

India

Education policies and curriculum at the upper primary and secondary education levels

National Council of Educational Research and Training

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| Estimated population (1995) | 929,000,000 |
| Public expenditure on education as percentage of Gross National Product (1995) | 3.4 |
| Duration of compulsory education (years) | 8 |
| Primary or basic education | |
| Pupils enrolled (1995) | 109,734,292 |
| Teachers (1995) | 1,740,436 |
| Pupil/teacher ratio | 63:1 |
| Gross enrolment ratio (1995) | |
| —Total | 100 |
| —Male | 110 |
| —Female | 90 |
| Net enrolment ratio (1995) | |
| —Total | 87 |
| —Male | 98 |
| —Female | 76 |
| Estimated percentage of repeaters (1995) | 4 |
| Estimated percentage of drop-outs (1995) | 38 |
| School-age population out of school (1995) | 14,200,000 |
| Secondary education | |
| Students enrolled (1995) | 68,900,000 |
| Gross enrolment ratio (1995) | |
| —Total | 49 |
| —Male | 59 |
| —Female | 39 |
| Third-level enrolment ratio (1995) | 6.5 |
| Estimated adult literacy rate (1995) | |
| —Total | 52 |
| —Male | 66 |
| —Female | 38 |

Source: UNESCO statistical yearbook, 1998, Paris.

EDUCATION POLICIES AND THE CURRICULUM IN INDIA

Background

India is a union comprised of twenty-five states and seven territories. The Constitution provides directives regarding the development of education throughout the country. The areas in which the respective central and state governments have domain have been identified in the Constitution as the *central* list, *state* list and *concurrent* list. Until the late 1970s, school education had been on the *state* list, which meant that states had the final say in the management of their respective school systems. However, in 1976, education was transferred to the *concurrent* list through a constitutional amendment, the objective being to promote meaningful educational partnerships between the central and state governments. Today, the central government establishes broad education policies for school curricula development and management practices. These serve as guidelines for the states.

Education policies

National policies are evolved through a mechanism of extensive consultations, in which all the states and union territories actively participate. Periodically, the central/state governments appoint commissions and committees to examine various aspects of education. In addition, country-wide debate takes place on various educational issues. The recommendations of various commissions, committees and national seminars, and the consensus that emerges during these national debates, form the basis for India's education policies. During the post-independence period, a major concern of the Government of India and of the states was education as a factor vital to national development. In this context, India's educational reconstruction problems have been periodically reviewed by several commissions and committees. Their deliberations, recommendations and reports have formed the basis for the 1968 National Policy on Education (NPE) and the National Policy on Education Resolution of 1986.

The impact of national debates on curriculum

In 1986, extensive deliberations by various national committees on the country's education system and policy culminated with the decision for a national curricular framework containing a *common core* along with *flexible components*. The common core includes the history of In-

dia's freedom movement; constitutional obligations and other content essential to nurture national identity. These core elements are intended to cut across subject areas and were designed to promote a number of values (such as India's cultural heritage, egalitarianism, democracy, and secularism, equality of the sexes, protection of the environment, removal of social barriers, observance of the small-family norm and inculcation of the scientific approach). Also, in order to reinforce the view that the whole world is one family, the curriculum would have the objective to promote international co-operation and peaceful co-existence.

With regard to re-orientation of educational content and processes, the NPE emphasized the need for bridging the schism between the formal education system and the country's rich and varied cultural traditions. To this end, the preoccupation with modern technologies must not be allowed to sever new generations' ties to India's history and culture. In view of the growing concern over the erosion of essential values and increasing cynicism in society, readjustments in the curriculum are to be carried out so that education becomes a forceful tool for the cultivation of social and moral values. The policy further emphasized the integral role that manual work, sports and physical education should play in the learning process and the need to strengthen science and mathematics education.

THE CURRICULUM DEVELOPMENT PROCESS

The process of curriculum development in India lies between the two extremes of centralization and decentralization. From time to time, the national government formulates the National Policy on Education which includes broad guidelines regarding content and process of education at different stages. These guidelines are further elaborated by the National Council of Educational Research and Training (NCERT).

Using as its foundation the NPEs of 1968 and 1986, two curriculum initiatives have been launched by NCERT: (a) The Curriculum for the Ten-Year School—a framework (1975); and (b) The National Curriculum for Elementary and Secondary Education—a framework (1988). The curriculum framework prepared at the central level provides a broad overview of the school curriculum, including general objectives, subject-wise objectives, suggested scheme of studies, and guidelines for the transaction of the curriculum and the evaluation of pupil outcomes. These detailed curricula, syllabi and instructional materials are developed at the national level. The NCERT has also developed the syllabi and instructional materials used in the schools run by central organizations.

However, the states consider whether to *adopt* or *adapt* the NCERT syllabi and instructional materials. Thus, the NCERT curriculum framework is always a *suggestion* rather than *prescriptive* and it is not enforceable by law in the states. However, it is readily accepted by the states because of the NCERT's credibility and the participatory development approach it follows. (The NCERT curriculum framework is developed on a consen-

sus basis; all the states and union territories are involved in the curriculum elaboration).

The National Curriculum

The following social, cultural, political, economic and educational parameters have guided the development of the national curriculum framework:

- All citizens of India should have equal access to education. The specific needs of the disadvantaged sections of the society ought to be met through the curriculum;
- Education regarding India's cultural heritage needs to be imparted to students in order to develop national identity and a spirit of togetherness;
- It is essential to impart knowledge of the citizens' duties and rights, and ideals of the Constitution of India to children;
- In view of the erosion of values, it is imperative through the curriculum to inculcate moral and social values amongst students;
- Besides national identity and unity, it is also imperative to develop international understanding through the curriculum;
- Protection of the environment and conservation of natural resources should be major objectives of school curriculum;
- In view of the increasing population of the country, it is imperative to include suitable content relating to population education in the syllabi of different subjects;
- The curriculum should aim at preparing a child for life, which means that relevant knowledge should be imparted and appropriate skills, competencies and values developed;
- Education plays a significant role in national development by increasing human resources. Therefore, the primary objective of the curriculum ought to be total development of the child's personality;
- All the processes of education should be child-centred, with the teacher playing the role of a facilitator during the process of learning;
- The curriculum should aim at developing students' creative potential;
- The curriculum should develop a scientific approach amongst students;
- Work should not be considered as distinct from education. Instead, work should be adopted as a medium for imparting education;
- The process of evaluation should be continuous and comprehensive;
- Media and educational technology ought to be employed to make the transactions of curriculum effective.

An important development since the National Policy on Education was formulated in 1986 has been the acceptance across the country of a common structure of education and the introduction by most states of the 10+2+3 system. There are eight years of elementary education (five years of primary school and three years of upper primary/middle schooling) and four years of secondary education (two years of general secondary and two years of higher secondary).

The education system seeks to give due recognition and importance to the social organization, traditions, customs and value systems of the various communities, particularly Scheduled Castes and Scheduled Tribes. This is supported among other ways by the development of materials and curricula in their languages.

The main characteristics of the national curriculum, developed in accordance with the above-mentioned principles, are described in the following sections.

General education

The national curriculum envisages the first ten years of school as the period of general education and that the diversified curriculum should be introduced at the end of general education (i.e. at the beginning of the senior secondary stage.) This plan provides all students with an opportunity to receive instruction in each of the curricular areas considered essential for their overall development.

Undifferentiated curricula

The national curriculum framework also envisages an undifferentiated curriculum for all children - irrespective of sex and place of residence (i.e. urban or rural).

Minimum levels of learning

The 1986 NPE recommended the establishment of minimum levels of learning (MLLs) for the various subject areas at the different school stages. In this context, a Government of India committee (under the Chairmanship of Professor R.H. Dave) elaborated the MLL curriculum concept that designates the *competencies* to be mastered by the primary level pupils in each *subject*, at *specific points in time*. For the first five years of primary schooling, the MLL covers the mother tongue, mathematics, social science and science. The MLL approach implies that the teacher's responsibility is not confined to syllabus coverage. Rather, teachers must be responsible for their pupils mastering designated competencies. This approach has necessitated on-going development of MLL-based textbooks and MLL-based evaluation. It has also introduced a higher concept of *teacher accountability*. Teachers are now held responsible for pupil competency development and not merely for teaching the prescribed syllabus—as was the previous practice.

Common-core elements

The 1988 National Curriculum Framework (NCF) recommended compulsory core curriculum elements to be taught throughout the country. Most of these core elements are aimed at the development of national identity and a spirit of togetherness leading to national unity. The common core elements recommended in the NCF are: the history of India's freedom struggle; constitutional obligations; content essential for the development of national identity; common cultural heritage of India; democracy, secularism, socialism; gender equality; environmental conservation; removal of social barriers; the small-family norm; and development of a scientific approach. The core elements are not to be treated as separate subject areas. Rather, the content is to be interwoven into the different subject areas. Here, it should be noted that, for the first

time during India's post-independence period, conscious efforts have been made to place *values* at the centre stage of curriculum.

Continuous and comprehensive evaluation

The NCF also considered the limitations of the existing evaluation system, which relies mostly on one-shot, end-of-the-year impact evaluation. This annual examination measures skills attainment and the affective domain is generally ignored (i.e. attitudes development). To remedy this, the NCF recommended that evaluation should be treated as an integral part of the classroom teaching/learning process. Furthermore, evaluation, conducted periodically, should provide the type of feedback on student achievement that enables teachers to improve their methodology, if required.

Interactive teaching

It is recognized that both the educational curriculum content and process must be re-oriented in order to bring about overall quality improvement. During the past few years, successful attempts have been made to re-orient the educational content to current development and demands of both society and the different disciplines. However, this initiative has not been accompanied by a corresponding change in the modes of curriculum transaction, which remains predominantly one of verbal exposition by the teacher. The expository style of teaching, involving mostly one-way communication, puts the learner in the role of a passive recipient—a mere *object* of education. This situation is not conducive to the development of creative, critical and analytical thinking by students. An interactive teaching methodology involving continuing dialogue between the teacher and pupils (discussion, investigation, problem-solving, etc.) could provide an educational environment more conducive to developing certain abstract cognitive skills.

Scheme of studies

The 1988 National Curriculum Framework has recommended the areas shown in Table 1, along with the appropriate time weightage at the upper primary and secondary levels:

Languages. The NCF envisages the study of three languages at the upper primary and secondary stages: first, the mother tongue/regional language; second, Hindi or English (in the case of non-Hindi-speaking states); and third, one of the modern Indian languages (English in Hindi-speaking states; Hindi or English in non-Hindi-speaking states).

Mathematics. Functional mathematics are taught at the upper primary stage; arithmetic, including commercial mathematics, should be completed, to a very large extent, by the end of the upper primary stage. The secondary stage begins the transition from functional mathematics to the study of mathematics as a discipline.

TABLE 1. The National Curriculum Framework

| Upper primary stage | | Time weightage (%) |
|---------------------|-------------------------------|--------------------|
| 1. | Three languages | 32 |
| 2. | Mathematics | 12 |
| 3. | Social science | 12 |
| 4. | Science | 12 |
| 5. | Health and physical education | 10 |
| 6. | Arts | 10 |
| 7. | Work experience | 10 |
| Secondary stage | | |
| 1. | Three languages | 30 |
| 2. | Mathematics | 13 |
| 3. | Social science | 13 |
| 4. | Science | 13 |
| 5. | Work experience | 13 |
| 6. | Health and physical education | 9 |
| 7. | Arts | 9 |

Science. The upper primary science teaching objectives are to develop an understanding of the nature of scientific knowledge; and certain physical, chemical, biological principles and their relationship to the operation of scientific principles in nature, as well as in daily life. The aim of the teaching of science at the secondary level is focused on problem-solving and decision making through the learning of key concepts, which cut across all the science disciplines.

Social sciences. The study of social sciences at the upper primary stage is comprized of the study of history, geography, civics and contemporary issues and problems. At the secondary stage, it incorporates elements of history, geography, civics and economics to promote an understanding of contemporary India.

Arts. The aim of art education is learner sensitization to the beauty in line, colour, form, movement and sound. The upper primary programme incorporates: (i) drawing, painting, printing, collage, clay modelling, puppet construction; (ii) free expression artistic creation; (iii) handling of simple musical instruments; (iv) movement, mime, simple dance forms, community singing; (v) simple concepts of visual and performing arts; (vi) stories of great personalities in the field of arts, and stories connected with other countries. At the secondary stage, it incorporates: (i) study and exploration of visual and aural resources; (ii) projects leading to creative visual and aural forms; (iii) inter-group, inter-school art activities; (iv) study groups, interaction with community artists; (v) exploration of community/neighbourhood traditional art forms .

Health and physical education. This area focuses on the holistic health of the learner and the community, thereby

establishing the important place of mental and emotional, as well as physical health. The first ten years of content focuses on general promotion of healthful living as well as on major health problems of the country. In physical education, sports and games, the emphasis is given to indigenous traditional games. Furthermore, as a system which promotes the integral development of body and mind, yoga receives special attention.

Morals and values. These areas are treated as an integral curriculum component for which all teachers are responsible.

Work experience. The work experience incorporates purposive, manual work resulting in either goods or services useful to the community. It is an essential component at all stages of education and is to be provided through well-structured, graded programmes. At both the upper primary and secondary stages, work experience emphasizes agricultural and technological processes to facilitate the integration of science, mathematics and technology into community life.

State-level curriculum implementation

The available feedback from the states indicates that, for the most part, they have revised their curricula along the lines recommended by the 1986 NPE and 1988 NCF. However, several have made adjustments that respond to specific local needs or socio-political pressures. Following are some highlights that reflect the dynamics of curriculum implementation at the state level.

Languages

All states (except Tamil Nadu) have adopted the three-language formula. Although it was envisaged that only one language (mother tongue or regional language) would be taught at the primary stage, many states have taken the initiative and introduced a second and third language at this level. For example, Punjab state recently decided to introduce English, along with the regional language in class I. In the state of Sikkim, English is taught as a subject and used as the medium of instruction—beginning right from class I. The policy of using English as the medium of instruction beginning in class I is being implemented in almost all the private, unaided schools throughout the country. (The growth of these private schools has mushroomed during the past few years and this trend is likely to accelerate in the future.)

Another interesting variation encompasses classical language teaching—an area that the NCF did not address. Most of the Hindi-speaking states, and even central school organizations, have made provisions for teaching Sanskrit as a third language. In fact, to accommodate the study of Sanskrit along with other languages, some states have even made provisions for the teaching of a fourth language. (In Uttar Pradesh, Sanskrit is compulsory and taught as part of Hindi.) It would appear that Sanskrit is in demand because it is associated with ancient Indian culture and is the mother to many modern Indian languages.

Other scholastic areas

Several states have modified the NCF science and social sciences recommendations. For example, in place of the integrated science approach, they have opted for the single-subject discipline approach. West Bengal has made provisions for the teaching of history and geography only at the upper primary stage.

Non-scholastic areas

In India, work experience, arts, and health and physical education are generally categorized as non-scholastic areas. The curriculum framework has emphasized that these areas are essential for all around development of the child's personality. However, being non-examination subjects, these areas are not taken seriously by the teachers and students. In some states, arts has not been made a compulsory subject at the secondary stage. In the states and schools where arts is a compulsory or optional area, only the visual arts are taught. Performance arts like music and dance are taught only in a limited number of schools. In the states of Punjab, Haryana and Himachal Pradesh, arts has been clustered with home science and agriculture and the students have been given the option to choose any one of these areas.

Values education

The NCF also envisaged that values education should permeate all aspects of school life and, therefore, should be integrated into all the curriculum areas. However, states like Haryana, Goa, Himachal Pradesh, Karnataka, Punjab, Sikkim, Tamil Nadu, Andhra Pradesh and Uttar Pradesh have all introduced moral education or moral science as independent subject areas, with distinct time allocations. Apparently, this has occurred in the light of pleas that, given the progressive weakening of the moral fabric of society, the integrated approach does not provide values education with the prominent place it deserves.

Competency-based textbooks

After the identification of MLL (minimum levels of learning), introductory advocacy programmes were launched to promote the concept as an approach to curriculum development, teaching and learning and pupil evaluation. A number of states have since produced primary-stage competency-based textbooks in different curricular areas.

CURRICULUM OUTCOMES

The curriculum review

The Government of India found it necessary to appoint a National Advisory Committee (NAC) to look into frequent complaints about the *excessive burden* of the curriculum on children. The NAC submitted report findings in 1993. This report, which took note of the widespread perception regarding the heavy load of the school curriculum, also identified the roots of the problem: inability to distinguish between information and knowledge; society's competitive social ethos; the desire to catch up with devel-

oped countries; centralized curriculum development processes; non-participation of teachers in the various curriculum development processes; excessive dependence on experts; incomprehensibility of textbooks; and absence of an academic ethos in schools. The committee further determined that the academic burden perception is tied to *incomprehension*, a problem which can be addressed (to some extent) by modifying the curriculum development goals, as well as the textbook writing process and by improving the school environment by providing the required infrastructure.

Most of the NAC recommendations were accepted by the Government. All state governments were asked to initiate appropriate follow-up measures to implement the recommendations of the committee, including review of curriculum and textbooks.

Evaluation of textbooks

The textbooks used in different states and union territories are already subject to periodic evaluation. They are reviewed from the perspective of national integration—the objective being to promote peace and harmony in the country and enable children to learn to live together with people of different religious, linguistic, ethnic and cultural groups. During these reviews any content deemed to have a secular bias or to be destructive to national unity is identified and recommended for removal. Textbooks are also continuously evaluated from the standpoint of gender, scientific temper and relevance, etc.

Improving quality of curriculum transaction

NCERT, the Central Board of Secondary Education (CBSE), the State Councils of Educational Research and Training (SCERTS) and the State Boards of Secondary Education have initiated a number of projects to improve the quality of curriculum transmission in schools. To improve the quality of mathematics education, CBSE has launched the project Operation Mathematics emphasizing the re-orientation of all teachers. The CBSE has also developed source materials in the education areas of: environment, values, consumer and population. Furthermore, a network of training institutions has been established in the country to enhance teacher competencies through in-service education.

Emerging trends in curriculum development

In the light of changing societal needs and aspirations, certain high demand-driven areas are likely to have an impact on the school curriculum. It appears that, among other areas, language education, values education and information technology shall be matters of serious debate in the next cycle of curriculum renewal. Art education is also scheduled for reform in the next cycle of curriculum renewal.

Language education. The introduction of English at the primary stage is one of the demands which school systems are finding difficult to resist. Perhaps this demand is based on the assumption that the study of English can give children an edge in a highly competitive society.

Values education. After the establishment of a National Commission for Human Rights, momentum has been gathering for incorporating this area into the school curriculum. The interim report issued by Justice Verma's Committee (on the fundamental duties of citizens) strongly recommended that fundamental duties should be incorporated at all stages of the school curriculum, as well as into different teacher-education programmes. The incorporation of human rights and citizens' fundamental duties into the curriculum can help pupils *learn to live together*, one of the four pillars of learning identified by the International Commission on Education in the Twenty-first Century.

Computer education is expected to soon occupy a prominent space in India's school curriculum, it being recognized that, in the information age, skills in the use of these technologies are invaluable.

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