given exam grades and to raise/lower them by a moderation factor.

Pilot III: Open-book exams, and source-analysis based assessment.

Pilot IV: The exam system must gradually move toward on-demand exams (they are usually done on-line, internationally) taken when the candidate is ready; rather than at the convenience of the system. We suggest a small beginning of this in computer science exams as a pilot project and its future expansion to maths and physics exams.

2.6 Educational Technology

EXECUTIVE SUMMARY

Educational Technology (ET) is the efficient organisation of any learning system adapting or adopting methods, processes, and products to serve identified educational goals. This involves systematic identification of the goals of education, recognition of the diversity of learners' needs, the contexts in which learning will take place, and the range of provisions needed for each of these.

The challenge is to design appropriate systems that will provide for and enable appropriate teaching-learning systems that could realise the identified goals.

The key to meeting this challenge is an appreciation of the role of ET as an agent of change in the classroom, which includes not only the teacher and the teaching-learning process but also systemic issues like reach, equity, and quality.

Over the past decades, educational technology in India has taken two routes:

The first route involved a large number of experiments aimed at the qualitative improvement of schools, adopted the systems approach to analyse the problems plaguing the particular situation, and have evolved a range of solutions. These have included the development of flexible systems, alternative curricula, multilevel organisation of classes; low-cost teaching-learning materials, innovative activities, continuous support systems for teacher training, etc. While many of these experiments have demonstrated intrinsic merit, they have been restricted to pockets of intense practice and have failed to influence the larger school system.

The second route is government sponsored schemes such as the Educational Technology (ET) Scheme and the Computer Literacy and Studies in Schools (CLASS) and their present-day analogues, including partnerships with global players. This included the supply of radio-cum-cassette players, colour televisions, microcomputers, present-day computer labs, and even satellite-receiving terminals. These schemes have largely remained supply-driven, equipment-centred, and disseminative in design. Scant attention has been paid to the development of the entire support system that would establish ET as a reliable, relevant, and timely intervention, and despite clear indications of the necessity for this action.

Information and Communication Technologies (ICTs) have brought in a convergence of the media along with the possibility of multi-centric participation in the content-generation and disseminative process. This has implications not only for the quality of the interchange but also for drastic upheavals of centre-dominated mindsets that have inhibited qualitative improvement.

Modern ET has its potential in schools, in the teaching of subjects, in examinations, in research, in systemic reforms, and, above all, in teacher education, overcoming the conventional problems of scale and reach through online, anytime, anywhere.

There exists today a well-established publishing industry, including desktop publishing, with know-how and capabilities in producing kits, teaching aids, etc. There also exist production capabilities for audio and video, multimedia, broadcast channels, Internet connectivity, trained manpower, and institutions with these mandates that can be leveraged to address the challenges of education.

Alternative models of education such as distance and open-learning, on-demand education, and other such flexible models of learning, will have to be tried and tested. Flexible systems, futuristic curricula, and a twenty-first-century career orientation have become a necessity for today's young people. There is an urgent need to convince the educational system, which should play an important role in engineering the teaching-learning situation and to make it a more meaningful experience for both teachers and their pupils.

The Focus Group therefore suggests the following –

In Revitalising and Reorienting Existing Resources

- Capitalise on the existence of a large number of institutions and facilities, nationwide networks, and trained, professional, and creative manpower in the area of ET. Re-engineer and convert all of these into a potent system.

- Encourage these institutions to take up new roles, including action research, data collection, in-service training of teachers, networking to establish and coordinate nationwide efforts in education, evaluation research, developing models for interactive classes, interactive multimedia, teleconferencing, video conferencing, and in leading the process whereby materials can be generated by teachers, parents, and children at every level.

- Recognise the potential of ICT and the Internet, promote universal access, facilitate participatory forums, and develop communities and interest groups.

- Invest in continuous, on-demand teacher training and support, research and content repositories, value-added distance education and online campuses, all of these steps aimed at increasing access to, and equity and quality of education.

In Systemic Reforms

- Ensure that technology is used in an equitable and democratic manner to enhance the self-worth and self-image of the poor and the disadvantaged.

- Counter the tendency to centralise; promote plurality and diversity.

- Ensure opportunities for autonomous content generation by diverse communities.

- Shift focus from fixed to flexible curricula, with competencies and skills identified rather than specific factual content.

- Deploy ET to enhance open education, which implies openness in curriculum transactions.

- Work towards transforming all schools into ICT-rich environments.
- Create opportunities for administrators and educational leaders in the school system to become ET savvy and to be able to use ICTs competently.

In Refreshing Skills of In-Service Teachers

- Create a system of lifelong professional development and support, especially for educational leaders and managers such as headmasters and principals.
- Encourage ICT literacy for official and personal use to build comfort and later creativity in educational work.
- Support the development of and nurture teachers' self-help groups / professional development groups both on the ground and online.

In Pre-Service Teacher Education

- Introduce teachers to flexible models of reaching curriculum goals.
- Introduce use of media and technology-enabled methods of learning, making them inherent and embedded in the teaching-learning process of teachers.
- Train teachers to evaluate and integrate available materials into the learning process.
- Enable trainee teachers to access sources of knowledge and to create knowledge.

In School Education

- Move from a predetermined set of outcomes and skill sets to one that enables students to develop explanatory reasoning and other higher-order skills.
- Enable students to access sources of knowledge and interpret them, and to create knowledge rather than be passive users.
- Promote flexible models of curriculum transaction.
- Promote individual learning styles.
- Encourage use of flexible curriculum content, at least in primary education, and flexible models of evaluation.

In Research

- Create a framework to identify the generic skills (problem identification and troubleshooting, for instance) needed for the new initiatives to be undertaken in ET.
- Acquire knowledge on how learning takes place in ICT-rich learning environments, optimising learning paths for learners with different learning styles coming from a variety of social backgrounds, including gender differences.
- Examine the possibilities of mobile technologies for learning purposes.

The Indian perspective on ET essentially requires looking at the scenario related to the evolution of ET in the country and the periodic changes carried out in policies and curricular concerns. This look at the development of ET in India and the current scenario, which involves efforts from both the Government and Non-Government organizations, should provide several pointers towards how ET could be used fruitfully now, and in the future, to attain the desired educational goals and to enhance meaningful learning in the rapidly changing world of the 21st century. These issues and concerns are discussed in the succeeding pages. While looking at policy changes and research findings, the Focus Group found that the term ET is construed differently in different programmes and by different agencies. We have, therefore, decided to begin by clarifying both the term and all that it implies.

VOLUME –III: NATIONAL CONCERNS
3.1 Problems of Scheduled Caste and Scheduled Tribe Children

EXECUTIVE SUMMARY

The basic objective of this paper is to critically examine the contemporary reality of schooling of children belonging to Scheduled Caste and Scheduled Tribe communities, with a view to suggesting policy and programmatic applications, especially in the domain of curriculum, to improve their educational situation. Sharp historical differences between and within these communities have been eroded by socio-economic change and have brought the SC and ST on greater common ground. However, considerable material and cultural diversity still exists, therefore the need to maintain contextual sensitivity while analysing their educational situation.

In the post independence context of massive state supported expansion and democratisation of schooling and institution of positive discrimination policies to facilitate access, education has successfully served, albeit to varying extents and with marked regional variations, as a key instrument of change and emancipation for the SC and ST. It has brought them self respect and socio-economic advance, raised political consciousness and empowered their identity struggles. However, educational disparities between the SC and ST and the rest of the population, in terms of quantity, quality, teaching-learning process and learning outcome, have been far from eliminated. The inequalities reflect the fact that theirs has scarcely been an equal integration into dominant society. Rather, in a society characterised by growing polarisation, their inclusion has been governed by relations and processes of exploitation, discrimination, displacement and oppression. Global economic forces have brought about greater ruin of large sections of SC and ST who experienced marginalisation by development processes. Poverty, unemployment and ill health are disproportionately located among them. Tribals have suffered large scale land alienation and dispossession from natural resources and are reduced to economic and cultural subservience to non-tribal communities. Vast numbers of the Scheduled Castes have been unable to escape stigmatised occupations and social existence.

Such socio-economic conditions could not but create a disjuncture between survival needs and educational needs, leading to limited educational progress of the SC and ST. Our survey of quantitative expansion reveals the dismal contemporary scenario of inequality in access, retention and attainment at the school level. While an unprecedented rise in enrolment is evidence of a strong demand for education among the SC and ST, accessing basic school is as yet a massive problem. Though school participation rates have increased, attendance rates are

unsatisfactory at the primary level and worse still at the middle. Drop out, failure and low scholastic achievement afflict SC and ST to a far greater degree than non SC and ST school children. The cumulative impact is low rates of school completion. Gender disparities are conspicuous on all educational indicators revealing the under-education of girls. SC and ST communities have become increasingly patriarchal as a result of processes of cultural absorption. Gender and class along with tribe and caste constitute fundamental categories of exclusion. Furthermore, significant inter-state, inter-regional and rural-urban disparities exist especially in politically neglected states and regions. Intra-caste and intra-tribe variations are also sharp and indicate that the relatively more marginalised of SC and ST groups experience gross educational deprivation. Scheduled tribes appear to lag behind the Scheduled Castes in most states barring largely the North-Eastern ones, due to specific socio-historical factors.

Our exploration into the field reality of schooling of SC and ST children entailed a critical overview of basic educational provision as well as issues related to structure, content and process of the schooling. We find that historical inequality in diffusion has been mitigated to a great extent, but unequal provision continues to be the fundamental educational deterrent. Quality of mass education has declined to an abysmal level. Current policy changes have led to a rapid decline in teaching-learning conditions and have exacerbated the already grim situation in neglected regions and remote tribal areas. The cut in public spending on education has proved most damaging. It has adversely affected state provisioning of schools and teachers and encouraged in its place the most substandard and commercially oriented private effort or spectacular but unsustainable innovations. Ironically, as India stakes claim as frontrunner in the world knowledge economy, her underprivileged children suffer the consequences of grossly inferior basic education. Several dimensions of educational inequality are conspicuous by their presence in schools for the SC and ST and signify the decline and dilution in educational quality. Diffusion is as yet inadequate in many parts, leading to situations whereby 'social' accessibility persists as a problem for the SC child and the absence of even a poorly functional school remains a disadvantage imposed on a remotely located tribal child. Inferior learning opportunity is actualised in the poor quality of infrastructure, an inadequate and demotivated teaching staff, inadequacy of teaching transaction and in the provision of teaching learning material. The model of 'minimum levels of learning' further compromises quality in no uncertain measure as education gets diluted to literacy. School level policies of positive discrimination caught in the quagmire of bureaucratic apathy, politicisation, political patronage and corruption, offer limited coverage and an appallingly poor quality of service. State institutions meant to play supportive roles reflect patronising and derogatory assumptions about facilities befitting the SC and ST.

Curriculum has served as mediator of ideological dominance and hegemony, evident in the selection and structuring of knowledge, pedagogic practice, and in weak and distorted

representation of subaltern groups, culture and ideologies. Curricular change supposedly aimed at indigenisation in post colonial educational policy, resulted in Brahmanisation as a key defining feature. The historical significance of structural oppressions of caste, gender, tribe and religion were made invisible by a school curriculum in which the dominant discourse was of a cultural majoritarian nationhood. The Brahaminical construction of knowledge was evident in the eulogisation of specific forms of mental capacities, and dominance of Brahmanical language, literature, history as well as Brahmanical religio-cultural practices, symbols and modes of life in curricular content. By corollary there was a devaluation of manual labour, of 'lesser' dialects, cultures, traditions, and of knowledge rooted in productive processes of lower castes and their socio-cultural habitat. Their knowledge, values and skills found no place at all in the school curriculum. Nor did their stories, music, songs, folklore or cultural and religious practices. Curriculum also retained its colonial character privileging knowledge of Western hard sciences, technology and styles of life as also of the English language. The ideology of modernisation was adopted in truncated, superficial ways and the presence of liberal and democratic socialist values was largely notional. Phule and Ambedkar's thought critically adapted Western liberal ideology towards the emancipation of India's downtrodden, radically transgressing narrow technocratic modernising elements. However the vibrant expressions of Phule-Ambedkarism and its vision for a new moral order for Indian society hardly found a space in a curriculum dominated by the thought of high caste nationalists. Neither did curriculum reflect upon varied other challenges posed by dalit epistemology, knowledge and protest. The Scheduled Castes and their issues remained peripheral and their representation, if at all in the curriculum, has been weak and distorted.

Curriculum did not acknowledge the cultural rights and history of the Scheduled Tribes either. The Scheduled tribes have a dual and contradictory relationship with education. On the one hand education as a central avenue of development and nationalism plays a part in the destruction of tribal language, culture and identity and generates a negative self image. School regimen and curriculum fail to take account of tribal cultures, in particular, of their culturally anomalous free and egalitarian socialisation and learning practices. Nor do they take cognisance of the special cognitive abilities of tribal children. On the other hand however, forces of cultural adaptation reinforce tendencies of alienation within the Scheduled Tribes themselves, who now look to schools to provide linguistic and social competencies that will facilitate their equal integration in dominant society.

Equal integration however has been difficult for both SC and ST. Schools themselves have served as sites of caste, tribe and gender power relations. An appalling body of evidence suggests that teacher preconceptions, bias and behaviour, subtle or overt, conscious or unconscious, operate to discriminate against SC and ST children. Teachers belong to alien cultures. They speak alien languages which become an obstacle to symbolic adaptation,

motivation and learning. Most demeaning are the stated or unstated assumptions held by teachers of SC and ST childrens' 'deficient' cultures, habits, behaviour and styles of speech, of their inherent intellectual incapacities and of their 'uneducability'. They lead teachers to adopt pedagogic practice and deliver teaching transaction that compound the situation of weak and discriminatory inclusion.

Indisputably the situation needs an urgent and serious response. The Focus Group has made several recommendations towards improving the larger institutional context without which meaningful curricular reform will be difficult to achieve. We strongly reiterate the need for equitable provision of quality education, a more focused, need based and responsive implementation of positive discrimination programmes, improved teacher recruitment policy and teacher working conditions towards enhancement of teacher quality, status, competence and self esteem. We suggest a critical resolution of cultural dilemmas for developing culturally sensitive and transformative curricular policies and programmes. It is essential that curricular and pedagogic approaches are rooted in critical theory and critical multiculturalism to nurture expansive cultural identities oriented towards the larger public good. Curricular goals of teacher education need to be recast with an emphasis on theoretical and experiential knowledge to gain an understanding of as well as sensitivity to SC and tribal communities. School curriculum and pedagogy must provide opportunities for every child's learning and her free, creative and multidimensional development. The culture and experiences that the SC or ST child brings to the school must be integral to an egalitarian teaching learning process in fulfillment of the goal of a meaningful education for all children.

3.2 Gender Issues in Education

EXECUTIVE SUMMARY

Gender is the most pervasive form of inequality, as it operates across all classes, castes and communities. Yet, while gender equality has been a key objective of education policy in India for over three decades, it has *lacked critical edge in implementation*. In real terms , the dropout rates of girls, specially from the marginalised sections of society and the rural areas continues to be grim–9 out of every 10 girls ever enrolled in school do not complete schooling, and only 1 out of every 100 girls enrolled in Class I reaches Class XII in rural areas. Factors cited for dropout include poor teaching, non-comprehension, difficulties of coping and high costs of private tuition or education. Despite the education system's focused efforts to include girls, it continues to "push out" those who are already within. Clearly issues of curriculum and pedagogy require equal and critical attention, in addition to enrolment.

Work on gender sensitisation and awareness building has acquired a certain complacency, given that it circles around issues of enrolment, the relative absence of females figures or removal of gendered stereotypes in textbooks. Such work has proved to be inadequate and as some have argued just skimming the surface of a problem rather than addressing these concerns with greater depth. In order to move forward *serious inquiry into curricula, content, the gendered construction of knowledge, as well as a more critical and pro-active approach to issues of gender is necessary. Gender has to be recognised as a cross-cutting issue and a critical marker of transformation; it must become an important organising principle of the national and state curricular framework as well as every aspect of the actual curricula.*

In the first section, ***Contexts and Concerns***, this paper observes that *schooling actually reinforces the gendered inequality of socialisation and social control; in fact schools themselves create boundaries that limit possibilities*. Traditional meanings regarding masculine and the feminine persist and continue to be reaffirmed. It points out how girls are not simply a homogenous category; by virtue of their sex, they are also differently impacted by heterogenous contexts of class, caste, religion, as well as the rural urban divide.

In addition, there are other forces and trends, such as those of globalisation and the privatization of schooling, the declining standards of government schools, communalisation of education, and the impact of public and domestic violence, that pose major challenges in relation to gender issues in education. A review of policies and existing realities reveals that these challenges are clearly not being addressed. Hence *it is imperative for us to assess the limitations of the ways in which gender concerns have been addressed in education, particularly in the very construction of knowledge itself.* The first section concludes with highlighting the circumscribed manner in which

current approaches to gender, equality and empowerment of girls, as well as the silence on issues of masculinity, has impacted textbooks and curricula reform.

The second section of the paper, *A Project of Possibility,* argues that for progressive gendered policy to be implemented successfully, *a dynamic shift in approach is required.* Notions of "Gender" and "Masculinity", as well as "Equality" and "Empowerment" have to be understood from a critical perspective. **It is necessary to move from seeing gender as mere *difference* to analysing gender as *domination*.** Masculinity too needs be analysed, specially to understand and transform the ways in which boys and men also suffer from the confining roles that a patriarchal culture determines for them, as well as in terms of the masculinist reinforcement of aggression and domination.

This section asserts that a commitment to equality involves developing in the learner the ability to question relations of power in society, as well as enabling her/him to overcome the disadvantages of discrimination and unequal socialisation. *Empowerment* should be viewed as a process that enables girls to challenge relations of power, and to assert their rights as independent human beings. However, as the "capabilities approach"[1] emphasises, *rights and choices in themselves cannot be exercised until central human capabilities are fulfilled* through material and institutional arrangements.

Education is an integral part of these arrangements that govern children's lives. Thus in order to achieve substantive and equal citizenship, special curricular and pedagogic strategies have to be developed to empower children, specially girls, to overcome disadvantages *and develop their capabilities to exercise their rights and choices*. The aim is to achieve a *substantive equality of outcome*, not merely a formal equality of treatment. In fact, we may even require inequality of treatment, i.e. special treatment for the socially disadvantaged learners, to enable them to achieve equality of outcome.

The ultimate aim of a progressive gendered project of education is to propel the learner from individual to collective transformation, towards achieving *substantive citizenship*. Thus the objective is to enable girls to *graduate from individual empowerment to becoming autonomous and equal citizens who play an active role in transforming the collective life of a democracy;* so while developing the individual capabilities of girls to claim their rights, *e*ducation should also foster in the young a deepened understanding of, commitment to, and capability to uphold the constitutional values of justice, equality, citizenship and freedom at the collective level.

Knowledge, as it has been shaped in every discipline, and through language itself, normalises, and establishes as "natural", the inequalities of gender. The critical challenge is of deconstructing such paradigms, and of redressing the iniquities in the very construction of knowledge. Contemporary scholarship in virtually every discipline is now marked by significant research

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1. *Mussbaum M., 2000.*

on gender issues. This has had deep implications for what is seen as knowledge, and how learning is viewed. School education should be updated in keeping with such research, and incorporate the critically gendered dimensions of knowledge in each discipline to transform the ways in which all subjects are approached and taught in schools.

Commitment to a critical reassessment of the hierarchical constructions of knowledge would logically translate into more analytical, participatory and pro-active pedagogical strategies in the classroom. Learner centered, experiential knowledge and reading against the grain become critical aspects of this approach, as do *curricular and pedagogic practices*, that equally reflect the life worlds of both girls and women, make visible the invisible, and carry within them the seeds of a just social transformation.

Such a pedagogical approach would be greatly enhanced by a teachers' needs too being viewed in relation to those of learners'. Critical reassessment of their own socialisation would be an integral part of developing their own abilities as teachers if they are to be sensitive to the life-worlds of learners coming from diverse contexts. Innovative pedagogies have to be grounded not just in learning new games, songs and activities but developing in the teacher a conceptual and lived understanding of all that experiential knowledge and learning has to offer. In the final run it is not in monitoring teachers, but in enhancing training, and encouraging them to contribute to the shaping of critical, imaginative and innovative curricular and pedagogic process, that the real hope for transformation lies.

3.3 Education of Children with Special Needs

EXECUTIVE SUMMARY

The paper discusses the issues relating to the provisions, practices and curricular concerns for children with Special Educational Needs (SEN). Though SEN may result from a number of factors, in this paper, however, we are concerned with those arising from physical, sensory and intellectual disabilities.

Trends in provisions in India reflect that the leading policy predisposition before the 1970s has been that of segregation. During the 1880s Christian missionaries started schools for the disabled on grounds of charity. This was followed by the government initiatives to establish separate workshops, model schools, central Braille presses and employment exchanges for the disabled population of the country. However, the changing approaches to disability from the charity model to the human rights model have resulted in diversity of policy and practice. In the 1970s the IEDC scheme was launched by the Union government for providing educational opportunities to learners with SEN in regular schools. Nevertheless, the statistics show that though the integration of learners with SEN gathered some momentum, the coverage under this scheme remained inadequate. There was a clear need for fuller access of children with SEN to all educational opportunities. Dissatisfaction with the slow progress towards integration along with the consideration of the costs involved led to a demand for a radical change. After the World Conference on Special Needs Education in Salamanca in 1990s, inclusion became the magic word in the educational field. The *Salamanca Statement* adopted by representatives of 92 Governments and 25 International Organisations has, in fact, set the policy agenda for inclusive education on a global basis. Inclusive education refers to all learners, young people – with or without disabilities being able to learn together in ordinary pre-school provisions, schools and community educational settings with appropriate network of support services.

In addition to the provision of aids and appliances, a flexible, broad and balanced curriculum that can meet the needs of all children is the *call of the day*. The paper, therefore, proposes an inclusive curriculum for all students without discrimination on the basis of gender, ethnic origin, socio economic group, disability or ability. An inclusive curriculum recognises the need of schools to be organised with the individual differences of students in mind and is flexible enough to enable all students to achieve their goals. Implementation of an inclusive curriculum would require a number of changes in present day teaching practices, curriculum content, evaluation procedures and available resources at the school level. The goal of providing quality education would remain elusive so long as the concept of inclusion is not linked to broader discussions on pedagogy and effective participation of all children in the learning experiences provided in the classrooms. The implementation of a programme of inclusive education would also involve curricular modifications and the use of human and technological support, including the use of ICT. It is also important to mobilise support from parents, the community, and special schools. Considering the above context, specific recommendations have been made in the paper for developing guidelines for planning and implementing effective policies and programmes for education of children with special needs.

3.4 Education for Peace

EXECUTIVE SUMMARY

> "If we are to teach real peace in the world we shall have to begin
> with children".
> *Mahatma Gandhi*
> "All education is for peace".
> *Maria Montessori*

Peace, as an integrative perspective for the school curriculum, is an idea whose time has come. Education for peace, as distinguished from peace education, acknowledges the goal of promoting a culture of peace as the purpose shaping the enterprise of education. If implemented with vigour and vision, education for peace can make learning a joyful and meaningful experience.

Peace and Education for Peace are then defined, and the need to introduce education for peace in the school curriculum is viewed, albeit very briefly, from the global and national perspective. Education for Peace requires a reduction in curriculum load. Peace offers a contextually appropriate and pedagogically gainful point of coherence for all values. The complementarity of peace and justice is underlined. In the event of a conflict of interests, the claims of justice must take precedence over the dynamics of peace in the interests of peace in the long run, lest peace becomes a repressive or retrograde ideology. The need to do justice to teachers is also argued and the setting up of Teachers' Tribunals is proposed to address this basic need. Inner peace is identified as the seed of peace, but a note of caution is struck against misunderstanding inner peace as escapism and sanctified selfishness.

This paper reckons with the reality of the alarming increase in violence in school life. It is to this end that this paper outlines pedagogy for peace. The pivotal role that teachers play in learning is envisaged in education for peace and the need to turn schools into nurseries for peace is also examined.

The paper then examines, in some detail, the major frontiers for education for peace in the Indian context. This is done with reference to the two major goals of education: namely, education for personality formation and education to foster responsible citizenship. Citizenship, not religion, is what all Indians share in common. The major frontiers of education for peace are: (a) bringing about peace-orientation in individuals through education; (b) nurturing in students the social skills and outlook needed to live together in harmony; (c) reinforcing social justice, as envisaged in the Constitution; (d) the need and duty to propagate a secular culture; (e) education as a catalyst for activating a democratic culture; (f) the scope for promoting national integration through education; and (g) education for peace as a lifestyle movement.

Attention is then turned to examining the major issues and concerns that an effective implementation of education for peace needs to engage. They include: teacher education, textbook writing, school setting, evaluation, media literacy, parent-teacher partnership and the need to address the practical implications of integration as the preferred strategy for implementing education for peace.

This paper then attempts to outline the curriculum contents for education for peace. Education for peace is not envisaged as a separate subject that would further augment curriculum load, but a perspective from which all subjects are to be taught. Curriculum contents are identified with reference to the goals of education for peace as identified in this paper. The paper's suggestions with respect to curriculum contents are as follows –

(i) The primary school years could focus on laying the value foundations for personality formation and the development of the social skills necessary to live together in harmony. Focus could then shift gradually to a perspective on peace, especially to enable students to understand the value-foundations of peace. The area of special emphasis here is the need to promote skills for the peaceful resolution of conflicts.

(ii) In the upper primary years, students could be enabled to view the culture of peace from the perspective of Indian history, philosophy, and culture.

(iii) Thereafter, education for peace could focus more on citizenship education. A brief introduction to the basic features and ethos of the Constitution is what is envisaged here. The emphasis may shift, thereafter, to 'peace as a lifestyle movement'. Students can be made aware of the need to for lifestyles conducive to the integrity of creation and stability of society. The various challenges to national unity can be the focus thereafter. The main emphasis here must be on promoting an attitude of respect for diversity and difference. Students also need to be made aware of the various hindrances to unity.

(iv) At the plus two level, the foci of education for peace could be: (*a*) understanding the logic, modes and expressions of violence; (b) skills for an objective understanding of issues; and (c) developing a global perspective on peace.

The paper also makes a set of suggestions for making the implementation of education for peace effective and enjoyable.

The paper concludes by identifying some of the basic assumptions that shape the approach to education for peace. These are: (a) schools can be nurseries for peace; (b) teachers can be social healers; (c) education for peace can humanise education as a whole; (d) the skills and orientation of peace promote life-long excellence; and (e) justice is integral to peace

A plea is then made, to turn education for peace into a people's movement. A few notes of caution are also struck. The enterprise of education must be cleansed of social and gender injustice; for what is tainted with injustice cannot be a vehicle of peace. Letting the minds of children—the citizens of tomorrow—be warped by violence is a serious problem and it needs to be acknowledged and addressed with the seriousness and urgency it merits. Peace must be pursued with single-minded vigour and an undeviating sense of purpose. Education for peace, as a pioneering move, must be implemented with vision and determination. A casual or half-hearted attempt could trivialise it and aggravate cynicism about its efficacy.

3.5 Health and Physical Education

EXECUTIVE SUMMARY

It is well acknowledged that health is a multidimensional concept and is shaped by biological, social, economic, cultural and political factors. Access to basic needs like food, safe 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 significantly enrolment, retention and completion of school. This subject area adopts a holistic definition of health within which physical education and yoga contributes to the physical, social, emotional and mental aspects of a child's development.

An analysis of the mortality and nutritional indicators from the pre-school, primary, secondary and senior secondary levels show that under -nutrition and communicable diseases are the major health problems faced by majority of the children in this country. Therefore, the curriculum for this area has to address this aspect at all levels of schooling with special attention to vulnerable social groups and girl children. It is proposed that the mid day meal programme and medical check ups must be a part of this subject and health education must be related to the needs of the children and also address the age specific concerns at different stages of development. The idea of a comprehensive school health programme was conceived of in the 1940's that 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 these need to be included as a part of the curriculum for this subject. The manner in which this subject has been transacted is fragmented and lacks a holistic or comprehensive approach. Health education, yoga and physical education are dealt with separately and the curriculum is being transacted conventionally with little innovative approaches to learning.

Given the interdisciplinary nature of this subject there are cross cutting themes across subjects. Therefore, there is a need for cross-curricular planning and also integrating it with socially useful productive work, National Service Scheme, Bharat Scouts and Guides and the like. This subject lends itself for applied learning and innovative approaches can be adopted for transacting the curriculum. Both yoga and physical education have to be a regular part of the school's timetable and must be seen as an important contribution for the overall development of the child. This would require flexibility in the school calendar and also in the structuring of school timetable in terms of the time and space allotted for integration of this subject area.

The importance of this subject to the overall development needs to be reinforced at the policy level, with administrators, other subject teachers in schools , the health department, parents and children. There are several ways in which this can be done and would include the recognition of the subject as core and compulsory in the curriculum, that the required

infrastructure and human resources are in place, that there is adequate teacher preparation and also in-service training, that there is interface between the school, health department and the community. Although the subject is compulsory till class X, it is not given its due importance. It has been suggested that it be treated as a core subject and students who wish to opt for it as one of core subjects in lieu of another subject may do so. This subject should be offered as an elective subject at the plus two level.

The curriculum and syllabus for this subject has to adopt a 'need based' approach to a child's development. This is the framework that will guide the inclusion of physical, psycho-social and mental aspects that need to be addressed at different levels of schooling. A basic understanding of the concerns need to be delineated but this subject has an applied dimension that needs strengthening through experiential learning, acquiring skills to recognize and cope with demands, expectations and responsibilities of daily living, the collective responsibilities for health and community living also need to be emphasised.

During the last two decades several National Health Programmes like the Reproductive and Child Health, HIV/AIDS Education/Adolescence Education; Tuberculosis and Mental Health have been emphasising on health education and children are viewed as a potential 'target group' for preventive and promotive activities. The concern with this approach is that the focus is on giving information and each of these programmes are independent of another . This creates demands on the teachers and children to deal with each of these concerns and they are not integrated into the existing curriculum. It is suggested that the curriculum on "Health and Physical Education" must identify major communicable and non -communicable diseases for which health information be provided at the appropriate developmental level of the child.

This subject offers enormous potential for the adoption of innovative strategies and the experiences of quasi government programmes like the Mahila Samakhya and several NGOs across the country who have worked with children on issues related to health and physical education needs to reviewed, assessed and integrated into curriculum planning, development of syllabi and pedagogy.

The evaluation of this subject needs plurality of strategies, which should be a part of continuous and comprehensive evaluation. The present mode of theory and practical examinations is inadequate for 'performance' of children in this subject and is a major reason for the ineffective transaction of this curricular area in schools. Before a continuous and comprehensive evaluation is put in place, the present evaluation system should follow the pattern of other core subjects.

This subject must be introduced from the primary level onwards and even at this level, through the medium of play, concepts from other subject areas can be reinforced. Formal introduction of asanas and dhyana should begin only from class sixth onwards. Even health and hygiene education must rely on the practical and experiential dimensions of children's lives. This subject must be compulsory until the tenth class, after which it can be an elective subject.

3.6 Early Childhood Education

EXECUTIVE SUMMARY

I. A GLOBAL PERSPECTIVE ON EARLY CHILDHOOD

The first 6 to 8 years of a child's life are globally acknowledged to be the most critical years for lifelong development since the pace of development in these years is extremely rapid. Recent research in the field of neuroscience, particularly on the brain, has provided convincing evidence of the 'critical periods' located within these early years for the forming of synaptic connections in the brain and for the full development of the brain's potential. Research has also indicated that if these early years are not supported by, or embedded in, a stimulating and enriching physical and psychosocial environment, the chances of the child's brain developing to its full potential are considerably, and often irreversibly, reduced. This stage in life is also important as a foundation for the inculcation of social values and personal habits, which are known to last a lifetime. What follows logically is the crucial importance of investing in these early years to ensure an enabling environment for every child, and thereby a sound foundation for life, which is not only the right of every child but which will also impact, in the long term, the quality of human capital available to a country. Early Childhood Care and Education (ECCE) derives its importance from this rationale.

Global events and the needs emerging from various social, economic, and demographic changes in the last few decades have also influenced ECCE in India. Five of the eight Millennium Development Goals (MDGs) in the UN Millennium Declaration relate to the health, nutrition, and education of the young child. India's poor progress towards the realisation of MDGs in relation to other developing countries indicates that we have already neglected our young children for too long

Research around the world has shown that in order to maximise impact, the planning and provision of early childhood and primary education programmes need to take into account three important principles of child development:

(a) Child development is a continuous and cumulative process, so that what precedes influences what follows. Therefore, in terms of programmatic interventions, it is important to address the entire childhood continuum, from the prenatal stage to the end of the primary stage, as opposed to intervening during any one substage exclusively;

(b) Health, nutrition, and educational/psychosocial development are all synergistically interrelated, which makes a case for the importance of addressing all the needs of children through a holistic approach; and

(c) The child's development will be optimised if the programmes address not only the child but also the child's overall context.

II. The Indian Context: Situational Analysis and Appraisal

The situational analysis of the current scenario includes an overview of the relevant constitutional provisions, the policies and legal provisions relating to children developed over the years, the evolution of the planning process, the various programmatic interventions, the responsibilities of various ministries, and a broad quantitative assessment of the present situation.

The concluding critical appraisal notes that the public sector covers only 22 per cent of children in the age group 0–6 years. There are no figures available for the private sector, which is estimated to be possibly as large as the public sector. The small NGO sector, for which also there are no accurate figures available, offers a variety of models.

The 86th Constitutional Amendment Act, 2002, which effectively releases the State from its obligation to provide care and education for children below 6 years, is noted as a negative development.

The report cites a fragmented approach and divided responsibilities as some of the main reasons for this grim situation. It concludes that ECCE must be brought firmly within the framework of EFA and UEE, with responsibility and accountability for all programmes for children above 3 years lying with DEE & L, while programmes for children below 3 years will be the responsibility of DWCD.

III. Critical Issues, Social Realities, and Policy Implications

The report offers an analysis of critical issues and social realities, and also points out the policy implications. It argues that most of the problems derive from the still 'unrecognised' status of ECCE as a part of the mainstream education? system; it draws attention to the multiplicity of overlapping social divides that affect the quality of ECCE available to different segments of the population, discrimination against certain social groups, and the polarisation of services. The deep gender bias and pervasive patriarchal values in Indian society are held responsible for the failure to realise the need for crèches and day care, especially for children of poor rural and urban working women; this neglect also has an adverse impact on the education of girl siblings.

The report discusses strategies to address the three sectors (public, private, and NGO), including regulation. A qualitative review reveals the more or less low quality of facilities found in the public sector; highlights the great variation found in the private sector, where a large number of damaging and undesirable practices are producing a pernicious influence on the entire system; and shows that while there are some islands of excellence in the NGO sector, these have not gone to scale.

Addressing the issue of ensuring quality for all, and emphasising the need for norms and standards, the report outlines the five major dimensions of quality: appropriate curriculum; trained, motivated, and suitably rewarded teachers; appropriate teacher–child ratio and group size; a supervisory mechanism; and child-friendly infrastructure.

This is followed by a discussion on the issue of regulation and the need to empower parents, families, and communities through advocacy.

Attention is drawn to the low status and pay of teachers, the poor state of teacher-training programmes, the lack of recognition and certification of teachers, and the urgent need to address the vast backlog of 'untrained' teachers.

The report describes the steps needed to build a quality workforce. These include the provision of training in all sectors for all types and levels of programmes through diverse courses; the adoption of multiple models and flexible strategies; ensuring fair wages for all; capacity building of trainers; provision of learning and instructional materials; and accreditation.

The report also addresses the issue of multiple languages in the classroom, as well as the overwhelming pressure from all classes for 'English-medium' schools; some innovative suggestions for language teaching are also made.

IV. Moving Ahead: Changing Policy Paradigms

Since many of the current problems in ECE are the outcome of earlier policies, to give young children a fair deal now will require major policy shifts before we can speak of curricular reform.

(i) Value of ECCE: The first step is the recognition and acceptance that ECCE is a vital developmental need of all children, and that every child has a right to ECCE of equitable quality. ECCE must be the first step in the educational ladder and should be a part of EFA. DEE & L must take responsibility for all programmes for children 3+, and DWCD for all programmes for children below 3 years.

(ii) Resource Allocation: The intention to provide ECCE of equitable quality to all means that there will have to be a vast enhancement in resource allocation. While global research indicates that 85 per cent of a child's core brain structure is already complete in the early years, the actual spending per child on children below 6 years is only one-eighth of the spending on children in the 6–14 age group.

(iii) Ensuring Quality for All: The existence of multiple models, diverse sectors, and different programme approaches that developed over time must be accepted, but within a common framework. Adherence to some basic norms and standards as well as to the five basic dimensions of quality must be ensured through different strategies, including regulation as needed as well as adaptation to different contextual realities and a meaningful language policy.

(iv) Advocacy: To sensitise the public at every level, from parents to policy makers, an extensive and sustained campaign for advocacy involving the mass media is needed. This requires that adequate resources be provided and that the government take the lead in preparing the requisite materials in various forms. The advocacy campaign should convey the significance of this period in the life of children, warn against the dangers of neglect, and describe the proper scope, meaning, and purpose of ECCE.

(v) Capacity Building: The next important task is to straightaway launch a massive and long-term programme of capacity building at all levels, as already described. DEE & L has a key role to play in building on the existing capabilities and institutions.

(vi) Other Important Tasks are –

> Convergence among all the ministries concerned with the young child.
> Coordination among the various autonomous authorities.
> Networking among various academic institutions.
> Development of reporting systems leading to the compilation of a database.
> Institutional mechanisms at every level for implementation and monitoring.
> Empowering PRIs to participate effectively in the process.
> Appropriate structures and institutions for research, monitoring, and evaluation.

V. CURRICULAR FRAMEWORK FOR ECCE

The three broad objectives of ECCE are –

- holistic development of the child to enable him/her to realise his/her maximum potential;
- preparation for schooling; and
- providing support services for women and girls.

The curriculum is defined as age appropriate, all round, play based, integrated, experiential, flexible, and contextual. The guiding principles of the ECCE curriculum are –

- Play as the basis of learning
- Art as the basis of education
- Recognition of the special features of children's thinking
- Primacy of experience rather than expertise

- Experience of familiarity and challenge in everyday routines
- Mix of formal and informal interaction
- Blend of the textual (basic literacy and numeracy) and the cultural
- Use of local materials, arts, and knowledge
- Developmentally appropriate practice, flexibility, and plurality
- Health, well-being, and healthy habits

Next, the report outlines the various domains of development, the developmental characteristics of each subgroup within the period 'birth to 8 years', and the needs of the child in terms of experiences that help the child attain the goals of development. The age-specific curricular frameworks for each of the subgroups, 0–2+, 3–5+, and 6–8, are then spelled out in the light of the basic principles. Inclusive education and language policy are also dealt with.

3.7 Work and Education

EXECUTIVE SUMMARY

This Position Paper primarily aims at exploring and institutionalising the pedagogic role of work in education in the context of building a truly *national* system of education. In the process, it has examined as to how the rich knowledge base, social insights and skills of the marginalised children (who constitute more than half of the child population) in relation to their habitat, natural resources and livelihoods can be turned into a source of their dignity and strength in the school system. The paper also addresses the profound problem of 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. The paper contends that the exclusionary character of Indian education can at least be partly challenged by utilising the knowledge base of the vast productive sections of society as a powerful means to transform the education system. At the same time, this knowledge base is to be subjected to criticlal scrutiny in order to ensure that its retrogressive and unscientific streaks are identified and rooted out before they find their way into the school curriculum.

The exclusionary character of the education system in India is to a great extent founded on the artificially instituted dichotomy between work and knowledge (also reflected in the widening gap between school and society). Those who work with their hands and produce wealth are denied access to formal education while those who have access to formal education not only denigrate productive manual work but also lack the necessary skills for the same. The socio-economic, religio-cultural, gender and disability-related dimensions of this dichotomy have serious implications for education in India. Over a period of time and through systematic practice, such a notion of education has come to be embedded in the knowledge system, representing the dominant classes/castes/cultures/languages with patriarchy in each of these categories playing a decisive role. The education system has tended to 'certify' this form of knowledge as being the only 'valid' form. In the process, the knowledge inherent among the vast productive forces along with the related values and skills has been excluded from the school curriculum. The legacy of colonial education was built upon precisely such a Brahminical concept of 'certified' or 'valid' knowledge that is alienated from productive work and its social ethos.

The Gandhian proposal of *Nai Talim* (Basic Education) was a radical departure from this Brahminical-cum-colonial paradigm insofar it challenged the dichotomy by placing productive manual work at the centre of school curriculum itself. As per this view, participation in productive work under conditions approximating to real-life situations is pedagogically linked to learning and simultaneously becomes the medium of *knowledge acquisition, developing values and skill formation*. Engagement with work will

promote multi-dimensional attributes in the cognitive, affective and psycho-motor domains in a holistic manner i.e. by integrating 'head, hand and heart'. Such attributes are admittedly missing in the education system. In this sense, placing productive work at the centre of curriculum will 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 life needs of the child. Pedagogical experience in using work is thus viewed as an effective and critical developmental tool at different stages of childhood and adolescence.

The paper presents a detailed critique of education policy and practice in order to reveal how the pedagogic role of productive work was time and again either marginalised or trivialised in the school curriculum. The critique applies to both 'work experience' and SUPW as recommended by the Education Commission (1964-66) and Ishwarbhai Patel Committee (1977) respectively. This explains the wide-spread continuing practice of confusing vocational education with the pedagogic role of work in curriculum. The 1986 policy itself is responsible for promoting such a confusion as well as for proposing an artificial division between vocational and the so-called academic streams. The policy makers instituted vocational education as a parallel stream at the Plus Two stage, primarily as a strategy for diverting a substantial proportion of students away from the 'academic' stream. This is precisely why the vocational education programme was perceived as being inferior and has been a non-starter for the past 25 years. Also, no inter-relationship was conceived even at the theoretical level between work-centred education (which did not exist any way), on the one hand, and vocational education, on the other.

Based upon this analysis, the paper makes the following two-pronged recommendations:

1. Reconstruct the entire school curriculum from the pre-primary to senior secondary stage with a view to making productive work (and other forms of work as well, including social engagement) a pedagogic medium for *knowledge acquisition, developing values and multiple-skill formation*. As the child matures with age, work-centred pedagogy will be pursued with increasing complexity but invariably enriched with the required flexibility and contextuality. A *common core curriculum* incorporating work-based pedagogy initially until Class X and, within the foreseeable future, upto Class XII for all children, will be the objective. A set of work-related generic competencies (Basic, Inter-personal and Systemic) will be pursued at all stages of education and also inform the redesigning of evaluation parameters as well as the assessment system, including the public examinations. Generic competencies will include, among others, critical thinking, transfer of learning, creativity, communication skills, aesthetics, work motivation, work ethic of collaborative functioning and entrepreneurship-cum-social accountability. The paper also presents a detailed typology of work that will facilitate curricular planning. All of this will provide a firm foundation for building up a relatively more evolved and intense programme of work-centered education called '*Vocationalised* Education' (to be distinguished from '*Vocational* Education') at the secondary/senior

secondary stages. Several narratives of school-based experiences, including those relating learning with social engagement, are included to illustrate the work-centred pedagogy.

2. In a radical departure from the 1986 policy, Vocational Education and Training (VET) may be conceived as a *major national programme in the mission mode* and be structurally and administratively placed *outside* the school system. VET in this new perspective will be built upon the *bedrock of 10-12 years of work-centred education in the school system*, unlike the prevailing notion of vocational education 'hanging' in vacuum. VET will be designed for all those children who wish to either acquire additional skills and/or seek livelihoods through vocations as a *preferred dignified option*, rather than as a strategy for diverting students away from the 'academic' stream. The noteworthy features of the proposed VET will include (a) flexible and modular certificate/diploma courses of varying durations; (b) multiple entry and exit points with in-built credit accumulation facility; (c) vertical and lateral linkages with the academic, vocational and technical programmes; (d) accessibility all the way from the level of village clusters to the Block and District levels, and also in urban areas; (e) provision for carving out 'work benches' (or appropriately 'work places'/ 'work spots') in the neighbourhood out of the existing economic activities, production and technical centres; (f) scope for engaging local farmers, artisans, mechanics, technicians, musicians, artists and other service providers as resource persons or invited faculty; and (g) a decentralised accreditation and equivalence programme which will also recognise 'work benches'/'work places'/'work spots' for the purpose of evaluating and certifying students.

The paper lists certain enabling conditions for successful institutionalisation of work-centred education in the national system of education. These are:

➢ A Common School System with certain *non-negotiable minimum* infrastructural, curricular and pedagogic norms that will include all schools, irrespective of the type of their management, sources of income or the affiliating Boards of Examinations; work-centred education would be **a non-starter as long as it is not implemented in all the schools within a declared timeframe;**

➢ All schools initially upto elementary stage to act as genuine Neighbourhood Schools in both rural and urban areas; to be extended upto Plus Two stage in a phased manner;

➢ The National Curriculum Framework and core curriculum as approved in the national policy to be applicable to all schools including the private unaided schools; within these broad parameters, each school or a school cluster to have full flexibility for negotiating its own curriculum and adopting contextual texts and teaching-learning processes;

➢ A system of process-based assessment (both formative and summative) based upon such evaluation parameters as will test the attributes that are expected to develop amongst children from work-centred education; public examination system as well as competitive entrance tests to be restructured in order to incorporate these principles of assessment;

➢ The entire education system to be developed on the principles of inclusive education;

➢ Modification of prevailing policy of viewing '*Vocational* Education' as a distinct stream at

Plus Two stage with a view to integrating '*Vocationalised* Education' in the core curriculum, thereby ending the present dichotomy between academic and vocational streams; and

➢ Legislation to ensure education of equitable quality for all children.

The paper finally suggests a detailed five-year roadmap of phase-wise planned transition which in turn is based upon the lessons drawn from the historical overview and critique of policy and practice undertaken at the beginning. These lessons are enumerated below:

First, the time for experiments is long over as a wealth of knowledge and experience in relating work with education is already available, both within and outside the country.

Second, directionless, dithering and ambiguous steps for endlessly 'incremental' implementation in bits and pieces and, that too, without appropriate policy changes, timeframe or adequate resource allocation at the national level, will just not work. What is instead called for, to begin with, is an unambiguous declaration of *all* the necessary policy changes with a clear timeframe for phase-wise and nation-wide implementation of both work-centred education *in the entire school system* (including the private unaided schools) and Vocational Education and Training Programme (VET) *outside* the school system.

Third, it is a widespread misconception that curricular reforms can be de-linked from structural changes in the school system.

Fourth, it is wrong to assume that implementation of curricular reform in a category of schools (for example, government/local body schools) can be sustainable, while keeping the rest of the schools unreformed. The process of curricular reform has to cover the entire school system, including the private unaided schools, in order to become sustainable. It is nobody's case, however, that the full coverage can happen overnight by a *diktat* from above but there has to be a credible policy-level declaration of a *phase-wise plan to make the full switchover within a specified timeframe* so that the general public has the confidence that their children are not being treated as guinea pigs.

Let us recall that no developed or developing country has ever achieved Universalisation of Elementary Education (UEE) without a powerful state-funded Common School System functioning through Neighbourhood Schools. India is not going to be an exception either to this historical experience. **And without an effective and universal programme of work-centred education, it is unlikely that UEE (and later Universal Secondary Education too) would succeed!**

The proposed radical departure from the present educational system would not be obviously possible without building up a nation-wide social movement in its support. In this sense, the present paper is to be viewed as an advocacy document for various sections of society, including the policy makers and political parties.

We are convinced that India has the necessary administrative acumen, pedagogic experience and the economic capacity today to translate this radical vision on the ground, provided the government is willing to accord it the required political priority that it deserves.