VOL 2: SCHOOL EDUCATION

EDUCATION

AND

NATIONAL DEVELOPMENT

REPORT OF THE

EDUCATION COMMISSION, 1964-66

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
1970

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Asadha 8, 1888

Dear Shri Chagla,

I have much pleasure in submitting the Report of the Education Commission.

I would like to take this occasion to express to you my own and my colleagues' sincere gratitude for the support and encouragement you have always so generously extended to us in our work. The appointment of the Commission is largely due to your initiative and vision.

Education has always been important but perhaps never more so in man's history than today. In a science-based world, education and research are crucial to the entire developmental process of a country, its welfare, progress and security. It is characteristic of a world permeated by science that in some essential ways the future shape of things is unpredictable. This emphasizes all the more the need for an educational policy which contains a built-in flexibility so that it can adjust to changing circumstances. It underscores the importance of experimentation and innovation. If I may say so, the single most important thing needed now is to get out of the rigidity of the present system. In the rapidly changing world of today, one thing is certain: yesterday's educational system will not meet today's, and even less so, the need of tomorrow.

It is difficult, and it is certainly so for us, to say to what extent the Report will actually help in the reconstruction of the educational system which is so urgently necessary. We trust, however, that the Report will provide some basic thinking and framework for taking at least the first step towards bringing about what may be called an educational revolution in the country. The Report makes recommendations about various sectors and aspects of education. The main points that immediately come to my mind are:

Introduction of work-experience (which includes manual work, production experience, etc.) and social service as integral parts of general education at more or less all levels of education;

Stress on moral education and inculcation of a sense of social responsibility. Schools should recognize their responsibility in facilitating the transition of youth from the world of school to the world of work and life;

Vocationalization of secondary education;

The strengthening of centres of advanced study and the setting up of a small number of major universities which would aim to achieve the highest international standards;

Special emphasis on the training and quality of teachers for schools; Education for agriculture and research in agriculture and allied sciences should be given a high priority in the scheme of educational reconstruction. Energetic and imaginative steps are required to draw a reasonable proportion of talent to go in for advanced study and research in the agricultural sciences;

Development of quality or pace-setting institutions at all stages and in all sectors.

I apologize for the size of the Report. It could have been shorter, but that would have cost more money and time, and delayed action. What the situation urgently calls for is action, and this is what you have always stressed.

With regards,

Yours sincerely,

D. S. KOTHARI

SHRI M. C. CHAGLA

Minister for Education

Government of India

New Delhi

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17. MR. J. F. MCDOUGALL, Assistant Director, Department of School and Higher Education, UNESCO, Paris.

FOREWORD

The Education Commission was appointed by the Government of India by a Resolution, dated 14 July 1964, to advise the Government on the national pattern of education and on the general principles and policies for the development of education at all stages and in all aspects.*

We began our task twenty-one months ago, on October 2, 1964, Mahatma Gandhi's birthday. From the very beginning we have been conscious of the immensity and inherent difficulties of the task assigned to us. No task in our view could be more challenging, more vital and relevant to India's progress and development-economic, cultural and spiritual. In facing a task of such colossal magnitude and complexity, there is always a danger that the approach and recommendations may not be sufficiently radical. There is also the other possibility that the recommendations may go beyond the capacity and resources of the nation. The difficulties are greatly accentuated because educational plans are long-term plans, and long-term projections of needs and resources are beset with serious uncertainties. We hope our assumptions about the total resources of the nation over the next 20 years and the proportion to be invested in education are reasonable.

It cannot be gainsaid that the recommendations are inevitably circumscribed by the limits of our knowledge and experience, and by our capacity for bold, constructive and imaginative thinking. We would not claim that the recommendations made by us in the Report are necessarily the best, nor can we be completely certain about the validity of every recommendation that we have made. Again, many of the proposals we make would require investigation and revision in the light of experience. We therefore, lay considerable emphasis on a built-in flexibility in the system of education to facilitate adjust- ment to changing situations and requirements. There is, of course, one thing about which we feel no doubt or hesitation: education, science-based and in coherence with Indian culture and values, can alone provide the foundation-as also the instrument-for the nation's progress, security and welfare.

Indian education needs a drastic reconstruction, almost a revolution. We need to bring, about major improvement in the effectiveness of primary education; to introduce work experience as an integral element of general education; to vocationalize secondary education; to improve the quality of teachers at all levels and to provide teachers in sufficient strength; to liquidate illiteracy; to strengthen centres of advanced study and

*Legal and medical education were excluded from the purview of the Commission, but it was authorized to look into "such aspects of these problems as are necessary for its comprehensive enquiries".

strive to attain, in some of our universities at least, higher international standards; to lay special emphasis on the combination of teaching and research; and to pay particular attention to education and research in agriculture and allied sciences. All this calls for a determined and large-scale action. Tinkering with the existing situation and moving forward with faltering steps and lack of faith can make things worse than before.

In view of the urgency of the situation, we felt impelled to keep the time-table originally set for the submission of the Report, even if it meant some limitations on the scope of our studies and on the depth and perspicacity of our presentation. If we had more time, the Report could have been shorter and more readable.

The Commission set up twelve Task Forces on (1) School Education; (2) Higher Education; (3) Technical Education; (4) Agricultural Education; (5) Adult Education; (6) Science Education and Research; (7) Teacher Training and Teacher Status; (8) Student Welfare; (9) New Techniques and Methods; (10) Manpower; (11) Educational Administration; and (12) Educational Finance. In addition, it set up seven Working Groups on (1) Women's Education; (2) Education of Backward Classes; (3) School Buildings; (4) School-Community Relations; (5) Statistics; (6) Pre-Primary Education; and (7) School Curriculum. The Task Forces and the Working Groups made a detailed study of many specific problems. Some of these studies will be published separately. The Reports of the Task Forces and the Working Groups have been of great help to us in our work and have enabled us to examine some of the important issues in a depth and detail which would not have been possible otherwise.

We spent about one hundred days in going round all the States and some Union Territories. We visited universities, Colleges and schools and held discussions with teachers, educationists, administrators and students. We convened two conferences of university students' representatives to have the advantage of personal discussion with them about student welfare and discipline. We found these conferences of real value.

We interviewed men and women distinguished in public life, scientists, industrialists and scholars in different fields and others interested in education. Altogether we interviewed about 9,000 persons. We invited written evidence, memoranda and replies to our questionnaires, organized seminars and conferences, commissioned a number of special studies and also conducted a few special enquiries such as the socio- economic background of students admitted to educational institutions, and working days in schools and colleges. The total number of memoranda and notes sent to the Commission was over 2,400.

We had the benefit of valuable consultations with a number of internationally well-known educationists and scientists. We are particularly grateful to Prof P. M. S. Blackett, President of the Royal Society, UK; Lord Robbins, Chairman of the Committee on Higher Education (1961-63), UK; Sir Christopher Cox, Educational Adviser, Ministry of Overseas Development, UK; Sir Willis Jackson, Professor of Electrical Engineering, Imperial College of Science and Technology, University of London; Professor C. A. Moser, London School of Economics; Professor Frederick Spitz, President, National

Academy of Sciences, USA; Dr. James E. Allen Jr., Commissioner, State Education Department and President, University of the State of New York, USA; Professor Edward Shils, University of Chicago, USA; Professor S. Dedijer, University of Lund, Sweden; Recteur J. Capelle, formerly Director-General of Education in France; Professor C. E. Beeby, Harvard University; and Academician A. D. Alexandrov, Rector, University of Leningrad; and Academician O. A. Reutov, Academy of Sciences, USSR.

We had the honour and privilege of meetings with the President, the Vice-President and the Prime Minister. We had most useful discussions with the Minister for Education and some of his Cabinet colleagues and with the Deputy Chairman, Member (Education) and some other members of the Planning Commission. During our visits to the States, the Chief Ministers and Education Ministers as also their colleagues gave us their time generously. Discussions with them were of great value and benefit to us. We had useful discussions with the Secretaries to State Governments concerned with Education, Local Government, Agriculture and Finance. We also had most useful meetings with a large number of educationists, scientists, the President of the Indian National Congress, Members of Parliament and State Legislatures, industrialists and journalists. To all of them, we are deeply grateful.

In setting up the Commission, the Government of India decided to associate with it a number of distinguished educationists and scientists from other countries. Professors H. L. Elvin (UK), jean Thomas (France), Roger Revelle (USA), S. A. Shumovsky (USSR) and Sadatoshi Ihara (Japan) served as full members of the Commission. Mr. J. F. McDougall (UNESCO Secretariat) served as Associate Secretary throughout the work of the Commission. The Indian members of the Commission would like to record their deep gratitude to the foreign members and to the Associate Secretary. It has enabled us to add considerably to our expertise and insight. While the foreign members have been fully and wholeheartedly associated with the work of the Commission and with the general trend of its conclusions, the responsibility rests primarily with the Indian members in cases where we make recommendations pertaining specifically to Indian problems.

Our Report is divided into three parts.

The first part covers Chapters I-VI. It deals with general aspects of educational reconstruction common to all stages and sectors of education. These include reorientation of the educational system to national objectives, structural reorganization, improvement of teachers, enrolment policies and equalization of educational opportunity.

The second part covers Chapters VII-XVII. It deals with the different stages and sectors of education. Chapters VII-X deal with some aspects of school education such as problems of expansion, curriculum, teaching methods, textbooks, guidance, evaluation, administration and supervision. Chapters XI-XIII deal with problems of higher education which include, amongst others, the establishment of major universities, programmes of qualitative improvement, enrolment and university governance. Chapters XIV and XV deal respectively with education for agriculture and technical and vocational education.

Chapter XVI discusses programmes of science education and research. Chapter XVII deals with problems of adult education.

The third part deals with problems of implementation. It covers two chapters-Chapter XVIII which deals with educational planning and administration and Chapter XIX which deals with educational finance. We realize that many of the things we say here have been said before, notably by the University Education Commission (1948-49). It is worth recalling, for instance, that the Commission laid great stress on education for agriculture and its improvement, yet nothing significant happened. The real need is action. The poignancy of the situation and the grim times we are passing through underscore this simple but vital fact.

We record our gratitude to the State Governments for their generous cooperation in our work through organizing our visits, making the time of busy senior officials fully available to us, readily answering all our questions, preparing memoranda on their educational progress and problems, opening their institutions to our visits and for their hospitality in making our stay in their States useful and pleasant in every way.

We thank the members of our Task Forces and Working Groups and the Secretary, UGC, for their most willing and devoted efforts to deal with complex problems in a realistic and professional manner. Theirs has been a contribution of inestimable value. We are equally grateful to all those who have given evidence, sent memoranda, replied to the questionnaires, and discussion papers and participated in seminars and conferences and given us the privilege of visiting their institutions.

We thank the agencies which carried out special studies and enquiries for us and in particular the National Council of Educational Research and Training, the Institute of Applied Manpower Research, the Indian Law Institute, the State Institutes of Education, and the several Teachers' Associations. These added background to our enquiries which we otherwise would have lacked.

Many educational institutions collaborated in a number of special enquiries which the Secretariat of the Commission carried out. Many more opened their doors to our visits and provided the time and experience of their staff to our discussions. We express our gratitude to all of them.

We owe a special debt to the UGC and the Indian Institute of Public Administration who, at considerable inconvenience to themselves, provided us with the necessary accommodation.

It is a pleasure to record our thanks to the UNESCO, the British Council and the USAID for the services of members and consultants and to the Asia Foundation for a gift of books. We have to thank also the UNESCO International Institute of Educational Planning and the Governments of France, the Federal Republic of Germany and the USSR for financial and other assistance to our team which went abroad for comparative studies.

We thank our Secretariat for their selfless and devoted collaboration. A particular word of thanks goes here to the State Liaison Officers for their unstinted help.

We cannot conclude our acknowledgements without expressing our indebtedness to Shri J. P. Naik, Member-Secretary of the Commission. His unrivalled knowledge of educational problems and statistics and his indefatigable energy have been a source of unfailing strength and inspiration; and we owe more to him than to any one else that the work of the Commission could be brought to completion within the allotted time.

We are grateful to Mr. J. F. Mc Dougall, Associate Secretary of the Commission, for his assistance at all stages of our work.

NATIONAL POLICY ON EDUCATION

The Resolution issued by the Government of India on the Report of the Education Commission is reproduced below for ready reference.

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

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

3. The Government of India is convinced that a radical reconstruction of education on the broad lines recommended by the Education Commission is essential for economic and cultural development of the country, for national integration and for realizing the ideal of a socialistic pattern of society. This will involve a trans- formation of the system to relate it more closely to the life of the people; a continuous effort to expand educational opportunity; a sustained and intensive effort to raise the quality of education at all stages; an emphasis on the development of science and technology; and the cultivation of moral and social values. The educational system must produce young men and women of character and ability committed to national service and development. Only then will education be able to play its vital role in promoting national progress, creating a sense of common citizenship and culture, and strengthening national integration. This is necessary if the country is to attain its rightful place in the comity of nations in conformity with its great cultural heritage and its unique potentialities.

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

(1) Free and Compulsory Education

Strenuous efforts should be made for the early fulfillment of the Directive Principle under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14. Suitable programmes should be developed to reduce the prevailing wastage and stagnation in schools and to ensure that every child who is enrolled in school successfully completes the prescribed course.

(2) Status, Emoluments and Education of Teachers

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

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

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

(3) Development of Languages (a) Regional Languages: The energetic development of Indian languages and literature is a sine qua non for educational and cultural development. Unless this is done, the creative energies of the people will not be released, standards of education will not improve, knowledge will not spread to the people, and the gulf between the intelligentsia and the masses will remain, if not widen further. The regional languages are already in use as media of education at the primary and secondary stages. Urgent steps should now be taken to adopt them as media of education at the university stage.

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

(c) Hindi: Every effort should be made to promote the development of Hindi. In developing Hindi as the link language, due care should be taken to ensure that it will

serve, as provided for in Article 351 of the Constitution, as a medium of expression for all the elements of the composite culture of India. The establishment in non-Hindi States, of colleges and other institutions of higher education which use Hindi as the medium of education should be encouraged.

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

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

(4) Equalization of Educational Opportunity Strenuous efforts should be made to equalize educational opportunity. (a) Regional imbalances in the provision of educational facilities should be corrected and good educational facilities should be provided in rural and other backward areas.

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

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

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

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

(5) Identification of Talent

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

(6) Work-experience and National Service

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

(7) Science Education and Research

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

(8) Education for Agriculture and Industry

Special emphasis should be placed on the development of education for agriculture and industry.

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

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

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

(9) Production of Books

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

The possibility of establishing autonomous book corporations on commercial lines should be examined and efforts should be made to have a few basic textbooks common

throughout the country. Special attention should be given to books for children and to university- level books in regional languages.

(10) Examinations

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

(11) Secondary Education

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

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

(12) University Education

(a) The number of wholetime students to be admitted to a college or university department should be determined with reference to the laboratory, library and other facilities and to the strength of the staff.

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

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

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

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

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

(14) Spread of Literacy and Adult Education

(a) The liquidation of mass illiteracy is necessary not only for promoting participation in the working of democratic institutions and for accelerating programmes of production, especially in agriculture, but for quickening the tempo of national development in general. Employees in large commercial, industrial and other concerns should come from the industrial undertakings in the public sector. Teachers and students should be actively involved in organizing literacy campaigns, especially as part of the social and National Service Programme.

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

(15) Games and Sports

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

(16) Education of Minorities

Games and sports should be made not only to protect the rights of minorities but to promote their educational interests as suggested in the statement issued by the conference of the Chief Ministers of States and Central ministers held in August 1961.

(17) The Educational Structure

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

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

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

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

PART TWO

EDUCATION AT DIFFERENT STAGES AND IN DIFFERENT SECTORS

(Part Two of the Report consists of Chapters VII-XVII. This Volume, however, contains only Chapters VII-X, which deal with School Education, while Volume III includes Chapters XI-XVII.)

In this part of our Report, we examine the special problems relating to the different stages and sectors of education.

Chapters VII-X deal with problems of school education.

Chapter VII concerns all problems of pre-primary education and problems of expansion at the primary and secondary stages.

Chapter VIII deals with school curriculum from class I to class XII, covering all sub-stages-lower and higher primary and lower and higher secondary.

Chapter IX relates to teaching methods, textbooks, teachers' guides and other teaching and learning materials, class-size, provision of physical facilities (especially buildings), guidance and counselling and evaluation.

Chapter X covers problems of administration and supervision. These include, amongst others, the creation of a common school system of public education, reorganization of the State Education Department at the district level, the State Institutes of Education, the State Evaluation Organizations, the State Boards of School Education, national standards and the role of the Centre in improving school education.

CHAPTER VII

SCHOOL EDUCATION: PROBLEMS OF EXPANSION

AN INTEGRATED APPROACH TO SCHOOL EDUCATION

7.01 We have divided the entire period of formal education into two main stages-school and higher-and we have so far treated school education as one continuous unit. Some explanation for this procedure is necessary. The traditional practice has been to divide the period of school education into three stages-pre-primary, primary and secondary and to discuss the problems of each separately. This is based on several considerations. In the first place, the three stages of education are regarded as corresponding to the three stages in the development of a child-infancy, childhood and adolescence. Again, from the social point of view, primary education has long been considered as education meant for the masses and secondary education for the select few. In our own country, distinctions have been made sometimes even on cultural grounds; primary education was defined as education through the modern Indian languages while secondary education was regarded as education in English. in recent years, however, these distinctions are either becoming blurred or have vanished altogether. For instance, it is increasingly realized that the dividing lines between pre-primary and primary or primary and secondary are arbitrary and variable. Similarly, the traditional view that primary education should provide undifferentiated general education while secondary education should be diversified to meet the varying aptitudes, interests and abilities of children is no longer universally held; and in some countries, such as the USSR, the entire course of school education-primary and secondary-has been designed on one set of principles. With the phenomenal expansion of secondary education in India, the social distinction between primary and secondary education as meeting respectively the needs of the masses and the classes has already ceased to be valid; and so has the justification for classifying primary as `vernacular' education and secondary as `English' education. We have found it, therefore, more convenient and appropriate to treat the entire pre-university period of education as one stage and have structured our Report accordingly. Such a treatment is almost inescapable for a proper planning and development of the school curriculum. It is true that in this chapter, which deals largely with problems of enrolment, the need to divide the school period into several substages-pre-primary, primary (lower and higher) and secondary (lower and higher) has been recognized. But our general approach in the Report has been to regard the similarities between the problems of the different stages as being far more significant than the differences and to treat school education as a single whole.

7.02 Some general programmes of educational reconstruction which affect the school stage have already been considered in Part one of the Report, for instance, the problems relating to the structure of the educational System,[61] the status and education of school teachers[62] and equalization of educational opportunities for school children through such measures as the abolition of tuition fees, free supply of books and materials and award of scholarships,[63] have been discussed in the earlier chapters. In this and the next three chapters, we shall consider some important issues which are specially concerned with the school stage only. The present chapter will take up all aspects of preprimary education and the problems of expansion in primary and secondary education. Chapters VIII and IX will deal with the curriculum, textbooks, teaching and learning materials, methods of teaching and evaluation and educational guidance. In Chapter X, we shall examine in detail certain vital problems relating to supervision and administration.

PRE-PRIMARY EDUCATION

7.03 The objectives of pre-primary education may be stated as follows:

- to develop in the child good health habits and to build up basic skills necessary for personal adjustment, such as dressing, toilet habits, eating, washing, cleaning, etc.; - to develop desirable social attitudes and manners, and to encourage healthy group participation, making the child sensitive to the rights and privileges of others; - to develop emotional maturity by guiding the child to express, understand, accept and control his feelings and emotions; - to encourage aesthetic appreciation; - to stimulate the beginnings of intellectual curiosity concerning the environment and to help him understand the world in which he lives, and to foster new interest through opportunities to explore, investigate and experiment;

- to encourage independence and creativity by providing the child with sufficient opportunities for self-expression;

- to develop the child's ability to express his thoughts and feelings in fluent, correct and clear speech; and

- to develop in the child a good physique, adequate muscular coordination and basic motor skills.

7.04 Importance of Pre-primary Education. Pre-primary schools were first established to meet social needs such as looking after the children of working mothers or providing a suitable environment to little boys and girls from urban families whose small tenements or flats were hardly appropriate for the children's proper growth. These schools also attempted to compensate for the unsatisfactory home environment of children from slum areas or poor families. Recently, however, the educational significance of this stage is being increasingly realized. Modern researches have shown that the years between three

[61]Chapter II. [62]Chapters III and IV. [63]Chapter VI.

and ten are of the greatest importance in the child's physical, emotional and intellectual development. It has also been found that children who have been to a pre-primary school show better progress at the primary stage and help in reducing wastage and stagnation. The modern trend in educational policy, therefore, is to emphasize pre-primary education especially for children with unsatisfactory home backgrounds. This is the direction in which we also should move.

7.05 Recent Developments in Pre-primary Education. Prior to 1947, little attention was paid to pre-primary education and it was not even regarded as a State responsibility. For the first time in our educational history, the Report of the Central Advisory Board of Education on Post- War Educational Development in India (1944) emphasized its significance and recommended that an adequate provision of pre-primary education should be an essential adjunct of a national system of education. We are happy to note that pre-primary education has been rapidly gaining in popularity in the post-Independence period. In 1950-51, the number of pre-primary schools was only 303 with 866 teachers and an enrolment of about 28,000. The total direct expenditure on pre-primary education was about Rs. 1.2 million or 0.1 per cent of the total educational expenditure. In 1965-66, the number of primary schools increased to 3,500 with 6,500 teachers and a total enrolment of about 250,000. The total direct expenditure also rose up to Rs. 11 million or 0.2 per cent of the total educational expenditure.[64] These are mainly urban institutions. In rural areas excellent pioneering work has been done by the Central Social Welfare Board (CSWB) and the Community Development Administration which, taken together, run about 20,000 balwadis having a total enrolment of about 600,000. The progress is no doubt small in relation to our goals, but it marks a tremendous advance over earlier achievements.

7.06 Recommendations. While we recognize the need to develop pre-primary education as extensively as possible, our advance in this sector will necessarily be restricted on account of the inadequacy of the resources available, and especially because primary education must be accorded a higher priority. It is also necessary to reconcile the competing claims of quality and quantity. Some educationists are of the view that the pre-primary education to be provided must be of the proper quality, and they insist on maintaining standards which increase the cost per pupil to a level where any large-scale expansion becomes impossible. Others deliberately advocate the adoption of less costly techniques so that the benefit of pre-primary education, may be extended to a larger proportion of children. There are also differ- ences of opinion regarding the agency of development; some would prefer the responsibility for pre-primary education to be largely assumed by the State while others would leave it mainly to private enterprise. In these circumstances, we shall have to take a pragmatic view and adopt a policy which promotes experimentation and the best utilization and combination of existing resources and agencies.

[64]In addition to these officially reported institutions, there are a large number of unrecognized schools, especially in rural areas, in respect of which statistics are not available.

7.07 We make the following recommendations for the development of pre-primary education during the next 20 years:

(1) There should be a State-level centre for the development of pre-primary education located in the State Institute of Education. In addition, a pre-primary education development centre should be established in each district in a phased programme spread over the next 20 years. The main functions of these centres would be to train pre-primary teachers, to provide supervision and guidance to pre-primary teachers working in the area, to hold refresher courses and in-service training programmes for them, to undertake the preparation of teaching aids out of the locally available materials, to conduct experimental pre-primary schools and to provide education to parents regarding child care. They can also advantageously undertake programmes of initial training of pre-primary teachers.

(2) The establishment and conduct of pre-primary schools may be left, as at present, mainly to private enterprise. The State should assist through grants-in-aid on a basis of equalization. Accordingly, pre-primary schools catering to the needs of children from the under-privileged groups will have a higher claim on State funds. (3) Every encouragement should be given to experimentation, particularly in devising less costly methods of expanding pre-primary education. We strongly commend the scheme recently adopted by the State of Madras. Under this programme, a local woman is selected as a teacher on a small honorarium, is given a short course of training, and is assisted in her work by the local Mahila Mandal. The outstanding features of the scheme are its low costs (the cost per child per year is less than Rs. 20) and its adaptability and suitability to rural areas. It works well and, under active teachers, children show better health, more mental alertness and a lively interest in the environment.

(4) Another important experiment of this type, which has been tried with success in some parts of the country, is the establishment of children's play centres in close association with the primary schools. These are conducted by a specially trained teacher in the primary school, who is given an allowance for the purpose, or by a separate teacher. The programme, which last for about two hours a day, is simple and consists of group singing, story-telling and games, with considerable attention being given to personal hygiene and health. These centres serve as pre-school classes and smoothen the transition of the child from its play-dominated world of infancy to the formal atmosphere of the primary school. They are comparatively less costly to run and serve a very useful purpose in reducing wastage and stagnation, particularly in class 1. Such centres should be attached to as many primary schools as possible.

(5) The role of the State should be to maintain such centres at the State and district levels, train pre-primary teachers, conduct research, assist in the preparation of materials and literature needed for pre-primary education and provide supervision and guidance to pre-primary schools and training institutions. As suggested above, it should assist private institutions at this stage through grants-in-aid; and in exceptional cases, it may also conduct some pre-primary schools to serve the needs of urban slums or rural areas or to serve as model institutions.

(6) We can hardly talk about a curriculum for pre-primary schools; it is more appropriate to think of it as a programme of activities. We agree with the suggestion of the Committee on Child Care (1961-62), appointed by the CSWB, that the programme should consist of the following activities: (a) Play activities:

(i) Free play including educational and constructional toys, indoor games, and outdoor activities in association with other children; (ii) Physical activities involving muscular and limb movement; (iii) Play involving contact, acquaintance, imitation and experience of physical, family and social environment; (iv) organized play, group activities and directional play; (v) Playground activities using playground apparatus.

(b) Physical training including simple exercise, dance and eurhythmics.

(c) Manual activities and play like gardening, simple chores and participation in simple community efforts.

(d) Sensorial education using natural objects and specially constructed apparatus.

(e) Handwork and artistic activities involving the use of finger skills and tools; and activities like drawing, painting, singing, music, and dancing.

(f) Learning activities including language; personal hygiene and health rules; elementary nature study involving contact with the physical, plant and animal world; counting and arithmetic, etc.

(g) Self-service in school eliminating as far as possible the use of servants and adult helpers.

We have often found that the programmes tend to be rigid and authoritarian, that adequate opportunities are not given to children to know their environment, that group work tends to be emphasized at the cost of the children's needs, and that the educational possibilities of the provision of mid-day meals and snacks are not utilized fully. To overcome these, it is necessary to improve the training of teachers and to give them greater freedom in planning their programmes.

(7) There is need for more coordination among the different agencies that work for child-care and pre-primary education, both at the national and at the State levels. In particular, it is necessary for the State Education Departments to develop close relations with the CSWB, the Indian Council of Child Welfare and the Community Development Administration.

(8) With regard to enrolment, we consider that a feasible target would be to enrol five per cent of the children in the age-group 3 to 5 by 1986. This will mean an enrolment of about 2.5 million. If the inexpensive techniques we have recommended above are adopted, this enrolment could be higher. We have also recommended the addition, on as wide a scale as possible, of a pre-school class to which children of the age 5-6 will be

admitted. We anticipate that it may be possible to cover about 50 per cent of the children in this age-group by 1986. This will mean an enrolment of about 7.5 million. The total enrolment at this stage would thus be about 10 million.

PRIMARY EDUCATION : FULFILMENT OF THE CONSTITUTIONAL DIRECTIVE

7.08 Targets. We shall now proceed to discuss another highly significant programme of educational reconstruction, namely, the fulfilment of the directive principle contained in Article 45 of the Constitution: that the State should strive to provide free and compulsory education for all children up to the age of 14 years. This was to have been achieved by 1960. But in view of the immense difficulties involved, such as lack of adequate resources, tremendous increase in population, resistance to the education of girls, large numbers of children of the backward classes, general poverty of the people and the illiteracy and apathy of parents, it was not possible to make adequate progress in primary education, and the Constitutional Directive has remained unfulfilled. There has, therefore, been an insistent demand that Government should fix an early deadline for its fulfilment and prepare a concrete programme of action for the purpose. We are in sympathy with this demand and we believe that the provision of free and universal education for every child is an educational objective of the highest priority, not only on grounds of social justice and democracy, but also for raising the competence of the average worker and for increasing national productivity. In view, however, of the magnitude of the problem, the uneven development of primary education in the different parts of the country[65] and the large financial resources needed for the programme, we think that the best strategy for fulfilling the Constitutional Directive would be as follows:

(1) Each State, and even each district, should prepare a perspective plan for the development of primary education taking into account the stage of development already reached and the local conditions and problems. The objective of the plan should be to fulfil the Constitutional Directive as early as possible;

(2) Each State and district should be assisted to go ahead at the best pace it can, and the progress in no area should be allowed to be held up merely for want of essential facilities or financial allocations; and

(3) While the Constitutional Directive may be fulfilled in some places such as urban areas or advanced States as early as in 1975-76, all the areas in the country should be able to provide five years of good and effective education to all the children by 1975-76 and seven years of such education by 1985-86.

7.09 The targets proposed above may appear to be rather modest. But a closer examination will show that they are really formidable, and that the nation will have to strive its utmost to realize them. For instance, they involve a large increase in enrolments

[65]This has already been discussed under `Regional Imbalances' in Chapter VI.

at this level-from 50 million in 1965-66 to 125 million in 1985-86. The enrolment at the lower primary stage or in classes I-IV will rise from 37 million in 1965-66 to 72 million in 1975-76 and 76 million in 1985- 86 and thus be doubled in a period of about 20 years. At the higher primary stage or in classes V-VII, the enrolment will increase from 13 million in 1965-66 to 32 million in 1975-76 and 49 million in 1985-86, which is an increase of about four times in the same period.

7.10 But we would like to emphasize, not the increase in enrolment, but two other more significant and difficult aspects of these proposals. The first is the reduction of wastage and stagnation. At present, out of every 100 children who enter class I, only about half complete class IV and only 34 complete class VII. The extent of stagnation is extremely large, particularly in class I. We shall have to rectify this position and ensure that every child who enters class I will progress regularly from year to year and reach class V, and that not less than 80 per cent reach class VII. Secondly, we must emphasize quality. It is generally agreed that the standard of education given in the primary schools is unsatisfactory and that it imparts little beyond literacy and some elementary knowledge in a few academic subjects. What is expected is that primary education should lay the foundation for a child to grow into a responsible and useful citizen of the country. The magnitude of the targets proposed above would be realized in its proper perspective if due weight is given to both these considerations.

7.11 A further point needs clarification our proposal for making a seven-year course of primary education compulsory does not conflict with the Constitutional Directive of providing education to all children till they reach the age of 14 years. For various reasons, a large number of children reach the age of 14 even before they come to the end of class VII. There is also no problem about those children who will complete class VII earlier but proceed to secondary education. This leaves only those children (estimated to be about 10 per cent of the age group) who are not yet 14 at the end of class VII and who wish to enter working life as early as possible. We consider that the needs of these children will be better served, not by lengthening the primary course by one year, but by the provision of short vocational courses of their choice. Such pro-vision has been included in our estimates.

7.12 The Programmes. We have now to consider certain practical measures for the implementation of this programme of providing good general education of seven. years' duration to every child A careful study of the development of compulsory primary education in the advanced countries of the world shows that this programme is divided into three stages requiring:

- the provision of a school within easy distance from the home of every child; - the enrolment of every child of the prescribed age into class I of a school through propaganda, persuasion and even penal action, if necessary; and

- the retention of every enrolled child in school till he reaches the prescribed age or completes the prescribed course.

These are the three stages of universal provision, universal enrolment, and universal retention. They are not mutually exclusive and generally overlap and run into one another. Moreover, they presume the simultaneous implementation of a programme of qualitative improvement of education, because universal enrolment or retention depends very largely on the attracting and holding power of the schools. The progress of universal education in India can also be expected to follow this broad general pattern.

7.13 Universal Provision of School Facilities. The objective of universal provision of school facilities at the lower primary stage has almost been reached at the end of the Third Plan. In almost all States, villages with a population of 300 or over are provided with schools and, in several areas, even smaller villages have been given the facility. At the higher primary stage, however, the position is still far from satisfactory. Taking the country as a whole, there are about 78,000 such schools or about one higher primary school to about five lower primary schools, as against a desirable target of one to three. The situation varies greatly from State to State: while the target has already been reached in some States, the ratio of higher primary schools to lower primary schools is one to ten in several others.

7.14 The problems connected with planning and location of schools primary, secondary and vocational-will be discussed in a later section of this chapter. Briefly, it may be said that steps will have to be taken to bring a primary school within easy reach of every child. Lower primary schools including single-teacher schools, which are attended by younger children, will have to be set up within about a mile from the home of every child. A higher primary school needs at least three teachers and cannot therefore be set up on financial grounds in every small village. Such schools have to be shared by groups of small villages which, taken together, can provide a reasonable attendance. Moreover, as they are attended by older children it is possible to plan them in such a way that every child will have a middle school within one to three miles of his residence. The first educational survey (1957) helped greatly in the planning of primary schools. it is now being revised, and we hope that the results of the revision will take this planning a step further.

7.15 Universal Enrolment of Pupils. A programme of increasing enrolment should be organized side by side with attempts to provide primary schools in the remotest parts of the country. Obviously, there are two main points at which fresh enrolments are made at this stage-class I and class V. The problems that arise at each of these points are very different and have to be examined separately.

7.16 Enrolment in Class I.The problem of enrolment, in class I (which may be called the initial cohort of the educational system) is of great significance. In all progressive countries, this initial cohort is homogeneous and consists mostly of children of the prescribed age for admission. In India, on the other hand, the initial cohort in class I has always been extremely heterogeneous and its heterogeneity is being reduced only slowly. This will be clear from Table 7.1.

In a good system, the children of the age 6-7, the prescribed age for admission, who are enrolled in school, should form the bulk of the total enrolment in class I and should be about 95 to 97 per cent of the total population of children in that age-group. In 1961-62, the total enrolment in class I in India was 15.7 million while the total population of children of the age 6-7 was only 12.4 million. And yet only 5 million children of this age (or 40.3 per cent of the total population of this age) were enrolled in class 1, forming only 31.7 per cent of the total enrolment in that class. The situation has no doubt improved over the past fifty years as the comparison of statistics for 1911-12 with those of 1961-62 will show. But the rate of change has been very slow because of the absence of a conscious and sustained effort to create a homogeneous cohort.

7.17 In advanced countries, parents are required to pre-register at least one year in advance the names of children who are to be admitted to school for the first time and only those children are enrolled in

TABLE 7.1 AGE-COMPOSITION OF THE INITIAL COHORT IN INDIA (ENROLMENT IN CLASS I)

Age (in years)	1911-12		1950-51		1961-62	
	No. of children	% to total	No. of children	% to total	No. of children	% to total
Below 5	125,583	4.6	98,971	1.4	162,352	1.0
5-6	559,173	20.6	1,380,137	19.9	2,892,148	18.4
6-7	667,396	24.6	2,228,860	32.1	4,993,113	31.7
7-8	575,627	21.2	1,490,093	21.5	4,042,796	25.7
8-9	321,675	11.8	881,774	12.7	1,976,637	12.5
9-10	200,330	7.4	453,715	6.5	941,953	6.0
10-11	117,712	4.3	245,143	3.5	464,768	3.0
11-12	69,88	62.6	107,293	1.5	180,992	1.1
Above 12	79,66	92.9	62,379	0.9	91,405	0.6
Total enrolment in Class I	2,717,051	100.0	6,948,365	100.0	15,746,164	100.0

Total estimated population of children in the age-group 6-7	6,639,582	9,310,800	12,384,000	
Percentage of children in the age-group 6-7 enrolled in class I to total estimated population in the age-group 6-7	10.1	23.9	40.3	

Source. Annual Educational Statistics published by the Ministry of Education.

class I who are within the prescribed age range. There is no system of pre-registration in India. A large number of parents, especially in rural areas, cannot even give the ages of their children correctly, and in many cases the teachers are required to guess them. Moreover, when enrolment drives are organized, the general trend is to enrol children of all ages into class I. This heterogeneous character of the enrolment creates difficult pedagogic problems in the class besides increasing stagnation and wastage. We, therefore, recommend as follows:

(1) A system of pre-registration should be developed for all fresh admissions. The school teachers should take an annual census of all the children whose age is less than the prescribed admission age by one year and who would be seeking admission to the schools in the following year. Except in some big cities where the migratory population may be large, such census- taking and pre-registration will be very useful and will not present any insuperable administrative problems. During the pre-registration year, an attempt should be made to provide children's play centres described earlier in paragraph 7.07 (4), in as many schools as possible.

(2) Fresh enrolments to class I should, as far as possible, be restricted to children within the single year prescribed for admission. In the beginning, older children who have not yet been to school will have to be admitted to the class; but if intensive efforts are made every year to enrol all the children of the prescribed admission age, the number of over-age children seeking entry into class I will diminish year by year and will disappear almost completely in a period of about 5-10 years.

7.18 Enrolment in Class V. At present, the rate of transfer of pupils from class IV, which is the end of the lower primary stage, to class V is about 85 per cent. This transfer rate should be raised to 90 per cent by the end of the Fourth Plan and to 100 per cent by the end of the Fifth Plan. It is necessary for this purpose to conduct surveys and investigations to find suitable measures to deal with the problem. From the evidence available at present, it appears that the drop-out at this stage is mainly due to the non-availability of a higher primary school in the neighbourhood; inadequate facilities for free

education; economic need for the child to work in or for the family (especially in the case of girls); and reluctance of parents either to educate their daughters further or to send them to mixed higher primary schools. The establishment of higher primary schools in villages of a certain size, as suggested earlier, and the provision of free primary education and also of part-time education at the higher primary stage will meet the first three of these difficulties. It will be possible to meet the last difficulty in some areas by opening separate schools for girls. In most cases, however, it can only be met by parental education and by persuading the parents to accept the inevitability of mixed schools for boys and girls.

7.19 Universal Retention of Pupils. Having enrolled every child in a school, it is essential to see that he progresses regularly from year to year (i.e., there is no stagnation) and that he does not leave the school till he completes the prescribed age or class (i.e., there is no wastage). As is well known, the extent of wastage and stagnation in our system is very large. The evil was first highlighted about forty years ago by the Hartog Committee; and although the issue has been discussed almost continuously since, very little effective action has been taken to reduce it. Precise studies of the problem spread over a time-series are not available. But Table 7.2, which gives the class-wise quinquennial enrolments since 1911-12, shows how persistent the problem has been and what little progress has been made in reducing its extent.

In a good system of school education, the distribution of pupils over the different classes should be fairly uniform, but it is not so in our country. It will be seen from Table 7.2 that:

- the total enrolments in class I are proportionately very large. This is partly because of the large stagnation in this class and partly because about one-third to one-half of the total wastage at the primary stage occurs at the end of this class only;

- as against 100 children enrolled in class I, there were only 20 in class IV in 1911-12. In 1946-47, this proportion increased to 39. This shows some progress, though a slow one. In the post-Independence period, however, the position instead of improving has deteriorated to some extent; in 1965-66, there were only 37 students in class IV as against 100 in class I. The implication is obvious; the rapid expansion that has taken place had led to a slight increase in wastage and stagnation;

- as against 100 pupils in class I, there were four pupils in class VII in 1911-12. This proportion increased to 15 in 1946-47 and to 20 in 1965-66. There has been, therefore, a slow but steady progress in higher primary education throughout this period.

7.20 Stagnation. In order to have some idea of the extent of stagnation at the primary stage, from class to class, the Commission collected data regarding enrolments in classes I-VIII in 29 districts out of 312. For each class, information was gathered on two points: total enrolment and number of repeaters, classified according to the total period they had spent in the class. From this information, the average period spent by the pupils in the class was calculated and its excess over one year-which is the normal period-was

described as the `stagnation index' for the class in that year. Table 7.3 gives the stagnation indices separately for boys and girls for each class in all the nine States studied.

It will be seen from Table 7.3 that

- stagnation is highest in class I;

- it is reduced considerably in class II and then remains fairly constant in classes III and IV;

- it decreases still further at the higher primary Stage;

TABLE 7.2 ENROLMENT IN CLASSES I-VIII (1911-12 to 1965-66)

Year	Class-wise Enrolment (in 000's)							
	I	II	III	IV	V	VI	VII	VIII
	1	2	3	4	5	6	7	8
1911-12	2,717*	1,062	757	545	324	167	119	76
	(100.0)	(39.1)	(27.9)	(20.1)	(11.9)	(6.1)	(4.4)	(2.8)
1916-17	2,933*	1,404	934	667	415	215	157	105
	(100.0)	(47.9)	(31.8)	(22.7)	(14.1)	(7.3)	(5.4)	(3.6)
1921-22	3,343	1,556	924	636	377	246	158	114
	(100.0)	(46.5)	(27.6)	(19.0)	(11.3)	(7.4)	(4.7)	(3.4)
1926-27	5,280	1,638	1,131	768	427	279	211	141
	(100.0)	(31.0)	(21.4)	(14.5)	(8.1)	(5.3)	(4.0)	(2.7)
1931-32	5,281	2,111	1,496	1,016	628	377	301	229
	(100.0)	(40.0)	(28.3)	(19.2)	(11.9)	(7.1)	(5.7)	(4.3)
1936-37	5,291	2,378	1,762	1,288	790	477	365	296
	(100.0)	(44.9)	(33.3)	(24.3)	(14.9)	(9.0)	(6.9)	(5.6)
1941-42	5,525	2,724	2,027	1,572	1,085	591	437	377
	(100.0)	(49.3)	(36.7)	(28.5)	(19.6)	(10.7)	(7.9)	(6.8)

1946-47	3,570 (100.0)	2,525 (70.7)	1,821 (51.0)	1,404 (39.3)	1,137 (31.8)	648 (18.1)	523 (14.6)	448 (12.5)
1950-51	6,948 (100.0)	4,332 (62.3)	3,353 (48.3)	2,623 (37.8)	1,898 (27.3)	1,246 (17.9)	1,023 (14.7)	851 (12.2)
1955-56	9,958 (100.0)	5,523 (55.5)	4,067 (40.8)	3,216 (32.3)	2,403 (24.1)	1,698 (17.1)	1,436 (14.4)	1,160 (11.6)
1960-61	13,391 (100.0)	7,513 (56.1)	5,886 (44.0)	4,593 (34.3)	3,611 (27.0)	2,727 (20.4)	2,220 (16.6)	1,758 (13.1)
1965-66	18,843 (100.0)	10,973 (58.2)	8,875 (47.1)	6,924 (36.7)	5,522 (29.3)	4,453 (23.6)	3,680 (19.5)	2,900 (15.4)

*Includes enrolment in Infant A & B Classes.

Note. Figures within brackets indicate the percentage of enrolment in each class to the enrolment in class I of the same year.

Source. Quinquennial reviews and reports of the Ministry of Education.

-on the whole, stagnation among girls is greater than among boys; and

-the extent of stagnation shows considerable variations from area to area.

TABLE 7.3 STAGNATION INDICES FOR CLASSES I-VIII (1965)

State	Stagnation Index for Classes I	II	III	IV	V	VI	VII	VIII
1. Andhra Pradesh								
Boys	63.4	38.4	27.9	21.0	19.6	13.3	13.7	19.8
Girls	71.6	42.9	30.1	23.2	22.4	11.8	12.2	14.8
2. Madhya Pradesh								
Boys	39.1	12.9	10.3	9.1	8.3	10.5	6.7	5.2
Girls	34.7	13.8	11.3	10.3	8.3	3.4	4.0	4.3
3. Maharashtra								
Boys	39.3	25.5	22.7	25.7	21.1	15.8	12.5	11.3

Girls	52.5	35.8	33.3	38.5	23.5	17.2	12.6	7.6
4. Rajasthan								
Boys	29.5	24.0	34.6	36.8	32.7	14.1	22.8	19.0
Girls	23.7	23.7	44.2	57.0	45.3	34.8	46.4	62.9
5. Punjab								
Boys	24.6	13.3	10.2	6.6	7.1	13.4	12.4	9.2
Girls	22.8	12.6	9.2	5.1	4.8	8.3	8.7	7.1
6. Uttar Pradesh								
Boys	27.1	14.2	9.1	6.4	4.3	4.9	6.1	12.5
Girls	18.5	14.3	11.5	9.4	9.1	12.7	10.7	25.5
7. Mysore								
Boys	53.2	36.6	27.2	26.4	15.0	12.7	12.6	..
Girls	66.1	39.9	27.1	19.0	12.4	13.1	15.6	..
8. Kerala								
Boys	27.2	26.9	26.0	29.0	27.2	26.0	24.8	..
Girls	26.3	26.0	24.6	27.1	26.6	23.1	25.7	..
9. Orissa								
Boys	43.1	33.3	33.7	30.0	15.4	29.3	21.5	12.3
Girls	40.1	38.8	27.5	21.2	15.8	43.3	34.4	16.2
TOTAL								
Boys	40.3	26.6	22.6	21.7	16.4	14.1	13.7	13.2
Girls	47.1	33.1	26.6	25.6	19.8	17.3	17.9	16.4

Source. Data supplied by State Governments.

7.21 Wastage. Recent and fairly large-scale studies in wastage are not available. But a study made by the Research Unit in the Directorate of Education, Maharashtra State, which followed the movement of pupils from class to class in the primary schools of Poona District, showed that out of 1,000 students who join class I in a given year, as

many as 414 leave school before completing class IV. The following are the actual findings of the study:[66]

(1) Left school in the first year of their school life in class I	144
Left school in the second year of their school life but still in class I	27
Left school in the third year of their school life but still in class I	12
Total left from class I	183
(2) Left school in the second year of their school life but after completing class I and joining class If	67
Left school in the third year of their school life after completing class I in two years and joining class II	8
Left school in the fourth year of their school life after completing class I in three years and joining class II	5
Left school in the second year of their school life after failing in class II	25
Left school in the third year of their school life after failing in class II	13
Total left from class II	118
(3) Left school in the third year of their school life after passing class II and joining class III	61
Left school in the fourth year of their school life after passing class II and joining class III	18
Left school in the third year of their school fife after failing in class III	9
Total left from class III	88
(4) Left school in the fourth year of their school life after passing class III and joining class IV	25
Total left from class IV	25
Grand total of all students who left before completing class IV	414

[66]Indian journal of Educational Administration and Research, Autumn 1960, Vol. I, No. 2, Ministry of Education, Government of India, New Delhi.

7.22 Sad as this picture is, it is better than the situation in the country as a whole, mainly because the area where the study was conducted is fairly advanced educationally. A rough and ready method to measure the extent of wastage is to compare the diminution in enrolment from class to class over a number of years. Table 7.4 shows the extent of this diminution for the country as a whole in the post- Independence period, separately for boys and girls and also separately for the lower primary and higher primary stages. The general picture it presents is even worse than that of the Poona Study. Wastage is very large at the lower primary stage-about 56 per cent for boys and 62 per cent for girls. About two-thirds of this wastage occurs in class 1. Moreover, it has remained fairly constant in the case of boys while showing a slight improvement in the case of girls. At the higher primary stage, wastage is much less-about 24 per cent for boys and 34 per cent for girls; and what is more important, it is decreasing consistently, although at a slow rate.

7.23 The foregoing discussion shows that the most important programme to be implemented at the primary stage during the next ten years is to improve the quality of education and to reduce stagnation and wastage to the minimum. In fact, the task of universal education begins when children are enrolled in class I. It is completed only when they are successfully retained till they complete class VII In this overall programme, the reduction of wastage and stagnation in class I is obviously the most important element.

7.24 Stagnation and Wastage in Class I The large stagnation and wastage in class I is due to a variety of causes which include:

- the heterogeneity of the age composition of students to which a reference has already been made; - the practice, which obtains in several States, of making fresh admissions throughout the year, instead of in the first month or so of the school year;

- irregularity of attendance;

- lack of educational equipment in the school as well as with the children;

- overcrowded classes; - unsuitable curricula; - inability of the teachers to use play-way techniques which can assist in initiating the children pleasantly to school life; - poor teaching of beginning reading; - inadequately prepared teachers; and - a wrong system of examinations.

7.25 The remedy for some of these defects is self-evident; and most of them could be eliminated through the development of qualitative programmes which are being discussed separately. In this connection, however, we would like to emphasize the following programmes:

(1) The examination at the end of class I should be abolished and the first two classes (and wherever possible, even the first three or four) should be regarded as one teaching unit, within which each child can progress according to his own pace.

(2) The introduction, as recommended earlier, of a year of preschool education of an economical type.

(3) The adoption of play-way techniques in class I for introducing the child to school life in a pleasant way. For this purpose, methods of instruction in class I should be patterned in the light of the techniques utilized at the pre- primary stage and the teachers in charge of this class should be trained or oriented accordingly.

7.26 Stagnation and Wastage in Other Classes. The extent of stagnation and wastage in other classes of the primary stage is comparatively

TABLE 7.4 WASTAGE AT PRIMARY STAGE (1949-50 to 1961-62)
Classes I-IV (Lower Primary)

Year	Boys				Girls			
	I	II	III	IV	I	II	III	IV
1949-50	100	..	..	..	100	..	..	..
1950-51	100	65.1	..	..	100	57.4	..	..
1951-52	100	66.0	54.2	..	100	59.6	44.5	..
1952-53	100	64.9	53.3	45.3	100	57.8	43.9	34.0
1953-54	100	65.8	54.8	46.8	100	58.7	45.6	35.2
1954-55	100	63.0	53.7	47.2	100	57.8	45.6	36.3
1955-56	100	61.8	52.7	46.7	100	58.2	45.4	36.7
1956-57	100	60.8	50.9	45.9	100	55.3	44.6	36.5
1957-58	100	61.4	50.0	42.9	100	55.0	43.0	35.2
1958-59	100	62.1	51.8	43.1	100	58.2	43.9	34.9
1959-60	..	61.2	51.2	44.3	..	56.4	45.8	35.5
1960-61	..	..	51.1	44.4	..	..	45.1	37.6
1961-62	..	..	..	44.4	..	..	..	37.5

TABLE 7.4 (contd.)
Classes V-VII (Higher Primary)

Year	Boys			Girls		
	V	VI	VII	V	VI	VII
1949-50	100	..	..	100	..	..
1950-51	100	75.5	..	100	59.4	..
1951-52	100	77.5	68.5	100	60.7	49.5
1952-53	100	75.8	65.0	100	60.3	49.4
1953-54	100	74.8	65.6	100	60.3	53.1
1954-55	100	73.7	67.0	100	63.4	51.6
1955-56	100	76.4	66.8	100	65.7	55.3
1956-57	100	79.1	69.4	100	72.4	59.9
1957-58	100	77.7	69.5	100	69.0	61.8
1958-59	100	83.2	70.5	100	72.9	61.0
1959-60	100	85.9	73.3	100	81.7	61.5
1960-61	..	84.3	74.2	..	74.8	68.1
1961-62	..	..	75.6	..	..	66.2

Source. Form A of the Ministry of Education.

small. Its causes may be broadly divided into three categories- economic, educational and social. A closer analysis of these causes will also show the remedies.

7.27 Economic Causes. The few studies conducted on the subject have shown that about 65 per cent of the wastage is due to poverty. A child is willingly sent to school between the ages of 6 and 9 because at this stage he is more a nuisance at home than a help. After the age of 9 or 10, the child becomes an economic asset because he can work at home or earn something outside. This is especially true of girls who have to assist the over-worked mother at home. The child is, therefore, withdrawn from the school and thus becomes a `wastage' case. The long-term solution to this problem of wastage can only

come through general economic improvement. But in the immediate situation, the only way to overcome this difficulty is to provide part-time education so that children can work as well as learn.

7.28 Literacy Classes. From this point of view, we suggest two programmes. The object of the first is to prevent additions to the ranks of non-literatesy. At present, such additions are being continuously made on a large scale for several reasons. A number of children do not get enrolled in schools. Even among those who are enrolled, a large number drop out before completing class IV or V and attaining permanent functional literacy; and sonic even relapse into illiteracy a little later. To prevent such additions and to help in reducing illiteracy, we recommend that all children in the age-group 11-14, who are not attending schools and who have not completed the primary stage of education and have become functionally literate, should be required to attend `literacy classes' for a period of one year at least.

7.29 Experiments conducted by some institutions in the country have shown that if we begin with grown-up children of this age-group and provide them with part-time education (of about one and a half to two hours per day for about three days a week), it is possible to make them functionally literate in the course of one year. Such classes can be conveniently organized by teachers in primary schools outside the regular school hours, utilizing the buildings and equipment of the same schools. The timings of the classes would have to be elastic; they should be determined by local conditions and the needs of the children attending, in the sense that attendance in such classes should not interfere with the work they do for the families. In most cases, they will be organized on a part-time basis for about one and a half hours per day, either in the morning or in the evening. For girls, some time in the afternoon is always more convenient. The teachers should be adequately remunerated for the purpose. There need be no separate curricula; but as the size of the average class will be small, it may be possible for teachers to given individual attention to each child and to make them functionally literate during this period. The cost of running these classes will be comparatively small, not more than about Rs. 40 per child per year, but its results will be very substantial.

7.30 There is hardly any reason to doubt the success of the programme, and it can even be adopted on a nation-wide scale forthwith. But if it is considered necessary, a few pilot projects may be tried in each district for a short time in order to gain experience before the scheme is launched on a nation-wide basis. In any given area it may be desirable to begin these classes on a voluntary basis in the first instance. Attendance at such classes should be made obligatory only after the local community becomes familiar with the concept and begins to appreciate it.

7.31 It is important to realize that the total size of this problem is comparatively small and that it is of a vanishing character. At present, the population of children in the age-group 11-13 is about 34 million. Of these, 11 million are attending schools in classes VI-VII; and about 3 million are expected to have completed the primary stage although they are not attending at present. This leaves 20 million children in the age-group 11-13 who will come under this compulsory programme in 1966. During the next ten years, two

things are likely to happen. First, the number of children attending schools in classes V-VII will continue to increase much faster than the growth of population. Secondly, as effective education of five years is increasingly provided to children, the number of those children leaving school before attaining functional literacy will lessen year by year till it disappears by 1976.

7.32 Part-time Education at the Higher Primary Stage. (1) The second programme to offset wastage is to provide part-time education to children who have completed the fewer primary stage, and who desire to study further but cannot, for economic reasons, afford to do so on a full-time basis. The number of such children is large even at present; and it will increase as education reaches the still poorer sections of society. The only way in which these children can receive education is by getting it on a part-time basis; and it should be a deliberate object of policy to provide such education on as large a scale as possible.

(2) The content of this part-time education would have to be elastic and should be determined according to the needs and aptitudes of the children receiving it. For some children who desire to complete this stage of education and prepare themselves for the next, it should be patterned on the lines of the full-time courses. But for those who do not wish to do so-and these would be the large majority- the content of education should have a large vocational element an should be so developed as to serve their immediate needs.

(3) To begin with, attendance at these classes should be voluntary. But obligatory attendance may be introduced in an area as soon as the ground is ready. This may be done in some areas almost immediately, and all parts of the country should be covered in the Fifth and Sixth Plans.

(4) It is not possible to determine precisely the proportion of students who will be in part-time education at this stage. The policy adopted should be to provide a place in full-time education for every student who desires to receive such education and to make available part-time education for all those who cannot, for some reason, follow a full-time course. The proportion of students in part-time and full-time education would thus vary, depending upon economic factors, from area to area, and even in the same area, from one class of society to another. For purposes of financial estimates, however, we have assumed that, for the country as a whole, enrolment in part-time education would be about 10 per cent of the total enrolment at this stage in 1975-76 and about 20 per cent in 1985-86.

7.33 Educational and Social Causes. The educational factors which are responsible for another 30 per cent of the wastage include the existence of incomplete schools which do not teach the full courses; the large prevalence of stagnation which discourages children from staying longer at school; the dull character of most of the schools and their poor capacity to attract students and retain them; the absence of ancillary services like school meals and school health; and the failure of the average parent or child to see the advantage of attendance at school. It need hardly be stressed that the sovereign remedy for all these problems is qualitative improvement supplemented by an intensive

programme of parental education. The social factors which operate mainly in the case of girls play a minor role. They include betrothal or marriage and opposition to sending grown-up girls to schools, especially to mixed schools or schools without women teachers. The remedies are self-evident.

7.34 General Observations. An effective way to reduce the evils of wastage and stagnation is for the State Education Department to treat every school as an individual entity and for every school to give individual attention to every child. The Department should use the techniques which have been developed to measure the extent of wastage and stagnation from year to year in each class and in each school. On the basis of these data, it should insist on every school making the best efforts possible to reduce these evils similarly, each school should pay adequate attention to individual children. It has been found that wastage is reduced even by a simple act such as a sympathetic enquiry made by a teacher of the parents whenever a child ceases to attend school. What is needed, therefore, is a nation-wide programme of school improvement in which the reduction of wastage and stagnation would figure prominently. The broad outline of such a programme is discussed more fully elsewhere.[67]

7.35 It has to be remembered that wastage and stagnation, like headache and fever, are not diseases in themselves; they are symptoms of other diseases in the educational system. The chief among these are the lack of proper articulation between education and life and the poor capacity of the schools to attract and hold students. To these may be added a third ailment, poverty, which falls outside the system. Urgent action is needed to remove the first two educational weak- nesses; the effect of the third can be offset only as the economy of the country improves. The goal of universal retention of pupils, therefore, is the most difficult of all and can be reached only over a period of time. This makes it all the more necessary to organize immediately an intensive programme for the reduction of wastage and to pursue it till the goal is reached. A beginning should be made with class I, where the target should be to reduce the wastage by half before the end of the Fourth Plan and to reduce it to the minimum by the end of the Fifth Plan. In the lower primary stage, all wastage should be reduced to the absolute minimum by the end-of the first decade (1966-76) and at the higher primary stage, by the end of the second decade (1976-87).

ENROLMENT AT THE PRIMARY STAGE

7.36 Targets. Table 7.5 gives the enrolment at the primary stage in the first three plans as well as the anticipated enrolments during the next twenty years if the Constitutional Directive is to be fulfilled. (See also charts on pages 285 and 286).

It will be seen from Table 7.5 that expansion at the lower primary stage has been very rapid in the first three plans. The total enrolment increased from 14 million in 1950-51 to 37 million in 1965- 66-nearly a three-fold increase in 15 years. This implies an average annual growth of 4.9 per cent in the First Plan, 7.5 per cent in the Second and 8.2 per cent

[67]Chapter X.

in the Third.We expect the same tempo to continue in the Fourth Plan. In the next ten years, as we near the saturation point, the tempo of expansion will slow down considerably- to 5.5 per cent per year in the Fifth Plan and 2.2 per cent in the Sixth. The total enrolment is expected to increase from 37 million in 1965-66 to 54 million in 1970-71, to 72 million in 1975-76 and to 80 million in 1980-81. In the next plan, the enrolment will actually decline to 76 million-on account of the anticipated effect of the fall in the birth-rate-and this decline will continue for a few years. In other words, we would have crossed the hump by 1981. Thereafter the progress would be easier and, as the pressures of expansion would diminish, it will be possible to pay still greater attention to qualitative improvement.

7.37 At the higher primary stage, the picture is slightly different. Here the expansion in the first three plans has been even more rapid than at the lower primary stage, the total enrolment increasing from 3 million in 1950-51 to 13 million in 1965-66-about a four-fold increase in 15 years. Here also, the tempo of expansion has been rising

TABLE 7.5 ENROLMENT IN PRIMARY EDUCATION

Stage/Years	Enrolment (in 000's)			Enrolment as Percentage of Population in the Correspond-ing Age-groups		
	Boys	Girls	Total	Boys	Girls	Total
I-IV						
1950-51	10,102	3,549	13,651	55.0	20.1	37.8
	(4.1)	(7.2)	(4.9)			
1955-56	12,369	5,011	17,380	59.5	25.0	42.6
	(6.8)	(9.3)	(7.5)			
1960-61	17,170	7,826	24,996	74.0	35.0	54.8
	(14.3)	(9.9)	(8.2)			
1965-66	24,536	12,554	37,090	90.2	47.6	69.2
	(7.0)	(10.2)	(8.1)			
1970-71	34,447	26,850	61,297	109.8	68.6	89.7
	(2.0)	(10.4)	(5.5)			
1975-76	38,066	33,484	71,550	109.7	97.2	106.4
	(1.6)	(2.8)	(2.2)			
1980-81	41,173	38,515	79,688	110.8	110.7	110.8

1985-86	39,509	36,730	76,239	110.0	110.0	110.0
V-VII						
1950-51	2,669	559	3,228	20.8	4.6	13.0
	(6.5)	(10.8)	(7.6)			
1955-56	3,659	933	4,592	25.6	6.9	16.5
	(8.8)	(15.0)	(10.2)			
1960-61	5,587	1,876	7,463	35.5	12.5	24.3
	(9.9)	(13.8)	(11.0)			
1965-66	8,962	3,587	12,549	49.9	20.7	35.6
	(10.0)	(13.6)	(11.1)			
1970-71	14,433	6,785	21,218	67.7	33.0	50.7
	(6.5)	(13.2)	(8.8)			
1975-76	19,774	12,620	32,394	81.9	55.7	69.2
	(3.8)	(7.9)	(5.5)			
1980-81	23,867	18,456	42,323	90.0	74.0	82.3
	(1.1)	(5.0)	(2.9)			
1985-86	25,214	23,500	48,714	90.0	90.0	90.0

N.B. Figures in brackets indicate rate of annual growth.

Enrolment at Lower Primary Stage (Classes I-IV)

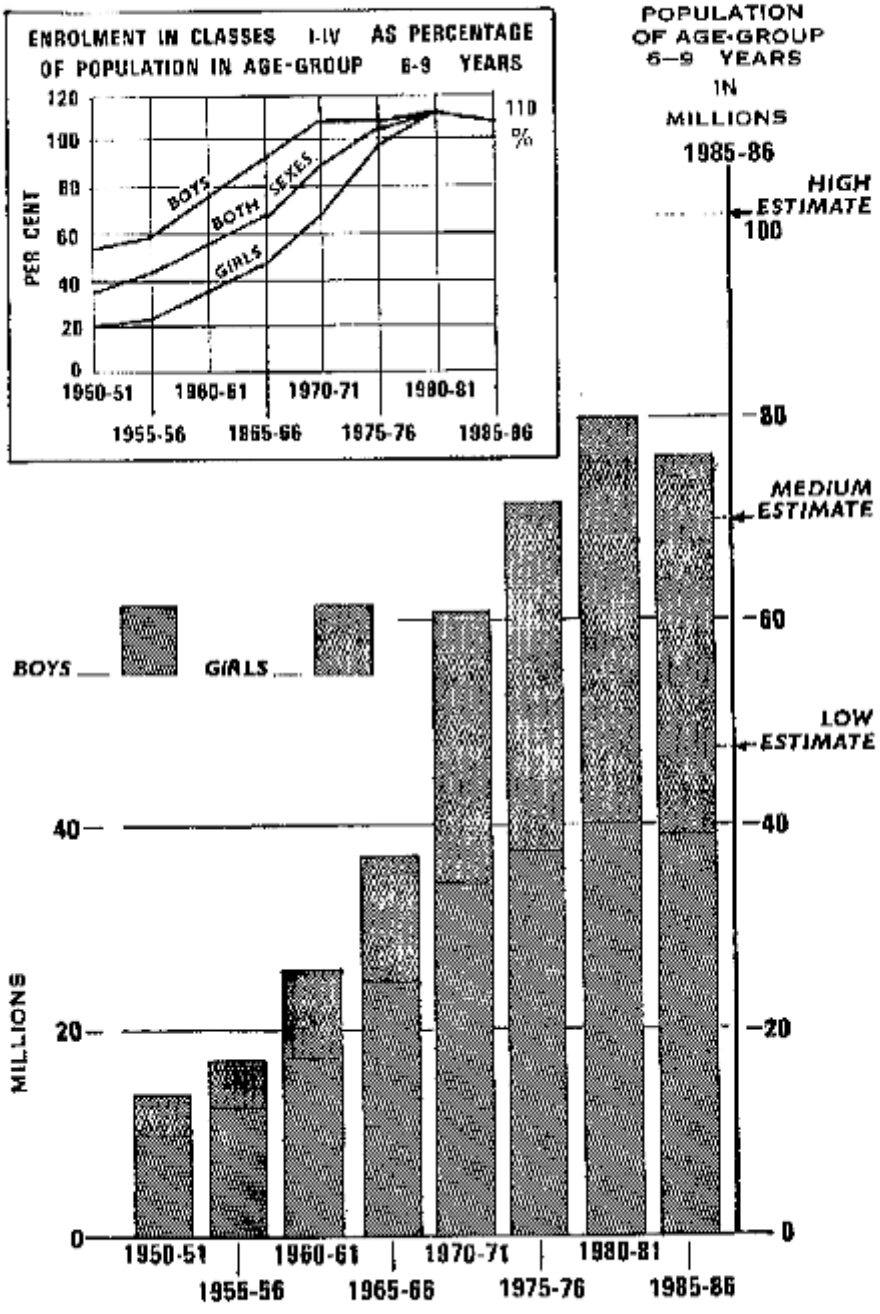


Fig. 15

Enrolment at Higher Primary Stage (Classes V-VII)

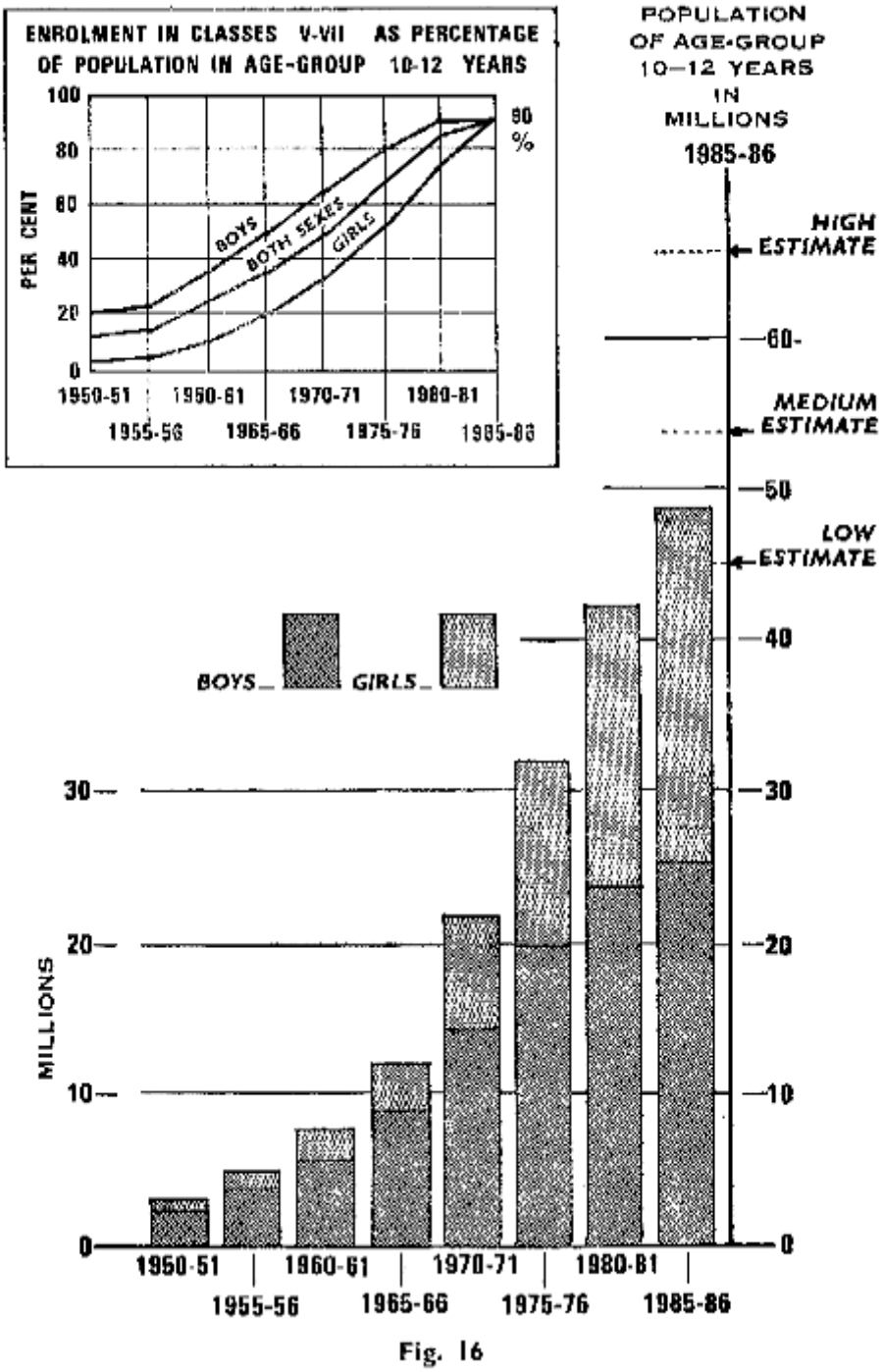


Fig. 16

from plan to plan, the average annual rate of growth being 7.6 per cent in the First Plan, 10.2 per cent in the Second and 11.0 per cent in the Third. In the next twenty years, the total expansion will be about three and a half times and the enrolment will rise from 13 million in 1965-66 to 32 million in 1975-76 and to 49 million in 1985- 86. Up to 1976, expansion will be a little easier; but thereafter, as we approach the saturation point, the difficulties will increase considerably. Fortunately, the expansion programme at the lower primary stage will have substantially ended by then and it will be possible to concentrate resources to a greater extent on the development of the higher primary stage.

7.38 Education of Girls. Two problems concerning expansion-the education of girls and of tribals-deserve special notice. It will be seen from Table 7.5 that at the lower primary stage, the problem with regard to boys is very near solution, because their enrolment is about 90 per cent of the population in the corresponding age-group. But the enrolment of girls is much lower-the number of girls enrolled for every 100 boys being only 50. At the higher primary stage, the gap between the education of boys and that of girls becomes wider still- although both have still a long way to go-and the number of girls enrolled for every 100 boys is only 40. In fact, it may well be said that the problem of fulfilling the Constitutional Directive is essentially the problem of educating girls. This problem was carefully examined by the National Committee on Women's Education (1958-59) with whose recommendations we fully agree. In particular, we would like to emphasize its proposals regarding educating public opinion to overcome traditional prejudices against girls' education; - appointing women teachers;

- popularizing mixed primary schools; and wherever possible and demanded, opening separate schools for girls at the higher primary stage;

- providing free books and writing materials and, where needed, even clothing; and

- providing part-time education for girls in the age-group 11-13 who cannot attend schools on a wholetime basis because they are required to work at home.

7.39 Education of the Tribals. The problem of spreading education among the tribals also needs special attention. Here the main difficulty is that of getting teachers for the purpose. The obvious remedy seems to lie in providing better scales of pay and adequate housing facilities for those who are prepared to take up the task of teaching in tribal areas. The teachers must know the tribal language and culture, and a study of these should be included in their training programmes. The programme of the school will have to be redesigned to suit tribal life. In thinly populated areas, where it is not possible to establish day schools, Ashram Schools should be established in large numbers.

7.40 Special Assistance to Underdeveloped Areas. As pointed out earlier, the development of primary education shows considerable variation from area to area. The magnitude of the unfinished task, therefore, is very unequally distributed between the different areas. The capacities of the different parts of the country to support a programme of universal primary education are also unequal and what is worse, it is the

poorer areas that often have the heaviest load of the unfinished task to carry. Under these circumstances the equalization of educational opportunities assumes great significance.

7.41 A process of equalizing opportunities in primary education has to be attempted at various levels. When the family is responsible for the primary education of children, inequalities develop between children from the rich and those from the poor families. These can be equalized at the local government level which can strive to reduce the inequalities at the family level. It will, therefore, be a responsibility of the district school boards[68] to try to equalize opportunities for primary education between different villages and towns within their areas and between families in each town and village. But the economic capacities of districts and their loads of the unfinished task are very uneven. It is, therefore, a responsibility of the State Governments to strive to equalize opportunities as between districts through a grant-in-aid based on the principle of equalization. Finally, similar inequalities appear again at the State level in the development of primary education already achieved, in the magnitude of the unfinished task and in the economic capacity of the States to support a programme of universal education. It is, therefore, the responsibility of the Government of India to strive to equalize opportunities in primary education at the State level. This may be done through the institution of a special grant-in-aid in the centrally sponsored sector to assist the poorer and less developed States to fulfil the Constitutional Directive in time.

7.42 Enrichment of the Curricula and Improvement of Quality. Expansion of facilities at the primary stage and the universal enrolment of children and their retention in school till the end of the compulsory period is only one aspect of fulfilling the Constitutional Directive. An equally important aspect is qualitative improvement so that the instruction imparted becomes good education and helps children to grow into useful and responsible citizens. The most crucial programme from this point of view is the improvement in the quality of primary teachers, which has already been discussed elsewhere[69]. Another equally significant programme is the introduction of work-experience as an integral part of primary education. Besides this, the teaching of science and mathematics has to be vitalized, the entire curriculum has to be overhauled and improved, and modem methods of teaching and evaluation have to be adopted. These programmes are discussed in the next two chapters.

EXPANSION OF SECONDARY EDUCATION

(Classes VIII-XII)

7.43 General Principles. We shall now consider the problems of expansion at the secondary stage relating to the establishment of secondary schools and to the planning of their enrolments. In both these matters the policies to be adopted are different from those in primary education.

[68]The details of this proposal have been discussed in Chapters X and XVIII.

[69]See Chapters III and IV.

(1) Establishment of Secondary Schools. It is a major objective of educational policy to take the primary school as close to the home of the child as possible, even if this implies the establishment of smaller and costlier institutions. At the secondary stage, on the other hand, distance is a less overriding consideration, and emphasis must shift to the establishment of optimum-sized institutions which tend to be more economical and efficient. This is discussed more fully in a later section.

(2) Enrolment in Secondary Education. Similarly, for several years to come it will not be financially possible for the States to make secondary education universal, nor will it be possible on economic grounds for the large majority of children to continue their education beyond the compulsory stage. The objective of the enrolment policy in secondary education will, therefore, have to be defined on a different basis. In this connection, we invite attention to our recommendations made elsewhere[70] that

- the overall enrolment in secondary education should be broadly governed by the need for trained man-power;

- it is essential to vocationalize secondary education and to work towards a target wherein about 20 per cent of the enrolment at the lower secondary stage and about 50 per cent of that at the higher secondary stage would be in vocational education; - there should be an emphasis on equalization of opportunities in secondary education and from this point of view, a large programme of scholarships should be developed at this stage; efforts are also needed to reduce the large imbalances now seen in the expansion of secondary education in the different parts of the country and to spread secondary education among girls, the scheduled castes and the scheduled tribes;

- in identifying the children to be assisted in studying further at the secondary stage, `ability' should not be understood in the narrow traditional sense to mean merely intellectual competence, but the concept should be broadened to include all types of abilities; and

- earnest efforts should be made to identify and develop talent.

7.44 Enrolment in Secondary Education. In the light of these broad principle, we shall now discuss the enrolment at the lower secondary and higher secondary stages. These have been reproduced in Table 7.6 on the next page. It will be seen there from that at the lower secondary stage, the total enrolment was nearly quadrupled and increased from 1.5 million in 1950-51 to 6.1 million in 1965-66. This implies an average annual increase of about 10 per cent or a doubling period of about seven years. In the next 20 years, the enrolment will again be quadrupled and rise from 6.1 million to 24.4 million. But this implies an average annual increase of about 7 per cent only or a doubling period of ten

[70]Chapter V.

years. The increase in enrolment in absolute numbers during the next two decades is very large-about four times that in the first three plans-but the annual rate of growth is slowed down from 10 to 7 percent. (See also chart on page 293.)

The position is similar at the higher secondary stage also. The enrolment has risen from about 282,000 in 1950-51 to 1.4 million in 1965-66

-an increase by five times. This implies an average annual rate of growth of 11.3 per cent or a doubling period of about six years. In the next 20 years, the enrolment will again increase by five times and rise from 1.4 million to 6.9 million. The increase in absolute numbers is thus about five times that which occurred in the first three plans. But the average annual growth is slowed down from 11.3 per cent to 8.3 per cent and the doubling period is now about nine years.

It will also be observed that the increase at the higher secondary stage is comparatively slower between 1965 and 1975. But it becomes more rapid in the succeeding decades because of the addition of one year to this stage.[71] (See also chart on page 294.)

7.45 In planning enrolment in secondary education the next two decades, two factors will have to be kept in view:

- The pressures of expansion will increase rather than decrease because of such factors as the establishment of high schools in rural areas hitherto unserved, the improvement in the general economic condition of the people, and the spread of the desire for post-elementary education to all sections of society; and

-even at the present rates of expansion, standards have deteriorated because enrolment has outstripped available facilities like teachers or equipment. Besides, there has been a large increase in unemployment amongst the matriculates. If the present trends continue or are allowed to develop, this deterioration in standards will be accentuated and educated unemployment will be extremely serious.

[71]See Chapter 11, for details.

TABLE 7.6 ENROLMENT IN SECONDARY EDUCATION

Stage/Years	Enrolment (000's)			Enrolment as Percentage of Population in the Corresponding Age-groups		
	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7
Classes VIII-X						
1950-51	1,304 (8.5)	204 (14.8)	1,508 (9.5)	10.9	1.8	6.5
1955-56	1,965 (8.4)	406 (12.8)	2,371 (9.2)	14.9	3.3	9.3
1960-61	2,941 (9.9)	741 (13.9)	3,682 (10.7)	20.4	5.4	13.1
1965-66	4,707 (6.9)	1,420 (9.7)	6,127 (7.5)	28.7	9.1	19.1
1970-71	6,559 (6.8)	2,259 (9.7)	8,818 (7.5)	34.2	12.2	23.4
1975-76	9,104 (6.2)	3,581 (8.2)	12,685 (6.8)	40.8	16.9	29.1
1980-81	12,256 (6.1)	5,285 (8.1)	17,541 (6.7)	49.1	22.6	36.3
1985-86	16,526	7,842	24,368	60.4	30.6	46.0
Classes XI-XII						
1950-51	245 (12.0)	37 (13.9)	282 (12.2)	3.3	0.5	1.9
1955-56	431 (10.7)	71 (13.2)	502 (11.1)	5.2	0.9	3.1
1960-61	717 (10.3)	132 (11.4)	849 (10.5)	8.0	1.6	4.9

1965-66	1,172 (7.7)	226 (11.6)	1,398 (8.3)	11.5	2.3	7.0
1970-71	1,696 (6.7)	391 (10.3)	2,087 (7.5)	14.6	3.5	9.2
1975-76	2,351 (7.8)	638 (11.3)	2,989 (8.6)	17.0	4.8	11.0
1980-81	3,423 (7.9)	1,089 (11.4)	4,512 (8.8)	21.7	7.4	14.8
1985-86	5,004	1,869	6,873	28.8	11.4	20.4

Source. Ministry of Education, Form A, for 1950-51 to 1960-61. Data for 1965-66 were estimated in the Secretariat of the Commission.

N.B. Figures in parentheses show the average annual rate of growth during the quinquennium concerned.

7.46 It is, therefore, necessary to regulate enrolment as proposed above. This implies the adoption of a policy of (1) locating secondary schools in a well-planned manner, (2) maintaining adequate standards and determining the enrolment and intake of each secondary school with reference to places available, and (3) selecting the best amongst the applicants for the places available. To give effect to these new policies, we make the following recommendations:

(1) A development plan for secondary education should be prepared separately for each district, after taking into consideration the existing and perspective needs of expansion. The plan should indicate the measures required to be taken, with rough estimates of cost, for raising each secondary school to an optimum level of efficiency, the places where new schools are needed, and the manner in which the location of existing schools can be rationalized by a process of consolidation in areas where schools have already proliferated and are creating problems of overlap, duplication or unhealthy educational competition. The preparation of such a plan should be undertaken and completed immediately. Its implementation should also start as soon as is practicable and be completed in a period of about ten years. Each school should be given notice to develop itself on the lines indicated within a given

Enrolment at Lower Secondary Stage (Classes VIII-X)

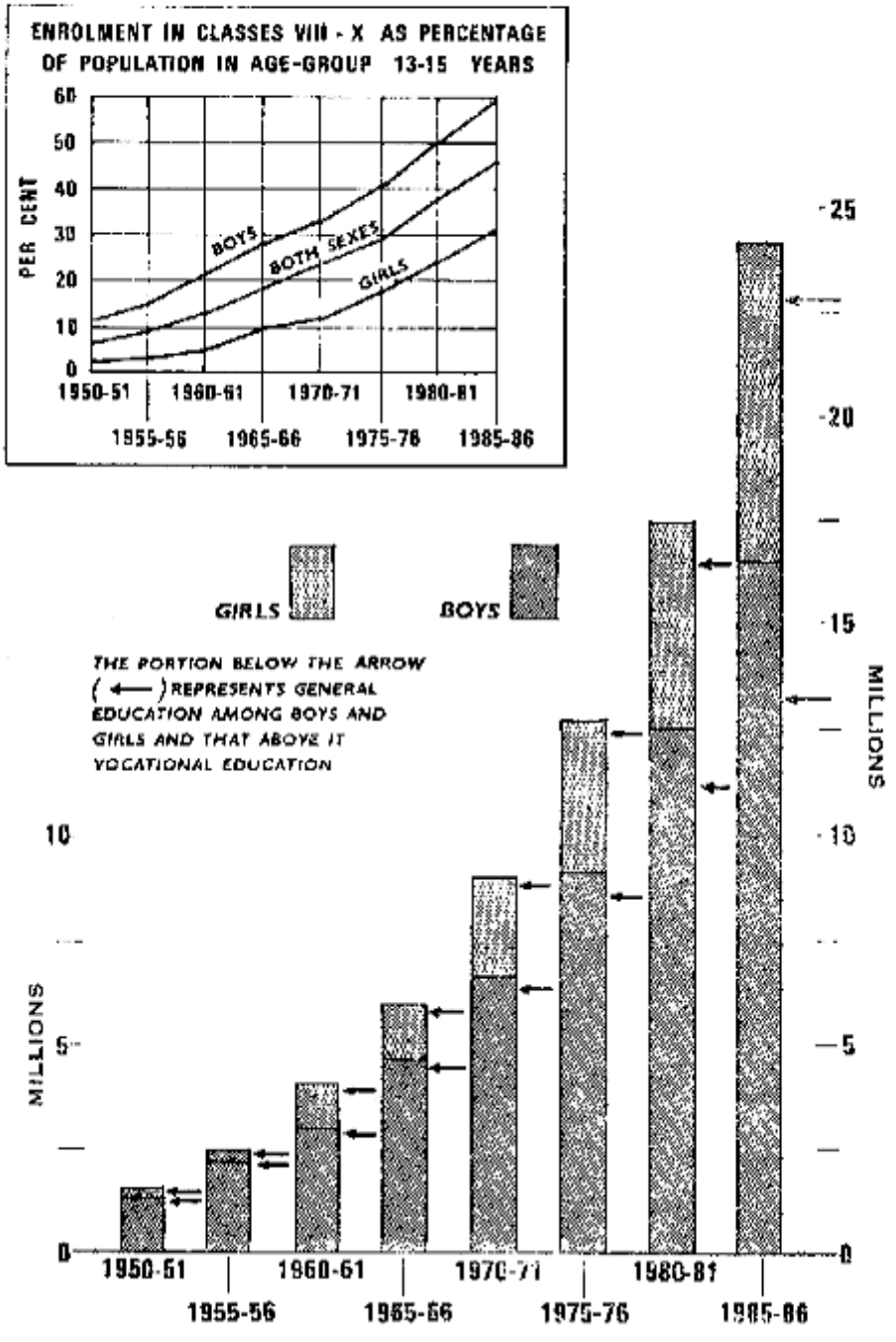
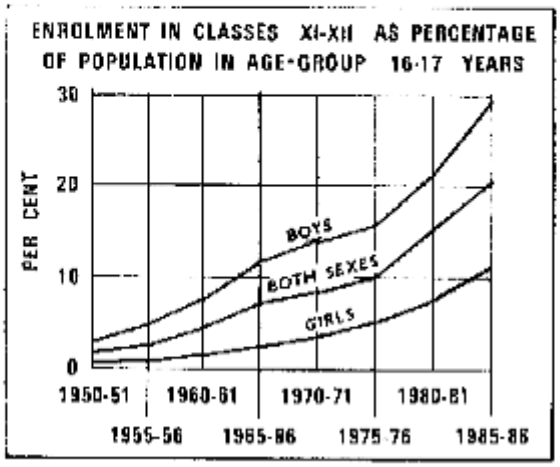


Fig. 17

Enrolment at Higher Secondary Stage (Classes XI-XII)



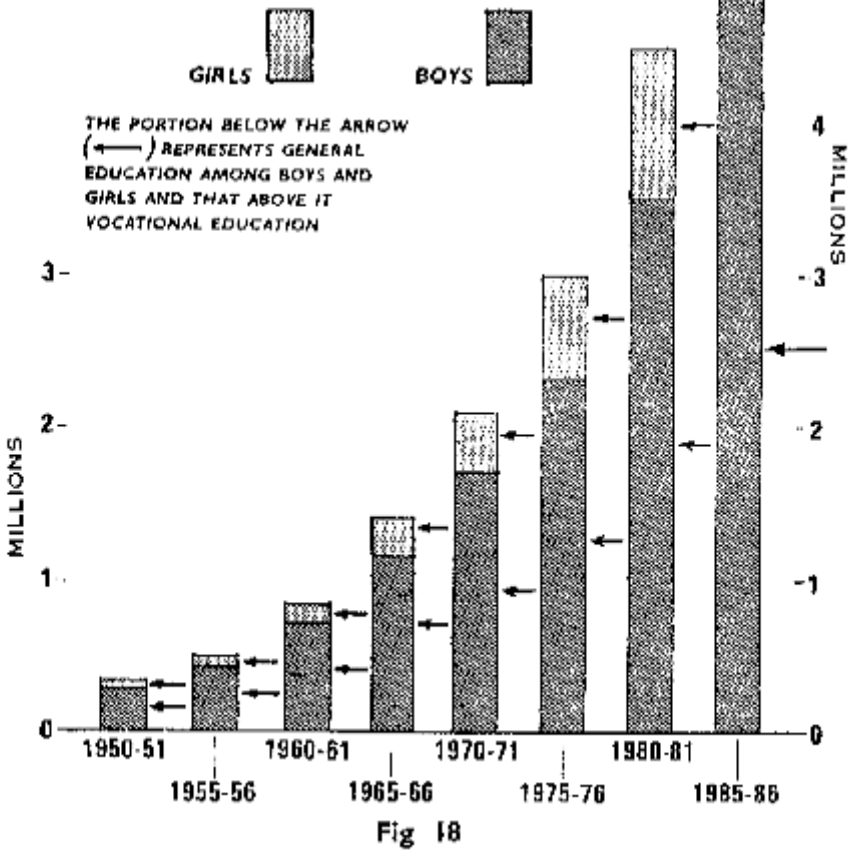


Fig 18

time; and the necessary financial assistance should be made available to it by a suitable amendment of the grant-in-aid rules, if necessary. A large majority of the schools, it is hoped, will rise to the occasion and improve themselves. Until they do so, however, their recognition should be extended temporarily and there should be a detailed inspection to assess the progress made before the recognition is renewed. If a school cannot come up to the standards in spite of all these efforts, there should be no hesitation in withdrawing its recognition.

(2) All secondary schools should be adequately staffed and equipped to provide good education. For this purpose, it is necessary to ensure that the essential standards are maintained in all new institutions. The existing trend, now often noticed, to establish secondary schools without the needed teachers or facilities should be resisted. Steps should also be taken to see that the existing institutions are raised gradually to at least the minimum levels prescribed and that overcrowding in classes is not permitted. If these measures are adopted, it will be possible to determine the places available in lower secondary schools and the quality of education imparted therein.

(3) Each secondary school should select the best students for admission from amongst the applicants. As stated earlier,[72] the selection at the lower secondary stage will be in the nature of a `self-selection'. At the higher secondary stage, however, the selection will have to be more rigorous. The principal basis for such selection would normally be the marks obtained in the public examination at the end of class X. But the unreliability of this basis, especially in borderline cases, should be tempered by taking into consideration the school record, the proficiency of the students in fields not tested in the examination and such other relevant factors. it should also be possible to make an exception in the case of very gifted students in some special fields, e.g., mathematics or languages, who may not have shown good performance in the aggregate. By and large, the methods of selection adopted here will be similar to those which will be adopted at the university stage.[73]

The chart on page 296 gives a graphic representation of the enrolment at the four main stages of school education from 1950-51 to 1985-86.

7.47 Vocational Education. We shall now discuss some important features of the expansion of secondary education. The most important of these is vocationalization which we have repeatedly stressed in this

[72]Chapter V. [73]For details, see Chapter XII.

School Enrolment 1950 - 85

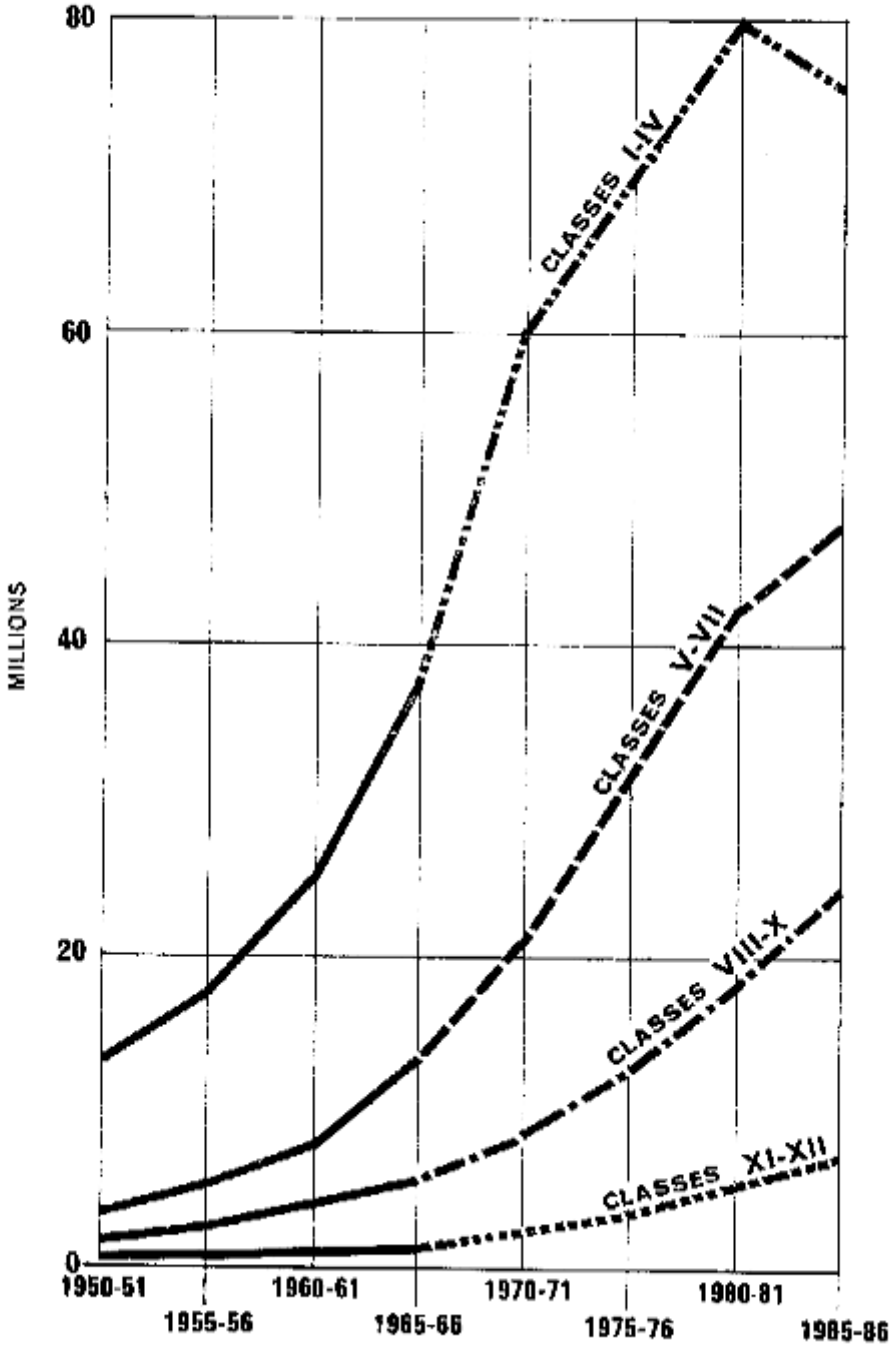


Fig. 19

Report. As we visualize them, the enrolment in vocational education at the secondary stage will be as shown in Table 7.7.

TABLE 7.7 VOCATIONAL EDUCATION AT THE SECONDARY STAGE
(including in Table 7.6)

Stage/Years	Enrolment in Vocational Education (000's)			Percentage of Enrolment in Vocational Education to Total Enrolment		
	Boys	Girls	Total	Boys	Girls	Total
Classes VIII-X						
1950-51	29	18	46	2.2	8.8	3.1
	(6.1)	(12.2)	(9.1)			
1955-56	39	32	71	2.0	7.9	3.0
	(10.8)	(1.8)	(7.1)			
1960-61	65	35	100	2.2	4.7	2.7
	(6.7)	(6.1)	(6.5)			
1965-66	90	47	137	1.9	3.3	2.2
	(19.7)	(19.2)	(19.6)			
1970-71	222	113	335	3.4	5.0	3.8
	(19.7)	(19.2)	(19.6)			
1975-76	546	272	818	6.0	7.6	6.4
	(19.7)	(19.2)	(19.6)			
1980-81	1,344	655	1,999	11.0	12.4	11.4
	(19.7)	(19.2)	(19.6)			
1985-86	3,305	1,568	4,873	20.0	20.0	20.0
Classes XI-XII						
1950-51	105	20	125	42.7	53.6	44.2
	(11.3)	(11.8)	(11.4)			
1955-56	179	35	214	41.6	49.4	42.7
	(10.8)	(11.0)	(10.8)			
1960-61	299	59	358	41.7	44.9	42.2
	(9.8)	(8.1)	(9.5)			
1965-66	477	87	564	40.7	38.5	40.3
	(8.6)	(12.6)	(9.3)			
1970-71	721	157	878	42.5	40.2	42.1
	(8.6)	(12.6)	(9.4)			
1975-76	1,089	284	1,373	46.3	44.5	45.9
	(8.6)	(12.6)	(9.5)			

1980-81	1,645	514	2,159	48.1	47.2	47.9
	(8.7)	(12.7)	(9.7)			
1985-86	2,502	934	3,436	50.0	50.0	50.0

Source. Ministry of Education Form A, for data up to 1960-61. Data for 1965-66 were estimated in the Secretariat of the Commission.

N.B. (i) Figures in parentheses show average annual rate of growth in the quinquennium concerned.
(ii) Totals do not tally on account of rounding.

It will be seen that:

- at the lower secondary stage, the enrolment in vocational education was about 3 per cent in 1950-51. In 1965-66, it declined to 2.2 per cent because of a very rapid increase in general education. It is assumed that a systematic attempt will be made to introduce vocational courses at this stage, either part-time or full-time, and to increase the enrolment in these courses, by 1986, to about 20 per cent of the total enrolment. This is the most challenging part of the work to be done at this stage;

- at the higher secondary stage, the enrolment in vocational courses is now about 40 per cent of the total enrolment. Allowance has to be made here for the fact that the general education course is now only of one year's duration. if it were lengthened to two years, this proportion of enrolment in vocational courses would fall to about 20 per cent. One of the major reforms we envisage is to vocationalize higher secondary education and to raise the enrolment in the vocational courses at this stage to 50 per cent of the total enrolment.

7.48 How can these objectives be realized and what are the types of vocational education that can be provided at this stage?

(1) Lower Secondary Stage. The following are the courses which can be organized for students who leave school at the end of class VII or VIII:

(a) In the industrial training institutes, there are courses which are open to those who have completed the primary school. If the age of admission to these courses is reduced to 14,[74] a large number of students who have completed the primary school will be able to enter these courses of industrial training.

(b) The terminal programmes provided in technical schools which will prepare students for jobs in industry form another category of the vocational courses at this stage. The details of the programme are discussed elsewhere.[75]

[74]This was 16 and is now reduced to 15. For details, see Chapter XV. [75]Ibid.

(c) A large number of the students who drop out after class VII or class VIII will enter employment in family business, some with the idea of setting up their own small-scale industry or trade. A wide range of courses should be available on a part-time basis for them to obtain qualification or to upgrade their skills. Examples of the type of courses which can be offered are given in the annexures to Chapters XIV and XV. We recommend that a special section should be set up in the Education Departments which will remain in touch with such young persons, help them to obtain Suitable opportunities for training either on a full-time or on a part-time basis and also provide them, side by side, with some general education.

(d) A large proportion of the rural boys will join the family farm. They will have to be provided with further education which will enable them to improve their professional efficiency and general education.

(e) A large proportion of girls will leave school and get married either immediately or a little later. They should be given further education in home science combined with general education.

(2) Higher Secondary Stage. A wide range of vocational courses will be available at this stage.

(a) Apart from the expansion of facilities for full- time studies in those polytechnics which have been recommended in Chapters XIV and XV, we envisage the development at this stage of part-time vocational courses in industry arranged on either a day-release, sandwich or correspondence course basis.

(b) Agricultural and engineering polytechnics should organize short condensed courses for the upgrading of skills of those who have entered into employment or the retraining and re-education of those already qualified.

(c) A large number of courses offered in industrial training institutes require the completion of class X as a qualification for entry. We have recommended[76] a rapid expansion of these facilities.

(d) In addition to the courses so far described, a wide range of other courses in health, commerce, administration, small-scale industries and the services should be developed ranging in duration from six months to three years for a certificate or a diploma qualification. These can also be offered on a part-time basis or through correspondence for those already in employment. The lists of such courses annexed to Chapters XIV and XV give an idea of the scope of the facilities which the Commission has in mind.

[75]Chapter XV.

In view of the importance of the programme and the large scale of the operations to be undertaken, it is essential that special sections should be created within the State Departments of Education, charged with the overall organization of courses of this nature, whether full- time or part-time. In organizing such programmes the sections should bear in mind the manpower needs and work in close collaboration with the machinery for vocational guidance and with industry and employers generally.

7.49 Central Grants for Development of Vocational Education at the School Stage. We attach very great importance to the vocationalization of secondary education. For this purpose, we recommend that the Central Government should provide special grants to State Governments in the Centrally sponsored sector. It was the federal grants for vocationalization in secondary schools that stimulated the vocationalization of secondary education in the USA, and this experience has a valuable lesson for India. The following description of the American experience will be of interest to those concerned with the problem :

Federal grants for vocational education began with the Smith Hughes Act of 1917. The activity was directed at the development of what was regarded as a neglected area of education. That is, high school programmes were seen as strongly oriented toward preparation for college; students whose plans did not include college were offered little or no instruction in preparation for useful employment. Smith-Hughes provided continuing appropriations in support of salaries of teachers of agriculture, home economics, trades and industry, and the distributive occupations. Additional monies were appropriated for preparation of vocational teachers and for administration of the Act by the U.S. Office of Education.

The George-Barden Act of 1946 authorized appropriations of additional sums for training in the four main fields of vocational education listed above. The requirements for participation by states in this Act are essentially the same as in the Smith-Hughes, Finally, under Title VIII of the National Defence Education Act of 1958 an additional $ 15 million is authorized, specifically to be used for area vocational schools in the training of highly skilled technicians.

Since the intent of the grant programmes has been to stimulate activity, it must be stated that they have been successful. In 1917, something less than $ 3 million was spent on vocational education by all levels of government, and there were less than 200,000 pupils enrolled. Forty years later, expenditure stood at $ 176 million and enrolment had increased to 3.4 million pupils. It is hard to believe that advance would have been so great in the absence of federal leadership. At present federal funds-are overmatched by both state and local expenditures taken separately.[77]

[77]C.S.Benson, The Economics of Public Education, Houghtom Miffin Co., New York, Pp.262-63.

7.50 Part-time Education. Another important aspect of the expansion of secondary education is the need to provide part-time education. This hardly exists at present; and it will have to be expanded very largely on the following lines.

(1) Lower Secondary Stage. We visualize the following programmes:

(a) Some students who have completed the primary school and are unable to continue their studies on a full-time basis may wish to prepare themselves for the high school examination at the end of class X. Part-time courses similar to the full-time ones should be organized for such students on the lines of the courses in existing night high schools. The courses are expected to be run, by and large, in the buildings of the full-time schools so that part-time students may use the same equipment. The teachers will also be largely drawn from the same source and receive extra payment for the work ordinarily, the students will take a somewhat longer time to complete these courses.

(b) Courses of the above type will, however, be few, and part-time education will largely be of a vocational character required by those who have actually adopted some career and desire to improve their professional efficiency. The success of these programmes, which will be of various types, will depend upon the flexibility of organization and the extent to which they meet the needs of the students. However, the following two types will be the most important:

(i) COURSES IN AGRICULTURE. We recommend that part- time courses should be organized for students who have left the primary school and taken to farming as a vocation. The principal object of these courses should be to introduce the young persons to improved farming methods, but they will also contain an element of general education. The courses may be arranged to suit the convenience of the students. For example, they may be run one or two days a week or on a full-time basis for two to six weeks in a year. Such courses can be conducted in the agricultural polytechnics proposed to be set up, the agricultural high schools and especially at the primary extension centres.[78] If vigorous steps are taken in this direction, we believe that about one- third to one-half of the total enrolment in vocational education would be in courses of this type.

(ii) SPECIAL COURSES FOR GIRLS. For girls leaving the primary school at about the age of 14, we propose the organization of part-time or full-time courses in home science or the household industries like tailoring, arts and crafts, poultry, dairying, etc., to prepare them better for their future life as housewives and mothers. These may be short full-time courses or part-time courses over a long duration and can be both useful and popular.

(2) Higher Secondary Stage. Programmes of part-time education at this stage are very important and will include the following:

[78]See Chapter XIV.

(a) part-time courses organized on the general pattern of the full- time ones meant for those who would like to pass the higher secondary examination;

(b) part-time courses in agriculture for those who have taken to agriculture as a career; (c) part-time courses in industry for those who have joined it;

(d) special courses for girls on the lines of those recommended at the lower secondary stage, but conducted at a higher level in view of the better general education which the students would have received; and

(e) part-time courses for those who want to be self-employed.

7.51 The scale of enrolment we have in view for part-time education is indicated below.

(1) Lower Secondary Stage. At present most of the enrolment at this stage is on a full-time basis. There are a few night high schools in big cities which provide part-time education to workers; but their enrolment is extremely small. It is now expected that efforts will be made to provide part-time education on a large scale, and that one-fifth of the total enrolment will be on a part-time basis.

(2) Higher Secondary Stage. The measures to be adopted at this stage will be similar to those mentioned above, and we expect about one-fourth of the total enrolment to be in courses of part-time or correspondence education.

7.52 Education of Girls. Special emphasis has been laid in these proposals on the expansion of secondary education among girls. It will be seen from Table 7.6 that

- at the lower secondary stage, the proportion of the enrolment of girls to that of boys was about 1:6 in 1950-51, and is now 1:3. During the next twenty years, it will rise to 1:2; and
- at the higher secondary stage, the proportion of the enrolment of girls to that of boys was about 1:6.5 in 1950-51, and is now about 1:5. During the next twenty years, it is proposed to be raised to 1:3.

7.53 Special efforts would be needed to achieve these targets. The problem has been examined by the National Committee on Women's Education and we broadly agree with its detailed recommendations on the subject. In particular, we would like to invite attention to the following:

(1) Public opinion is generally not in favour of accepting coeducation at the secondary stage. Separate schools for girls should, therefore, be specially encouraged. In smaller places where separate schools are not financially feasible, there should be a rule that a school which admits girls should have some women members on its staff.

(2) Hostels for girls should be encouraged. Where feasible, subsidized transport may be arranged.

(3) Special consideration should be shown to girls in the scholarships programme that may be developed at this stage.

7.54 We have deliberately emphasized the development of part-time and vocational education for girls at this stage. As girls are more useful at home, they tend to be withdrawn from schools earlier than boys, and, therefore, the provision of part-time education is more needed for them than for boys. The same is true of vocational education also. A vast majority of girls that leave school at 14 would be benefited by short vocational courses or by courses in home science which would help them in their future life. These courses need greater emphasis than a mere continuation of general education.

PLANNING THE LOCATION OF SCHOOLS

7.55 In planning the expansion of facilities in primary and secondary education on the scale which has been described earlier, one of the important problems to be attended to is the planning and location of schools. The need to adopt a rational policy in this matter is obvious; proper location will avoid waste and duplication, and size is related intimately to cost and efficiency. Institutions of vocational education should invariably be located in close proximity to the industries concerned, otherwise they will serve little useful purpose, and in some situations the results may be even pernicious. Unfortunately, it has not yet been possible to evolve and implement a proper policy in this regard; several of our institutions are badly located; many of them are too small; and some are too big to be manageable. It is desirable for the State Education Departments concerned with the planning of educational institutions, to evolve some guidelines for determining the location and size of each category of educational institutions. We make below some tentative proposals for this purpose.

7.56 Primary Schools. At this stage, accessibility is the overriding consideration and small schools, in spite of their heavier cost and lower efficiency, must be accepted. The optimum size of a school is for a lower primary school-4 or 5 teachers and an enrolment of 160 to 200, i.e., a school of 4 or 5 classes; and for a higher primary school, a school of 7 or 8 classes, a teacher for each class (excluding the headmaster) and an enrolment of 300-400. Wherever possible, schools of this size (or even bigger ones) should be established. This can be done in all urban areas and in villages of 1,500 persons or more. Since small villages predominate, small schools will have to be established, in spite of their comparatively greater cost and lower efficiency. The general rule should be to establish a lower primary school within a mile or so of the home of every child, and a higher primary school, within three miles. Villages with a population of 200-300 should have a lower primary school and those with a population of 700 or more should have a higher primary school. The present position at the lower primary stage is given in Table 7.8 and in the chart on page 307.

It will be seen that about one-third of all primary schools have an enrolment of less than 40 pupils, and about two-thirds have an enrolment of less than one hundred. Only about

one-fourth of the schools have an enrolment of 140 and more, where a teacher can be placed in charge of each separate class.

7.57 Similar data for the higher primary schools is given in Table 7.9. (See also chart on page 308.)

It may be assumed that the enrolment in the higher primary classes should be about 120 so that one teacher can be put economically in charge of each class. On this basis, only one-third of the schools will qualify. Even if it is assumed that the enrolment in the higher primary classes should be about 60, 40 per cent of the institutions fall below this level.

7.58 We do not underestimate the difficulties involved in the arrangement proposed above. We feel, however, that the establishment of larger and more efficient primary schools would be facilitated if people could be persuaded to accept mixed schools at the primary stage and if small neighbouring villages could be induced to share a bigger and more efficient school in common, instead of insisting on their own schools, however small. We recommend that attempts should be made to educate public opinion on these lines.

7.59 The problem of small villages is serious. The first education survey-now under revision-showed that out of the 840,000 habitations in the country, 254,000 (or 30 per cent) had a population of less than 100; 189,000 (or 23 per cent) had a population between 100 and 199; and 114,000 (or 14 per cent) had a population between 200 and 299. They also contained about 25 per cent of the total population. A long-term goal should be to merge these villages into bigger ones.

TABLE 7.8 DISTRIBUTION OF LOWER PRIMARY SCHOOLS/SECTIONS ACCORDING TO SIZE (1965)

State	Percentage of Lower Primary Schools with Enrolment										
	Below 30	30—49	50—69	70—99	100—139	140—179	180—239	240—319	320—399	400 and above	Total
Andhra Pradesh . . .	6.4	20.9	19.3	21.4	15.1	7.4	4.9	2.6	1.6	0.4	100.0
Kerala	0.1	0.2	0.6	2.6	25.1	19.8	19.3	12.7	6.7	12.9	100.0
Madhya Pradesh . . .	32.3	29.6	19.6	10.5	9.1	2.8	2.5	1.3	0.6	0.6	100.0
Maharashtra	14.3	24.8	17.8	10.7	8.8	6.1	6.4	4.5	2.8	3.8	100.0
Mysore	11.8	20.7	14.7	16.1	13.6	8.1	7.0	3.9	2.2	1.9	100.0
Orissa	20.0	31.6	16.6	13.8	7.7	5.3	3.6	1.1	0.3	..	100.0
Punjab	6.2	14.0	16.8	25.0	16.5	7.6	6.2	2.8	1.7	3.2	100.0
Rajasthan	24.0	27.3	17.5	12.3	8.8	4.1	3.2	1.5	0.6	0.7	100.0
Uttar Pradesh . . .	4.2	12.5	13.5	18.8	18.5	13.0	11.5	5.7	1.5	0.8	100.0
Total	12.7	20.4	15.9	15.1	13.2	8.0	6.9	3.9	1.9	2.0	100.0

Source. Data supplied by the State Governments (based on a study of 29 districts).

TABLE 7.9 DISTRIBUTION OF HIGHER PRIMARY SCHOOLS/SECTIONS ACCORDING TO SIZE (1965)

State	Percentage of Higher Primary Schools with Enrolment										
	Below 20	20—39	40—59	60—79	80—119	120—159	160—199	200—279	280—399	400 and above	Total
Andhra Pradesh	8.3	14.5	9.3	12.4	11.7	10.1	7.8	7.1	9.0	9.8	100.0
Kerala	..	0.5	2.6	4.9	21.3	17.6	12.4	14.9	14.3	11.5	100.0
Madhya Pradesh	13.9	22.6	17.5	12.8	15.7	6.8	3.8	2.9	3.1	0.9	100.0
Maharashtra	11.0	15.9	14.3	12.1	12.4	9.8	5.5	2.3	0.8	..	100.0
Mysore	13.8	22.8	19.5	13.3	14.3	6.1	4.4	3.6	1.7	0.5	100.0
Orissa	5.1	29.4	21.8	12.9	12.4	9.8	5.5	2.3	0.8	..	100.0
Punjab	1.1	4.6	16.1	10.3	10.4	15.0	16.1	16.1	5.7	4.6	100.0
Rajasthan	2.8	6.7	14.3	15.2	23.5	12.7	9.8	6.4	4.2	4.4	100.0
Uttar Pradesh	5.7	4.2	7.1	8.4	21.5	15.2	11.7	11.9	12.6	1.7	100.0
TOTAL	9.3	15.9	14.2	11.7	15.0	10.3	7.6	7.0	5.6	3.4	100.0

Source. Data supplied by the State Governments. The enrolment given in this table is of the higher primary classes (classes V—VII or VI—VIII) only. Most of these schools have also lower primary classes attached to them.

Lower Primary Schools / Departments, by Size, 1965

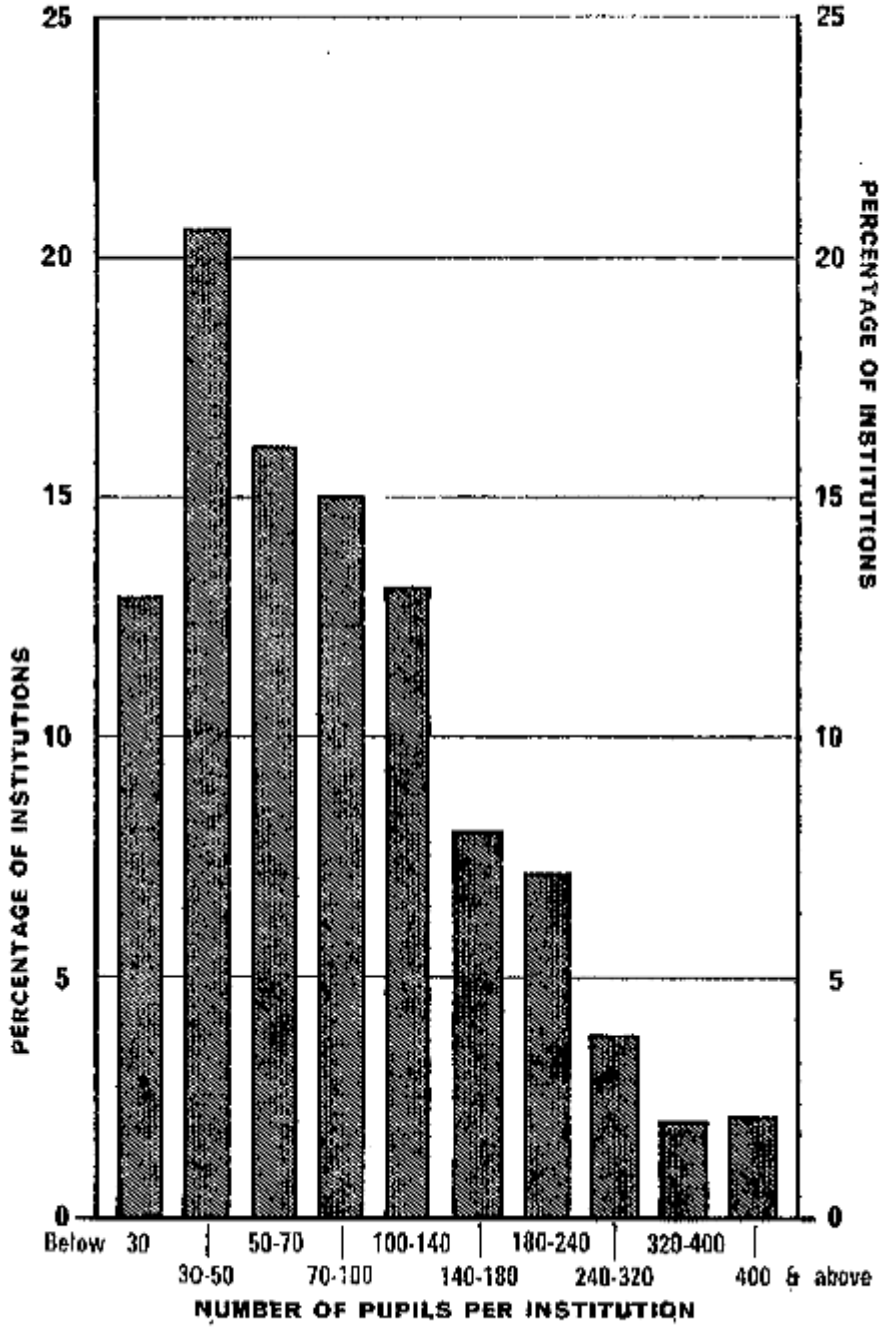


Fig. 20

4

Higher Primary Schools / Departments, by Size, 1965

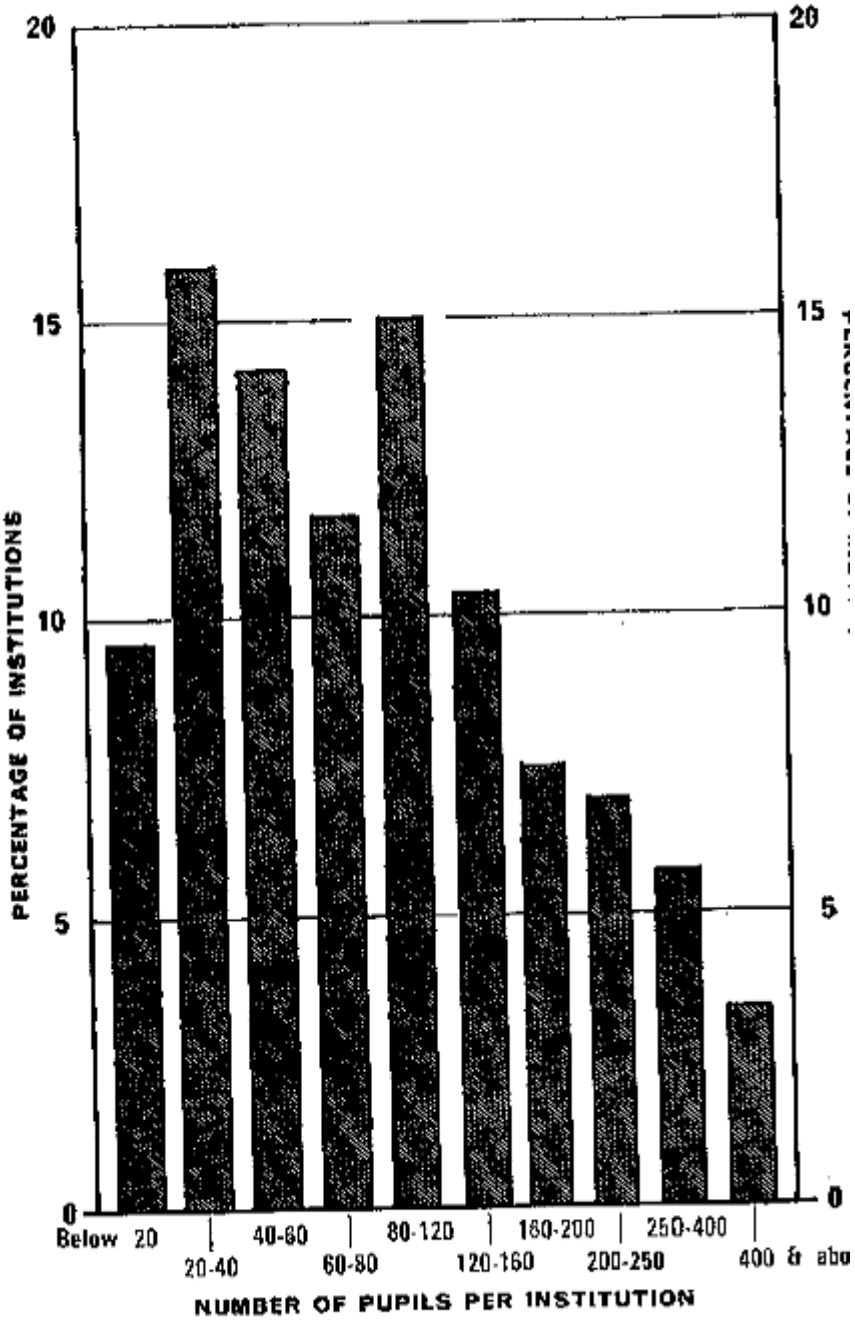


Fig. 21

In the meantime, they should be grouped together, wherever possible, so as to make the **economic provision of schools (and other social services) possible.**

7.60 Secondary Schools. In secondary education and still more so in higher education, accessibility becomes a comparatively minor consideration, and the emphasis has to be shifted to the creation of institutions of a size that is economic and efficient. The significance of this policy is not appreciated and there are at present a very large number of small secondary schools which cannot be raised to adequate levels of efficiency without much cost and difficulty. How bad the situation actually is can be seen from Table 7.10 giving statistics collected by the Commission in twenty-nine districts. (See also chart on page 311.)

A well-equipped and efficient secondary school should have at least three divisions in each of the three classes of the secondary stage, i.e., a total of nine divisions and an enrolment between 360 and 450. A school of this size can have a staff of about 20 teachers and provide all the necessary facilities without increasing the cost per student unduly, if the specifications are lowered to two divisions per class or a total of six divisions-and this is the very minimum possible-the enrolment will be between 240 and 300. But the existing position is unsatisfactory on both these criteria. As many as 26.6 per cent of secondary schools have an enrolment of less than 100-the proportion varying from 4.5 per cent in Kerala to 45.1 per cent in Rajasthan. About 38.3 per cent have an enrolment of 400 and over. The best position is in Kerala, where because of continuous habitation and density of population, 52 per cent of schools have an enrolment of 400 and over. The worst position is probably in Rajasthan where only 15.6 per cent of the schools have an enrolment of 240 and above.

7.61 The policy implications are clear. An effort has to be made to slow down the proliferation of small and uneconomic institutions. New secondary schools should be established only in areas where a clear local need can be proved and where there is a reasonable chance of a new school growing to a reasonable size within five years or so. To achieve this, it is desirable to prescribe stringent conditions for recognition, and to enforce them strictly. A good working rule would be to establish a secondary school serving a radius of five to seven miles with a total population coverage of 10,000 to 15,000; and to adopt the practice of providing transport in the form of a bicycle to Students who live at comparatively long distances, and hostel facilities, where necessary. In certain areas, secondary schools have already proliferated to such an extent that it is not the establishment of new

TABLE 7.10 DISTRIBUTION OF HIGH/HIGHER SECONDARY SCHOOLS/SECTIONS ACCORDING TO SIZE (1965)

State	Percentage of High/Higher Secondary Schools with Enrolment									
	Below 100	100—139	140—179	180—239	240—319	320—399	400—479	480—519	520 and above	Total
Andhra Pradesh	41.1	15.2	8.1	9.3	7.4	6.7	6.3	0.7	5.2	100.0
Kerala	4.5	8.3	4.5	8.3	9.6	12.8	8.4	3.2	40.4	100.0
Madhya Pradesh	35.5	10.5	11.9	13.2	9.2	7.9	3.9	2.6	5.3	100.0
Maharashtra	25.6	8.2	7.8	4.4	11.1	11.0	14.1	7.2	10.6	100.0
Mysore	19.9	11.7	10.6	11.4	13.1	8.2	7.1	2.8	15.2	100.0
Orissa	29.2	19.2	19.2	16.6	8.3	5.0	2.5	..	..	100.0
Punjab	36.4	15.2	21.2	9.1	9.1	3.0	3.0	..	3.0	100.0
Rajasthan	45.1	21.4	8.4	9.5	7.2	2.4	..	2.4	3.6	100.0
Uttar Pradesh	21.3	11.6	5.8	13.5	11.7	10.4	3.2	0.6	21.9	100.0
TOTAL	26.6	11.7	9.1	8.9	10.3	9.0	8.2	3.5	12.7	100.0

Source. Data supplied by the State Governments.

Secondary Schools / Departments, by Size, 1965

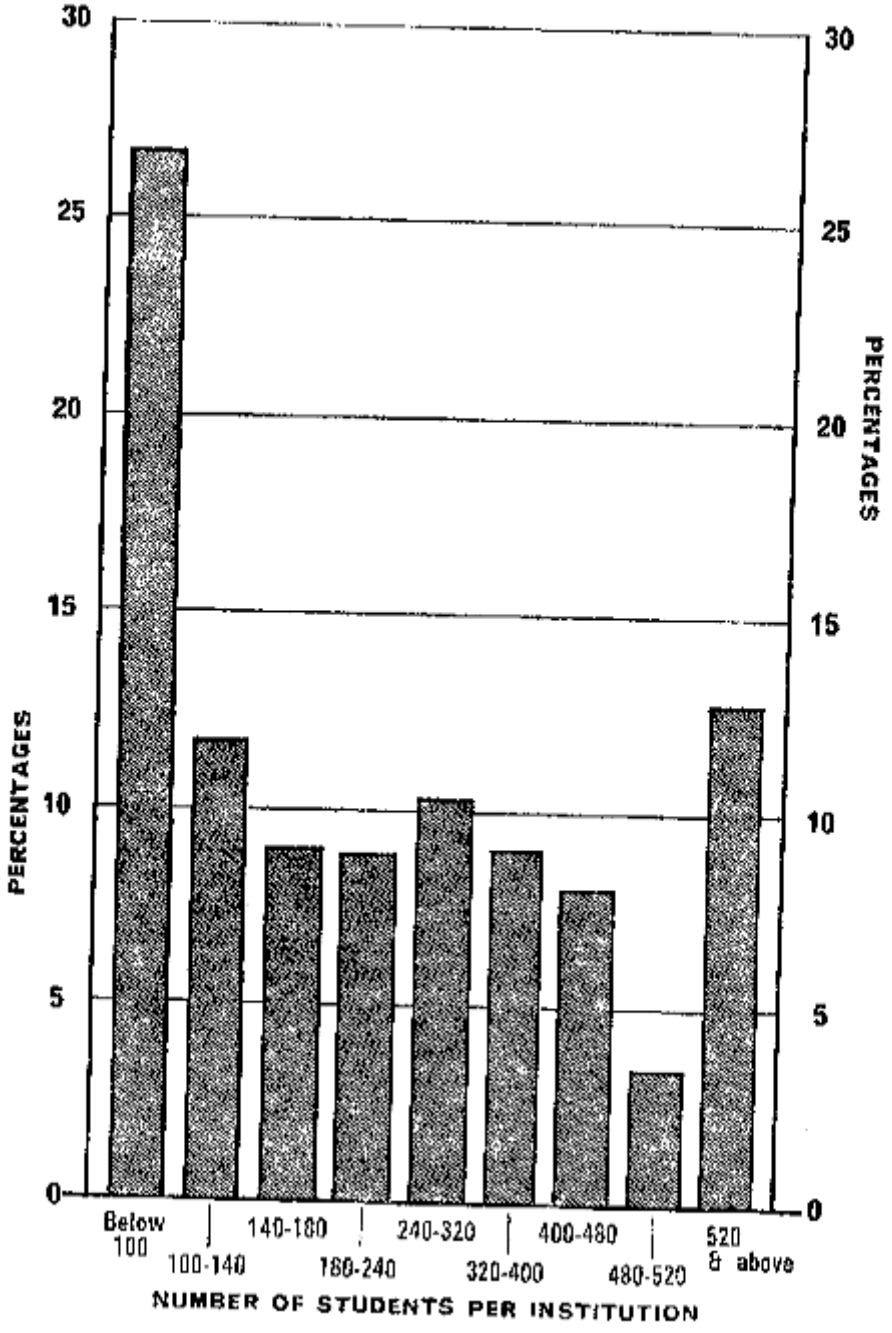


Fig. 22

secondary schools, but the consolidation of existing ones that is the urgent need of the day.

7.62 Vocational Schools. Institutions of vocational education have to be large in size to be economical and efficient. The existing position in this regard (the latest statistics available are for 1961- 62) is given in Table 7.11.

TABLE 7.11 SIZE OF VOCATIONAL SCHOOLS (1961-62)

Type of institution	No. of institutions	Total enrolment	Enrolment per institution
1. Agriculture	106	8,428	80
2. Engineering and Technology	295	86,228	292
3. Medicine	177	11,257	64
4. Teachers' Training Schools	1,134	121,652	107
ALL VOCATIONAL SCHOOLS	3,849	419,043	109

Source. Ministry of Education, Form A.

It will be seen that schools of agriculture are too small to be efficient. Medical schools are also of a small size, but this is probably unavoidable as these institutions are mostly attached to hospitals. The training schools for primary teachers as well as the training colleges for secondary teachers are also very small in size. Elsewhere, we have recommended that the minimum size of such an institution should be about 200 for colleges (one-year course) and 400 for schools (two-year course).[79] Care will also have to be taken to locate all vocational schools close to the industry concerned. This has not always happened, and we have witnessed instances of polytechnics being located in a

[78]Chapter IV.

rural setting where there is no industry, and agricultural institutions located in urban areas where they do not and cannot have a farm of adequate size. Locations of this type lead to infructuous expenditure and should be avoided.

7.63 The need to prepare careful plans for the location of educational institutions and the development of all school education within a given area such as a County Council was recognized in England as early as in 1940, and due provision for it was made in the Education Act of 1944.[80] The results have been very good and this experience can be of great use to us in evolving suitable criteria and in preparing District Educational Development Plans. We trust that the new education survey will be used for the preparation of such plans.

[80]Section 11-16 of the Education Act of England and Wales, 1944.

SUMMARY

1. The entire pre-university period of education should be treated as one single and continuous unit. It may be subdivided into sub-standards such as pre-primary, lower and higher primary, and lower and higher secondary. But it has to be noted that the similarities between the problems of the different sub-stages are more significant than the differences. 7.01

2. Pre-primary Education. Pre-primary education is of great significance to the physical, emotional and intellectual development of children, especially those with unsatisfactory home backgrounds. An enrolment of five per cent of the population in the age-group 3 to 5 in the pre-primary schools proper and of 50 percent in the age-group 5-6 in pre-school classes will be a reasonable target to be attained by 1986.

3. Pre-primary education should be developed on the following lines during the next twenty years:

(1) State-level development centres for pre-primary education should be set up in each State Institute of Education; in addition, a district level centre should be set up in each district for the development, supervision and guidance of pre-primary education in the area.

(2) Private enterprise should be made largely responsible for setting up and running pre-primary centres, the State assisting with grants-in-aid on the basis of equalization.

(3) Experimentation in pre-primary education should be encouraged especially to devise less costly methods of expanding it. This may be done on the Madras pattern. In the alternative, children's play centres should be attached to as many primary schools as possible and should function as pre-school classes.

(4) The State should maintain State and District level play centres, train pre-primary teachers, look after research and preparation of literature on pre-primary education, supervise and guide pre-primary schools and training institutions, assist private agencies with grants-in-aid and run model pre-primary schools.

(5) The programme of pre-primary schools should be flexible and consist of various types of play, manual and learning activities accompanied by sensorial education. 7.03-07

4. Expansion of Primary Education. The objective of primary education should be to prepare individuals to be responsible and useful citizens.

The constitutional directive of providing free and compulsory education for every child up to the age of 14 years is an educational objective of the highest priority and should be fulfilled in all parts of the country through the development of the following programmes:

(1) Five years of good and effective education should be provided to all children by 1975-76.

(2) Seven years of such education should be provided by 1985-86.

(3) Emphasis should be laid on the reduction of wastage and stagnation. The objective should be to ensure that not less than 80 per cent of the children that enter class I reach class VII in a period of seven years.

(4) Children who are not yet fourteen years old at the end of class VII and who do not wish to study further should be retained in the educational system till they complete 14 years of age but should be provided with short vocational courses of their choice.

(5) Each State and district should be required to prepare a perspective plan for the. development of primary education in its area in the light of the targets stated above an its local conditions. It should be given full assistance to move forward at its best pace; and care should be taken to see that its progress is not held up for want of financial resources.

5. Universal Provision of Schools. The expansion of primary schools should be so planned that a lower primary school is available within a distance of about a mile from the home of every child. A higher primary school should be available within one to three miles from the home of every child. 7.13

6. Universal Enrolment. A programme of universal enrolment should be organized simultaneously with emphasis on the following:

(1) The present heterogeneity of cohort in class I should be reduced and the bulk of the students in this class should consist of children in the age-group 5-6 or 6-7;

(2) A system of pre-registration should be introduced;

(3) The transfer rate of students from the end of the lower primary stage to the higher primary (which is now about 80 per cent) should be raised to 100 per cent by the end of the Fifth Plan. 7.15-18

7. Universality of Retention. The most important programme to be implemented during the next ten years is to improve the quality of primary education and to reduce stagnation and wastage to the minimum. The target should be to reduce stagnation and wastage by about half by 1976 and to almost eliminate them by 1986.

(1) Stagnation and wastage are very high in class I and their reduction should be a major programme. Of the various measures to be adopted for the purpose, three are very important:

(a) treating classes I and II (and wherever possible even classes I-IV) as one integrated unit;

(b) introducing a year of pre-school education; and (c) adopting play-way techniques in class I.

(2) Stagnation and wastage in other classes should be reduced by providing various forms of part-time education, by implementing a nation-wide programme of school improvement, and by an intensive programme of parental education.

(3) All children in the age-group 11-14 not attending schools and who have not completed the primary stage of education and become functionally literate, should be required to attend literacy classes for a period of at least one year. The classes should be organized in primary schools and in a flexible manner to suit the convenience of the pupils. They should begin on a voluntary basis; but compulsion may be tried when the local community has become familiar with the concept.

(4) Similar facilities for part-time education should be provided for children who have completed the lower primary stage and who desire to study further. (Their magnitude may be 10 per cent of the total enrolment in 1975-76 and 20 per cent in 1985-86.) The curriculum may follow the general education pattern or contain a large vocational element as required by local needs. 7.19-35

8. Education of Girls-Primary Stage. The education of girls requires special attention in fulfilling the constitutional directive and should be accelerated on the lines of the measures recommended by the National Committee on Women's Education. 7.38

9. Improvement of Quality. Expansion of facilities at the primary stage and programmes of universal enrolment and retention should be accompanied by qualitative improvement. 7.42

10. Expansion of Secondary Education. (1) Enrolment in secondary education should be regulated during the next 20 years by (a) proper planning of the location of secondary schools, (b) maintaining adequate standards and, to that end, by determining the enrolment in terms of facilities available, and (c) selecting the best students.

(2) A development plan for secondary education should be prepared for each district and implemented in a period of ten years. All new institutions should satisfy essential standards, and existing institutions should be raised to the minimum level.

(3) The best students should be selected for admission into secondary schools, through a process of self-selection at the lower secondary stage, and on the basis of external examination results and school records at the higher secondary stage. 7.43-46

11. Vocationalizing Secondary Education. (1) Secondary education should be vocationalized in a large measure and enrolment in vocational courses raised to 20 per cent of total enrolment at the lower secondary stage and 50 per cent of total enrolment at the higher secondary stage by 1986.

(2) A variety of part-time and full-time facilities in vocational education should be available at both these stages to meet the needs of boys and girls, in urban and rural areas. Special sections should be set up in the Education Departments to help young people who drop out after class VII or VIII to obtain training on a full-time or part-time basis, and to be in overall charge of the organization of these courses.

(3) The Central Government should provide special grants to State Governments in the Centrally sponsored sector for the vocationalization of secondary education. 7.47-49

12. Part-time Education. Facilities for part-time education should be provided on a large scale at the lower and higher secondary stages, in general and vocational courses. A desirable target would be 20 per cent of the total enrolment, at the lower secondary stage and 25 per cent at the higher secondary stage. Special emphasis will have to be placed on agricultural courses for those who have taken to farming as a vocation and on courses in home science or household industries for girls. 7.50-51

13. Education of Girls: Secondary Stage. (1) Efforts should be made to accelerate the expansion of girls' education so that the proportion of girls to boys reaches 1:2 at the lower secondary stage and 1:3 at the higher secondary stage in 20 years.

(2) Emphasis should be placed on establishing separate schools for girls, provision of hostels and scholarships, and part-time and vocational courses. 7.52-53

14. Planning and Location of Schools. (1) A national policy for the location of new institutions of each category should be adopted so as to avoid waste and duplication. The second education survey should be used for the careful planning of the location of educational institutions.

(2) Public opinion should be educated to accept mixed schools at the primary stage and the sharing of bigger and efficient schools in common. Villages should be grouped so as to make the economic provision of primary schools possible.

(3) At the secondary stage, the establishment of small and uneconomic institutions should be avoided, and existing uneconomic schools should be consolidated.

(4) Vocational schools should be located near the industry concerned. 7.55-63

CHAPTER VIII

SCHOOL CURRICULUM

8.01 The school curriculum is in a state of flux all over the world today. In developing countries it is generally criticized as being inadequate and outmoded, and not properly designed to meet the needs of modern times. Even in an educationally advanced nation like the USA, where the traditional curriculum had been radically transformed long ago under the impact of progressive education, the content of the school courses is being challenged by several scholars and university men, and a new reform movement has been started which may bring in sweeping curricular changes in school education. This widespread dissatisfaction with the curriculum is due to many causes. In the first place, the tremendous explosion of knowledge in recent years and the reformulation of the basic concepts in the physical, biological and social sciences have brought into sharp relief the inadequacies of existing school programmes. The gulf between the school and the university in the major academic disciplines, which was always wide, has become wider still with the rapid advance of science. Secondly, there has been a rethinking in educational circles about the nature and duration of the education that is imparted in the ordinary secondary school. Expert opinion now generally favours the lengthening of the period of general education and the postponement of specialized study to a later period in the secondary school course. Again, with the necessity of including more and more significant items in an already overpacked school curriculum, it is realized that there is a good deal of useless educational lumber in the school courses which can be safely discarded, and that more dynamic and stimulating methods can be developed for presenting essential knowledge. All these factors are responsible for the increasing pressure for the reform of the school curriculum.

8.02 Against the background of the striking curricular developments that are taking place abroad, the school curriculum in India will be found to be very narrowly conceived and largely out-of- date. Education is a three-fold process of imparting knowledge, developing skills

and inculcating proper interests, attitudes and values. Our schools (all also our colleges) are mostly concerned with the first part of the process-the imparting of knowledge-and carry out even this in an unsatisfactory way. The curriculum places a premium on bookish knowledge and rote learning, makes inadequate provision for practical activities and experiences, and is dominated by examinations, external and internal. Moreover, as the development of useful skills and the inculcation of the right kind of interests, attitudes and values are not given sufficient emphasis, the curriculum becomes not only out of step with modern knowledge, but also out of tune with the life of the people. There is thus urgent need to raise, upgrade and improve the school curriculum.

ESSENTIALS OF CURRICULAR DEVELOPMENT

8.03 Measures Needed for Curricular Development. Most of the curricular revision attempted so far has been of an ad hoc character- not generally preceded by careful research, not based on adequate expertise and not followed by such necessary supporting measures as the preparation of learning materials, the orientation of teachers or the provision of the needed physical facilities. What is worse, the curricula are prepared at the State level and are prescribed uniformly for all the schools in the State. Such a procedure cramps the freedom of headmasters and teachers and renders experimental work almost impossible. It also makes curriculum revision very difficult and infrequent. This problem which faces education at all stages is particularly acute at the school level. It is this weakness of school education that compels colleges to spend time on what is essentially school work; and the content of higher education cannot be adequately deepened until the school curricula are upgraded and made more challenging.

8.04 For upgrading the school curriculum, a number of important steps have to be taken. The more important of these are indicated below.

(1) Research in Curriculum. The first is the need for systematic curricular research so that the revision of the curriculum may be worked out as a well coordinated programme of improvement on the basis of the findings of experts instead of being rushed through haphazardly and in a piecemeal fashion, as often happens in many States today. Facilities for such research should be established in the universities, in the secondary training colleges, in the State Institutes of Education and in the State Boards of School Education. It would also be advantageous to have some experts in curriculum on the staff of the State Boards of School Education who would work in close collaboration with the State Evaluation Organizations and the State Institutes of Education.

(2) Preparation of Textbooks and Other Teaching Aids. Basic to the success of any attempt at curriculum improvement is the preparation of suitable textbooks, teachers' guides and other teaching and learning materials. These define the goals and the content of the new programmes in terms meaningful to the school, and as actual tools used by the teacher and the pupil, they lend substance and significance to the proposed changes.

(3) In-service Education of Teachers. In addition to this, it is necessary to make the teacher understand the chief features of the new curriculum with a view to developing improved teacher competence, better teaching skills, and a more sensitive awareness of the teaching-learning process in the changed situation. Accordingly, an extensive programme of in-service education, consisting of seminars and refresher courses, should be arranged to orient the teachers to the revised curriculum.

8.05 Relating Curricula to Available Facilities. A curriculum should be related to the quality of teachers, the facilities available in the school and the needs of the students with reference to their socio-economic background. These very immensely from one institution to another. Consequently, a single State curriculum designed to serve the needs of the average school ceases to be meaningful for the large variety of institutions in the

States. It proves to be beyond the competence of the weaker institutions and falls to provide an adequate challenge to the better ones. The solution lies in making it possible for schools to devise and adopt curricula suited to their own needs and to vie with one another in upgrading them.

8.06 Freedom to Schools to Adopt Experimental Curricula. Two steps are needed before this development can take place. The first is to schools to try out experimental curricula. The general rule should be that a school will follow the common curricula prescribed by the Department unless it has prepared alternative curricula of its own and adopts them with the prior approval of the Department. Such a provision is found in some States even today, but it exists only on paper. Most schools do not have the courage and the ability to take advantage of this freedom, and those that do embark on any bold curricular venture often find their enthusiasm dampened on account of the vagaries of an unimaginative educational administration. There is need for greater initiative and competence on the part of the schools and a more liberal attitude on the part of the Department for promoting experimentation. Teacher-training institutions having model or demonstration schools under them can give a lead in this matter. The same can be done by universities in the experimental schools which, as recommended by us, should be conducted by them for the improvement of quality in school education.

8.07 Gradual Introduction of Advanced Curricula. The second, and even more significant step, would be for the State Boards of School Education to prepare advanced curricula and introduce them progressively in all the schools and all the subjects through a phased programme spread over a number of years. For this purpose, the Boards should finalize two sets of curricula, advanced and ordinary. The ordinary curriculum would be common for all the schools. The advanced curriculum would be one which can at present be adopted only by the good schools but which may become the ordinary curriculum, let us say, about ten years hence. For instance, we have recommended in Chapter II that the standard reached in the external examination at the end of class X at present should be gradually raised, within a period of about ten years, to the standard of the present higher secondary (i.e., the standard reached at the end of class XI). In terms of this recommendation, the present curriculum for classes I to X would be the ordinary curriculum, and the proposed curriculum for the same classes (with the content raised to the higher secondary level) would be the advanced curriculum. This is stated by way of illustration only, and we would like to stress that an advanced curriculum does not necessarily imply the teaching of topics generally prescribed for higher classes. It may also mean a study of the given subject at much greater depth than is done in the ordinary curriculum.

8.08 State Boards of School Education should prescribe conditions for introducing the advanced curriculum in a given subject in terms of the qualifications and competence of the teachers and the facilities required. Only schools which satisfy these conditions should be allowed to introduce the advanced courses. The introduction of advanced courses would involve the following considerations:

-A school need not adopt the advanced curriculum in all the subjects. It may begin with one or two subjects, and then gradually cover more subjects, or even the entire course in a well planned programme suited to its convenience.

- it should-be open to a student in a school which has not adopted the advanced curriculum to prepare himself privately for it if he so desires.

- The Board of School Education should arrange for examining candidates at the external examinations in both the advanced and the ordinary courses.

- A beginning should be made with the introduction of advanced courses in some subjects at least such as science, mathematics and languages, in those schools which are ready (or can be helped to get ready in a short time) to adopt them.

- In course of time, more and more schools should be assisted to adopt the advanced courses by securing qualified teachers and providing the needed facilities. Every year such `aspirant' schools should be identified and given the necessary assistance to develop the advanced curriculum. An essential part of this assistance consists in preparing the teachers for handling the new courses.

Under a programme of this type, it will be possible to introduce advanced courses progressively in one school after another until most of the schools and almost all school subjects are covered. Once the programme is initiated, a healthy competition will arise among several schools to opt for the advanced courses, which will have much prestige value. If this enthusiasm is properly utilized and encouraged, the curriculum will be upgraded in due course in all the institutions and the whole process can then be restarted towards some higher goal. We will thus have a built-in mechanism in the educational system which will operate for a continual deepening of the content of school education.

8.09 Subject Teachers' Associations. We would like the State governments to encourage the formation of subject teachers' associations for the different school subjects. This will stimulate initiative and experimentation and assist in the revision and upgrading of curricula through the provision of better teaching materials and the use of improved techniques of teaching and evaluation. It should be a responsibility of the State Education Departments, working through the State Boards of School Education, to assist the subject teachers' associations to hold periodical seminars and conferences and to conduct journals of their own, most of which would naturally be in the regional languages. The NCERT should coordinate the work of each State-level association, help the formation of all-India subject teachers' associations and assist in running journals at the national level, in English and in Hindi, for the use of teachers all over India.

ORGANIZATION OF THE CURRICULUM

8.10 Curriculum of the First Ten Years. We shall now consider the broad features of the curriculum as it should be organized to achieve the objectives of school education. For the first seven years of schooling, as we have indicated elsewhere, there will be an

undifferentiated course of general education for all. Of those who continue their studies after class VII, an estimated 20 per cent are expected to be provided with full-time or part-time vocational education, the nature and scope of which have been indicated in the previous chapter. The remaining 80 per cent of the pupils at school should, in our opinion, continue to receive general education for a further period of three years, without any diversification of studies, but with provision of courses at two levels and of options in creative activities and types of work- experience. In other words, for the vast majority of pupils there would be a single curricular stream from class I to class X, ending with the first external or public examination, and there would be no `streaming' or specialization in this general course.

8.11 Scheme of Multipurpose Schools. It will be seen that this proposal is quite different from the scheme of higher secondary education recommended by the Secondary Education Commission, which has been under implementation in certain States during the last ten years. This scheme required a diversification of studies at the end of class VIII and the provision of a variety of courses for students in classes IX to XI. A number of multipurpose higher secondary schools have been opened offering different groups of elective subjects to students in the last three classes. Students are divided into streams according to their optional groups, and the opportunities for further education are determined, by and large, in terms of the groups selected.

8.12 In discussing the structure of the educational system,[81] we referred to the basic defects of the higher secondary pattern. The multipurpose schools, which should really be called multilateral schools, reproduce these defects in an intensified form. Most of the students who Join these schools have only one purpose in view-to pursue their studies further at a university. Consequently, streams like fine arts and agriculture and even the technical stream, which do not lead to popular courses at the university stage, are taken up by few students, and the science course is at a high premium. At the present stage of our economy, a Multiplicity of expensive courses catering for the special interests of small groups of students cannot be prescribed in schools of general education. An analysis of the different groups of electives in the existing multipurpose schools will show that comparatively few schools have more than three diversified groups, so that one of the main objects for which the scheme of diversification was introduced-to provide a variety of courses to suit the different interests, aptitudes and interests of adolescent students-has not been realized.

8.13 One of the major weaknesses in the scheme is that specialization of studies begins too early. We have seen schools where, at the age of 13 or 14, the students are classified as belonging to the pre-engineering or the pre-medical section. The streaming of pupils in this way into specialized groups from class IX upwards is undesirable. We mentioned earlier[82] that recent world trends in secondary education are in the direction of lengthening the period of general education and postponing diversification and specialization to the second cycle or senior stage of secondary education. We, therefore,

[81]Chapter II. [82]Chapter II.

recommend that in the non-vocational schools a common curriculum of general education should be provided in the first ten years of school education and that diversification of studies and specialization should begin only at the higher secondary stage.

8.14 Standards of Attainment at the Different Stages. Though the curriculum of the first ten years of general education covering seven years of primary education (four years of lower primary and three years of upper primary) and three years of lower secondary education should be organized as a continuous programme of studies, the standard of attainment at the end of each sub-stage in the total course should be clearly indicated. These standards should be defined in terms of the knowledge, skills, abilities and attitudes to be developed with reference to the overall objectives of school education.

8.15 At the lower primary stage (classes I to IV) the child should receive instruction in the basic tools of learning such as reading, writing and computation, and learn to adjust himself to his surroundings through an elementary study of his physical and social environment. He should participate in activities which develop his constructive and creative skills and teach him the habits of healthy living in order that a sound foundation in the mother tongue may be laid at this stage, no language other than this should be introduced during the first four years. The curriculum of these classes should be gradually expanded and developed in keeping with the child's growth and development.

8.16 At the higher primary stage (classes V-VII) the study of a second language will be added to that of the mother tongue; arithmetic skill will develop into the acquisition of more difficult mathematical knowledge; environmental activities will lead to the study of natural and physical sciences, history, geography and civics; constructive and creative skills will provide the basis for the practice of simple arts and crafts; and the practice of healthy living will serve as the foundation for physical education.

8.17 The curriculum at the secondary stage should meet the needs of the adolescent as well as the needs of the democratic society in which he is expected to participate as a citizen on reaching maturity. The needs of democratic citizenship will require the development of certain skills, attitudes and qualities of character such as the capacity for clear thinking, the ability to communicate easily with one's fellow-men, the scientific attitude of mind, a sense of true patriotism and an appreciation of the value of productive work. The secondary school curriculum should contain the necessary educational elements for the cultivation of these habits, attitudes and qualities. The needs of adolescence are related not only to the acquisition of knowledge and the Promotion of intellectual ability but the fuller development of the physical, emotional, aesthetic and moral aspects of the pupil's personality. Provision has, therefore, to be made in the curriculum, on a more systematic scale than before, for programmes of physical education and subjects like art, craft, music, dancing and education in moral and spiritual values.

8.18 We give below what we believe should be the broad areas of curricular studies for the different sub-stages, and shall follow this outline with a discussion of the special features of the curriculum at each sub-stage.

(1) Lower Primary Stage (Classes I-IV)

(a)One language-the mother tongue or the regional language.

(b) Mathematics.

(c) Study of the Environment (covering Science and Social Studies in classes III and IV).

(d) Creative Activities.

(e) Work-experience and Social Service.

(f) Health Education.

(2) Higher Primary Stage (Classes V-VII)

(a) Two languages-(i) the mother tongue or the regional language, and (ii) Hindi or English.

[Note: A third language (English, Hindi or the regional language) may be studied on an optional basis.]

(b) Mathematics.

(c) Science.

(d) Social Studies (or History, Geography and Civics).

(e) Art.

(f) Work-experience and Social Service.

(g) Physical Education.

(h) Education in Moral and Spiritual Values.

(3) Lower Secondary Stage (Classes VIII-X)

(a) Three languages. In non-Hindi speaking areas, these languages will normally be (i) the mother tongue or the regional language, (ii) Hindi at a higher or lower level, (iii) English at a higher or lower level. In Hindi speaking areas, they will normally be (i) the mother tongue or the regional language, (ii) English (or Hindi, if English has already been taken as the mother tongue), and (iii) a modern Indian language other than Hindi. (Note: A classical language may be studied in addition to the above three languages on an optional basis.)

(b) Mathematics. (c) Science. (d) History, Geography and Civics. (e) Art. (f) Work-experience and Social Service. (g) Physical Education. (h) Education in Moral and Spiritual Values.

8.19 Curriculum at the Lower Primary Stage. We have already suggested in an earlier chapter[83] that the first two classes of the primary school should be graded as a single unit, and wherever possible, this arrangement should be extended to cover classes III and IV. The proposed curriculum for these classes is very simple and reduces the load of formal subjects. Only language and elementary mathematics are to be specially emphasized with a view to developing the basic tools of learning. The study of the environment will be largely informal in the beginning and will be provided by making the child observe his immediate social and physical surroundings and talk in class about what he observes. In class III, environmental studies will gradually lead to social studies and science which may now be treated as regular subjects, but in a very elementary manner. While the activity method will permeate all teaching, special activities in the form of music, art work, dramatics and handwork should be organized for creative self-expression. Health education will stress the formation of good health habits. Work-experience will consist largely of handwork, and social service will involve simple activities like cleaning the classroom, decorating the school, etc.

8.20 We would like to emphasize one important aspect of education at this stage, viz., reading with understanding. If the proper foundation for this is not laid at this level, the entire future education of the child will receive an irreparable set-back. Adequate attention has not been paid so far to research in beginning reading, to the evolution of proper methods of teaching reading to young children with phonetic scripts which the Indian languages have, to the preparation of graded vocabularies, to the designing of primers and readers for class I and to the evolution of tests of reading readiness or competence. It has not yet been possible to organize the proper training of teacher-educators at the primary level in these matters, and the average primary teacher generally tries to teach reading in a rule-of-thumb manner. It is the neglect of this crucial area that is responsible for a good deal of the stagnation at the lower primary stage. We recommend that a study of these problems should be taken up in earnest and that a vigorous programme of improving reading instruction at the lower primary stage should be developed in all parts of the country.

8.21 Curriculum at the Higher Primary Stage. When the pupil enters the higher primary stage, learning will become more systematic with greater stress on discrete subjects. The curriculum will broaden in respect of subject-coverage and deepen in respect of content. Teaching methods will become more systematic and standards of attainment more specific and definite than before.

[83]Chapter II.

8.22 A second language, either Hindi or English, has now to be introduced so that a working knowledge in one of the two link languages may be attained by the end of class VII. While only two languages will be compulsory at this stage, a pupil may study three languages the regional language, English and Hindi-if he so desires, and facilities will have to be provided for the teaching of the third language in every school. Mathematics and science will receive greater stress than before. Social studies may continue as an integrated course if competent teachers and the requisite facilities are available; otherwise the study of history, geography, and civics should be taken up as separate disciplines. Arts and crafts will figure more prominently, the latter as a part of work-experience, and physical education and games will have their due place. A period or two a week should be allotted to education in moral and spiritual values in an organized attempt to develop the character of the pupils and inculcate in them a respect for religions other than their own. Social service activities will now include participation in the life of the local community.

8.23 Curriculum at the Lower Secondary Stage. The subjects that were studied in classes V, VI and VII will be continued at the lower secondary stage; but with the increasing maturity of the students, their study has to gain in rigour and depth. Subject competence in science is particularly important in view of the phenomenal advances made in recent years in scientific knowledge, history, geography and civics; and present-day problems will be taught separately with such correlation as is natural and necessary. A third language-Hindi or English or a modem Indian language-will be introduced here on a compulsory basis. Work-experience will be organized, as far as possible, on a farm, workshop or other production unit; social service will be undertaken continuously for a fixed period every year; and education in moral and spiritual values will be provided on a more systematic basis.

8.24 Curriculum at the Higher Secondary Stage. After the completion of the first ten years of schooling leading to the high school examination, the special interests and abilities of the student will have been generally formed, and, with a good system of guidance and counselling, he can be helped in the choice of his future career and educational course. An extensive and varied programme of vocational education should be provided at this stage. In the light of the proposed enrolment policies discussed in the preceding chapter, 50 per cent of those who wish to continue their studies beyond class X are expected to take up full-time or part-time vocational courses and 50 per cent to join courses of general education. The latter type of courses will be diversified to enable the students to select for special study a group of any three subjects based on the work already done at the lower secondary stage. As in the existing higher secondary scheme, the primary object of the new diversification is to provide opportunities in the last two years of schooling for the development of the special academic interests of the students.

8.25 But there are two important differences between the new scheme and the old one. The first is that, since the technical, commercial and agricultural courses and probably also the courses in fine arts and home science, will in future be studied, generally speaking, in special vocational institutions, the present seven categories of elective subjects will in effect be reduced to arts and sciences. The second is that there will be no

sharp distinction even between these two categories and there will be no streaming of subjects on the prevailing pattern, in which a student is compelled to take his three electives from only one group in the form of a package deal, as it were, and cannot combine an elective from one group with optional subjects from another. While a student specially interested in science will normally opt for three science subjects such as physics, chemistry and mathematics, or physics, chemistry and biology, he should not be debarred from taking, if he so desires, a subject like psychology or logic along with physics and mathematics. Similarly, though a student who is keen on taking special courses in arts may select all the three subjects from this group, such as English, history and geography, he should not be prevented from combining, if he so desires, a subject like biology along with English and history. It will thus be seen that, while the changes proposed in the existing higher secondary scheme restrict the wide range of optional courses at present permitted in classes IX, X and Xi, they provide for greater freedom and elasticity in the grouping of subjects within the limited range in the new classes XI and XII As the education imparted in the higher secondary classes will lead in most cases to university studies, the subjects in arts and sciences with the elastic groupings that we have recommended above will meet the needs of most students.

8.26 In addition to the three elective subjects, a student should select for further study any two languages. These may be two of the three languages studied by him at the lower secondary stage, but these may also include any modern Indian language other than the one taken previously or any foreign language or any classical language. The normal combination for the majority of students, as far as the two, compulsory languages are concerned, will probably be Hindi or the regional language and English. But we do not wish to recommend any particular grouping in this case. The combination should be left to the choice of the student which, of course, will be determined by the facilities for language study provided in the higher secondary school he has joined. In Chapter If we have stressed the importance of promoting in every linguistic region the study of modern Indian languages. other than the language of the region. We have also recommended that a few carefully selected schools could provide for the study of foreign languages other than English, and particularly of Russian. At the higher secondary stage, some good schools would like to make such provision in their courses of studies; and they should be encouraged in their efforts to strike out a new path in the language curriculum.

8.27 We have referred above to the need for attending to the development of the physical, aesthetic and moral aspects of the adolescent's personality. The need is perhaps even greater at the higher secondary stage than in the early years of adolescence. With the narrowing down of the curriculum range to five academic subjects and the specialized study of three of these subjects demanding greater time and more intensive study, it becomes all the more necessary to include a complementary element in the curriculum which will effectively contribute to the full development of the student's personality. Provision must be made here, as at the lower secondary stage, for work-experience and social service, for arts and crafts, for physical education including games and Sports, and for education in moral and spiritual values. In our discussion of curricular problems we have not suggested any allocations of time for different subjects at any stage. But we would like to depart from this procedure in the case of the higher secondary stage. As

there is a danger of the specialist subjects making heavy demands on the time- table, we suggest that about one half of the instructional time should be devoted to the three electives, one-fourth to the study of the two languages and one-fourth to the complementary activities or subjects referred to above.

8.28 Subject Areas in the Higher Secondary Course. The existing one year higher secondary course will soon have to be reorganized to cover a two-year period. We give below a list of subject areas which, we think, should form part of the curriculum.

(1) Any two languages, including any modern Indian language, any modem foreign language and any classical language.

(2) Any three subjects from the following :

(a) An additional language.

(b) History.

(c) Geography.

(d) Economics.

(e) Logic.

(f) Psychology.

(g) Sociology.

(h) Art.

(i) Physics.

(j) Chemistry.

(k) Mathematics.

(l) Biology.

(m) Geology.

(n) Home Science.

(3) Work-experience and Social Service.

(4) Physical Education.

(5) Art or Craft.

(6) Education in Moral and Spiritual Values.

But this list is only suggestive. The whole question of the higher secondary curriculum will have to be carefully examined and the details worked out by an expert body consisting of representatives of the universities, State Boards of School Education, and State Departments of Education.

8.29 Advanced and Enrichment Programmes at Different Stages. In the preceding section we suggested that the State Education Departments should prepare advanced courses in the different school subjects and that good schools should adopt these courses by introducing the changes in one or two subjects in the beginning and gradually covering the entire school curriculum in a phased programme suited to their convenience. Even where it is not possible for a school to adopt an advanced course in a subject for all its pupils in a particular class, it can give the benefit of such a course to the gifted children. In other words, a good school can have two kinds of curricula at a particular stage or even in a particular class-one being the common curriculum for the pupils who are average in ability, and the other being an advanced curriculum for the very bright pupils. In this context, we make the following recommendations:

(1) At the primary stage, it is difficult to provide separate advanced courses. Enrichment programmes should, therefore, be created for talented children, so that they may get more challenging and more satisfying learning experiences from their studies. Such programmes may start in class V or VI. It may, for instance, be in the form of additional science, which may involve more extensive reading, practical work and application of knowledge to life situations. It may also mean additional work in language or art, leading to the development of creative self-expression. It is better if the planning of the enrichment programme is done by teachers and pupils together. General guidelines can be given in the curriculum materials, and the teacher will also need some additional help in the form of special types of work-books and facilities for the establishment of subject clubs. Work under this programme may also be done outside the school hours.

(2) At the secondary stage, we are not in favour of diversified courses. But we strongly recommend the organization of courses at two levels--ordinary and advanced--beginning with class VIII. Advanced courses may be offered in various subjects and should be included in the curriculum on an optional basis. In the lower secondary classes, a beginning may be made with advanced courses in mathematics, science and the languages. But at the higher secondary stage, such courses should be provided in all the specialized subjects. A student appearing for the higher secondary school examination should not normally offer advanced courses in more than two subjects. Different arrangements will have to be made by schools for the organization of advanced courses such as regular instruction during the school hours (in large schools with many class divisions), instruction outside the school hours, and self-study by students under the teacher's guidance, depending upon the circumstances of the case.

LANGUAGES

8.30 We shall now consider the special features of the various subject areas or areas of educational activity which, in our opinion, should form part of the school curriculum at different stages. We shall take up for discussion only those aspects which need to be highlighted with particular reference to our national and educational goals as well as the specific objectives of school education.

8.31 Origin of the Three-Language Formula. The Central Advisory Board of Education in 1956 examined at length the complex problem of the teaching of the languages in relation to the needs of the country and the requirements of the Constitution. It devised a formula known as the `Three-Language Formula' which was somewhat simplified and approved by the conference of Chief Ministers held in 1961. The impelling considerations were more political and social, than educational. In effect, the formula established equality with regard to the study of languages between the Hindi and the non-Hindi areas by recommending that, as against the third language, Hindi, which pupils in the non-Hindi areas have to learn, another Indian language (besides Hindi and English) should be studied by pupils in the Hindi areas.

8.32 Difficulties in Implementing the Formula. In practice, the implementation of the three-language formula has led to several difficulties and it has not been very successful. Several factors have contributed to this situation. Among these are the general opposition to a heavy language load in the school curriculum; the lack of motivation for the study of an additional modern Indian language in the Hindi areas; the resistance to the study of Hindi in some non- Hindi areas; and the heavy cost and effort involved in providing for the teaching of the second and the third languages for five to six years (from class VI to class X or XI). The situation was made worse by defective planning and by the half-hearted way in which the formula was implemented. As a result of these developments, considerable resources have been wasted over what may be regarded as an unproductive programme of implementation. As far as the third language is concerned, the students in many areas have gained very little because of the unreal situation in which most of them studied it and the inadequate facilities that were provided for the purpose. The time has now come for a review of the entire situation, and the formulation of a new policy with regard to language study at the school stage, particularly in view of the fact that English has been recognized as an associate official language of the Indian Union for an indefinite period.

8.33 Basis for a Workable Three-Language Formula. The following guiding principles would help in evolving a workable three-language formula in schools:

(1) Hindi is the official language of the Union and is expected in due course of time to become the lingua franca of the country. Its ultimate importance in the language curriculum will be second only to that of the mother tongue.

(2) English will continue to enjoy a high status so long as it remains the principal medium of education at the university stage, and the language of administration at the Centre and

in many of the States. Even after the regional languages become media in higher education in the universities, a working knowledge of English will be a valuable asset for all students and a reasonable profi- ciency in the language will be necessary for those who proceed to the university.

(3) The degree of proficiency that can be acquired in learning a language at school depends not only on the number of years during which it is learnt but also on the motivation of the student, the stage at which it is studied, the types of teachers and equipment provided and the methods of teaching adopted. A short period under favourable conditions might achieve better results than a longer period without proper facilities. While arguments can be advanced for introducing a child to a second language at a very early age, the provision of qualified and competent teachers for teaching the language to millions of children in our primary schools would be a very formidable task.

(4) The most suitable stage for making the learning of three languages compulsory appears to be the lower secondary stage (classes VIII-X), where smaller numbers of pupils are involved and better facilities and teaching personnel can be provided. It is also desirable to stagger the introduction of two additional languages so that one is started at the higher primary stage and the other at the lower secondary stage, after the first additional language has been mastered to some extent. In a good school, three years of compulsory study would probably be adequate for gaining a working knowledge of the third language; but arrangements should be made for its study for a longer period on an optional basis.

(5) The stage at which Hindi or English should be introduced on a compulsory basis as a second language and the period for which it should be taught will depend on local motivation and need, and should be left to the discretion of each State.

(6) At no stage should the learning of four languages be made compulsory, but provision should be available for the study of four or even more languages on a voluntary basis.

8.34 We, therefore, recommend a modified or graduated three- language formula to include:

(1) The mother tongue or the regional language;

(2) The official language of the Union or the associate official language of the Union so long as it exists; and

(3) A modem Indian or foreign language not covered under (1) and (2) and other than that used as the medium of instruction.

8.35 Implications of the Modified Formula. At the lower primary stage only one language should be Studied compulsorily-the mother tongue or the regional language, at the option of the pupil. In the case of the vast majority of pupils, the language of study at this stage will be the regional language which will also be their mother tongue. Some

children belonging to the linguistic minorities may also opt for instruction in the regional language, because of its great advantages; but this cannot be forced on them, and they have the right under the Constitution to have facilities provided for their primary education through their mother tongues. The State governments should, therefore, provide primary schools which teach through the mother tongue for the child of linguistic minorities if they desire to have such an education, subject to the usual condition approved by the Education Ministers' Conference (1949) that the minimum number of such children should be 10 in a class or 40 in a school. It is desirable that such children should have a working knowledge of the regional language also. Facilities for its study should, therefore, be provided, on an optional basis, from class III onwards. We do not favour making the study of regional language compulsory at this stage for children of linguistic minorities, as has been done in some States at present. We are also not in favour of teaching English as a second language at this stage. This has been discussed further in a later section.

8.36 At the higher primary stage only two languages should be studied on a compulsory basis : (1) the mother tongue or the regional language, and (2) the official or the associate official language of the Union. For almost all the pupils in the Hindi areas and for a majority of them in the non-Hindi areas, English will probably be the second language, but a large proportion of the pupils in non-Hindi areas may also opt for Hindi. In addition, facilities should be provided for the study of a third language on an optional basis, so that the children in Hindi areas whose mother tongue is not Hindi and the children in non-Hindi areas who have taken English as the second language may study the official language of the Union, if they so desire.

8.37 At the lower secondary stage (classes VIII-X), a study of three languages should be obligatory; and a student should be under an obligation to study either the official language of the Union or the associate official language which he had not elected at the higher primary stage. By and large, the pupils in the Hindi areas will study Hindi, English and a modern Indian language, while the vast majority of pupils in non-Hindi areas will learn the regional language, Hindi and English. In the selection of the modern Indian language in Hindi speaking areas, the criterion should be the motivation of the pupils for studying that language. For instance, in the border areas of a State, people are generally interested in studying the regional language across the border and this could well be the third language to be studied.

8.38 It is true that English will be the most important library language to be studied at this stage. We, however, think that it is also necessary to encourage the study of other important library languages like Russian, German, French, Spanish, Chinese or Japanese. Facilities for their study should be provided in a few selected schools in each State and it should be open to the students to study them, either in addition to, or in lieu of English or Hindi. Similarly, provision should be made, in a few selected schools in the non-Hindi areas, for the study of modem Indian languages other than Hindi and the regional language. It should be open to the students to study these languages, as stated earlier with regard to library languages, either in addition to or in lieu of English or Hindi.

8.39 In the higher secondary classes, which will serve largely as a preparatory stage for higher education, only two languages need be made compulsory and the students should have the option to select any two of the three languages studied earlier or a combination of any two languages taken from the following groups: (1) modern Indian languages; (2) modern foreign languages; (3) classical languages Indian and foreign. There is of course no bar to a student studying one or more additional languages on an optional basis.

8.40 Position of the Official Languages in the Formula. The three-language formula as modified above is elastic and more likely to meet the varied linguistic needs of the people than the rigid approaches which are commonly adopted. For instance:

(1) The study of English and Hindi in our proposal would be indicated not in terms of years of study, but in terms of hours of study and the level of attainment. There would be two prescribed levels of attainment in each of these languages--one for those who study it for a period of three years and the other for those who study it for a period of six years.

(2) For most children completing lower secondary stage, two of the three languages learnt will be Hindi and English--the two link languages of the country which function as instruments of national and social integration. Some need only a working knowledge of Hindi or English, while others require a greater proficiency in them. The flexible curriculum which we have proposed would cater for these separate needs.

(3) Although English would be the most important library language to be studied, a certain number of students will study a library language other than English in all parts of the country.

(4) In every linguistic region, there will be a certain number of students studying other modem Indian languages and thereby opening up multiple channels of internal communication.

Our proposals have been shown graphically in the chart on page 338. This elastic approach to the language problem, it is hoped, Will promote a better cultural communication between the different lin- guistic groups in the country and promote a better international understanding.

8.41 Views of Kumari S. Panandikar. While agreeing broadly with the above proposals, our colleague, Kumari S. Panandikar, holds a different view on the three-language formula as applied to the higher primary stage. She observes:

In my opinion, a study of three languages should be obligatory not only at the lower secondary stage as recommended by the majority of the members of the Commission, but at a stage lower, that is, at the higher primary stage, and these three languages should be the mother tongue, Hindi and English in the non-Hindi speaking areas, and the mother tongue, a modem Indian language and English in the Hindi speaking areas.

If Hindi is not merely to be the official language of the Union, but is to be a common link national language in the whole country, it is desirable to provide for its study during the compulsory stage of education, so that those who do not continue their education beyond this stage will have had an opportunity to study it for three years. The same can be said of English, which apart from being the associate language of the Union, is a world language, introducing a person to the terminology and contents of knowledge that is developing in the modern world.

An early study of languages is desirable because it facilitates language learning, from the point of view of expression as well as comprehension, and leads to better retention. The study of two additional languages, if begun at this stage, is not likely to be a heavy burden. Pupils of this age, 11 to 14, are interested in studying languages and such a study helps their mental development by giving them a sense of precision and accuracy which is helpful in all their study. The study of three languages in all need not lead to an impoverishment of content or knowledge as is often feared, if care is taken to see that subject-matter of different types is introduced through each of the languages.

A good teacher can always succeed in creating motivation for learning any language. As regards Hindi, there is enough motivation in the environment even in rural areas in the non- Hindi speaking

The Study of Languages at School (Classes I-X)

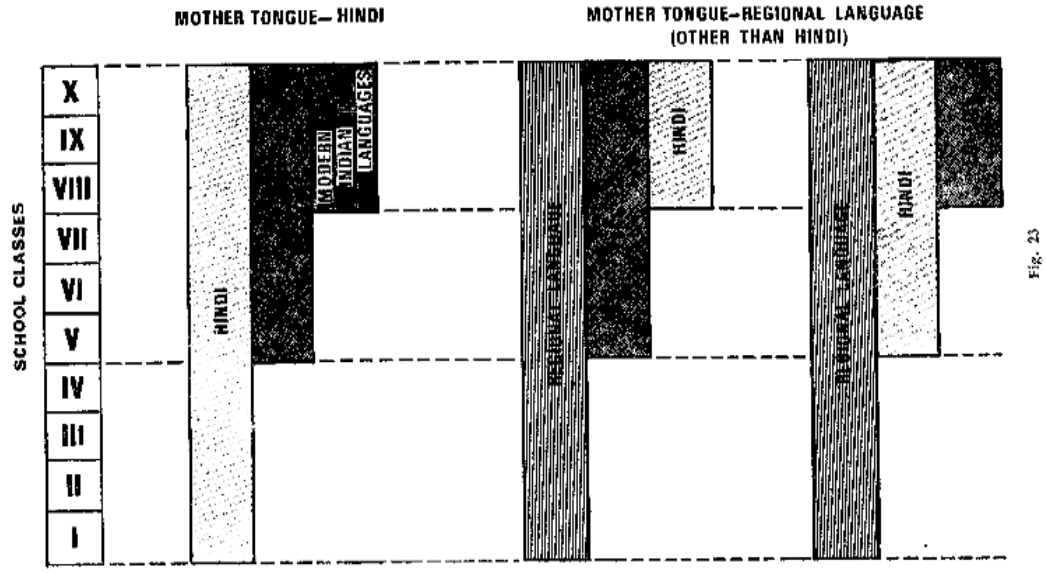


Fig. 23

regions. The radio and/or the cinema, with their use of Hindi, have reached these areas and people are familiar with Hindi as a medium of communication. Increasing opportunities for travel have also made Hindi a part of one's life. For the study of English also there is no lack of motivation in these areas. English picture books of various kinds, signboards and notices provoke the natural curiosity to read and understand English. In the Hindi speaking areas there can be a natural desire to learn a modern Indian language either because one's neighbours and friends speak that language as their own or because writers like Rabindranath Tagore or some other children's writers have written in that language. The study of Hindi in non-Hindi speaking areas or of a modern Indian language in Hindi-speaking areas will help in promoting mutual understanding and national integration in an effective manner. The right climate can be created for it, if language learning is looked upon as an opportunity and not as a load or a burden imposed on one. A notable example is that of the Scandinavian countries where the study of languages is taken up with a great zeal and enthusiasm and children and adults are proud of their achievement in three or four languages.

If the study of additional two languages is begun at the higher primary stage-one language in its purely conversational form being introduced a year earlier if it is necessary to avoid introducing the second language in the same year-and continued for three years, the period given to their study at later stages could be reduced and adjusted according to the needs of the students. At the lower secon- dary stage, for the age-group 14-16, when the knowledge or content subjects such as the natural and social sciences assume special importance, it is desirable that an introduction to a third language on a compulsory basis does not take place at this stage and interfere with the study of content subjects.

It is realized that there may be some difficulty in getting properly trained teachers to teach the two additional languages at the higher primary stage. This difficulty is likely to be more acute in the case of teachers of English than of Hindi or modern Indian languages. If educationally and from the point of view of social cohesion the introduction of these languages at this stage is considered to be essential, strenuous efforts will have to be made to prepare teachers to teach English, Hindi and modern Indian languages.

We are in entire agreement with our colleague that Hindi should attain the position of a link language for the entire country as quickly as possible. Our differences, therefore, relate, not to the ends, but to the means. We are of the view that both in the general interest of education as well as for the rapid and effective promotion of Hindi as a link language, the approach suggested above by us is perhaps the most suitable and appropriate.

We do not also agree with our colleague when she opines that a teacher can create motivation for any child, at any stage, and in any situation, to study any language. Creating motivation for the study of a language is a complex social process which depends more on social and economic factors outside the school than on the academic programmes of the school itself. The motivation for the study of Hindi in non-Hindi areas will have to be created by giving to Hindi a larger place in social life and administration

and by producing good books in Hindi. Given time and intensive effort, it is possible to succeed in this endeavour. But it is extremely difficult to create a similar motivation for the study of a modem Indian language in the Hindi areas. Especially at the primary stage, language learning can be a big burden on a child if it is imposed; and such imposition can vitiate his entire attitude towards his studies and may generate hostility to the school itself. This would indeed be a tragedy at a time when our chief objective is to win the masses over to education.

We strongly feel that the study of three languages at the elementary stage will interfere considerably with the development of the child's mastery over his mother tongue and with his intellectual growth. Even in the educationally advanced countries, the reading ability of children in slum schools may be 2-3 years behind that of children in the average schools. This feature is likely to be even more accentuated in our country. In the immediate future, therefore, the greatest emphasis should be placed on the learning of one's own language, and the study of additional languages has to be kept at the minimum. At the secondary stage, however, the situation changes materially. The student has by now been won over to education and has generally become mature enough to undertake the study of subjects for which motivation need not be very strong. A compulsory study of languages or a heavier language load can, therefore, do comparatively less harm at this stage. That is why we have recommended the compulsory study of three languages at this stage.

International comparisons have to be used carefully in this context. A special note on the subject is given at the end of this chapter.[84] It Will be seen that while there are countries which provide for a study of two or more languages at the secondary stage, nowhere is a study of three languages made compulsory at the elementary stage. We are thus trying to do a most difficult task at the most inopportune moment in our educational history. Today, the basic issue we have to face in primary education is to teach the mother tongue well and to eradicate illiteracy; and the learning of additional languages is a costly and difficult load which the education system is ill-equipped to bear. Even in the industrially advanced countries, the whole course of primary education used to be based on the study of one language only. It is only when their education developed and economy became affluent that they introduced a second language at the primary stage. But even under the best of circumstances, there is hardly any example of an educational system which has introduced a study of three languages, on a compulsory basis, at the primary stage. It must be realized that we are trying to do what even advanced educational systems and affluent economies have not done and that we are creating insuperable difficulties for our progress by the needless self-imposition of a heavy language load on a nascent system of primary education.

8.42 Three-Language Formula at the University Stage. There has been a suggestion that the three-language formula should be extended to the university stage also. In our opinion, this would place a heavy language load on students and lead to a waste of scarce

[84]See Supplementary Note III.

resources and deterioration of standards of subject knowledge in higher education. As we have stated earlier, the study of two languages only should be compulsory at the higher secondary stage. In higher education, the study of a language should not be compulsory.

8.43 Study of Hindi. Although in the modified three-language formula recommended by us, a certain proportion of students may not study Hindi as a second or third language, beyond a period of three years, we would like to lay the utmost stress on the importance of the study of the language and the necessity of organizing a nation-wide programme for promoting such study on a voluntary basis. As Hindi is the link language among the masses, it is necessary that every person should have at least a working knowledge of Hindi as a channel of internal communication in all parts of India and that those who will have to use it as the official language either at the Centre or in the States acquire a much higher proficiency in it. But in our opinion, the cause of Hindi, and also of national integration, would be better served if its study beyond a certain point is not forced on unwilling sections of the people. We have no doubt that boys and girls will study Hindi more intensively if there is adequate motivation. This motivation largely depends on the extent to which Hindi becomes in effect a language of administration. It is also related to the manner in which Hindi develops and becomes enriched so that people in non- Hindi areas may turn to it for knowledge and cultural nourishment.

8.44 The burden of studying languages becomes all the greater because of the differences in script. Very often a student is required to study, not only three languages, but three scripts. The solution to this problem-and many others allied to it-would be greatly facilitated if a common script-either Roman or Devanagari- were to be adopted for all modem Indian languages. Unfortunately, there is no agreement on the issue. But in our opinion, the ultimate solution of the problem would be facilitated if we start producing some literature in every modern Indian language written in both the scripts-Devanagari and Roman. This process begin in the study of the third language at the school stage, when it happens to be a modern Indian language. It would be extremely convenient to begin the study third language by using a script already known to the student--Devanagari or Roman For instance, students in Hindi areas beginning to learn Bengali or Tamil may use the Devanagari or Roman script for it. Students of Hindi in non-Hindi areas may begin to learn Hindi in the script of their mother tongue or in Roman. The proper script of the language may be taught later, after the student has mastered the language to a certain extent and been adequately motivated.

8.45 The numerals now taught in schools vary from language to language. We recommend that all modern Indian languages should adopt the international numerals which, in a way, are really Indian in origin. This is a simple reform which will lead to great convenience.

8.46 Study of English. As English will, for a long time to come, continue to be needed as a `library language' in the field of higher education, a strong foundation in the language will have to be laid at the school stage. We have recommended that its teaching may begin in class V, but we realize that for many pupils, particularly in the rural areas, the study will not commence before class VIII. The fact that English will be for the

overwhelming majority of pupils only a second or a third language makes it all the more necessary to ensure the adoption of effective modern methods of teaching the language by teachers who have been specially trained for the purpose. In this connection we would like to refer to a recent report[85] on the study of English submitted to the Ministry of Education by a group of specialists in the subject. The group has supported the teaching of English on the basis of the structural approach, which is now being used increasingly in different parts of India and has suggested a detailed syllabus for the study of the language from class V to class XII, both at the ordinary and at the advanced levels. We endorse the many useful recommendations made in this report.

8.47 The group has also expressed the view that the policy recently adopted by several States of introducing the study of English in class III is educationally unsound. We agree with this view. We believe that an adequate command over the mother tongue should be acquired before the learning of a foreign language like English is begun. Moreover, the effective teaching of English in the lower primary classes, where millions of pupils are enrolled, requires a very large number of trained teachers who are not available. Even if they were, the programme will be a heavy drain on the funds allotted for education. In our opinion, this is a colossal task, the improper pursuit of which will lower rather than upgrade the standards of English at the school stage. We, therefore, recommend that the study of English as a foreign language, except on an experimental basis in certain schools, should not begin before class V.

8.48 Study of Classical Languages. We recognize the importance of the study of classical languages and of the special claim that Sanskrit has on the national system of education. But we do not agree with the proposal to include Sanskrit or other classical languages in the three-language formula. In our opinion, this formula has to be restricted to the modern Indian languages only. We are in favour of the proposal of adopting a combined course of the mother tongue and Sanskrit. But this is not a very popular proposal. Under these circumstances, classical languages can be provided in the school curriculum on an optional basis only. This may be done from class VIII onwards.

8.49 We cannot also support the idea of Sanskrit universities. We would, instead, commend an emphasis on the study of Sanskrit and other classical languages in all universities and the establishment of advanced centres of study in these languages in some of our important universities. We suggest that no new Sanskrit university should be established.

SCIENCE AND MATHEMATICS

8.50 We lay great emphasis on making science an important element in the school curriculum. We, therefore, recommend that science and mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten years of schooling. In addition, there should be provision of special courses in these subjects at the

[85]The Study of English in India, Report of the Study Group appointed by the Ministry of Education, Government of India, 1964.

secondary stage for students of more than average ability. This programme can become meaningful and useful only if the science curricula are reorganized and brought up-to-date, the methods of teaching vitalized, and proper facilities provided for the teaching of the subject.

8.51 Science in the Primary School. The aims of teaching science in the primary school should be to develop proper understanding of the main facts, concepts, principles and processes in the physical and biological environment. Both deductive and inductive approaches should be utilized to unravel these ideas, though more emphasis may be laid on the deductive approach or the use of the scientific method.

8.52 In the lower primary classes, the focus should be on the child's environment-social, physical and biological. In classes I and II, the accent should be on cleanliness, formation of healthy habits and development of the power of observation. These should be emphasized again in classes III and IV, but the study should include personal hygiene and sanitation. The child may also be introduced to formal areas of science such as the plants and animals in his surroundings, the air he breathes, the water he drinks, the weather that affects his daily life, the earth he lives on, the simple machines that are being used in his environment, the body of which he should take care and the heavenly bodies he looks on at night. School gardening is an activity that should be encouraged especially at this stage, as it provides pupils with direct and valuable experiences of natural phenomena.

8.53 We also recommend that in class IV, children should be taught the Roman alphabet. This is essential as the internationally accepted symbols for the units of scientific measurement and symbols for chemical elements and compounds are written in the Roman alphabet. Whatever one's language and the word for water, the chemical symbol for it is always H2O. And it is far more than a symbol, it provides an Insight about the nature of water. Again, a knowledge of the Roman alphabet makes possible the use of maps, charts and statistical tables on an international scale. How expensive and time-consuming it will be to make available this material in all the local languages

8.54 At the higher primary stage, the emphasis may shift to the acquisition of knowledge together with the ability to think logically, to draw conclusions and to make decisions at a higher level. Science should now be taught as physics, chemistry, biology, geology and astronomy. The allocation of these subjects among the three classes is suggested below; but other combinations may be tried depending upon the level of the students and local conditions:

Class V-Physics, Geology, Biology. Class

VI-Physics, Chemistry, Biology. Class

VII-Physics, Biology, Chemistry, Astronomy.

8.55 The general science approach to the teaching of science which has been widely adopted at the elementary stage during the last ten years has not proved successful as it

tends to make science appear somewhat formless and without structure and runs counter to its methodology. A disciplinary approach to science learning would, it is felt, be more effective in providing the necessary scientific base to young people. The introduction of astronomy is specially commended, as it plays an important part in imparting good science education and ill developing a rational outlook. From class V onwards the Indian almanac should be studied by observation of the night sky.

8.56 Every primary school should have a science corner or a room to keep specimens, models and charts with the necessary storage facilities. A minimum of one laboratory-cum-lecture room should be provided in every higher primary school.

8.57 Science in the Secondary School. At the secondary level, science as a discipline of the mind and a preparation for higher education deserves special emphasis. in the lower secondary classes, physics, chemistry, biology and earth sciences should be taught as compulsory subjects for all the pupils. Building on the introductory courses at the earlier stage, they should be made to cover wider areas and go deeper into the content than before. The changing character of the sciences should be the major factor in curriculum development.

8.58 Features of the Secondary School Science Curriculum. During the last few decades, the conceptual framework of physics has undergone a drastic change and this should be reflected in the high school physics curriculum. Similarly in chemistry, the stress hitherto laid on memorization of facts, formulae, processes and compounds should give place to an emphasis on the unifying concepts in the subject. It is necessary to highlight the applications of chemistry in industry and daily life and its growing importance in our developing economy. Again, the present content of the school course in biology is traditional in nature. The concept of biology as a method of inquiry by means of accurate and confirmable observations, quantitatively and mathematically analysed, and controlled experimentation should be impressed on the minds of the young learners. Earth sciences should be introduced in the secondary school, geology and geography being taught as an integrated subject. There are also many areas in chemistry, physics and biology to which certain topics in the study of earth sciences can be naturally related.

8.59 Science at the Higher Secondary Stage. At the higher secondary stage where diversification of studies will take place, science will not be studied on a compulsory basis by all the students. Those who opt for specialization in the subject may take all the three electives from the science group consisting of physics, chemistry, biology, geology and mathematics. But, as has been explained earlier, we are not in favour of rigid groupings and a science-biased course can provide for a combination of two science subjects like physics and chemistry with an arts subject like economics. Similarly it is possible for an arts student to take up the study of physics or biology or any of the other subjects in the science group as an elective. Such flexibility in the curriculum will not only help to prevent narrow specialization, but will also make it possible to extend the benefit of the systematic teaching of science at the higher secondary stage to a much larger number of students.

8.60 We have already recommended the provision of courses in science at a higher level for the talented students. Such courses may begin at the lower secondary stage in selected schools which have adequate staff and laboratory facilities. It would be worthwhile to have a few secondary schools attached to some of the universities for the purpose of experimenting with a dynamic school programme under the supervision and guidance of the university faculty. Such schools may either be `adopted' from among the good schools in the locality or be specially established for this purpose.

8.61 Science in Rural and Urban Schools. In secondary schools in the rural areas, the linking of education to the agricultural environment can be done through integrated courses which bring out the impact of the physical sciences on biology. in view of the need to apply science and technology to Indian agriculture, it will also be desirable to introduce gradually the pupils in rural secondary schools to the ideas and practices of scientific farming and the activities and skills related to it. Similarly, in schools in industrialized areas, the curricula should have a bias towards the technical and industrial aspects of experimental science and its impact on industrialization. The levels to be attained in the rural and urban schools should be the same and avenues to higher education should be available to students from both types of schools without discrimination.

8.62 Study of Mathematics. One of the outstanding characteristics of scientific culture is quantification. Mathematics, therefore, assumes a prominent position in modern education. Apart from its role in the growth of the physical sciences, it is now playing an increasingly important part in the development of the biological sciences. The adv nt of automation and cybernetics in this century marks the beginning of the new scientific-industrial revolution and makes it all the more imperative that special attention be devoted to the study of mathematics. Proper foundations in the knowledge of the subject should be laid at school.

8.63 Mathematics Syllabus at Different Stages. At the primary stage, mathematics is at present divided into arithmetic, algebra and geometry. This involves unnecessary repetition in teaching fundamental operations with numbers. It is, therefore, most desirable that the course in arithmetic and algebra be integrated and emphasis placed on the laws and principles of mathematics and logical thinking. The syllabus should include development of the number system, systems of numeration and notation, equations, graphs and functions. Similarly, the geometry course should be reorganized in a more rational manner.

8.64 At the secondary and higher secondary levels also, the mathematics syllabuses which at present are divided in the traditional manner into arithmetic, geometry and algebra, trigonometry, statistics, calculus and coordinate geometry, need to be revitalized and brought up-to-date. The entire arithmetic course and also the basic operations in algebra can be completed by the end of the primary stage. There is considerable room for eliminating out-dated material from the syllabus such as simplification, factorization, the finding of HCF, LCM, etc. Trigonometry should be related to algebra and may not be treated as a separate subject. Much of the work on identities, solution of triangles, heights

and distances could be considerably cut down. The emphasis on memorizing of theorems and exercises in geometry should be given up. The approach to the teaching of geometry should be changed and an axiomatic and systematic treatment adopted.

8.65 `Set' language may be used in defining the basic terms in geometry and operations with numbers. It is only through the use of `set' language that a proper integration of arithmetic, algebra and geometry is possible. The use of the School Mathematics Study Group[86] notations for line, segment, ray, and so on, which provide for more precision in language, may be adopted.

8.66 Methods of Teaching Science and Mathematics. We now proceed to discuss in brief certain specific suggestions for the improvement of the teaching of science and mathematics. These should be taken note of in any programme for raising the standards of science education in addition to the general suggestions for the improvement of classroom methods given above.

(1) The lecture method is the one most commonly employed in the science classroom, and even where lectures are followed by so-called practical work, they do not help to develop a proper grasp of the subject-matter, or the necessary skill required for analysing and solving problems on the basis of scientific principles and data, or the right attitude towards the process or spirit of scientific inquiry. The preparation of text books, teachers' guides and instructional materials which emphasize the investigatory approach from the very beginning probably occupies an even higher priority in the teaching of science than in the teaching of any other subject.

(2) The close connection between science and agriculture and industry should be stressed even at the early stages. Demonstration experiments and laboratory investigations should reflect the agricultural and industrial interests of the local community. This would make science teaching more realistic to the pupils and also more interesting and useful.

(3) At the secondary stage, the teaching of science can be built round `home technology' (the maintenance and study of gadgets commonly used at home), agricultural implements and industrial tools. The students can be oriented to experimental science by selecting topics from nature or human inventions.

(4) A weak feature in the present system of teaching is laboratory work, where the approach is confirmatory and not investigatory. Emphasis should now shift to the location of a problem, the development of hypotheses and the designing of procedures and experiments relating to theory. In view of the emphasis on laboratory work, the expenditure on laboratories will have to be stepped up considerably.

[86]School Mathematics Study Group Series, Yale University Press, 1960.

(5) Demonstration experiments performed by the teacher, or by selected students under the supervision of the teacher, should form an important and integral part of science teaching. There should also be provision for experiments to be performed by teams or groups of students.

(6) In the teaching of mathematics, emphasis should be more on the understanding of basic principles than on the mechanical teaching of mathematical computations.

(7) The modernization of mathematics teaching is vital to any programme of reform in school education. But the new curricula and the modern approach can be introduced into our schools only gradually. The pace in this matter will be determined by what can be done for the training of new mathematics teachers, the retraining of the teachers already in schools (through refresher and correspondence courses) and for the preparation of new text materials.

(8) Sufficient flexibility should be provided both in the courses of science and mathematics and in the methods of teaching these subjects to cater for the special and varying needs of gifted individuals at all stages of school education.

SOCIAL STUDIES AND SOCIAL SCIENCES

8.67 Organizing the Syllabus in Different Ways. The aim of teaching social studies is to help the students to acquire a knowledge of their environment, an understanding of human relationships and certain attitudes and values which are vital for intelligent participation in the affairs of the community, the State, the nation and the world. An effective programme of social studies is essential in India for the development of good citizenship and emotional integration. The social studies syllabus may be organized in different ways, and both the integrated approach which seeks to combine the knowledge and skills provided by the separate subjects of history, geography, economics and civics, and the traditional method according to which these subjects are treated as separate disciplines, have their own place in a balanced school curriculum.

8.68 At the lower primary stage, the integrated approach is desirable. Instead of giving the pupils miscellaneous and unrelated bits of information in history, geography and civics, it is far better to provide a coordinated programme of social studies centering round the study of man and his environment. In the upper classes of the primary school, the content of social studies may still be organized as an integral whole in connection with the treatment of certain topics, but the pupils should be gradually introduced to an appreciation of history, geography and civics as separate subjects. In the secondary school, these subjects will be studied as separate disciplines and form the basis of specialized studies in social sciences at the higher secondary stage.

8.69 Emphasis on National and World Unity. The syllabus in social studies should lay stress on the idea of national unity and the unity of mankind, throughout the school course, with due regard, of course, to the pupil's age and understanding. Stories of the great heroes of history who have helped mankind on the road to happiness should find a

place in the primary history course; but it is the achievements of the great Indians of the past that will figure prominently here. At the secondary stage, however, the history of India should be taught, wherever included, at appropriate places, on salient features of world cultures and possible, in the context of world history. Some lessons should be social development, such as ancient Greece and the Roman Empire, Arab and Chinese civilizations, the Renaissance in Europe, great discoveries and inventions (like the printing machine and its effects on the spread of knowledge), the industrial revolution in England, the French Revolution, the independence movement in America, the awakening of nationalism in the nineteenth century, the development of socialism and the Trade Union movement, the Russian Revolution and the eradication of colonialism in Asia.

8.70 The teaching of geography also should emphasize the unifying rather than the divisive aspects and underline the new concept of `one world'. Both in history and in geography, the syllabus should bring out not only the Political, social, cultural and economic features of the different countries that are studied, but also the process of intercommunication and cooperation between different nations and continents. The course in civics in the senior classes should give a picture of the United Nations and other international agencies and an objective account of their great efforts towards international cooperation and the maintenance of peace.

8.71 Study of Social Sciences. At the higher secondary stage, as we have indicated above, there will be specialized studies in the social sciences. There is now an increasing trend to introduce in the curriculum of secondary education, at least in the senior most classes, some elements of the social sciences and their methods. The new curriculum proposed in the higher secondary classes provides for the special study of history, geography, civics, economics and sociology. But something of the scientific spirit and methods of the social sciences should permeate the teaching of social studies and of history, geography and civics even in the lower classes.

WORK-EXPERIENCE

8.72 We have recommended in Chapter II that work-experience, which involves participation in some form of productive work under conditions approximating to those found in real life situations, should be introduced as an integral part of education at all stages. It will provide a much-needed corrective to the extremely academic and bookish character of present school education. Its educational, social and practical values have already been discussed. We shall now consider the different programmes of work-experience that have to be devised at the school stage to suit the age and maturity of the pupils.

8.73 Programmes at the Different Stages. In the lower classes of the and creative capacities in the pupils. Even here, however, some work-experience can be provided in real life situations, such as work on the farms at the time of harvesting or sowing or in a family production unit, and opportunities for this kind of activity should be utilized to the maximum extent possible. As a workshop is proposed to be attached to every school or group of secondary schools in a phased programme spread over the next ten years, work-

experience at the lower secondary stage can take the form of workshop training. At the higher secondary stage, where the students will be more mature, and their numbers will be comparatively smaller, work-experience should be made available in school workshops and also on farms and in industrial or commercial establishments.

8.74 The range of possible activities that can be provided in a programme of work-experience is very wide, and the choice will be determined merely by the availability of materials and trained instructors. A list of such activities for the different stages of education is given as an appendix to this chapter.[87] This list is purely suggestive and the activities will be selected with reference to prevailing local conditions. Included in the list are also types of work-experience of special interest to girls or to schools in the rural areas.

8.75 Work-Experience and Basic Education. We pointed out earlier that the concept of work-experience is closely related to the philosophy underlying basic education. The programme of basic education did involve work-experience for all children in the primary schools, though the activities proposed were concerned with the indigenous crafts and the village employment patterns. if in practice basic education has become largely frozen around certain crafts, there is no denying the fact that it always stressed the vital principle of relating education to productivity. What is now needed is a reorientation of the basic education programme to the needs of a society that has to be transformed with the help of science and technology. In other words, work-experience must be forward-looking in keeping with the character of the new social order.

8.76 One or two points need special mention. While it is true that productive work-experience in rural areas could be largely built round agriculture, programmes oriented to industry and simple technology should be introduced in a fair proportion of rural schools. In such schools where school workshops cannot be provided, suitable kits of tools and materials may be manufactured at low cost and made available to the pupils. In the same way, steps should be taken to introduce gardening in as many urban schools as possible and to provide experience in farm work to at least a small proportion of urban pupils.

8.77 We realize how difficult it is to make provision for the forward looking type of work-experience for every child. But a beginning should be made immediately in selected schools and it should be the declared objective of State policy to increase the facilities for work-experience in industry and agriculture as rapidly as possible and to make them available to schools for the education of the rising generation. In the transitional stage, the majority of the children will receive, of course, experience in the traditional programme of production which the community practises. Even here, however, a continuous attempt can be made to bring in science and technology and to

[87] See Supplementary Notes I and II at the end of the chapter.

introduce the pupils to better ways of performing these traditional tasks. it should be realized that the effective value of work- experience is largely proportional to the extent to which the spirit of modernization or a forward look is built into the programme of work.

8.78 Implementation. In implementing the programme of work- experience, three problems have to be tackled: (1) training of teachers; (2) provision of necessary facilities including supply of equipment; and (3) progressive extension of the programme to all schools.

(1) Training of Teachers. It would be necessary to have specially trained teachers for the higher primary and secondary schools, and special institutions for the purpose may have to be set up. The pioneer work done in the Punjab to train teachers in the scheme launched by the Government of Punjab, may show the way to the development of similar programmes in other States. While we should work steadily towards this idea of having properly trained teachers for every school, it may be desirable to augment the teacher supply from other sources. Many countries use as teachers for these programmes skilled craftsmen or graduates of vocational schools who are given a short course of training as teachers. The same procedure might be adopted for the middle and lower secondary schools in India. Such teachers might work in one school or be used as itinerant teachers for a group of schools.

(2) Facilities and Equipment. In rural areas, farms should be attached to schools wherever possible. Where this is not possible, arrangements should be made to obtain the assistance of the local people to provide work-experience to the students on private farms. In addition, facilities for industry-oriented experience should be provided in all the bigger schools. All secondary schools, whether urban or rural, should be provided with workshops.

The help of industrial concerns might be enlisted to design and manufacture cheap kits for schools and materials which can be used by groups of children and graded for the different school levels. Standardized designs of tools and simple equipment needs might also be given to ITIs, polytechnics, vocational schools and conceivably engineering colleges for manufacture as part of their training programmes.

(3) Development of the Programme. A good deal of spade work will have to be done before the scheme is launched and this should be undertaken immediately. It will include the preparation of the necessary literature about the scheme and its introduction to teachers and schools. Short orientation courses will also have to be held for officers of the Department, principals and headmasters. The training of special teachers needed for the programme would have to be undertaken in advance.

it is obvious that the scheme cannot be introduced simultaneously in all schools and that it will be necessary to prepare a phased programme for implementation. It is suggested that, broadly speaking, a beginning may be made in 1967-68 with not less than one per cent of all educational institutions at each stage of education and that this number could

be raised to about 20 per cent by the end of the Fourth Plan and all the institutions should be covered by the end of the Fifth Plan. Care should also be taken to see that the scheme is left flexible and that it is modified and improved every year in the light of experience gained.

SOCIAL SERVICE

8.79 We have already recommended that some form of social and national service should be made an integral part of education at all stages.[88] It was also pointed out that this could be done by providing for student participation in programmes (1) of community living on the school campus, and (2) of community development and of national reconstruction. Details of both kinds of programmes are given below.

8.80 Community Living on the School Campus. There are various opportunities for community work in the classroom, on the school campus and the school hostels. Here are some of the activities that are being undertaken by the students in many schools today : cleaning the school rooms and the school premises, leveling the playground, preparing and maintaining a school garden, decorating the classrooms and the school, polishing the furniture, whitewashing the walls and painting the doors and windows. Work of this kind should be a common feature in every school. Community living should be particularly emphasized in the hostels, and instead of having a plethora of servants to attend to their needs, the students can do their own room- cleaning, help in the preparation of meals and do other useful hostel work. It need hardly be stressed that all these activities will inculcate in the pupils a sense of dignity of manual labour.

8.81 Participation in Community Development. We have already indicated how the organization of programmes of community development and national reconstruction will vary from stage to stage.[89] The primary school can emulate in this respect the example of the basic schools which have done a good deal of pioneering work in the direction of the school serving the community. A well-trained and enthusiastic teacher who maintains good relations with the local community can easily find appropriate situations such as those connected with public sanitation, simple village improvement projects, care of small children and help to the old and the sick, in which the school children can help the community. At the secondary stage, the children are more mature and it is possible to organize programmes of community service at a higher level. We have recommended that each school should draw up and implement its own programme of social service and in liaison with the related departments and agencies set aside about 10 full days in a year (or a total of 30 days at the lower secondary stage and 20 days at the higher secondary stage) for compulsory social service. The students may undertake this service for the prescribed period every year or in a continuous stretch for the total period at each sub-stage of secondary education. The task will demand considerable initiative and enterprise on the part of all concerned, particularly the teachers.

[88]Chapter I. [89]Chapter I.

8.82 It is no easy task to organize an effective programme of social service for all the secondary schools in the country. Its implementation should, therefore, be carried out in stages. To begin with, selected schools of high quality may organize the national service programme on a voluntary basis; and to help them, the Department should draw up model plans of social and community services. The training schools and colleges may take the lead in this regard and help to build up a suitable list of activities for the neighbouring schools. As experience is gained in executing the programme, it may be extended to cover a larger number of schools and students.

8.83 Labour and Social Service Camps. While every encouragement should be given to each secondary school to develop its own programme of social service on the lines indicated above, we realize that it will not be possible for many schools to do so, at least for some years to come. We, therefore, recommend that labour and social service Camps which will run throughout the year (except during the monsoon season when outdoor work will not be possible), should be organized in each district, and each secondary school which does not have a social service programme of its own should be under an obligation to participate in such camps and provide this rich and valuable experience to its students. For this purpose, a special organization should be set up in each district under the direct control of the district educational officer. It will be the responsibility of this organization (1) to select one or more specific projects on which students can work all the year round; (2) to provide the necessary community contacts; (3) to assist in providing residential arrangements, implements, utensils, etc.; and (4) where possible, to provide a part of the expenditure of the entire organization of the camps. The schools will be responsible for drawing up the programme for their participation, in consultation with this district agency, for taking the students to the camp, and for guiding the students in carrying out the projects assigned to them.

8.84 Great care should be taken in selecting the projects for the camp. The idea should be to take up a project which could be completed within the time given. This would make the students and teachers feel that they are doing something worth while, something which results in a lasting benefit to the community. The cooperation of the Community Development Administration should be sought for the purpose and the project should be connected with the five year plans for the area.

8.85 During the period of the camp, students would be expected to put in 8 hours of work per day and the general routine would be as follows: hours - personal time in morning. 2 hours - intellectual work not connected with school studies. 6 hours - manual work. 2 hours - intellectual work not connected with school studies. 2 hours - rest and recreation. 2 hours - personal time in the evening. 8 hours - sleep.

8.86 A part of the funds for the programme could be obtained from the local Rural Works Programme. All the overhead charges-which will come to a very small amount-should be met by Government. The students should be required only to bear (1) transport charges to the camp site and back, and (2) food charges during the stay at the camp. Even these could be subsidized to some extent on the basis of the work that the students put in. A student who holds freeship or half freeship should be given similar concessions in the

camp. Adjustments could also be made by requesting the students to bring some articles of foodstuffs etc. from home. On the whole, an attempt should be made to keep the cost of this camp down to the minimum for each period. Moreover, camps for boys and girls will have to be organized separately; but there need not be much difference between the types of programmes undertaken for them.

8.87 The preliminary spade-work to be done for this scheme would be similar to that of work-experience described earlier. We suggest that the programme may be started, as a pilot project, in about five per cent of the districts to begin with and that it should be extended to the country as a whole in a period of about ten years. It may also be incidentally stated that when this programme becomes general at the secondary stage, there would be no difficulty in extending it, on the same lines, to the university stage also.

PHYSICAL EDUCATION

8.88 There has been a tendency in recent government schemes of physical education to emphasize only the physical fitness value of physical education and ignore its educational values. It must be emphasized that such education contributes not only to physical fitness but also to physical efficiency, mental alertness and the development of certain qualities like perseverance, team spirit, leadership, obedience to rules, moderation in victory and balance in defeat. A satisfactory programme of physical education can be developed only on the basis of the following principles:

(1) The physical education programme should be planned for desirable outcomes keeping in mind the interests and capacity of the participants.

(2) The traditional forms of play and physical activities that have developed in our country should receive due emphasis in the programme.

(3) The activities promoted should develop in each child a sense of personal worth and pride.

(4) A sense of sharing responsibility in a spirit of democratic cooperation should grow from experience on playground and also in the gymnasium.

(5) The programme offered should supplement other programmes of education and not duplicate them.

(6) The programme should be within our financial means.

(7) The programme should reach all rather than a selected few.

(8) Special instruction and coaching should be provided for students with talent and special aptitude.

8.89 Physical education should include developmental exercises, rhythmic activities, sports and games, outing activities and group handling activities. All these have simple and advanced forms. The simpler activities should be introduced in the early classes; the more advanced ones should be gradually provided as boys and girls become increasingly mature.

8.90 The very young are not psychologically and physically mature for formal and vigorous forms of activities. Their sense of basic movements and coordination have to be developed gradually. The syllabus for the young at the pre-primary and the early primary stages should be based on their desire to imitate movements around them, their spirit of play, their wanting to dare and to do something better than their comrades. This is the most vital stage of `education through movement'. A child should develop mastery over basic skills, such as walking properly, running, dodging, throwing, etc. Higher forms of coordination like accuracy and precision must wait for the next stage.

8.91 As the child grows into the preadolescent stage, his interests and capacity change and physical education should provide for more challenging activities, opportunities for simple team play and finer forms of skills. The adolescent in the secondary school desires to imitate the activities of the adults, and he should be given sports, games and athletics in their standard form. Skills learnt earlier should be perfected through guidance and practice. It is an age when boys and girls desire excellence and the physical education syllabus must include techniques for good performance.

8.92 At the primary stage, except in the last two classes, a common syllabus for boys and girls can be used. From there onwards, the syllabus should be planned separately keeping in mind their respective interests and abilities. Rhythmic activities will have an appeal for girls; non-contact and less strenuous games such as badminton, throw-ball, etc., are also popular among them. The more vigorous games, such as basket-ball, net-ball and hockey may be brought in at a later stage. Athletic items in standard forms should also find a place.

8.93 The preparation of programmes of physical education for au stages should take into account not only what is useful but also what is possible in view of the limitations of facilities, time and number of teachers. In recent years a number of schemes like the National Plan of Physical Education prepared by a group of experts at the request of the Ministry of Education, the National Discipline Scheme and the Auxiliary Cadet Corps with several common activities began to vie with one another. A special committee appointed by the Ministry of Education under he chairmanship of Dr. H. N. Kunzru recommended that an integrated scheme with a syllabus selecting the best features of each should be evolved. The committee tried to bring about a com- promise between the claims made by the enthusiasts of different schemes, and the result is a mixed programme of physical education called the National Fitness Corps. There is a danger that in the implementation of the new scheme, the educational purposes of the programme might be forgotten or neglected. As the compromise scheme has provoked a good deal of criticism, we suggest that the matter be examined once again and a programme of physical education be designed in the light of the principles enunciated above.

EDUCATION ON SOCIAL, MORAL AND SPIRITUAL VALUES

8.94 A serious defect in the school curriculum is the absence of provision for education in social, moral and spiritual values. In the life of the majority of Indians, religion is a great motivating force and is intimately bound up with the formation of character and the inculcation of ethical values. A national system of education that is related to the life, needs and aspirations of the people cannot afford to ignore this purposeful force. We recommend therefore that conscious and organized attempts be made for imparting education in social, moral and spiritual value with the help, wherever possible, of the ethical teaching of great religions.

8.95 Education through Indirect Methods. This education, we believe, should be provided, both by direct and indirect methods, by suggestion as well as by discussion and teaching. We attach great importance to the role of indirect influence in building up good character. The school atmosphere, the personality and behaviour of the teachers, the facilities provided in the school, will have a large say in developing a sense of values. We would like to emphasize that the consciousness of values must permeate the whole curriculum and the programme of activities in the school. It is not only the teachers in charge of moral instruction who are responsible for building character. Every teacher, whatever be the subject he teaches, must necessarily accept this responsibility. He must ensure that, in the teaching of his particular subject and in his dealings with his pupils, fundamental values such as integrity and social responsibility are brought out. The teacher need not, we can even say that he should not, try to draw out the underlying moral all the time; but if he has given some thought to the values underlying the scope of his subject and his work as a teacher, they will imperceptibly pass into his teaching and make an impact on the minds of his students. Moreover, a sense of purpose should inspire all school activities and must be reflected in the life, tone and atmosphere of the school. The school assembly, the curricular and co-curricular activities, the celebration of religious festivals of all religions, work-experience, team games and sports, subject clubs, social service programmes-all these can help in inculcating the values of cooperation and mutual regard, honesty and integrity, discipline and social responsibility. These values have a special significance in Indian society today, when young men and women are passing through a crisis of character.

8.96 Direct Instruction of Moral Values. In addition to this indirect approach for inculcating moral and spiritual values, we consider that specific provision for direct moral instruction in the school programmes is highly desirable. We agree with the recommendation of the Sri Prakasa Committee[90] that one or two periods a week should be set aside in the school time-table for instruction in moral and spiritual values. At the primary stage such instruction will generally be imparted through interesting stories, including stories drawn from the great religions of the world. At the secondary stage,

[90]Report of the Committee on Religious and Moral Instruction, Ministry of Education, Government of India, New Delhi, 1960.

there may be frequent discussions between the teacher and the pupils on the values sought to be inculcated. Whatever be the method of teaching, it should not lead to moral instruction being divorced from the rest of the curriculum or being confined to a single period. If the values are to become a part of the student's character, an all- embracing treatment of the moral way of life is needed.

8.97 Relation between Moral Values and Religion. There will be natural points of correlation between the moral values sought to be inculcated and the teachings of the great religions. Stories drawn from the great religions of the world will be most appropriate in a discussion of moral values and of problems in life. All religions stress certain fundamental qualities of character, such as honesty and truthfulness, consideration for others, reverence for old age, kindness to animals, and compassion for the needy and the suffering. In the literature of every religion, the story or parable figures prominently as a means of impressing an ethical value on the followers. The narration of such stories by the teachers at the right moment in the programme of moral education would be most effective, particularly in the lower classes.

8.98 At a later stage, accounts of the lives of great religious and spiritual leaders will find a natural place. Some of these may be included in the study of social studies or literature, but it is essential that all important religions are represented properly in the programme. Similarly, the celebration of the festivals of different religions will afford opportunities for the narration of incidents from the life history of the leaders of these religions. In the last two years of the secondary school, a great religious.

CREATIVE ACTIVITIES

8.99 We have given some attention in the preceding discussion to the subject areas of languages, science and mathematics, social studies, work-experience, social service, physical education and moral and spiritual values, since we feel they require a new orientation in the school curriculum. There are two other subject areas-arts and co-curricular activities-which we shall now consider very briefly to round off the discussion.

8.100 Art Education. In an age which values discovery and invention, education for creative expression acquires added significance. Unfortunately, the fine arts are too often regarded as frills added to `real' education and are neglected because they are not examination subjects. Adequate facilities for the training of teachers in music and the visual arts do not exist. The neglect of the arts in education impoverishes the educational process and leads to a decline of aesthetic tastes and values. We recommend that the Government of India should appoint a committee of experts to survey the present situation of art education and explore all possibilities for its extension and systematic development. In this connection we commend the establishment of Bal Bhavans in all parts of the country with substantial support from the local community. Art departments at the university level should be strengthened at a few selected centres and research in these fields should be encouraged.

8.101 Co-curricular Activities. With regard to co-curricular activities, some of them have already been referred to in our discussion of programmes of work-experience, social service and physical education. We conceive of the school curriculum as the totality of learning experience that the school provides for the pupils through all the manifold activities in the school or outside, that are carried on under its supervision. From this point of view, the distinction between curricular and extra-curricular work ceases to exist, and a school camp and games and sports are curricular or rather co-curricular activities. There are, however, certain activities of this type such as hobbies of different kinds, debates, dramas which have more of the quality of play than of work and which give greater opportunities for creative self-expression. Every school should organize a variety of such programmes so that every child in it may be able to take up Something suited to his tastes and interests.

DIFFERENTIATION OF CURRICULA FOR BOYS AND GIRLS

8.102 Before closing the discussion, we shall briefly refer to two important issues related to the school curriculum: (1) differentiation of curricula for boys and girls, and (2) basic education.

8.103 The first of these issues was specially examined by a committee appointed by the National Council for Women's Education under the chairmanship of Smt. Hansa Mehta. This Committee made the following recommendations on the subject:

(1) In the democratic and socialistic pattern of society which we visualize, education will be related to individual capacities, aptitudes and interests which are not strictly related to sex. There would, therefore, be no need in such a society to differentiate curricula on the basis of sex.

(2) In the transitional phase in which we are at present, certain psychological differences between men and women as well as certain divisions of social functions based on them will have to be accepted as a matter of fact and as a practical basis for building up the curricula for boys and girls. While doing so, however, care should be taken to see that values and attitudes which are essential in the long run are increasingly built up in men and women and that no step is taken which will tend to perpetuate or intensify the existing differences.

We agree with these recommendations. It will be noticed that we have proposed a common curriculum for all the students till the end of class X and options have been allowed only under work-experience or language. It is also possible to study the subjects included in the curriculum at two levels-higher and lower. These options are open equally to boys and girls.

8.104 The following points deserve notice:

(1) Home science is one of the options provided in the curriculum proposed by us at the higher secondary stage. This would be a popular subject, but it should not be made compulsory for girls.

(2) Music and fine arts form another group of subjects which are popular with girls. At present, the provision made for the teaching of these subjects at the secondary stage is meagre. Steps should be taken to introduce these courses on a larger scale.

(3) Mathematics and science are important subjects and adequate preparation therein is essential to gain admission to significant courses at the university stage. Special efforts should, therefore, be made to encourage girls to study mathematics or science at the secondary stage, and also to prepare women teachers of mathematics and science.

THE NEW CURRICULUM AND BASIC EDUCATION

8.105 The movement of basic education launched by Mahatma Gandhi more than 25 years ago, proposing a new type of elementary education for the nation which would Centre round some form of manual and productive work and have intimate links with the life of the community, was a landmark in the history of education in India. It was a revolt against the sterile, book-centered, examination-oriented system of education that had developed along traditional lines during several decades of British rule. It created a national ferment, which may not have transformed the quality of education at the primary stage, but which has certainly left its impact on educational thought and practice in a much wider sphere. We believe that the essential elements of the system are fundamentally sound, and that with necessary modifications these can form a part of education, not only at the primary stage, but at all stages in our national system. These elements are : (1) productivity in education; (2) correlation of the curriculum with the productive activity and the physical and social environment; and (3) intimate contact between the school and the local community . We indicate below how each of these has become an import- ant element in the educational system we have proposed.

8.106 With regard to productive work, we have already explained that the concept of work-experience as proposed by us is similar to that of productive work in basic education. At the primary stage, the resemblance between the two programmes is very close. We have, however, extended the concept to secondary education also; and in our opinion, even institutions of higher education and universities have a special role to play in the development of work-experience as an integral part of education. It is they who set the fashion for the entire educational world and success for the programme would be ensured by launching it effectively and on a large scale at this stage from this point of view, we feel that it would be worth while to organize some special programmes for work-experience in universities and other institutions of higher education. For instance :

(1) In the case of some selected institutions in science and technology, it would be most stimulating and profitable from every point of view, to assign to them some carefully chosen industrial/scientific projects. The institutions should carry the projects through all stages, up to full-scale production.

(2) Some institutions should take up the manufacture of workshop and scientific equipment required for schools and colleges.

(3) Some institutions could take up the manufacture of furniture, teaching aid, etc., needed by themselves or those in the neighbourhood.

8.107 In our proposals, correlation which is the second important aspect of basic education is also extended, to the extent possible throughout the educational system. At the primary stage, the view in basic education has been that the curriculum content should be integrated, as far as practicable, with craft work and with the physical and social environment of the child. Our proposals at the primary stage are very similar to this. At the secondary stage, we have suggested that work-experience should be integrated with the curriculum content and that the teaching of subject should be correlated, as far as possible, with the environment. In higher education, we have emphasized the provision of greater elasticity in the choice of subjects, inter-disciplinary studies and the need to relate teaching and research to the understanding and solution of the local, regional, and national problems.

8.108 With regard to the third essential element of basic education, namely, school-community relationship, it has been discussed elsewhere in this report.[91] Basic education places considerable emphasis on the organization of the school as a living and functioning community, with a lively programme of social, cultural and recreational activities. It need hardly be stated that every good school should organize its corporate life in this way. What is of even greater importance in making children social-minded and cooperative is the active participation of the school in the life of the local community. Many existing basic schools have set an excellent example in respect of service rendered to the people in the neighbourhood; and this programme of participation in community life and social service, as we pointed Out, should now become an integral part of education at all stages. Our secondary schools and colleges as well as our primary schools should establish close contact with the community outside and take part in projects of social work and national reconstruction so that the students may acquire the spirit of discipline, learn the dignity of manual labour and develop a keen sense of their obligations and responsibilities to the community and to the nation at large.

8.109 The above discussion will make it clear that, in our view, the essential principles of basic education are so important that they should guide and shape the educational system at all levels. This is the essence of our proposals; and in view of this, we are not in favour of designating any one stage of education as basic education.

8.110 Conclusion. We have discussed in this chapter the curricular content at the different stages of school education. The main shift in emphasis in these proposals is towards a more unified approach in framing the entire school curriculum, a new definition of the content of general education, and a new approach to the place of

[91]Chapter. 1.

specialization. Our overall concept is that general education requires strengthening in the areas of science, work-experience and moral and spiritual values, and a new orientation in some other areas. It should cover ten years of undifferentiated schooling before some specialization begins. It should not be too sharply divided from vocational education. To be successful, these reforms require an orientation in teaching methods, evaluation and guidance. We shall turn our attention to these issues in the following chapter.

SUPPLEMENTARY NOTE I

GENERAL PROGRAMMES OF WORK-EXPERIENCE

8S.01 The range of possible activities which can be adopted to provide productive work-experience is enormous and choice will be determined mainly on the availability of materials and trained instructors. The list given below is purely indicative and the choice of activities would be made in the light of prevailing local conditions. Included in the list are also activities of special interest to girls or to schools in rural areas:

Lower Primary School

Paper cutting

Cardboard cutting and folding

Modelling in clay or plasticine

Spinning (where natural in the environment)

Simple needlework

Simple planting indoors or on plots

Kitchen-gardening

Higher Primary School

Cane and bamboo work

Leatherwork Pottery

Needlework

Weaving

Gardening

Model making

Fretwork Work on the farm

Lower Secondary School

Woodwork

Simple metalwork

Basketwork

Leatherwork

Ceramics

Soapmaking

Tanning

Preserving

Weaving

Electrical repairs

Cookery

Model making

Making simple scientific equipment

Classroom decoration

Carpet making Bookbinding

Linocutting

Fabric printing

Tailoring

Toy making

Millinery

Wood carving

Simple farm mechanics

Animal care

Crop care

Care of the soil

Workshop practice

Higher Secondary School

Many of the activities listed above would be continued but the emphasis would shift to workshop practice or actual work- experience in industrial or commercial concerns or on farms. The activities would be oriented towards productive work. Skills demanded in wood-work, metalwork and agriculture would be of a higher and more exacting nature.

SUPPLEMENTARY NOTE II

GENERAL PROGRAMMES OF WORK-EXPERIENCE IN USSR

(Extracted from Polytechnical Education in the USSR, edited by S. G. Shapovalenko and published by UNESCO, 1963)

85.02 In grade I, they work with paper, pasteboard, cloth, clay and plasticine, and do simple work on plant-growing. In working with paper, they acquire such basic skills as learning to mark out, bend and fold paper and pasteboard, cut them with scissors or knives along marked lines, and glue and paste them. This work is well within the scope of a seven-year old and in carrying it out, the child learns to work accurately with pencil, ruler, scissors and glue to make simple articles for his own use (e.g., material for doing sums, bookmarkers, packets for seeds, notebooks for word-lists, Christmas cards, etc.). In working with cloth, the children learn to sew on buttons, to sew simple little objects (pen-wipers, handkerchiefs, etc.) and to look after their own clothes. The work with clay and plasticine has considerable educational value, for it develops their power of observation, creativeness and taste. In their modelling work, they develop coordination of movement, dexterity, the ability to measure by eye and the idea of space.

On the school experimental plot they learn to grow flowering plants in special beds, and both in class and at home they acquire the first practical skills in tending indoor plants.

8S.03 In grade II, the children also work with paper, pasteboard, clay and plasticine and continue to learn sewing and work on the school plot, but the tasks are more complicated. The children cut out shapes from paper and pasteboard along marked lines, glue them together, and learn to use the graduated ruler and set-square for simple measurements and for checking the quality of their work, on the basis of the progressive development of their desire for accuracy.

In their work with clay and plasticine, they develop, as in grade I, the ability to recognize and reproduce accurately the shape of relatively simple and familiar objects, for example, they model from life (or from memory) fruits and vegetables. In their work with cloth,

they do very simple and ordinary stitches and learn how to embroider very simple designs on serviettes and sew little bags and other uncomplicated objects. They also learn how to use the tape measure and ruler for simple measurement, mark out rectangular shapes for making patterns, and become accustomed to looking after their own clothes, doing simple mending, etc.

On the school plot they grow pulses, and in class and at home they continue to look after indoor plants and grow flowers in jars, flowerpots and boxes. Working on the school plot, they dig beds, make them smooth, use a markercord to align the drill-furrows in which they sow the seed and observe the growth of plants.

8S.04 The task of developing proficiency in work with paper and pasteboard continues in grade III The pupils make and mend simple visual aids needed for teaching Russian, arithmetic and natural history, and learn to mark out paper more accurately, to rule lines, to glue paper to pasteboard and to frame flat cardboard articles of simple shape with paper strips. They acquire skills in elementary bookbinding, making simple pads, notebooks and small file-cases, and binding pamphlets, etc. They perfect their knowledge of fabrics in grade III, continue to learn sewing and embroidery and begin to darn stockings and socks. They learn to cut out and sew very simple articles (aprons, mittens, small bags, etc.) and acquire an elementary idea of dressmaking and tailoring learn simple methods of mending clothes.

On the school plot they cultivate beetroots, carrot and their seed, and plant and tend strawberries. They dress the beds themselves, sow dry, wet and germinated seed, thin out root crops, transplant beet and cabbage seedlings, look after seed-plants, apply top-dressing and conduct simple experiments with the plants. As far as indoor plants are concerned, the children learn how to plant flower seedlings in pots, jars, and boxes.

8S. 05 In grade IV, work is continued, and the proficiency acquired in manipulating paper and pasteboard is consolidated. The children make file-cases and pads, repair maps, diagrams and other visual aids made of paper or pasteboard, stick diagrams, photographs and reproduction on pasteboard backings and make models of simple geometrical forms.

They go on with their sewing, embroidery and knitting, and under- take more complicated dressmaking work : they take measurements of their own, note them down, make the rough sketch, cut out the patterns, cut out the cloth on their own and for the first time sew simply constructed articles. They also learn about looking after clothes and simple mending, and they crochet belts and small scarves. They also learn how to use sewing machines and flat irons, and are taught to observe the basic safety rules in using them.

The object in grade IV of technical modelling work is to develop the children's technical-mindedness and power of creative design. The syllabus accordingly provides for the preparation by the children of simple equipment for natural history experiments and simple methods and mock-ups of various machines.

On the school plot, they grow potatoes and maize, learn how to plant currant cuttings and to tend and look after the plants. In class and at home, they learn how to propagate indoor plants from cuttings, and this work provides a good preparation for the systematic study of botany in grade V.

8S.06 The knowledge, accomplishments and skills which they acquire in the work lessons in the junior grades (I-IV) are of major importance from the standpoint of polytechnical education, providing a thorough grounding for further manual and technical and polytechnical instruction in grades V-VIII. In addition, the knowledge, accomplishments and skills acquired by the younger children make it possible to initiate them progressively into socially useful work and housekeeping work at school and in the home.

8S.07 Instructions in Grades V-VIII. The object of manual and technical instruction in these grades is to impart general technical, agricultural and domestic knowledge and skills to develop technical thinking and creative capacities in the pupils; to foster in them a communist attitude to work and to labour conditions in general; to help them give expression to their own inclinations, find their bearings in the various spheres of human activity, and make a careful choice of their future vocation.

The instruction given in these grades at the eight-year school is polytechnical in character. It includes work in the school workshops, practical and experimental work in agriculture, and domestic-science activities, three periods a week being devoted to these in every grade (V-VIII)

8S.08 In the school workshops, the pupils become knowledgeable and proficient in woodwork and metalwork with the use of hand tools and certain machine tools. Most of the metalworking operations in factories and plants are carried out, of course, with the help of a variety of machines, but manual work is also used to some extent in every branch of production for the successful operation of a machine, the elimination of breakdowns, and the assembly and adjustment of mechanisms. Hence the study and mastery of the method of working these most commonly used materials-metals and wood-with hand tools are of great importance for the pupils' polytechnical education and technical training, and the procedure employed is to get them to make various useful articles, including equipment, models, mock-ups, tools and implements for use in the school workshops and on the school plots, articles for use in pioneer activities or for the pupils' personal use, toys, etc., and component parts manufactured to the order of factories and of collective or State farms. These activities are chosen and carried out in a particular sequence, progressing from the simple to the more complex, so that their execution helps to consolidate and develop the skills which the pupils have already acquired in working with the materials.

8S.09 The eight-year-school pupils also acquire some knowledge of the mechanization of labour processes. They learn about the construction of the commonest simple machines and mechanisms and how to use them. The wide application of electric power in modern industry, agriculture, transport and everyday life makes it essential that every pupil who

leaves the eight-year school should have acquired some elementary knowledge and skill in handling the commonest electrical equipment and electric appliances.

8S.10 In the workshops, they learn to read and prepare very simple technical drawings, sketches and blueprints, and to transfer the data to the material. The basic method of instruction consists in interpreting the drawings of articles which have to be prepared in practice. The work with drawings at all stages of school workshop activity is organized in such a way as to make use of the knowledge and skill which the pupils have acquired in their studies of drawing, mathematics and (from grade VII onwards) technical drawing.

Various methods are used for instruction in the workshop : oral instruction (talk, explanations, discussions); demonstration of natural objects, visual aids and working methods; exercises; individual and group instructions; independent work from drawings or instructional charts; graphic work; special laboratory work for the practical education of the properties and peculiarities of materials, the construction of tools, components and appliances, the interaction of tools and materials, and other technical and technological questions; excursions to industrial undertakings to familiarize the pupils with the organization of work at plants and factories, the mechanization of production and the construction of individual machine tools and appliances with the help of which the pupils carry out the operations which they have studied and mastered in the school workshops.

8S.11 In grades VII and VIII, the pupils are given set tasks on their own, commensurate with their capacity, in making components and complete articles.

The technical and technological knowledge imparted to the pupils broadens their general technical outlook and is an essential factor in correctly developing their skill in the use of materials. in its turn, the acquisition of practical skills enables them to acquire a deeper appreciation of technology and an understanding of the working principles of machine operation in processing materials, and of mechanized production in general.

The teacher's explanations, with their marked technical bias, are based on the knowledge acquired by pupils in their studies of the fundamentals of the various sciences. On the strength of what they have learnt in physics, for example, they can be given the scientific reasons for a number of technical phenomena and technological processes; again, in studying the mechanical properties of materials and machine parts, and the construction and operation and mechanisms of machines and machine tools, they make use of their knowledge of mechanics.

8S.12 A prominent feature of this instruction is the comparison made between the processes and tools used in woodwork and metalwork, and the elucidation of their similarities and differences, depending on the characteristics of the materials processed. The pupils steadily enlarge their knowledge of the correct use of tools, correct working stance, proper rhythm of work and the essential technical and health measures to ensure high productivity and the necessary standards of workmanship with the minimum loss of energy.

Apart from wood and metals, the pupils in grades VII and VIII get to know materials such as plastics and glass, which are very useful for making items of school equipment or items ordered by factories and farms.

8S.13 In order to broaden the pupils' polytechnical. outlook, comparisons are also made between their work in the workshop and similar technological processes carried out under production conditions, and also between manual and machine processing and the syllabus accordingly provides for excursions, demonstrations of diagrams, mechanisms and machines, and the showing of films and filmstrips. With the same object in view, some of the jobs are executed on the basis of a division of labour as regards particular items and operations, and this form of organization of labour gives the pupils an insight into how work is organized at an industrial plant.

8S.14 The school workshops provide favourable conditions for conducting out-of-class technical work on a large scale; many school clubs have been organized in grades V-VIII so that they can engage in technical modelling, electrical engineering and radio engineering, or delve deeper into and become proficient in carpentry, light engineer- ing, lathe work with wood and metal, woodcarving, fret-work, etc.

Workshop activities in these grades are different for boys and girls. Whereas the boys take both woodwork and metalwork, the girls take only woodwork in grade V and only metalwork in grades VI-VII. They do less mechanical engineering than the boys in grade VIII, but the syllabus in electrical engineering is identical for boys and girls alike.

8S.15 To take account of the special characteristics of technical instruction for girls, the eight-year school gives them a training in domestic science which provides them with knowledge and skills in housekeeping work.

8S.16 The main alms are to develop in them a conscientious attitude towards their family obligations to share in the general domestic duties of the family and to be self-reliant at school and at home; to acquaint them with the principles of domestic economy, give them the necessary knowledge and skill to carry out various forms of everyday domestic work, and inculcate good taste and a constant desire and ability to keep a place tidy, clean and comfortable.

8S.17 In the course of their domestic-science work they are familiarized with the social arrangements for everyday domestic work and the communal forms of public service such as communal catering, the work of domestic service centres, the organization of communal sewing- room for making and mending clothing, underwear and footwear, and to get to realize how the everyday household work of the Soviet family is being systematically and steadily lightened. A special point is made of familiarizing them with the use of modern labour-saving devices and with new materials, fabrics, foodstuffs, and so on. The result is that they learn to be tidy, thrifty and punctual, and develop a love of cleanliness and order and the ability to make their homes and clothes attractive and sensible and use foodstuffs and materials economically. 8S.18 The study of domestic science in the senior grades is based on the knowledge and skill acquired in the work

lessons in the junior grades, and also on lessons in Russian (or the mother tongue) on the subject of `the care of health' (in grades I-III) and on the natural- history lessons on the subject of `the human body and its care' (in grade IV).

8S.19 In studying the subject `Cutting and Sewing', the girls become acquainted with fabrics, with the preparation of designs and Patterns for articles they are making, with methods of sewing and mending, and with the construction and operation of the sewing-machine. They also acquire a basic knowledge of the care of clothing, of laundering, ironing and storing linen, of cleaning woolen garments, and of laundering knitwear containing synthetic fibers.

8S.20 One important section of the syllabus is the element of cookery, including instruction in dietetics and in the foodstuff; required by the human body. The girls learn how to prepare simple vegetable dishes and cook simple and nourishing meat and fish dishes, handle kitchen equipment, crockery, and table linen, and serve and behave at table.

8S.21 Under the heading of `Housework' they acquire a basic practical knowledge of home hygiene and sanitation and the essentials of housekeeping (daily, periodical and spring cleaning ventilation, lighting and heating). In addition, they learn how to arrange furniture and handle tablecloths, curtains, carpets, pictures, photographs, reproductions and decorative tapestries.

8S.22 To widen their horizon and enlarge their knowledge in various fields, excursions are arranged to public restaurants or food- processing factories (canteens, mechanized restaurants, canneries, butter factories, bakeries), garment-making establishments (tailoring and dressmaking workshops), or to domestic-service centres. These excursions are arranged during the school years in accordance with a time-table drawn up by the teacher.

8S.23 All the pupils at urban and rural eight-year schools receive initial training in both agricultural and industrial labour, for familiarization with agricultural production is one of the tasks of polytechnical training. This work is closely coordinated with the biology course, and is of great educational significance. It is carried out both on the school experimental plot and under actual production conditions, and as it takes place for the most part in the open, it promotes the children's physical development and improves their health.

8S.24 To meet local conditions, the school is empowered to spread the practical and experimental work evenly over the school year, or to concentrate it in the first and fourth quarters. And since it is of a seasonal nature and is to some extent governed by the weather, it is not included in the time-table but is carried out in accordance with a time-schedule approved by the school director.

In the course of this work, the pupils acquire basic practical skills in cultivating the main agricultural crops (vegetables, fruit and berries, field crops) and, in rural areas, in raising

calves. At the same time, they acquire a knowledge, during their excursions, of mechanized cultivation and animal husbandry.

8S.25 The work in grades V and VI is largely conducted on the school plot. In grades VII and VIII (at rural schools) the pupils work on collective and State farms and fields where they operate in groups on jobs suited to their capacity-looking after poultry, rabbits and young farm animals, or doing suitable field work, depending on local conditions. (The tilling of tic soil, and often sowing and harvesting, are done by pupils in grades X-XI or by collective farmers with the aid of agricultural machinery).

8S.26 In urban schools which have no school plots, the practical and experimental work in grades V-VII is carried out in green-houses on grounds belonging to pioneer homes, of Young Naturalists' Centres, in conservatories, parks and squares coming under the Greenery Trust and at specialized suburban agricultural undertakings. In addition, plots of pioneer camps are made available to the children for educational and production work during the summer.

8S.27 Their excursions to agricultural production points give the children an insight into the mechanized side of agriculture on collective and State farms. In grade V, for example, they study the mechanization of market-gardening, in grade VI they learn about mechanical work in horticulture, and in grade VII (in urban schools) they become familiar with the mechanization and cultivation of field crops and with heavy work in stock-raising. The grade VIII syllabus (at rural schools) provides for a more detailed study of soil-working implements, seed drills and grain-cleaners and harvesters. The pupils get to know the local collective or State farm and the lines on which it is developing and this generally acts as a factor in the vocational guidance of the school-leavers.

8S.28 The content of the syllabus for practical and experimental work during the eight-year period of schooling ensures that the pupils conscientiously apply the knowledge acquired in their biology lessons. Due account is taken, in following the syllabus, of local soil and climatic conditions and the main crops in the area concerned. Some of the jobs, for example, can be replaced by other equivalent ones (for instance, the syllabus recommends the autumn sowing of fruit trees, but on heavy clay soil the seeds are stratified and the sowing is done in spring; or in southern areas, seedlings are cultivated in seed-beds instead of under glass).

8S.29 The experimental bias is particularly important. Experiments on the school plot which have given the most productive and economic results are repeated on the plot the following year and then tried out on the collective or State farms, where the pupils carry out so-called `productive' experiments where the results prove positive, they are incorporated into agricultural production.

8S.30 Many eight-year general schools have started an original type of fruit and berry plantation stocked with the finest strains. The cultivation of seedlings of fruit trees and ornamental plants (in urban schools), the taking of cuttings of the finest strains of

currants and other soft fruits, and the grafting and cultivation of the best strains of fruit trees are in fact an important element in practical school work.

The cultivation of seedlings and the work in the nursery garden plays a very important part in agricultural education in grades V-VII (and also in grade VIII at rural schools). In the latter, the pupils study the cultivation of apple trees, while in urban schools they study the propagation of valuable types of trees and of perennial flowering plants such as phlox, lilac, roses, etc. A substantial area (300 to 500 square metres) is provided at rural schools for nursery seed-beds, while urban schools can arrange for nurseries to be established in the gardens of dwellings in the neighbourhood.

8S.31 An equally important item in grade V practical work is the cultivation of vegetable seedlings in green-houses, under glass and on hotbeds. Where a greenhouse is available on the school plot, practical work can be carried out in early spring. Apart from growing vegetables, the children grow fruit trees from seedlings, propagate currant bushes, and learn by practical experience the best times and methods for thinning out seedling trees, the best method of taking cuttings of currant bushes, the best way of applying organic and mineral fertilizers to the various vegetable crops and seedling stock and the amounts needed, the best times to sow and plant vegetables and the correct amounts of mineral fertilizer to be used as a top dressing for vegetables. At the urban schools, experiments are conducted to find out the best methods of vegetative propagation of perennial flowering and ornamental plants, the best system of feeding and tending them, the best system of rooting, cutting, etc.

8S.32 In grade VI, the pupils experiment on the accelerated propagation of valuable strains of raspberries (or trees, in schools in large towns); they learn about the best methods of grafting scions and discover the best means of preparing maize and potatoes for planting, the richest areas for parable crops, the effect of various methods of treatment in increasing the yield of maize, potatoes and seed-plants of biennial vegetables. These experiments, the object of which is to apply and develop the children's knowledge of biology, are carried out on subdivisions of the experimental plot.

8S.33 In grade VII at rural schools the experimental work is carried out under agricultural production conditions. The pupils grow maize, potatoes and industrial crops on plots provided for the school and divided up in accordance with the number of pupils in grades VII and VIII. They also tend farm animals on collective and State farms. The points on which the work is focused and the subjects of the experiments are chosen to suit local conditions and lines of future agricultural development.

8S.34 As stated, the children at urban schools plant greenery in the towns and on workers' estates, look after trees and bushes in the public squares, streets, etc., and help collective farms to look after tree belts and plantation along the main roads. The cultivation of ornamental shrubs and flowering plants, the planting of greenery in courtyards and squares, and work in parks and conservatories, is treated as a matter of major importance.

8S.35 included in practical work is the campaign against agricultural pests, which takes various forms-mechanical, chemical and biological. Special attention is paid, in the children's experimental and practical work during school hours in their educational production practice during the summer and in their socially useful work, to the observance of health requirements and the inculcation of habits of hygiene in connection with work.

All these arrangements for systematically raising the level of the children's agro-technical and zoo-technical knowledge, and familiarizing them with the principles underlying agricultural production are of great importance in training efficient workers who have an all-round education.

8S.36 Social Production Practice. The work done by the pupils in the course of instruction is very definitely slanted in the direction of social usefulness, and two periods a week are devoted to socially useful work in every grade (V-VIII) with the object of coping with the subject of manual and technical instruction more effectively and forging links between education and life. In addition, twelve days are set aside at the end of the school year for social production practice-three periods a day in grade V and four periods a day in grades VI-VIII. This socially useful work takes place outside school hours, and is therefore not included in the time-table. The general educational direction of this work is in the hands of the class teacher, who prepares a plan of work for each successive week, but the immediate handling of it may be entrusted to other teachers, depending on its nature.

Social production practice in urban and rural schools forms a continuation of the manual and technical instruction given in the school workshops and on the school plots, and is based on the knowledge and practical skills acquired by the pupils in the various grades. It includes doing work suited to the pupils' age in the school's training and production workshops, making various articles for use in the school itself and the kindergarten and fulfilling orders from industry. In agriculture, it constitutes a continuation and extension of the experimental and practical work prescribed by the syllabus, thus making it possible to arrange for the systematic tending and observation of plants sown in spring at the proper sowing times and bring in the harvest and evaluate the yield by the due date. This work ensures the continuation and completion of experiments with vegetable crops and fruit-tree seedlings, conducted in grade V, and with fruit crops, maize, potatoes and the seed-plants of biennial vegetables on the school plots in grade VI, the pupils carrying out practical work and making the corresponding observations, at the proper time in accordance with a schedule prepared by the school director.

8S.37 In grade VII at rural schools, the work involves tending, maize and other field crops on collective or State farms and conducting experiments relating to them, raising poultry and rabbits, and looking after fruit seedlings on the school plot. The pupils carry out these jobs in accordance with the director's schedule, working in groups (in view of the need to complete the experiments begun during school hours). At urban schools, the

grade VII work is limited to tending field crops on the collective or State farm, or, where it is impossible to organize this in agricultural production, to tending tree plantations and ornamental flowering plants for parks coming under the Greenery Trust.

SUPPLEMENTARY NOTE III

PLACE OF LANGUAGES IN SCHOOL CURRICULUM IN SELECTED COUNTRIES

8S.38 The *object* of this note is to show the place of the study of languages in the school curriculum in some countries of the world for which school time-tables were available.

8S.39 The sources utilized were the following:

(1) *World Survey of Education* published by UNESCO; and

(2) Data collected by the Commission's team from unpublished documents available in the office of the UNESCO, Paris.

8S.40 The position regarding the study of languages given in this paper is in respect of students who are university-bound. The language load taken by students in terminal courses or by those who desire to adopt a vocational career is generally lighter.

I. AFGHANISTAN

8S.41 In Afghanistan there are two major languages- Pushtu and Persian. A child whose mother tongue is Pushtu has to study Persian and *vice versa.* In addition, one foreign language-English, French or Russian-has also to be studied.

The child begins the study of his mother tongue in Grade I. In Grade IV he begins the study of the second language. These are the only two languages learnt at the primary stage (Grades I-VI). The study of the foreign language begins at the secondary stage only (Grades VII-XII).[92]

[92]In order to facilitate comparison, all the classes at the school stage have been numbered consecutively from Class or Grade I to X, XI, XII, etc., as the case may be.

II. AUSTRALIA

8S.42 English is the only language taught at the primary stage and is continued till the end of the secondary stage, i.e., a total period of 12 to 13 years. In addition, most pupils study at least one foreign language, usually French in the secondary school, and the more able may take Latin as well. A few pupils begin a third language in the second year of secondary school, German being the most common.

III. AUSTRIA

8S.43 Primary education is given either in a eight-year *volksschule* or a four-year *volksschule* from which pupils can transfer to 4-year *hauptschule* (higher primary school). Pupils may transfer to a eight-year general secondary school (mittelschule) after four years of *volksschule* or from a *hauptschule*.

German (the first language) is started in Grade I and is taught throughout the 12-year school course. A modern foreign language is taught from Grades V to VIII (of the *hauptschule)*. Latin is taught as an optional subject in Grades VII and VIII. In addition, provision is made for teaching Esperanto as an optional subject in Grades VI, VII and VIII.

Secondary school is of four types : *gymnasien, realgymnasien, realschule and frauen-oberschule.* In addition to German, a modem foreign language is compulsory in all the four types of secondary schools throughout except in *gymnasien* where it is optional in Grades IX to XII.

Latin is began either in the 1st or in the 3rd year of the 8-year *gymnasien* and *realgymnasien* and taught throughout. Greek is started in Grade IX of *gymnasien*. In the *realschule* a second modern language or Latin is studied as well as the first modern language.

IV. BRAZIL

8S.44 Primary education consists of 5 years followed by the junior secondary school or *ginasia* of four years and senior secondary school or *colegio* of three years. The senior secondary course offers a choice between a classical and a science stream.

Portuguese is the first language and is taught in class I to XII compulsorily to all pupils. The teaching of other languages begins at the junior secondary stage and is as follows.

TABLE 8S.1 LANGUAGES STUDIED AT THE SECONDARY STAGE IN BRAZIL

Language	Junior secondary	Senior secondary	
		Classical stream	Science stream
Latin	VI-IX	X-XII	
Greek	Nil	X-XII	
French	VI-IX	X and XI	X and XI
English	VII-IX	X and XI	X and XI
Spanish	..	X	X

V. BURMA

8S.45 The school course consists of ten years, four years of primary, three years of junior secondary and three years of senior secondary. Burmese and English are taught from class I onwards, the former as the first language and the latter as the second language.

VI. CANADA

8S.46 The school course in Canada generally follows a 8-4 pattern with often a pre-university class following, although variations are found from province to province. English is taught from class I to XII. The learning of other languages is provided on an optional basis from the elementary school onwards. At the secondary stage, the second languages offered include French, Latin, German, Italian, Spanish and Greek. Until sonic years ago, Greek, Latin and possibly two or more modern languages were necessary for university entrance, but such requirements have been gradually dropped, although a second language is still required for entrance to certain faculties or for advanced degrees.

VII. CEYLON

8S.47 The primary course covers a period of six years. This is followed by a three-year junior secondary stage and two-year senior secondary stage. A further two-year course leading to the senior school certificate gives access to the university.

The mother tongue (Sinhalese or Tamil as the case may be) is taught from class I to class XI (when pupils take the GCE-O level examination). English is introduced in the 4th year of the primary school on a compulsory basis and is taught till the end of school.

VIII. DENMARK

8S.48 The primary stage consists of 7 or 8 years made up of a first stage of 4 or 5 years *(grundskole)* and a second stage of three or four years (*hovedskole*) of middle school. After the middle school, pupils either go to *realklasse* (one year) or to the *qymnasie* (3 years).

Danish (the first language) is taught from class I to the end of the secondary stage.

All pupils in the sixth-year class are given compulsory instruction in one modern language-English or German. In the seventh- year class, children considered by the school able to benefit from it, are taught one more foreign language-English or German.

The *gymnasie* which consists of three years, may offer different lines. The language study is of the following pattern:

TABLE 8S.2 LANGUAGES STUDIED AT GYMNASIE IN DENMARK

Language	Gymnasie		
	Classical Language Line	Modern Language Line	Mathematics Science Line
Danish	All three years	All three years	All three
French	"	"	"
Latin	"	"	"
Greek	"	..	..
English or German	..	..	First two years
English and/or German	First two years	.. .	.

IX. FRANCE

8S.49 In France, French as the mother tongue and first language is introduced in class I and is continued up to the end of the secondary stage (total of 14 years). Additional languages are introduced only at the secondary stage. The first two years of the secondary stage (classes VI and V) constitute the observation cycle. For the next two years (classes IV and III), there are three sections-Classical A, Classical B and Modern. Classical A section: main subjects, Greek, Latin, one modern language; Classical B section : main subjects, Latin and two modern languages; Modern section: main subjects, a more intensive teaching of French and two other modern languages.

In the two years of the third cycle (classes II and I) the languages studied are as follows: Classical A-Greek, Latin and one modern language.

Classical B-Latin and two modern languages.

Modern-two modern languages.

The following table gives the languages studied in these classes:

TABLE 8S.3 LANGUAGES STUDIED AT SCHOOL STAGE IN FRANCE

Language	Classical A	Classical B	Modern
Latin	VI to I*	VI to I	..
Greek	IV to I	..	..
Modern Language I	VI to I	VI to I	VI-I
Modern Language II	..	IV-I	IV-I

*Classes at the secondary stage are numbered in descending order in France.

X. FEDERAL REPUBLIC OF GERMANY

8S.50 German language is taught to pupils from class I to class XII (i.e. the end of the *gymnasien)*. English is introduced in class V and continues till class X (the end of the intermediate or *mittelschule*) or till Class VIII or IX (the end of the primary school).

The *gymnasien* consists of a 9-year course following on from the fourth primary school year and is of three types the classical academic; the modern academic; and the mathematics and science academic. The classical academic high school gives 9 years of

Latin, 6 years of Greek, and 7 years of English or French. The modern academic high school includes 2 modern languages and Latin. The first modern language (generally English), must be studied for 9 years while the second and third foreign languages (7 and 5 years of study respectively) may be Latin and French (or English) or vice versa. The mathematics and science academic high school provides for two foreign languages (English and Latin or French). The following table shows the place of languages in the classical, modern and mathematics *gymnasien*.

TABLE 8S.4 LANGUAGES STUDIED AT GYMNASIEN IN FEDERAL REPUBLIC OF GERMANY

Languages	Classical Gymnasien	Modern Gymnasien	Mathematics and Science Gymnasien
German	V-XIII	V-XIII	V-XIII
First Foreign Language	V-XII	V-XII	V-XII
Second Foreign Language	VIII-XIII*	VII-XIII*	VII-XIII
Third Foreign Language	VII-XIII*	IX-XIII*	IX - X

* In the upper classes of the classical gymnasien, English or French may be chosen as the third foreign language.

XI. INDONESIA

8S.51 The school course consists of a primary Stage of 6 classes and a secondary stage of 6 classes, divided into a junior and a senior stage of three years each.

In the first two classes, the local language (e.g. Javanese) is used as the medium of instruction; and Indonesian is introduced in class III and thereafter becomes the medium of instruction, while the local language is taught as a subject.

In the junior high school, English is introduced in class VII and is taught to the end of class XII. The local language is learnt only till the end of class XI and even that only in the A stream which devotes more time to languages. Provision is also made in this stream for the teaching of old Javanese in classes X and XI. The mathematics stream provides for the teaching of Indonesian and English in classes IX to XII while the commerce

stream includes the learning of Indonesian, English and German or French all the three years (X-XII).

TABLE 8S.5 LANGUAGES STUDIED AT SCHOOL STAGE IN INDONESIA

Language	Primary school	Junior high	Senior high		
			A Stream (Language)	B (Mathe-matics)	C (Com-mercial)
Indonesian	III-VI	VII-IX	X-XII	X-XII	X-XII
Local Language	I-VI	VII-IX	X-XI	..	..
English	..	VII-IX	X-XII	X-XII	X-XII
German or French..		..	..	..	X-XII

XII. IRAN

8S.52 The school course consists of 12 years, made up of 6 years of primary stage and 6 years of secondary stage. The latter is again divided into a first and a second cycle, each consisting of three years.

Persian (the first language) is taught from class I to class XII. Up to the end of the primary stage (class VI), no other language is taught. In class VII, Arabic is introduced and is taught for the three years of the first cycle of the secondary stage. A foreign language is also started in class VII and continued till class XII.

XIII. IRELAND

8S.53 The national primary school in Ireland provides a 8-year course, the top two classes really belonging to the secondary stage. The secondary school consists of 6 years, and pupils can transfer from the national primary school either after class VI or after class VIII at the appropriate point.

Irish is taught from infant class up to the end of the school course and great emphasis is laid on the Irish language both as a subject and as the medium of instruction, right up to the Leaving Certificate Examination. English is taught compulsorily from class II

onwards as a second language. It may also be learnt in Infant class and class I on an optional basis.

XIV. ISRAEL

8S.54 In Israel, primary stage covers 8 years and secondary 4 years.

In Arab schools, Arabic is the first language and is taught from Grade I. Hebrew is taught from Grade IV and a foreign language-mostly English-from Grade VI. All the three languages are carried through till the end of the secondary school stage.

In certain sections of Hebrew schools the languages studied at the secondary stage are as follows:

TABLE 8S.6 LANGUAGES STUDIED AT SECONDARY STAGE IN ISRAEL

Hebrew	IX-XII
First Foreign Language (English or French)..	IX-XII
Second Foreign Language (Arabic or Latin) ..	X-XII

XV. ITALY

8S.55 The primary course consists of 5 years (*scuola elementare*) followed by the intermediate stage of 3 years (*scuola* media) and an upper secondary stage of 5 years.

Italian-the first language-is taught from class I and is the only language until class VI.

In classes VI to VIII, the languages learnt include Italian, Latin, and, starting from class VII a foreign language- French, English, German or Spanish.

At the upper secondary stage, pupils study during the first two years Italian, Greek, and a foreign language (already begun at the *scuola* media stage). During the next three years, the foreign language is dropped. Thus the language study at the school stage can be summarized as follows:

TABLE 8S.7 LANGUAGES STUDIED AT SCHOOL STAGE IN ITALY

Italian.....	I-XIII
Latin.....	VI-VIII
Foreign Language.....	VII-X
Greek.....	IX-XIII

XVI. JAPAN

8S.56 Primary school consists of 6 years followed by a lower secondary school of 3 years and an upper secondary school of 3 years.

Japanese is taught from class I onwards. No other language is taught at the primary stage.

At the lower secondary stage, Japanese continues as a required subject. A pupil may study a foreign language also if he so chooses, as one of the elective subjects.

At the upper secondary stage also, only Japanese language `A' carrying 9-10 credits is compulsory for all students in all courses, but one or two foreign languages and a classical language (Chinese) may be taken by a student under electives.

XVII. JORDAN

8S.57 The school course consists of 12 years-6 years of primary schools years of intermediate school and 3 years of upper secondary.

Arabic as the first language is taught in all schools from Class I. English is introduced in class IV only in English-teaching schools. Both Arabic and English are continued till the end of the secondary stage. No other language is introduced at the school stage.

XVIII. LIBYA

8S.58 Primary education in Libya covers a six-year course. This is followed by a preparatory or lower secondary stage of three years and an upper secondary stage of three years.

At the primary stage, only one language is taught, viz., Arabic. This is started in class I. The first foreign language is introduced in class VII and the second in class IX. Generally these are English and French. To pass the secondary school leaving examination the student must secure the minimum prescribed marks in the three languages.

XIX. MEXICO

8S.59 The primary school course in Mexico lasts six years. The secondary course covers five years in two cycles, 3+2.

Spanish is taught from class I and is continued up to the end of the secondary stage.

In class VII i.e. the first year of the secondary stage, a foreign language-English or French-is introduced.

XX. NETHERLANDS

8S.60 In Netherlands the Dutch language is taught from class I and is the only language taught up to class VI. In classes VII and VIII which constitute the continued ordinary primary education, two out of the three languages- English, French and German-may be added on an optional basis.

The gymnasium or secondary stage lasts six years after six years of primary school. In the fifth year pupils separate into Section A and Section B, the former with emphasis on Greek and Latin and the latter with emphasis on the sciences.The language study is as follows:

TABLE 8S.8 LANGUAGES STUDIED AT SECONDARY STAGE IN THE NETHERLANDS

Language Studied	Sections A & B
Greek.....	VII-XII
Latin.....	VII-XII
Dutch.....	VII-XII
French.....	VII-XII
German.....	IX-XII
English.....	VII-XII
Hebrew.....	Optional

XXI. NEW ZEALAND

8S.61 Primary school in New Zealand is of 8 years' duration beginning with the age of 5. The first two years are infant classes, followed by 4 years (Standards 1-4) of primary course and Forms I and II of intermediate department or intermediate school. Post-primary education consists of 5 classes (Forms III to VI).

English is the only language taught at the primary stage and is continued right up to the end of the secondary school as a part of the core programme. French and/or Latin are studied only as electives in the academic or general courses.

XXII. NORWAY

8S.62 Primary course lasts seven years in Norway. This is followed by a continuation school of one year, or a folk high school of 6 months' duration or a *realskole* of 2 or 3 years. A 5-year gymnasium course prepares pupils for university entrance, the first two years providing a course similar to that of the *realskole.* It is based on a primary school course, with instruction in a foreign language (English).

Norwegian (mother tongue and first language) is taught from class I till the end of the gymnasium. English may be taught in classes VI and VII and is taken by a majority of pupas in urban schools and is taught in a considerable number of rural communities.

In a *realskole*, in addition to Norwegian, English and German are taught for the first two years.

In the *gymnasium,* English is continued up to the end in the case of modern languages side, and up to the end of the penultimate year in the case of the science side. German is studied for the first one year by science side students and for two years by the modern languages side students. French is learnt by all throughout the three years,

TABLE 8S.9 LANGUAGES STUDIED AT SCHOOL STAGE IN NORWAY

Languages Learnt	Primary School (I-VII)	Realskole (I-III)	Gymnasium (III-V)	
			Science side	Languages side
Norwegian	I-VII	I-III	III-V	III-V
English	VI and VII (Optional)	I and II	III and IV	III-V
German	..	I and II	III	III and IV
French	..	..	III-V	III-V

XXIII. PAKISTAN

8S.63 The school course in Pakistan consists of a primary stage of 5 years and a high school stage of 5 years thus making a total of 10 years except in Sind where it is 11 years.

At the primary stage, only one language is taught, namely, the mother tongue which is Urdu or Bengali. The study of the mother tongue is continued up to the end of the secondary stage.

English is introduced on a compulsory or optional basis in the middle school (class VI) and continues up to class X. A classical language may be taught in classes VI-X or a modern or foreign language in classes VI-VIII (French, Persian, Arabic, Bengali, Gujarati, Sindhi).

XXIV. PHILIPPINES

8S.64 The school course in the Philippines consists of elementary education of 6 grades and secondary education of four.

English and Filipino languages are taught throughout the school course. No provision is made for the learning of any other language- classical or modern.

XXV. POLAND

8S.65 Primary school consists of a seven-year course and is followed by a four-year general secondary course. Polish language is started in class I and is continued up to class

XI. The teaching of Russian as a foreign language is introduced in class V and is taken to the end of the secondary stage. A third modem language or Latin is taught in classes VIII-XI.

In addition, foreign languages may be studied as optionals at the secondary stage.

XVI. PORTUGAL

8S.66 Primary school consists of four years followed by a secondary stage of 7 years divided into three cycles (2+3+2).

Portuguese which is the national language, is taught from class I onwards. No other language is taught at the primary stage. The language study at the secondary stage is as follows:

TABLE 8S.10 LANGUAGES STUDIED AT SECONDARY STAGE IN PORTUGAL

Language studied	1st Cycle Classes V & VI	2nd Cycle Classes VII-IX
Portuguese	V & VI	VII-IX
French.....	V & VI	VII-IX
English..... . .		VII-IX

In the third cycle the subjects vary according to the type of course taken. In addition to Portuguese, provision is made for the learning of Latin, Greek, French, English, German.

XXVII. SPAIN

8S.67 The school course up to university entrance consists of 4 years of primary stage, 4 years of lower baccalaureate, 2 years of upper baccalaureate followed by one year of pre-university course.

Spanish the national language, is taught from the primary stage onwards. Language study at the baccalaureate stage is as follows:

TABLE 8S.11 LANGUAGES STUDIED AT BACCALAUREATE STAGE IN SPAIN

Language	Lower Baccalaureate (VI-IX)	Upper Baccalaureate (X-XI)
Spanish	V, VII and IX	XI
Modern Language	VII and VIII	X
Latin	VII and IX	For literature section
Greek	..	only X and XI

XXVIII. SUDAN

8S.68 Primary education consists of 8 years divided into two cycles of 4 years each (elementary and intermediate).

Arabic is taught from class I onwards. English is introduced as a foreign language in the first intermediate year i.e. class V and becomes the language of instruction at the secondary stage.

The secondary stage consists again of four years. The teaching of Arabic and English is continued up to School Certificate standard.

XXIX. SWEDEN

8S.69 The primary school consists of seven years sub-divided into, a two-year junior school (*smaskola*) and a five-year school (*folkskola*).

The lower secondary school (*realskola*) is a four-year course following a six-year primary course. This is followed by the *gymnasium* or upper State secondary school or junior college, consisting of a three-year course. Thus the total span of school education up to the *gymnasium* is 13 years.

Swedish is started from class I and is learnt throughout the primary stage and in the secondary school. English is an alternative subject in the fifth grade and onwards. It is possible for school districts to choose a time-table without English in case a qualified teacher is not available, but the teaching of English can be considered as normal.

In the *realskola*, English is studied throughout the 4 years, German in the top three classes and French may be taken as an optional subject in the top form, mainly by those who intend going on to the upper secondary school.

At the gymnasium stage, the language study may include also Latin and Greek and, in certain areas, Spanish, Russian, Finnish and Italian (On an elective basis).

XXX. THAILAND

8S.70 In the primary school, which consists of four classes, the national language, Thai, is taught from class I upwards. The secondary stage consists of 6 years, a lower and an upper stage. A pupil may also continue in the 3-year primary extension schools after the primary stage. After the upper secondary a student must study the one-year pre-university course before entering the university. In the primary extension school (classes V to VII),two languages are studied- Thai and English. The study of these two languages continues through the lower secondary and upper secondary stages.

Foreign languages other than English are introduced only at the pre-university stage both under compulsory and under elective programmes.

XXXI. TURKEY

8S.71 Turkish is taught from class I and is the only language taught throughout the primary stage of 5 years. Secondary education comprises 7 years, 3 years of intermediate and 4 years of upper secondary. On entering intermediate school, pupils choose one of the following three foreign languages: English, French, German. The choice once made has to be continued till the completion of the secondary course.

XXXII. UNITED ARAB REPUBLIC

8S.72 At the primary stage which consists of 6 years, Arabic is taught from class I and is continued up to class XII. No other language is taught during the primary stage. The secondary stage consists of 6 years, 3 years of preparatory secondary junior high and 3 years of secondary school proper or senior high school. A foreign language is introduced in class VII-the first year of the junior high school. In the senior high school two foreign languages are introduced in the Region of Egypt and one in the Region of Syria. In the second and third years, two foreign languages are taught in all areas.

XXXIII. UNITED KINGDOM

8S.73 English is taught throughout the school course. Except in a few private schools, no other language is taught at the elementary stage. In the Grammar schools, children are generally taught a modern European language from Form I to Form V leading to the O level of GCE. A small proportion of students also learn a classical language in addition on an optional basis. Students going in for technical or vocational courses may study no language other than English.

XXXIV. UNION OF SOVIET SOCIALIST REPUBLICS

8S.74 In the primary school which consists of 7 years, Russian is taught from class I onwards in schools with Russian as the mother tongue. In schools with a language other than Russian as the mother tongue, as for example in Uzbekistan where Uzbek is the mother tongue or in Ukraine (mother tongue Ukrainian), the mother tongue is started from class I and Russian-the national language-from class II. A foreign language is introduced in class V in all schools.

The three languages are carried to the end of the secondary stage.

XXXV. UNITED STATES OF AMERICA

8S.75 A study of English is compulsory throughout the school stage (classes I-XII). No other language is compulsory, either at the elementary or secondary stages. But several secondary schools provide, and several students opt for One additional language-usually French, German, Spanish, etc.- for 2-3 years, mostly at the senior secondary stage.

XXXVI. YUGOSLAVIA

8S.76 Primary education consists of eight years, four years of junior primary and four years of senior primary.

The mother tongue (Serbian, Croatian, Slovenian, etc.) is taught from class I onwards. A foreign language is introduced in class V and is studied till the end of the secondary stage (class XII).

At the secondary stage (Gymnazije-4 years) a second modern language (English, French, German or Russian) may be studied and is encouraged in the last two years at the pupil's option. In addition, Latin is studied during the first two years.

SUMMARY

1 In recent years, the explosion of knowledge and the reformulation of many concepts in science have highlighted the inadequacy of existing school programmes and brought about a mounting pressure for a radical reform of school curriculum. A unified approach should be taken to the framing of the entire school curriculum, a new definition of the content of general education and a new approach to the place of specialization. 8.01-82

2 Essentials of Curricular Improvement. (1) School curricula should be upgraded through research in curriculum development undertaken by University Departments of Education, training colleges, State Institutes of Education and Boards of School Education; (b) periodical revision based on such research; (c) the preparation of textbooks and teaching learning materials; and (d) the orientation of teachers to the revised curricula through in-service education.

(2) Schools should be given the freedom to devise and experiment with new curricula suited to their needs. A lead should be given in the matter by training colleges and universities through their experimental schools.

(3) Ordinary and advanced curricula should be prepared by State Boards of School Education in all subjects and introduced in a phased manner in schools which fulfil certain conditions of staff and facilities.

(4) The formation of Subject Teachers' Associations in the different school subjects will help to stimulate experimentation and in the upgrading of curricula. The State Education Departments, State Institutes of Education and WERT should help the associations in their educational activities and coordinate their work. 8.03-09

3 Organization of the Curriculum. (1) In non-vocational schools, a common curriculum of general education should be provided for the first ten years of school education, and diversification of studies and specialization should begin only at the higher secondary stage.

(2) Standards of attainment should be clearly defined at the end of each sub-stage.

(3) At the lower primary stage, the curriculum should be simple with reduced load of formal subjects and emphasis on language, elementary mathematics and environmental studies. A study of problems relating to beginning reading accompanied by a vigorous programme of improving reading instruction at the lower primary stage should receive great emphasis.

(4) At the higher primary stage, the curriculum will broaden and deepen, teaching methods will become more systematic, and standards of attainment more specific.

(5) At the lower secondary stage, study of subjects will gain in rigour and depth.

(6) At the higher secondary stage, courses will be diversified in such a manner as to enable pupils to study a group of any three subjects in depth with considerable freedom and elasticity in the grouping of subjects. in order to ensure the balanced development of the adolescent's total personality, the curriculum at this stage should provide half the time to the electives, one-fourth of the time to the languages, and one-fourth to physical education, arts and crafts, and moral and spiritual education.

(7) At the higher primary stage, enrichment programmes should be provided for the talented children. It may take the form of additional subject or greater depth in the same subject.

(8) At the secondary stage, courses should be provided at two levels-ordinary and advanced-beginning with class VIII. The programme may be done within or outside school hours or on a self-study basis. A beginning may be made with advanced courses in mathematics, science and languages at the lower secondary stage and in all the specialized subjects at the higher secondary stage. 8.10-29

4 Study of Languages. (1) The language study at the school stage needs review and a new policy regarding language study at the school stage requires to be formulated.

(2) The modification of the language formula should be guided by the following guiding principles:

(a) Hindi as the official language of the Union enjoys an importance next only to that of the mother tongue;

(b) A working knowledge of English will continue to be an asset to students;

(c) The proficiency gained in a language depends as much upon the types of teachers and facilities as upon the length of time in which it is learnt;

(d) The most suitable stage for learning three languages is the lower secondary (classes VIII-X);

(e) The introduction of two additional languages should be staggered;

(f) Hindi or English should be introduced at a point when there is greatest motivation and need;

(g) At no stage should the learning of four languages be made compulsory.

(3) The three language formula modified on these principles should include (a) the mother tongue or the regional language; (b) the official language of the Union or the associate official language of the Union so long as it exists; and (c) a modem Indian or European language not covered under (a) and (b) and other than that used as the medium of education.

(4) At the lower primary stage the pupil will ordinarily study only one language-the mother tongue or the regional language. At the higher primary stage, he will study two languages-the mother tongue (or the regional language) and the official language of the Union (or the associate language). At the lower secondary stage, he will study three languages: the mother tongue (or the regional language), the official or associate official language, and a modem Indian language, it being obligatory to study the official or the associate official language which he had not studied at the higher primary stage. At the higher secondary stage only two languages will be compulsory.

(5) The study of important modern library languages other than English should be made possible in selected schools in each State with option to study them in lieu of English or Hindi. Similarly, in non- Hindi areas, the study of modem Indian languages should be made possible in selected schools with a similar option to study them in lieu of English or Hindi.

(6) The study of English and Hindi will be indicated in terms of hours of study and level of attainment. Two levels of attainment should be prescribed in the official and associate official languages- one for a three-year and one for a six-year study.

(7) The study of a language should not be compulsory in higher education.

(8) A nation-wide programme should be organized for the promotion of the study of Hindi on a voluntary basis but the study of the language should not be forced on unwilling sections of the people.

(9) The burden of studying languages is made heavier by the great differences in script. Some literature in every modern Indian language should be produced in Devanagari and Roman scripts. All modern Indian languages should also adopt the international numerals.

(10) The teaching of English should ordinarily not begin earlier than class V after adequate command has been acquired over the mother tongue. The introduction of the study of English earlier than class V is educationally unsound.

(11) The study of classical Indian languages such as Sanskrit or Arabic should be encouraged on an optional basis from class VIII and should be positively emphasized in all universities. Advanced centres of study may be set up in selected universities in these languages. No new Sanskrit university should be established. 8.30-49

5 Science and Mathematics Education. Science and mathematics should be taught on a compulsory basis to all pupils as a part of general education during the first ten years of schooling.

(1) The Study of Science. In the lower primary. classes science teaching should be related to the child's environment. The Roman alphabet should be taught in class IV to facilitate

understanding of internationally accepted symbols of scientific measurement and the use of maps, charts and statistical tables.

(2) At the higher primary stage emphasis should be on the acquisition of knowledge and the ability to think logically, to draw conclusions and to make decisions at a higher level. A disciplinary approach to the teaching of science will be more effective than the general science approach.

(3) A science corner in lower primary schools and a laboratory- cum-lecture room in higher primary schools are minimum essential requirements.

(4) At the lower secondary stage, science should be developed as a discipline of the mind. The newer concepts of physics, chemistry and biology and the experimental approach to the learning of science should be stressed.

(5) Science courses at an advanced level may be provided for talented students in selected lower secondary schools with necessary facilities of staff and laboratory.

(6) Science teaching should be linked to agriculture in rural areas and to technology in urban areas. But the levels of attainment and avenues to higher education should be the same in both types of schools.

(7) The Study of Mathematics. Special attention should be given to the study of mathematics in view of the importance of qualification and the advent of automation and cybernetics.

(8) The mathematics curriculum needs to be modernized and brought up-to-date at all stages with emphasis on laws and principles of mathematics and logical thinking.

(9) Methods of Teaching Science and Mathematics. Methods of teaching mathematics and science should be modernized, stressing the investigatory approach and the understanding of basic principles. Guide materials should be made available to help teachers adopt this approach. Laboratory work will need considerable improvement. There should be flexibility in the curriculum in order to cater to the special needs of the gifted. 8.50-66

6 Social Studies and Social Sciences. (1) An effective programme of social studies is essential for the development of good citizenship and emotional integration.

(2) The syllabus should stress the idea of national unity and the unity of man.

(3) The scientific spirit and method of the social sciences should permeate the teaching of social studies at all stages. 8.67-71

7 Work-experience. (1) Work-experience should be forward-looking in keeping with the character of the new social order. It will take the form of simple handwork in the lower

primary classes, and of craft in the upper primary classes. At the lower secondary stage, it will be in the form of workshop training, and at the higher secondary stage, work-experience will be provided in the school workshop, farm or commercial and industrial establishments.

(2) Where school workshops cannot be provided, suitable kits of tools and materials should be made available at low cost. (3) The training of teachers, provision of workshops, mobilization of local resources, preparation of literature and the phased introduction of the programme are essential to the success of the scheme. 8.72-78

8 Social Service. (1) Programmes of social service and participation in community development should be organized at all levels as suited to the different age-groups, in a phased manner.

(2) Labour and social service camps should be run throughout the year; and for this purpose, a special organization set up in each district. These camps will facilitate the organization of social service programmes in schools. Such programmes may be started as a pilot project in 5 per cent of the districts and extended gradually to the others. 8.79-87

9 Physical Education. Physical education is important for the physical fitness and efficiency, mental alertness and the development of certain qualities of character. The programme of physical education, as it is in force today, needs to be re-examined and redesigned in the light of certain basic principles of child growth and development. 8.88-93

10 Education in Moral and Spiritual Values. (1) Organized attempt should be made for imparting moral education and inculcating spiritual values in schools through direct and indirect methods with the help of the ethical teachings of great religions.

(2) One or two periods a week should be set aside in the school time-table for instruction in moral and spiritual values. The treatment of the subject should be comprehensive and not divorced from the rest of the curriculum. 8.94-98

11 Creative Activities. (1) The Government of India should appoint a committee of experts to survey the present situation of art education and explore all possibilities for its extension and systematic development.

(2) Bal Bhawans should be set up in all parts of the country with substantial support from the local community.

(3) Art departments should be set up in selected university centres to carry out research in art education.

(4) A variety of co-curricular activities should be organized to provide pupils opportunity for creative self-expression. 8.99-101

12 Differentiation of Curricula for Boys and Girls. The recommendations of the Hansa Mehta Committee that there should be no differentiation of curricula on the basis of sex is endorsed. Home science should be provided as an optional subject but not made compulsory for girls. Larger provision should be made for music and fine arts; and the study of mathematics and science should be encouraged. 8.102-104

13 The New Curriculum and Basic Education. The essential principles of basic education, namely, productive activity, correlation of curriculum with productive activity and the environment, and contact with local community, are so important that they should guide and shape the educational system at all levels, and this is the essence of the proposals made in this Report. No single stage of education need be designated as basic education. 8.105-109

CHAPTER IX

TEACHING METHODS, GUIDANCE AND EVALUATION

9.01 The need for a continual deepening of the school curricula which we examined in the preceding chapter is intimately related to the equally urgent need for a continual improvement in teaching methods and evaluation (inclusive of guidance). We shall devote this chapter to the consideration of some of the important aspects of this programme.

TEACHING METHODS: DISCOVERY AND DIFFUSION

9.02 Scope of the Discussion. A good deal of attention has been directed in recent years to the techniques of revitalizing classroom teaching in Indian schools. Basic education was intended to revolutionize all life and activity in the primary school and draw out `the best in the child-body, mind and spirit'. The Secondary Education Commission devoted an entire chapter in its report to dynamic methods of teaching, discussing the objectives of the right techniques, the values of various activity methods and the different ways in which these methods and techniques could be adapted to suit different levels of intelligence. Considerable efforts have been made during the last decade through seminars, workshops, refresher courses and summer institutes to introduce the teacher, especially at the secondary stage, to new techniques of instruction. The use of audio-visual aids has been on the increase in urban schools, and even television has been brought into the service of classroom teaching in Delhi. And yet it will be generally agreed that the impact of these activities on teaching practices in the vast majority of our schools has not been very significant. The picture is particularly dismal in the rural areas, and especially in the primary schools. In the average school today, instruction still conforms to a mechanical routine, continues to be dominated by the old besetting evil of verbalism and therefore remains as dull and uninspiring as before.

9.03 Why does this happen ? The problem is complex and the answers to it are not easy to give. But in our opinion, the following are the four major factors that impede progress:

(1) The weakness of the average teacher. By and large, the competence of the average teacher is poor; his general education is below standard and Ms professional preparation unsatisfactory.

(2) The failure to develop proper educational research on teaching methods. Little has been done to find out in crucial sectors the methods that are best suited to our conditions and needs. For instance, the best methods of teaching beginning reading in a phonetic script like Devanagari have yet to be developed.

(3) The rigidity of the existing educational system. Better methods of teaching are discovered, not so much through educational research, as through the adventures of gifted

teachers who have the courage to get off the beaten track. Our educational system is not designed to encourage initiative, creativity and experimentation on a large scale and is, therefore, not able to keep itself abreast of the times.

(4) The failure of the administrative machinery to bring about a diffusion of new and dynamic methods of teaching. Even assuming that a good method of teaching is discovered and is actually introduced in a few progressive schools, the problem still remains of diffusing it among the other schools so that it becomes the common practice in the educational system as such. This is a difficult task, and we have yet to find the right techniques for accomplishing it.

The first of these problems has already been discussed in Chapters III and IV and the second is dealt with in broad terms in a subsequent chapter.[93] We do not propose to examine here the methods of teaching different school subjects as there is a good deal of pedagogical literature available on these topics. It is our considered opinion, however, that the failure to modernize our teaching methods is very largely due to the third and fourth factors stated above-the rigidity of the educational system and the administrative failure to diffuse even known and practised methods among the schools. We shall address ourselves mainly to these two problems in the course of this chapter.

9.04 Elasticity and Dynamism. In a modern society where the rate of change and of the growth of knowledge is very rapid, the educational system must be elastic and dynamic. It must give freedom to its basic units-the individual pupil in a school, the individual teacher among his colleagues, and the individual school (or cluster of schools) within the system to move in a direction or at a pace which is different from that of other similar units within the system without being unduly hampered by the structure of the system as a whole. In this process, the freedom of the teachers is the most vital; it is almost synonymous with the freedom of the school, for the pupils can rarely be freer than the men and women who teach them. It will, therefore, be quite in order to equate the elasticity and dynamism of an educational system basically with the freedom of teachers.

9.05 It has to be remembered that advances in classroom practice never occur on a broad front, with all the teachers and all the schools moving forward in unison. In a school system with a large number of untrained or poorly trained teachers, there is need for a solid framework of detailed syllabuses, textbooks, examinations, frequent inspections and well-defined rules. The average teacher who wants security rather than opportunity for creativity may welcome this support. But the work of the best teachers can be crippled if they are not permitted, encouraged and helped to go beyond the departmental prescriptions. The success of an educational reform will depend upon this flexible approach where the good school or the good teacher is able to forge ahead and the necessary supports are provided to the weaker institutions to introduce the reform gradually. The task of the administrator or inspector in such a situation becomes very difficult. He cannot take the easy line of imposing common restrictions on all or be

[93]Chapter XII.

daring enough to give equal freedom to all. We expect him to analyse the strengths and weaknesses of each school and of each school teacher and to help them make the best progress they can. One of the essential conditions for making an educational system elastic and dynamic, therefore, is for the administrator to develop this competence, to discriminate between school and school, between teacher and teacher, and to adopt a flexible mode of treatment for individuals or institutions at different levels of development. This alone can help to promote initiative, creativity and experimentation on the part of the teachers.

9.06 Certain general conditions are necessary to promote this elasticity and dynamism, some of the more important of which are given below:

(1) The individual teacher is most likely to try bold changes in teaching practice if there is a feeling of reform in the air and if he sees his small contribution as part of a major social revolution.

(2) The experimenting teacher must have much more than the passive acquiescence of the school inspectors. He must feel that officers of the Education Department are personally eager to see experimentation and that they are willing, within reasonable limits, to accept a proportion of failures as part of the price.

(3) The inspectors are the key figures in any reform of classroom practice. They are Authority, present and obvious. They should be consulted from the beginning, should know that their criticisms and suggestions carry weight, and should be made to feel that the proposed changes are, in some measure, their reforms. A school system can be no more elastic or dynamic than the inspectors will let it be. This is why the in- service education of inspecting officers assumes great significance.

(4) The sympathy and support of headmasters and senior teachers must be won quite early in the programme if they are not to dampen all youthful ardour to experiment and explore. They may not want to break new ground themselves. But if they do not feel they are being by-passed and that the new system is not being foisted on them, they can become its patrons, if not its practitioners. There is also much to be gained by winning the approval of teachers' organizations to any movement that increases flexibility in the school system. Individuals will experiment more readily if they feel that experimentation has the general support of the profession.

(5) Anything that breaks down the isolation of the teacher increases his sense of assurance and makes it easier for him to adventure. The strengthening of the teacher's sense of inner security is a purpose common to all the methods advocated to increase the elasticity or dynamism in a school system. It is the basis of all real reform in teaching practice. There are occupations where amass advance can be achieved by the invention of new equipment and the issuing of instructions for its use. No worthwhile advance is possible in teaching method unless the individual teacher understands what he is doing and feels secure enough to take the first new steps beyond the bounds of established practice. It is easier for a teacher to do so in a small group than when he is working alone.

The success of `eam teaching' in introducing new teaching techniques into some American schools is based on the fact that it is not the individual but the team that is responsible for the planning and execution of new methods. It is our belief that the proposed organization of a school complex[94] in which the teacher works in a cooperative group is more likely to help flexibility than the present system of isolation.

(6) Nothing reduces a teacher's sense of security or his willingness to take advantage of freedom so seriously as does his ignorance of the subject-matter he has to teach. If he is only a few lessons ahead of his class he dare take no risks, and finds safety in the old routine of rote memorizing. Increasing the teacher's level of general education is, in general, the surest way of ensuring that some of them will adopt livelier and more meaningful methods of teaching. Fortunately, the limiting factor is not so much the absolute amount of knowledge the teacher has but the gap between what he knows and what his pupils know. Consequently, the easiest place to introduce innovations is in classes I and II. There is also a great advantage in taking the lowest classes of the school as a starting point for reform, since it is at this level that the greatest 'pupil wastage' occurs through repetition and drop-out.

(7) When in doubt, teachers will teach in the way they were taught themselves and not in the way they were told to teach. So, if a school system is to become more flexible and teaching methods more lively and varied, it is essential that these qualities be established very early in the practice, as well as in the theory, of at least some of the teacher-training institutions. A few training institutions at both the primary and the secondary levels should become centres for devising, testing, and adapting methods and materials to be used in the schools.

(8) A teacher or institution will be able to introduce innovations more easily if the parents of the pupils know enough about their purpose so as not to have any fear that they will interfere with their children's chances at the final examination. A strong and respected headmaster or teacher can probably best will over the parents by his own efforts; but in most cases, it will be necessary for the Department to help in convincing parents that changes in methods are desirable and officially approved.

(9) Innovations are more likely to occur if there is a ladder of promotion up which the bright young teacher can hope to climb by outstanding service.

(10) Obviously, elasticity or dynamism will be increased if there is a reasonable provision of books, teaching materials, and services that will enable some children to undertake part of their work alone or in groups. There is a limit to what can be expected of the most imaginative teacher if all he has is a bare room, a blackboard, a standard textbook, and sixty pupils. The most pressing needs for a teacher who wants to branch out on new methods are, therefore, a good supply of books and paper, and particularly at the lower levels of school education, some simple tools and materials for making equipment. If

[94]See Chapter II, for details.

some teachers in the more poorly equipped schools are to have a real chance to make use of any freedom they are given, it would seem desirable to have at the disposal of the district education officer a sum of money, not too tightly bound up by regulations, that might be used, with discrimination, in providing the minimum facilities and services to certain schools and teachers who show a special willingness and capacity to adopt new methods and standards of teaching. The amount of such aid should never be so great as to make any experiment expensive, unreal, and incapable of being applied widely. Too many 'pilot projects' are conceived on such an elaborate scale that they irritate teachers in the average schools and are of little value to the system as a whole.

9.07 If measures like those described above can be taken, schools and teachers will have opportunities to venture forth on their own and try out new ideas and experiments. Of course, those that will actually utilize this freedom will be few. But it is these few teachers and schools whose work will put dynamism into the system as a whole and help in raising standards, in breaking new ground and in continually adapting the system to the demands of a changing society.

9.08 The Diffusion of New Methods. Elasticity in a school system is obviously of limited value unless the good practices developed by a few adventurous teachers or schools are spread more widely through the system as a whole. Unfortunately, this is by no means an automatic process in education, where successful experiments frequently die with the men and women who started them, and where the natural rate of spread of even the more viable innovations is measured in decades rather than in years. It takes a great deal of administrative skill and perseverance to get bold new methods understood and accepted by the body of average and below average teachers, even when they have amply proved their value and firm proofs of success are hard to produce in education. The difficulties are multiplied ten-fold when teachers are expected to accept, not a new technique for achieving the old ends, but methods that embody in themselves a new concept of the very purpose of education. That is why it is such a long and burdensome task to convert a school system based primarily on memorization into one involving understanding, active thinking, creativity and what has come to be called 'problem solving'. Each step is not a step but a leap into the unknown, and the average teacher needs skilled and detailed help, and what may seem to be a contradiction in terms sympathetic goading if he is to make it at all. This is precisely the problem that we have to face and solve during the next ten to twenty years.

9.09 How can this be done? Very little systematic research has been undertaken on the diffusion of classroom practices even in the educationally advanced countries, and practically none in developing countries. The earlier researches of Paul Mort and his colleagues at Columbia University seemed to show that a period of 25 to 40 years was necessary in the United States for anything like full diffusion of a new practice, but the rapid spread of such innovations as the PSSC [95] Physics course (which started in 1957,

[95] Physical Science Study Committee.

and is now taken by about fifty per cent of the high school pupils studying physics in the United States) has shown that, under certain conditions, the period can be greatly reduced. This experience and some others of its type seem to indicate that the educational administrator can encourage and hasten the diffusion of new teaching practices in a number of ways, the more important of which are indicated below:

(1) Almost all the factors which render the system elastic enough for the outstanding teacher to break new ground will also make it easier for the mass of average teachers to follow his example. However, mere permissiveness on the part of the authorities will not do the trick. They will need to play a more active part, with something that comes nearer to persuasion than to pressure but which still leaves no doubt in the teachers' minds that the Education Department and its officers favour certain changes. But it must be done with sensitivity and moderation, or the teachers will come to regard the new methods as the Department's latest fad, and may try to apply them, with or without understanding, to the detriment of the normal work.

(2) The main body of teachers will accept new methods more readily if the immediate goals set before them are limited ones. This means that the methods devised by the brilliant teacher or the subject specialist may have to be approached by stages, and that the stage demanded of each group of teachers may vary with their ability.

(3) The usual devices for in-service training such as refresher courses, workshops, demonstrations, exhibitions of work, and visits of quite long duration (days, not hours) to see the new methods at work in pioneering schools should be adopted on a large scale. Used with discrimination and skill, films, tapes or radio can bring whole lessons to quite isolated schools, though not so much for their effect on the pupils as for their usefulness in providing a model of good teaching for the teachers.

(4) Itinerant instructors, specialized in certain subjects and class-levels of techniques, and working under the general direction of the District Education Officer, are even more vital at the stage of diffusing new methods than at the earlier stage of the first experiments.

(5) Probably the quickest and most effective way of having new theories accepted is to embed them in the 'tools' of teaching-textbooks, teachers' guides, and teaching aids of all kinds. Some teaching of theory will, of course, still be essential. But it will spring from proposed practices instead of floating airily above them. The extent of the theory and the degree of detail with which the practices are set out will vary with the level of general education of the teachers. In the initial stages of development and with weaker schools, it might be necessary for teachers' guides to go into a fair amount of detail on the series of lessons to be arranged throughout the school years, the methods to be used, the teaching aids to be prepared, the activities to be encouraged, and the tests and techniques of evaluation to be employed.

9.10 The technique referred to in the preceding paragraph may be described as the laying down of 'tramlines' on which the average teacher can move forward with confidence in his teaching. This method is different from the traditional practice wider which the

teacher is given lectures on general principles and is then expected to apply them with no more aid than is given by a mediocre textbook that often clashes with the very principles that are being advocated. It is, of course, the administrator's responsibility to ensure that, while providing 'tramlines' for the mass of the teachers, there is still enough freedom left for the bold few to travel more freely. But with this precaution, there is no doubt that these 'tramlines' of progress are the techniques that will be particularly effective for diffusing new methods.

9.11 It is obvious that this laying down of tramlines is not a `once and for all time' business-it requires continuous renewal. When an administrator lays down a set of tramlines with immense effort (it takes some years to do so), he generally finds that his 'progressive' tramlines have become a new 'orthodoxy' and that he will have to start laying them down once again and that there will be the same old resistance for breaking away from the earlier tramlines. But that is an inevitable and perennial problem that every educational reformer must face. The provisions made to enable the outstanding teachers to leave the tramlines will help the rest also to leave them in course of nine, while the more adventurous teachers will go still further ahead to fresh fields and pastures new.

9.12 It will be seen that the essence of our recommendation is that only an elastic and dynamic system of education can provide the needed conditions to encourage initiative, experimentation and creativity among teachers and thereby lay the foundations of educational progress. We firmly believe that the risks of freedom and trust in teachers that are implied in this approach are not greater than those of undue restriction and distrust and they are more worth taking. We should learn to delegate authority, to trust our teachers, to encourage the capacity for leadership amongst them, to treat every institution as having a personality of its own which it should try to develop in an atmosphere of freedom. This would need dynamic leadership at all levels, determined to give education a new deal and to make every teacher, educational officer and administrator put in the best of himself in this great cooperative endeavour.

TEXTBOOKS, TEACHERS' GUIDES AND TEACHING MATERIALS

9.13 The value of the textbook as an effective tool of learning and of diffusion of improved teaching methods has been indicated in the preceding section. A good textbook, written by a qualified and competent specialist in the subject, and produced with due regard to quality of printing, illustrations and general get-up, stimulates the pupil's interest and helps the teacher considerably in his work. The provision of quality textbooks, and other teaching and learning materials, can thus be an effective programme for raising standards. The need to emphasize it is all the greater because it requires only a relatively small investment of resources. Moreover, a quality book need not cost appreciably more than the one that is indifferently produced.

9.14 Quality of Textbooks. Unfortunately, textbook writing and production have not received the attention they deserve. In most school subjects, there is a proliferation of low

quality, sub-standard and badly produced books, particularly in the regional languages. This has been due to a number of factors among which mention may be made of

- the lack of interest shown by top-ranking scholars so that the writing of textbooks has been generally undertaken by persons whose abilities are far from equal to the task;

- the malpractices in the selection and prescription of textbooks which defy control;

- the unscrupulous tactics adopted by several publishers;

- the lack of research in the preparation and production of textbooks; and

- the almost total disregard by private publishers (who are interested only in profits) of the need to bring out ancillary books, such as teachers' guides to accompany textbooks.

9.15 State Production of Textbooks. As education began to spread, the textbook industry became one of the very profitable fields for investment and the evils of the type mentioned above became more and more conspicuous. The attention of State Governments was soon drawn to them and it was decided that, in order to eliminate them, the State Governments should take over the production of textbooks. At present, most State Governments have adopted this policy and taken over the production of textbooks. The extent to which this responsibility has been assumed shows considerable variations-some States have produced only a few books at the primary stage while others have produced all books till the end of the secondary stage. In one or two States, not only production but even distribution and sale of textbooks have been taken over by the State.

9.16 There have been some definite gains from this policy. Private profiteering has disappeared and prices have been kept low. The malpractices and intrigues which used to be so common a feature of what used to be called the 'textbook racket' have also disappeared. The quality of books has improved in several instances, although the general level of the books still remains poor and their standard does not often come up to that some of the well-established and efficient publishers. The main reason for this failure is that the Education Departments which have taken over the responsibility of textbook production have not adequately organized themselves for it. It is this weakness that is largely responsible for the shortcomings one often sees in the State-produced textbooks, viz., failure to revise books for long periods, misprints, poor production, failure to supply books in time, etc. We do not desire to underestimate these deficiencies. What we want to highlight are two points: the first is that these weaknesses do not lead to the conclusion, as some interested parties are ever eager to show, that State-production of textbooks is wrong; and the second is to emphasize the urgency for the Education Departments to organize themselves properly for this great educational responsibility they have undertaken.

9.17 State-production of textbooks, it must be noted, is only one step in the direction of improving the quality of textbooks. But by itself, it can achieve little and if adequate steps are not taken in time to organize the activity on right lines, it may even put the

clock back. We, therefore, recommend that emphasis should be placed on developing the programme of textbook production on right lines. Some concrete suggestions from this point of view are made in the paragraphs that follow.

9.18 Programme at the National Level. It is essential that the best talent available in the country should be brought together to produce the textbooks and other literature needed, both at the school and at the university stages. This can only be done at the national level by agencies set up by the Government of India.

(1) For the university stage, the Ministry of Education is bringing out a series of low-priced and subsidized books in collaboration with appropriate authorities in the USA, the USSR and the UK. This is a useful scheme and its significance has now become even greater. It should be expanded and vigorously developed, along with schemes for books written by Indian authors. We lay great emphasis on the latter schemes. We recommend that as a matter of national policy, nearly all books at the undergraduate stage, including those for professional subjects, should be written by Indian authors. In the preparation of these books, fullest use should, of course, be made of foreign sources. This goal should be capable of realization within 5 to 10 years.

(2) At the school stage, we welcome the steps taken by the NCERT to produce textbooks with the help of scholars available in the country. Some books have already come out; and more will come out soon. These books are meant for use by State Governments who can use them with or without changes. We hope that the State Governments will make full use of this pioneer venture to improve the quality of their books.

(3) The production of textbooks and allied materials at the national level will be greatly facilitated if the Government of India were to establish, in the public sector, an autonomous organization, functioning on commercial lines, for the production of textbooks. We have recommended the establishment of similar organizations at the State level also. But there will be a large number of books, especially in the scientific and technical sector, which can only be produced on a national basis. It would also be desirable to produce several other categories of books at the national level, either for reducing cost or for improving quality or for purposes of national integration. We, therefore, feel that an organization of this type at the national level is urgently needed. We recommend that the Ministry of Education should set up a small committee to work out the details of this project and take all the necessary steps to bring it into existence as early as possible.

9.19 Textbooks produced at the national level will have other advantages as well. One of our major recommendations [96] is that we should make an attempt to evolve national standards at the end of the primary, lower secondary and the higher secondary stages. The definition of these standards as well as the organization of a programme for

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their practical implementation will be greatly facilitated by the production. of textbooks at the national level. Such books can indicate the expected standard of attainment far more precisely than any curricula or syllabi; and their practical use in schools is the surest method to raise standards and make the teaching in schools in the different parts of the country fairly comparable. In a subject like mathematics or science, for instance, there is not much scope for local variations and the adoption of common textbooks in all parts of the country is not only feasible, but also desirable from several points of view. The same can be said about a common textbook in citizenship prepared from the point of view of national integration and used in all schools of the country. History is another difficult subject to teach, especially from the point of view of social and national integration; and authoritative well-written books on the subject can be of immense help to all teachers. At present, there is hardly any common book which all the students in India read; and that is one of the reasons why our educational system contributes so little to national integration. On the other hand, if we had, say, a set of 100 books on different topics written by the best of our scholars which would be translated and be available in every school and if an average student were expected to read them in his school course as a matter of routine, the entire thinking of the rising generation would be different and national integration could be immensely strengthened.

9.20 Programme at the State Level. While attempts to improve textbooks at the national level are thus welcome, they cannot be the sole attempts for this crucial reform. Their most effective service is to stimulate other centres into activity and especially to promote similar enterprise at State levels. We recommend that each State should organize an adequately manned expert section for the production of textbooks for schools. They should make as much use of the work done at the national level as possible. But there is no escape from the fact that each State will have to produce several textbooks in areas where national books will not be available. Even in areas where national books are available, independent attempts by the States will stimulate each other and the Centre itself. We call hope for the best results only when the national and all the State centres for textbook production are functioning actively and in close collaboration.

9.21 The following points should be kept in view by the State Education Departments in organizing their programmes of textbook production:

(1) A separate agency, preferably functioning on an autonomous and commercial basis, should be set up, in close liaison with the Education Department for the production of textbooks and teaching aids. would be extremely difficult, if not impossible, to have within four walls of usual departmental procedures, the autonomy freedom which such an undertaking essentially needs.

(2) Production of textbooks is a continuous process. For instance, it takes a year or even more to produce a textbook and a further year for try-out and revision. Within a year of its adoption on a large scale, a process of evaluation has to start; and very soon thereafter, it will be discovered that it needs revision. The machinery set up, therefore, should be adequate to follow all these steps for every textbook. It should be an objective of policy to see that a textbook is continuously revised and kept up date and that a thorough

revision takes place at least once in. five years, if not oftener. The need for frequent revisions of textbooks is obvious, even if the curricula were to remain unchanged. But we do visualize, as stated in the last chapter, a continual deepening of the curricula. In fact, very often a revision of textbooks will be necessitated, not by a revision of curricula, but as a means of changing and deepening them.

(3) No useful purpose is served by having only one textbook in a subject for a given class-this is almost invariably the position under the existing programmes of nationalization. It should be an important objective of policy to have at least three or four books in each subject for each class and leave it open to the teachers to choose the book best suited to the school. This is necessary even if there were to be a common syllabus for all the schools. We have recommended, however, that there should be more than one approved syllabus and that each school should be permitted to adopt the syllabus best suited to its own conditions. In such a case, a multiple choice of books should be available for each syllabus.

(4) When Government gets books written, the payment to authors is often so niggardly that the ablest scholars are not generally attracted. This is the one point where private enterprise often scores over State- produced textbooks. It is, therefore, necessary to adopt liberal policies for remuneration, comparable to those of the private trade, and to attract the best people to write books.

(5) State-production of textbooks is not to be used for purposes of earning profits;[97] its sole purpose is to produce the best books and to make them available to the children at the lowest cost. The entire organization should, therefore, be run on a no-profit and no-loss basis. The sale of State-Produced books, however, are so large and certain, that even where no profit as such is charged and the price is merely rounded off to the nearest five paise, large margins are left over and -- are enough to cover the costs of research, overhead establishment and the preparation of ancillary aids like teachers' guides.

(6) The incentive to write books should be encouraged in as many quarters as possible. Apart from commissioning selected persons to write textbooks, which will have to be done in many cases, the Departments should also invite manuscripts, proposals, etc., and be ever on the hunt for new talent. There should be high level committees of professional persons to Judge books or proposals submitted; and approved books should be adopted by the Departments and published after making suitable arrangements with the authors.

(7) Special encouragement should be given to teachers to write textbooks. In the USSR, even the highest positions in universities can be obtained by writing outstanding textbooks. Our universities can follow this example. We also suggest that learned societies should give adequate professional recognition to outstanding textbooks.

[97]In one State, we found that 100 per cent profit was charged while fixing the price.

(8) Good textbooks are not enough; they should be supplemented by teachers' guides and other instructional material. A teachers' guide, as we have mentioned above, should give detailed assistance to teachers. Even for graduate teachers in the United States, some of the new courses being evolved in mathematics, science and social studies contain a great deal of detailed suggestions. The poorly educated and insecure teacher tends to drop into a dreary routine in which every lesson is taught in the same way, and he needs quite detailed suggestions on a variety of methods, which can make his teaching more lively and effective. It is only with the help of such detailed framework of support and guidance that a large number of teachers, particularly in the primary schools, will get off the beaten track.

9.22 There are really three aspects to the textbook production programme:

(1) Academic aspect which includes the preparation of textbooks, try-out and evaluation;

(2) Production aspect which includes all matters relating to printing and publication; and

(3) Distribution aspect which includes storage, sales, etc. The first is the most important aspect, and the responsibility for it will have to be squarely accepted by the State Education Departments on the lines we have recommended above. The second is discretionary. We find that some State Governments have accepted direct responsibility for it and established separate textbook presses. This is the direction in which we should move. The third is really self-contained and is not inseparably linked with the first two. In one State where the State Government had assumed direct responsibility for distribution of textbooks, we found that the precious time of a number of field officers was taken up by sales, accounts and stock-keeping. We recommend that this activity should be promoted through student cooperatives which every educational institution (or group of educational institutions should be encouraged to establish, and that it should not be assumed directly by the Education Departments.

9.23 Provision of Essential Teaching Aids. In assessing the needs of the teacher from the point of view of teaching methods, one is forced to admit that in the majority of schools, particularly at the primary stage, there is still an almost total absence of basic equipment and teaching aids-a good blackboard, a small library essential maps and charts, simple science apparatus, and necessary display materials. The supply of such basic equipment and teaching aids to every school in the country is essential for the improvement of the quality of teaching. It would indeed bring about an educational revolution in the country. We recommend that lists of minimum teaching aids and equipment needed by each category of schools should be prepared. These may be kept as economical and frugal as possible. But once a certain minimum equipment is considered necessary, Steps should be taken to see that it is given to every school on a high priority basis. As in Madras State, the help of the local community could be harnessed in developing this programme. As a first step, we recommend that a good blackboard should be immediately given to all schools.

9.24 Several suggestions were made to us to the effect that we should adopt new techniques of teaching which are now coming into use in the advanced countries. These techniques involve the large-scale use of films, radios, tape-recorders and other audio-visual aids, the introduction of open and closed circuit television, and the provision of language laboratories, programmed instructional methods and simple and highly sophisticated forms of teaching machines. With regard to the use of films, filmstrips and other simple audio-visual equipment, it may be possible to make these teaching aids available to every school complex (and through it to every school even in rural areas). In tills connection, we invite attention to the Report of a Study Group on Classroom Science Films (their recommendations apply to the teaching of other subjects also) with which we broadly agree. In addition, it should also be possible to equip the majority of upper primary and secondary schools with low cost radio sets. We recommend that Education Departments should work with the All India Radio for the use of radio lessons, supplemented with printed material for the teachers, and, if possible, for the pupils. We also recommend the broadcasting of special radio talks, in the early morning or late evening, specially designed for teachers which will help to deepen their subject knowledge and guide them in lesson preparation. The more sophisticated forms of the newer techniques, however, can be used, generally speaking, at this stage of our educational development only on an experimental basis and in a few schools. It has to be remembered that schools cannot use an equipment which is much beyond the level of technology in the society. Sophisticated equipment given to rural schools, for instance, cannot be maintained and soon falls into disrepair. A few progressive schools may be equipped with new aids like language laboratories and programmed instructional material; but such techniques may preferably be tried out, in the first instance, in the education and training of teachers.

9.25 The majority of teachers in our schools will have to rely on inexpensive teaching equipment which are easily available in the locality or are made by them with proper encouragement and little financial assistance. The programmes that will help us most, in the immediate future, in improving the teaching in our schools are, therefore, the following:

(1) The training of teachers in the use and preparation of simple and improvised teaching aids;

(2) The use of the school workshop-and also of programmes of work-experience-to prepare the teaching aids required by the school itself and by other schools in the neighbourhood;

(3) Manufacture of simple equipment on a large scale for reducing cost, and its distribution to schools; and

(4) Sharing the more costly equipment in common by schools in a given neighbourhood. For instance, a group of schools in the neighbourhood may have a projector in common. A good laboratory in one school can be used, according to a carefully prepared plan, by other schools nearby. A group of schools may have a circulating library, and so on.

CLASS SIZE

9.26 It will be generally agreed that there cannot be a marked improvement in methods of teaching if the teacher is required to teach very large classes as a matter of routine. The phenomenal expansion of primary and secondary education in recent years has resulted in overcrowding in schools, especially in urban areas, where accommodation is not easily available for the extension of the school building or the opening of new sections. The class size sometimes grows to abnormal proportions. A class of sixty children is a common sight in a city. We ourselves have seen, in the course of our tour, classes of sixty and even sixty-five children in a few secondary schools. Quite often, the classroom is not able to accommodate easily such a large number. The problem is solved by pushing the teacher's chair-there is no place for a teacher's desk-into a corner and bringing the front benches almost up to the black-board! In conditions like these all talk of creative teaching ceases to have any significance.

9.27 Present Position. Tables 9.1 and 9.2 show the sizes of classes at different school stages, on the basis of information supplied by the State Governments for 25 districts selected from eight States in a special study carried out by the Commission.

The tables are very revealing. We find that 11.1 per cent of the teachers at the lower primary stage teach classes of 50-59, 6.5 per cent take classes of 60-69 pupils, and 14.3 per cent have to deal with classes

TABLE 9.1 DISTRIBUTION OF TEACHERS IN LOWER PRIMARY SCHOOLS/ SECTIONS ACCORDING TO THE NUMBER OF PUPILS THEY TEACH (1965)

State	Percentage of teachers teaching pupils								
	Below 10	11—19	20—29	30—39	40—49	50—59	60—69	70 and above	Total
	%	%	%	%	%	%	%	%	%
Andhra Pradesh	0.4	6.3	18.5	24.3	21.9	12.5	6.3	9.8	100.0
Kerala	0.2	1.9	31.7	30.8	11.8	4.2	3.4	16.0	100.0
Madhya Pradesh	3.6	14.0	23.8	23.9	15.5	7.9	4.2	7.1	100.0
Mysore	0.7	4.7	13.3	21.5	21.8	13.5	7.7	16.8	100.0
Orissa	1.7	10.4	17.9	30.0	20.1	9.8	4.9	5.2	100.0
Punjab	0.2	2.6	10.1	27.3	28.4	18.2	8.4	4.8	100.0
Rajasthan	1.0	7.0	16.6	17.1	11.7	9.2	6.2	31.2	100.0
Uttar Pradesh	1.0	6.5	15.1	20.6	19.9	13.9	8.8	14.2	100.0
All India	0.9	6.1	18.7	23.8	18.6	11.1	6.5	14.3	100.0

TABLE 9.2 SIZE OF CLASSES/SECTIONS AT HIGHER PRIMARY AND SECONDARY STAGES (1965)

Class	Percentage of sections/classes with enrolment								
	Below 10	10-19	20-29	30-39	40-49	50-59	60-69	70 and above	Total
	%	%	%	%	%	%	%	%	%
VI	9.5	17.1	20.8	23.6	15.8	5.8	2.2	5.2	100.0
VII	9.9	18.9	20.1	26.4	14.5	4.7	1.5	4.0	100.0
VIII	3.9	11.3	15.5	25.7	24.3	11.5	2.5	5.3	100.0
IX	7.8	4.0	10.8	21.8	31.5	13.6	4.7	5.8	100.0
X	0.7	7.4	16.3	25.9	29.9	11.0	2.8	6.0	100.0
XI	2.0	11.8	21.8	19.5	15.4	10.8	6.0	12.7	100.0
XII	0.9	8.0	14.1	15.1	25.2	16.4	8.4	11.9	100.0

of 70 pupils and more. Some of these classes will be, of course, in single-teacher schools, where one teacher has to take two, three and sometimes even five combined classes. Similarly, at the higher primary and the secondary stages, the position is not much better. The percentage of teachers handling classes of 50 to 70 pupils and above is 13.2 in class VI, 10.2 in class VII, 19.3 in class VIII, 24.1 in class IX, 19.8 in class X, 29.5 in class XI and 36.7 in class XII. It will be seen that the number of teachers handling such large classes increases as we go up the educational ladder.

9.28 Difficulties of Teaching Large Classes. Methods of teaching in classes of fifty pupils and more cannot be satisfactory. However capable a teacher may be, he cannot pay individual attention to a large number of children, give special assistance to the weaker ones, guide the brighter ones to proceed at a faster pace in an attempt to help one and all to reach the maximum of their capacities. In these circumstances the average teacher will be tempted to resort to rote memorization. Assignments given will generally not be checked and composition exercises will be marked during periods of spasmodic energy. The poor quality of teaching in the ordinary secondary school in urban areas may partly be attributed to overcrowded classrooms.

9.29 We do not, however, support those educational theorists who contend that a class should not have more than twenty or twenty-five pupils. It would be extremely unrealistic for our teachers to think in terms of this ideal. There is indeed no such thing as an ideal class size, and there is no sanctity about the number twenty-five or twenty. In our country, classes of a somewhat larger size than what may be strictly considered as desirable cannot be avoided for a long time to come. Some of the educationally advanced countries are also facing a similar problem. Teachers should reconcile themselves to the acceptance of this inescapable necessity. It is also the responsibility of the training institutions to have a more practical approach to the problem and to evolve methods which would help the teachers to teach classes of this size without a complete abandonment of all pedagogic principles.

9.30 Fixing the Maximum Class Size. However, beyond a certain number, it is not possible to extend the class size without doing serious damage to the quality of teaching. This is particularly true at the high school and higher secondary school stages, where individual differences become more marked, requiring special help to be given in many more cases, and where the assignments to be attended to increase in number. We are of the opinion that it is not enough to fix the average pupil-teacher ratio at the different stages of school education. Such a ratio is necessary, of course, to determine the number of teachers required with reference to the enrolments. But it will not necessarily control the class size. We may have a ratio of 40 pupils to one teacher at the primary stage and yet find a class of 10 pupils and another of 80 pupils perhaps in the same district. It is essential that, in addition to the pupil-teacher ratio, the maximum number of pupils to be admitted in a class must also be prescribed, and this maximum should not be allowed to be exceeded in any case. We recommend the following maximum number for the different stages of school education:

Lower Primary	-	50
Higher Primary Lower Secondary	-	45
Higher Secondary	-	40

9.31 The class size in classes I and It has a special significance. More than half the enrolment at the primary stage is in these two classes; and very often, they are large classes of 60 or more. In such cases, our first recommendation would be that the requisite number of teachers should be provided and the class size reduced as indicated above. But if this were not possible, we would prefer to break this class into two classes of about 30-35 students and engage them only for three hours a day and request the teacher (with payment of a suitable allowance) to engage two- such classes per day. This would be a far better method of education than the present system of herding together 70 or so pupils in one class and keeping them there for six hours a day.

9.32 Multiple-Class Teaching. About 40 per cent of our schools are single-teacher schools and even in other schools, the proportion of big schools where one teacher teaches one class is very small. More than half of our teachers, therefore, have to teach more than one class at a time. This will be seen from Table 9.3.

TABLE 9.3 DISTRIBUTION OF TEACHERS IN PRIMARY SCHOOLS/SECTIONS ACCORDING TO THE NUMBER OF CLASSES THEY TEACH (1965)

State	One Class	Two Classes	Three Classes	Four Classes	Five Classes	Total
	%	%	%	%	%	%
Andhra Pradesh	35.9	27.7	16.9	4.5	15.0	100.0
Kerala	83.5	14.1	0.6	1.8	..	100.0
Madhya Pradesh	30.5	26.1	17.4	8.5	17.5	100.0
Mysore	50.9	21.4	3.7	24.0	..	100.0
Orissa	43.0	29.6	26.2	0.7	0.5	100.0
Punjab	46.4	26.9	14.8	1.1	10.8	100.0
Rajasthan	10.1	20.8	26.2	18.6	24.3	100.0
Uttar Pradesh	36.5	35.9	19.6	2.5	5.5	100.0
TOTAL	43.7	25.6	14.2	8.4	8.1	100.0

Source. State Governments.

Note. The information is based oil statistics collected from 25 districts in eight States.

In a situation of this type, research in multiple-class teaching is badly needed; and training institutions have to make a special effort in orientating teachers to the special techniques that have to be used under such conditions.

SCHOOL BUILDINGS

9.33 The provision of school buildings is extremely unsatisfactory at present. At the primary stage, only about 30 per cent of the schools are stated to have been housed in satisfactory buildings. The corresponding proportion at the secondary stage is stated to be about 50. This shows the great backlog of unconstructed school buildings which has to be cleared during the next few years. In addition, buildings will have to be provided for the additional enrolment which will rise with increasing speed. The problem, therefore, has three aspects:

(1) provision of the necessary funds; (2) reduction of the building costs to the minimum level possible; and (3) the devising of a suitable machinery which can implement the programme expeditiously and economically.

9.34 Funds for School Buildings. We recommend that the allocations for construction of school buildings In the Central and State budgets should be increased. This is one area where the local community can make a significant contribution. Schemes of grant-in- aid should, therefore, be devised under which assistance from the State will be available to local communities, on a basis of equalization, for the construction of school buildings. Wherever possible, loan programmes for the construction of buildings should be encouraged. Grant-in-aid and loans should also be available to private schools, on a fairly liberal basis, for building construction.[98]

9.35 Reduction of Costs. A number of committees have examined this question for both the Central and State Governments, on behalf of the Ministry of Education, the Ministry of Works and the Planning Commission. In addition, the UGC has prepared detailed norms for hostels, staff quarters, libraries, etc., and the Central Building Research Institute at Roorkee and the Indian Standards Institute have made recommendations in this area. The result of all these is that there exist, for most types of schools and colleges, space and planning norms and type plans and a good deal of sound advice that can help in reducing costs. What is required now is a mechanism that will put this information into practice.

9.36 In view of the acute shortage of traditional classical building materials and the shortage of accommodation, many schools are today operating in what are classified as 'temporary constructions' by the PWD and some even in thatched huts. We find that there is a strong prejudice against such structures. In our view this prejudice against the use of 'temporary' buildings or thatched huts for school purposes is totally unjustified. Designed and constructed with a raised floor and high doors and windows with plenty of ventilation, these structures serve more than adequately as school buildings. This should

[98]We have used the expression `school buildings' to include all educational buildings such as classrooms, libraries, laboratories, cycle sheds, hostels and residential quarters for teachers.

riot, however, be misunderstood to imply that kacha buildings are always better. This is not so; and some kacha buildings prove costlier in the long run because of heavier costs of maintenance. What we wish to emphasize is the need to accept well-planned kacha structures as part of our system and to highlight simplicity and utility rather than ostentation in the construction of buildings.

9.37 Buildings in Rural Areas. The problem of school buildings needs to be discussed separately for urban and rural areas. In the former case, land values are high; and very often enough land is not available at all. Sophisticated structures are, therefore, necessary, even in order to keep in tune with the immediate environment. In the rural areas on the other hand, land is cheap and readily available; and sophisticated structures often look grotesque in a village atmosphere.

9.38 We recommend that everything should be done to encourage local initiative and local contribution in cash, kind or labour for the erection of schools. A special device that can be of great use is that government should supply only the framework-which can be pre- fabricated-and the local people should be expected to rise the plinth and fill up the walls. The `nucleus' approach recommended by the Ministry of Education will be of great help and deserves to be generally adopted.

9.39 Buildings in Urban Areas. In urban areas, the following steps should be taken for achieving economy in the construction of educational buildings:

(1) Judicious Selection of Specifications and Local Materials. The existing practice of playing safe by adopting conventional specifications is not conducive to economical construction. Economy can be achieved through the selection of locally available, materials, use of cheaper materials, omission altogether of certain finishes and acceptance of a lower standard of construction. In all these steps, the governing factors would, however, be the availability of materials, climatic conditions, safety of buildings and recurring costs on maintenance.

(2) Techniques of Construction. With careful planning and designing, even the so-called 'temporary' structures can be made to serve a better purpose than many of the rented buildings in which schools are often housed. Such structures should be built, wherever climatic and other conditions permit. If pucka buildings are absolutely necessary, an increasing reliance is needed on the improved techniques of construction such as the use of framed structures, cavity walls, pre-fabricated components, RCC frames for doors and Windows and components evolved by the Central Building Research Institute and other research organizations.

9.40 Expeditious Construction. In order to expedite the construction of school buildings, the following steps are recommended:

(1) Rural Areas. In rural areas ,there are no local contractors available. Contractors from urban areas generally charge higher rates when they are required to work in villages. The departmental machinery is also not adequate to reach most of the outlying villages. For

the construction of village school buildings, therefore, we recommend that the agency of the local communities or village panchayats should be utilized to the fullest extent possible.

(2) Urban Areas. In urban areas, we recommend that the local agencies like municipalities and corporations should be utilized fully for construction of school buildings. They have the necessary technical staff and can also contribute towards the cost of such buildings. If the responsibility for providing buildings for local schools is placed on municipalities and if a suitable system of grant-in-aid is devised, the progress in this sector would be accelerated.

9.41 Supervision and Standardization of School Buildings. For construction of government school buildings, to assist the voluntary organizations for the purpose, to supervise the general programme of construction of school buildings in a State, and to continually introduce improved and economic techniques, we recommend the adoption of the following additional measures:

(1) Formation of Educational Building Development Groups. Each State should have an Educational Building Development Group, within the Public Works Department but working in close association with the Education Department, and consisting of an architect, an educationist, an administrator, a civil engineer and a cost accountant, all working on a full-time basis (with power to co-opt representatives of special technical skills). The main function of the group would be to improve the planning and construction of government school buildings but its advice should be available for private schools also. There should also be a Building Development Group working at the Centre, for effectively coordinating the working of State-level Groups.

The other functions of the Groups will be (a) to study building requirements in the light of new teaching techniques, (b) to develop in cooperation with manufacturers new building techniques and specifications, (c) to evolve functional and economic type plans for various types of educational buildings, (d) to arrive at a correct assessment of costs of materials and labour required, (e) to conduct field trials,. (f) to evaluate the plans, specifications and building techniques already in use, and (g) to study methods of maximizing the use of indigenous materials. The Group at the Centre could profitably bring out a highlighting the latest techniques of construction, and researches at home and abroad on conventional buildings.

The State Government should ensure that the recommendation of these Development Groups are followed.

When the Groups in the different States are well established, the possibility of making them function within a rigid frame work of 'maximum cost per place and minimum standards' as is being successfully done in the United Kingdom, should be explored.

(2) To avoid delays in the construction of government buildings a separate unit of PWD should be set up for execution of educational buildings programmes.

(3) Formation of Educational Building Consortia. After the Educational Building Development Groups have standardized the plans and the technique of construction, the possibility should be examined of establishing Education Building Consortia (on the lines of similar associations, popularly known as CLASP, in the UK) to exploit fully the advantages of industrialized buildings.

(4)Standardization. Layouts, dimensions, specifications and methods of construction for any particular region should be standardized by the Educational Buildings Development Group mentioned above so that mass production of the different components on a factory scale can be undertaken resulting in economy as well as speed of construction. Considerable work in the field of standardization has been done by organizations like the Indian Standards Institute which could serve as a basis for further studies.

(5) Buildings for Private Schools. The economy measures worked out by the Educational Building Development Group in each State for reducing the cost of educational buildings should be made known to the managements of private educational institutions in the State, and the grant-in-aid given to a private management for a building should be subject to the upper cost limits worked out.

SCHOOL HEALTH SERVICES

9.42 The provision of school health services (including school meals) is of great importance. The problem has recently been studied by the School Health Committee under the chairmanship of Shrimati Renuka Ray. We broadly agree with the recommendations of the Committee.

GUIDANCE AND COUNSELLING

9.43 Aim and Scope of Guidance Services. Guidance services have a much wider scope and function than merely that of assists in, students in making educational and vocational choices. The aims of guidance are both adjustive and developmental: it helps the student in making the best possible adjustment to the situations in the educational institution and in the home and at the same time facilitates the development of all aspects of Ms personality. Guidance, therefore, should be regarded as an integral part of education and not a special psychological or social service which is peripheral to educational purposes. It is meant for all students, not just for those who deviate from the norm in one direction or the other. It is also a continuous process aimed at assisting the individual to make decisions and adjustments from time to time.

9.44 Guidance in Primary Education. Guidance should begin from the lowest class of the primary school. It can be used in helping pupils to make a satisfactory transition from home to school; in diagnosing difficulties in the learning of basic educational skills; in identifying pupils in need of special education(e.g., the gifted, the backward, the physically handicapped); in helping potential drop- outs to stay in school; in guiding pupils to develop in sight into the world of work and favourable attitudes towards work; and in assisting in plans for their further education or training. Little has been done so far

in the shape of guidance services at the primary stage because of the large numbers of institutions involved, the poor qualifications of the teachers and the absence of resources. It would, therefore, be unrealistic for a long time to come to think of providing qualified counsellors in these schools. Some guidance functions can, however, be performed by well-trained primary school teachers. Community resources can also be mobilized to meet some of the guidance needs of the young pupils.

9.45 Suggestions for making a beginning in guidance in the primary school are outlined below:

(1) The training programme for primary school teachers should include familiarization with simple diagnostic testing, and with the problem of individual differences and their implications for classroom practices.

(2) There should be at least one lecturer in the training school who should be able to deal with the subject of principles of guidance and mental hygiene.

(3) Guidance services should be introduced in the training institutions and in schools attached to the institutions so that the trainees may get first-band knowledge of the problems involved in their organization.

(4) Wherever possible, short in-service courses in guidance should be provided for primary school teachers.

(5) Simple literature for the occupational orientation of children may be prepared and made available in the regional languages.

(6) At the end of the primary stage, children and parents should be helped in the selection of courses for further education, and the selection should not be based On the examination results alone.

9.46 Guidance in Secondary Education. One of the main functions of dance at the secondary level is to aid in the identification and development of the abilities and interests of adolescent pupils. It helps these pupils to understand their own strength and limitations and to do scholastic work at the level of their ability; to gain information about educational and vocational opportunities and requirements; to make realistic educational and vocational choices and plans based on a consideration of all relevant factors; and to find solutions to their problems of personal and social adjustment in the school and the home. Guidance services also help headmasters and teachers to understand their students as individuals and to create situations in which the students can learn more effectively.

9.47 Following the recommendations of the Secondary Education Commission, the Ministry of Education set up a Central Bureau of Educational and Vocational Guidance in 1954 to give technical advice and help to the nascent guidance movement in the field of secondary education. Guidance became a Centrally sponsored scheme in the Third

Plan and 13 Bureaus have now been set up for the development of guidance services in the States. These Central and State-level organizations have developed a modest programme of guidance, and services are rendered to the pupils in the schools by trained counsellors and career masters with the help of the teachers. By the end of the third plan, the number of schools offering some kind of guidance was about 3,000, which constituted only about 13 per cent of the total number of secondary schools in the country. Again the majority of these 3,000 schools have only a career master on the staff and offer only an information service. Very few institutions have a full-time or part-time counsellor for giving effective guidance help, including testing and counselling.

9.48 It is thus clear that although there is an organized movement for providing guidance services in the country the progress made has been very slow. The ultimate objective should of course be to introduce adequate guidance services in all secondary schools, with a trained counsellor in charge of the programme. Since, however, neither financial allocations nor training facilities for guidance will be available on such a large scale, it is necessary that a short- range programme should be adopted for the next 20 years. We, therefore, make the following recommendations:

(1) A minimum guidance service should be made available to all secondary schools by having one Visiting School Counsellor for every ten schools located within a reasonable distance of one another, and by allocating the simpler guidance functions to the teachers.

(2) At the same time, in order to demonstrate what a really comprehensive guidance service is like and what it can achieve, it would be desirable to set up Comprehensive guidance services in a few carefully selected schools, preferably one in each district.

(3) The necessary supervisory staff to inspect and offer consultation to the school workers should be appointed in the State Bureaux of Guidance.

9.49 We believe it is necessary that all secondary school teachers should be given some understanding of guidance concepts and simple guidance techniques as a part of the programme intended for every trainee. Special or advanced courses should be provided for those who wish to study the subject in depth. Every training college should have on its staff a person having at least the training considered essential for school counsellors. Provision should also exist for the in-service training of the training college staff in guidance and counselling.

9.50 Adequate arrangements should be made for the professional training of guidance workers. The training of career masters may be undertaken by the State Bureaux as well as the training colleges with the collaboration of the vocational guidance officers of the National Employment Service. Professional courses of longer duration should be offered by the universities. Until such courses are started, it may be necessary for the older State Bureaux which have been offering this programme to continue to do so. As the number of persons capable of conducting training programmes for guidance workers is extremely limited, higher level training programmes in guidance to prepare qua- lified guidance workers to undertake training and research should be initiated at the national level.

9.51 Other General Proposals. (1) Programmes for the development of guidance literature, occupational information materials, films and filmstrips, and psychological tests, need to be accelerated, care being given to avoid duplication of effort through increased communication among agencies working in these fields. Coordination of efforts should characterize all guidance programmes.

(2) Schools should be assisted in providing hobbies and recreational activities as well as part-time employment opportunities for their students. These should be organized in such a mariner as to provide meaningful experiences for the students, and enable them to explore and develop their interests and abilities.

(3) In addition to the training and extension programmes in guidance mentioned earlier, emphasis should be laid on research pertaining to guidance in the Indian situation.

SEARCH FOR AND DEVELOPMENT OF TALENT

9.52 Significance. A dearth of competent and trained manpower is now felt in nearly every branch of national life, and is probably one of the biggest bottlenecks to progress. Poor as we are financially, the poverty of trained intellect is still greater. We might do well to remember Whitehead's warning: 'In the modern world the rule is absolute-any race which does not value trained intelligence is doomed.'

9.53 Present Position. Native intelligence is generally distributed equitably throughout the population. If it is duly discovered and developed, our large population can be oar most valuable asset. Unfortunately, very little of the available talent is now discovered and developed, due to several adverse factors:

-In a large majority of the homes, the environment is, deprivatory on account of the illiteracy of the parents and poverty, and does not allow the available native talent to develop itself fully.

-A good deal of potential talent never enters school. At the primary stage, the proportion of children not enrolled varies from 10 to 60 per cent in different areas. Even among those who enter, about 40 per cent are eliminated in class I itself and only about 25 per cent belonging to about the top 20 per cent of families in the society, complete primary education. Secondary education is largely a privilege of the top 10 per cent of the families and higher education of the 5 per Cent.

-Even the talent that enters school and succeeds in climbing the educational ladder does not flower fully because it is not discovered sufficiently early and is often studying in poor schools. For obtaining the best results in quality, talent has to be located early and allowed to grow in the best atmosphere and under the best teachers.

-We still try to determine talent by considering total marks obtained in an examinations. This is a very ineffective method. The highly gifted students are far to creative to be confined within the perimeters an examination. This is a very ineffective method. The

highly of classroom instruction, textbooks and examinations. The genius in one field is generally poor in several others and, in our examination system, a genius is more likely to fail or put up only a mediocre 'total' of marks than to come out at the top: Ramanujam and Tagore could not even pass the routine examinations where mediocrities shone. We should, therefore, search separately for each especial talent, whether in mathematics, science, literature, fine arts, sports or technology.

It is not an easy thing to identify gifted students, except perhaps in mathematics and, to some extent, in science. Sustained and energetic research is needed. But as talent is the most valuable asset a country can have, the returns will be immense. Moreover, the search for talent must be a continuous process and has to be taken up at all stages. The secondary stage, however, is the most crucial; and a reference has already been made to the manner in which universities can help in the identification of gifted students at this stage and help them to develop.[99]

9.54 Recommendations. Elsewhere, we have made several proposals which will assist in this programme for the discovery and development of talent. The provision of five years of good and effective primary education to every child will enable the country to cast its net for talent to the widest extent possible[100] The large programme of scholarships proposed at all stages will ensure that all gifted students, or at least the top 5 to 15 per cent of the relevant age- group, will be enabled to receive the highest education possible.[101] The placement programme which we suggest will also male it possible for them to study in the best institutions available at each stage.

9.55 In addition to these programmes, it is also necessary to introduce enrichment programmes for the brighter students in as many schools as possible and ultimately in every school. The performance of talented students in the enrichment programmes should be recorded in special certificates which will indicate to the colleges or other institutions of higher education their special abilities and attainments. Care should be taken to ensure that the enrichment programmes do not degenerate into coaching for passing examinations with higher marks. The flexibility in the school curriculum that we have proposed in the preceding chapter would enable the schools to provide enriched or advanced courses for the talented and help them to progress at their own speed. This will also release time for teachers to help the average and backward Students.

9.56 A variety of extra-mural programmes can also be organized for the talented students, either separately by each school or by schools acting in cooperation or by the Education Departments. For instance:

[99]Chapter II.

[100]Chapter VII

[101]Chapter VI.

(1) A five to six-week summer vacation programme can be arranged for a group of academically talented children from different schools, brought together to an educational Centre having special facilities of staff, library, laboratory and equipment. The programme may be renewed for the particular group from year to year, so that the students get an opportunity to develop their special talent over a number of years.

(2) Well-planned visits may be arranged to laboratories, museums and other places.

(3) Talented students may be brought into contact with persons engaged in the types of work for which the students show special ability or interest. These persons may be able to provide occasional opportunities for the students to work in their special fields.

(4) Hostels or Day Centres may be made available for those students whose home environment is not conducive to proper study.

In planning for the development of the talented student, it should be remembered that it is not only his intellectual competence or special ability that needs to be developed. The development of the emotional and social aspects of his personality, and of socially desirable attitudes, is also very important.

9.57 The Role of the Counsellor. The role of the counsellor in the pro motion of talent can be very important. The counsellor with his detailed knowledge of each talented student is in a unique position to formulate a programme of enrichment for him and to suggest the necessary modifications in the curricular and extra-curricular requirements. Where special counsellors are not available, this task will fall oil the teachers. it Will, therefore, be necessary to train teachers for this resPonsibility through in-service seminars and special courses. It should be impressed on them that the classroom atmosphere and the attitudes of teachers is of considerable importance. In a social and educational set-up like ours where the relationship between the teacher and the taught is still largely authoritarian, the general tendency is to suppress any urges and interests that deviate from the class norm. The first requirement for the promotion of talent, therefore, is for the teachers to create an atmosphere of free expression in the classroom and to provide opportunities for creative work.

EDUCATION OF THE BACKWARD CHILD

9.58 With the rapid expansion of educational facilities, the number of backward children in schools is also increasing. Many of them drop out of schools at one stage or another, either because of their inability to satisfy the academic standards or the boredom and frustration they feel in the pursuit of an academic programme which is largely unrelated to their needs and interests. Though quite a few of these children manage to enter high school or even college, their performance continues to be very poor.

9.59 Kinds of Backwardness. Backwardness is largely due to one of two reasons which sometimes overlap: (1) mental handicap or low intelligence, arising from hereditary or congenital factors or disease or injury; (2) underachievement or inability to perform up to

the level of one's intelligence, especially in persons intellectually well endowed, frequently due to emotional conflict, lack of motivation, poor study habits, cultural deprivation and economic handicaps. on the basis of studies made in educationally advanced countries, it is estimated that seventy-five per cent of the backward children belong to the first category, usually referred to as the mentally handicapped, and the remaining twenty-five per cent belong to the second category, usually designated as the under-achievers. In our case, the latter category would be obviously much greater. Both these categories of pupils, for different reasons, are unable to profit from normal education. The result is a wastage of educational facilities and of human resources, neither of which a developing country can afford.

9.60. Meeting the Needs of Slow Learners. The mentally handicapped are generally classified into four groups: the idiots; the imbeciles; the educable mentally handicapped morons; and the dull or slow-learners. The first three groups of backward children, who have an intelligence quotient below 75, cannot benefit from formal education in ordinary classes. Suitable provision should, however, be made for the education of the dull, who on account of their slower rate of mental development, cannot learn at the ordinary pace of normal children. In the ordinary classes, where instruction is traditionally geared to the needs of the average child, the dull have to work under a great hardship. They need individual attention, special remedial help and probably also a modified curriculum to suit their rate of learning. In big cities, it may be possible to establish special schools for them as has been done in some educationally advanced countries, but in most cases, special classes in the ordinary schools and individual tuition to the extent possible are the only general remedy. Such a treatment is likely to be better for their proper emotional and social development also.

9.61. Problem of the Under-achievers. The group of underachievers consists of children who are not intellectually dull, but are at least of average and may even be of superior ability. The failure of such children should be of great concern to a developing country like ours, which cannot remain indifferent to this loss of potential manpower within the higher ability range. Several factors-physical, intellectual, emotional and environmental-contribute to the failure of the under-achiever to come up to the level of his latent abilities. The first step is to diagnose the causes of this failure by observation, interrogation and the application of psychological tests, if possible. Such a collation of data will make it possible to have a total appraisal of the situation and indicate lines of remedial treatment.

9.62 Once the child's errors and difficulties are located, a remedial programme should be formulated and carried out. The remedial programme should aim at correcting the basic errors, raising his attainment level in the subject or subjects, re-establishing his confidence in himself and in his ability to succeed, and creating for him new interest and motivation in his studies. The remedial measures should involve the student himself as much as possible and should be organised individually or in small groups. The assessment of the student's progress should be made not against any external standards but with reference to his own previous performance. Remedial programmes are

particularly needed in reading, spelling and number work in the earlier stages, and in language and computational skills in the, later stages.

9.63 Since these educationally retarded children are not under- achieving because of innate low mental capacity, their needs can be met by remedial arrangements within the school system. What the student requires is help for a limited period and within a limited area of study. This may be done by assigning the responsibility to one or two interested teachers during specific periods in the week. Where child guidance clinics exist-and this is a very limited facility at present-the help of highly trained personnel will be available for a group of schools at regular intervals. Remedial groups could also be set up after school hours, two or three days in the week, with subject specialists in charge of each group.

9.64 Guidance and counselling services have an important role to play in the education of the backward, especially with regard to identification of the group, diagnosis of their special defects and planning for their education and future occupation. But these services have not been developed and the programme has to be carried on with whatever help and guidance can be given by teachers in the school. The essential factor for the success of the programme is the coordinated approach that the entire school faculty should make to the problem of these children with a degree of sympathy and understanding and with an insight into child psychology born out of long experience. The teacher should ordinarily be able to give some help to the under- achievers. Parent-teacher associations should be mobilized for enlisting the cooperation of parents in dealing with special cases. It is necessary, however, that there should be at least one child guidance clinic in each major town, and it should be adequately staffed. Serious cases of backwardness should be referred to these clinics for diagnosis and remedial help.

THE NEW PROGRAMME OF EVALUATION

9.65 The evils of the examination system in India are well known to everybody. The baneful effects of the system on education in general, and secondary education in particular, have been discussed in the reports of several committees and commissions. The Secondary Education Commission, after reviewing these defects at the secondary education stage, recommended a new approach to school evaluation and made a number of concrete proposals for the improvement of the external examination and the methods of internal assessment. As a result of these proposals, a movement was started for examination reform, which gathered momentum with the establishment of the Central Examination Unit of trained evaluation officers by the Government of India in 1958. The outstanding feature of the new reform movement is the emphasis laid on the modern concept of evaluation which has found increasing acceptance in educational circles in India in recent years.

9.66 The New Concept of Evaluation. It is now agreed that evaluation is a continuous process, forms an integral part of the total system of education, and is intimately related to educational objectives. It exercises a great influence on the pupil's study habits and the teacher's methods of instruction and thus helps not only to measure educational

achievement but also to improve it. The techniques of evaluation are means of collecting evidence about the student's development in desirable directions. These techniques should, therefore, be valid, reliable, objective and practicable. As the common method (and often the only method) of evaluation used at present in India is the written examination, a natural corollary of the acceptance of the new approach will be to improve the written examination in such a way that it becomes a valid and reliable measure of educational achievement. There are, however, several important aspects of the student's growth that cannot be measured by written examinations, and other methods such as observation techniques, oral tests and practical examinations, have to be devised for collecting evidence for the purpose. These methods need to be improved and made reliable instruments for assessing the student's performance and educational development.

9.67 Progress of the Movement for Reform. During the seven years of its existence the Central Examination Unit has made a multipronged attack for the popularization of new concept and techniques of evaluation. It has worked with thousands of secondary school teachers in seminars and workshops, introduced hundreds of training college lecturers to the new techniques, established a very large pool of test items, trained paper-setters attached to different Boards of Secondary Education, published a good deal of literature on evaluation and carried out or sponsored several studies and investigations on various practical problems in examinations. As the work of the Unit expanded, the Government of India approved of the establishment of Evaluation Units in different States during the Third Plan period. So far, State Evaluation Units have started functioning in 12 States and one Union Territory.

9.68 But the task is a stupendous one, and it will take considerable time for the new measures to make their impact on objectives, learning experiences and evaluation procedures in school education. The improvements already made in the external examination by the different Boards have not removed all its major defects. The objectives have not yet been enlarged to include the testing of application and problem-solving abilities. The character of the school examinations, at least in the senior classes, is determined largely by that of the external examination, and the new techniques of evaluation are not readily adopted in these internal examinations. Moreover, all the efforts in the direction of reform have been confined to the field of secondary education. No attention has been paid to the improvement of examinations at the primary stage, and hardly any to the problems in this area at the university stage.

9.69 Evaluation at the Lower Primary Stage. One of the main purposes of evaluation at the primary stage is to help the pupils to improve their achievement in the basic skills and to develop the right habits and attitudes with reference to the objectives of primary education. These objectives and their implications for evaluation should be made clear to the teachers. As has been suggested in an earlier chapter, it would be desirable to treat the lower primary stage covering classes I to IV as an ungraded unit, because this would help the children coining from different backgrounds to advance at their own pace. As the conditions in most Primary schools, however, are not favourable to the general adoption of this procedure, we have recommended that the experiment should be tried out in the

beginning in classes I and II, which should be regarded as a single ungraded unit. This will put an end to the existing practice of detentions in class I and the drop-outs and wastage resulting therefrom, and will also provide for continuity and flexibility in the educational programme of the first two classes. The two-year block may be divided into two groups, one for slow- learners and the other for fast-learners to enable different pupils to proceed at the level of their ability and move from one unit to another. Such a division, however, will be practicable only in a large-size school with more than one section in each class. If the experiment regarding the ungraded unit succeeds in classes I and II, it may be extended to the remaining classes of the lower primary stage.

9.70 Teachers should be prepared for the ungraded system through the regular training courses and orientation programmes and should be helped with a supply of diagnostic tests and remedial material. The orientation may be given by the State Institutes of Education. Observation techniques, which are more reliable for assessing the pupil's growth at this stage than mere formal techniques, of evaluation, should be used by teachers in a planned and systematic manner.

9.71 Evaluation at the Higher Primary Stage. At present evaluation in these classes is carried out largely by means of writ ten examinations. We believe that due importance should be given here also to oral tests, which should form a part of the internal assessment. The teacher should be helped in such assessment with a rich supply of evaluation materials prepared by the State Evaluation Organizations, including standardized achievement tests. [102] Diagnostic testing is necessary here and indeed throughout the school stage. In most cases, such testing will be through simple teacher-made diagnostic tests. Cumulative record cards play a vital role in indicating the growth and development of the pupil at each stage, Ms academic and emotional problems, and his difficulties of adjustment, if any, and the directions in which remedial action is to be taken to solve his problems or difficulties. We are of the opinion that Cumulative record cards intended for the primary classes should be very simple, so that primary teachers can use them with just a little training. In the first instance, the cards should be introduced from class IV onwards in about 10 per cent of selected schools as an experimental measure; but once the majority of teachers are trained in evaluating certain important aspects of the child's personality and the proper maintenance of the records, the use of the cards maybe gradually extended to all the higher primary and, as a next step, even to lower primary schools.

9.72 Is a Primary External Examination Necessary ? An external examination at the end of the primary stage (class VII or VIII) to be taken compulsorily by all pupils was strongly recommended by some witnesses who appeared before the Commission. We were informed that some of the States which had abolished the external examination at the end of this stage had either re-introduced it or proposed re-introducing it in the near future. It was pointed Cut that all external examination was necessary for (1)

[102]This programme is discussed in Chapter X.

maintaining certain uniform standards at the end of the stage; (2) providing a basis for choice of courses at the secondary stage; and (3) creating incentives for better teaching and learning. But all these arguments do not establish a case for an external examination of the formal type to be compulsorily taken by all the pupils in class VII or VIII. Though we have recommended elsewhere that the first national standard of attainment should be defined at the end of the primary stage, we do not think it necessary or desirable to prescribe a rigidly uniform level of attainment for all the primary school pupils in a State or even in a district, through an external examination. Moreover, instead of creating incentives for better teaching, the external examination intended for all will saddle teachers with standardized programmes and encourage the process of rote memorization, which is the be setting evil of teaching and learning methods in our schools today. Again since full- time education at the lower secondary stage will provide, by and large, general education without any streaming, the argument regarding the choice does not hold good; and for the diversion of pupils to full-time vocational courses to be made available at the stage, an examination which will merely test intellectual ability and academic attainment will not be of much help. We, therefore, recommend that no compulsory external examination should be held at the end of the primary school stage.

9.73 While we are not in favour of a compulsory external examination, we believe that for the proper maintenance of standards, periodic surveys of the level of achievement of primary schools is necessary. We recommend that such surveys should be conducted by the district educational authorities to assess the standard of performance of the schools in a given area by means of standardized or highly refined tests prepared by specialists in the State Evaluation Organizations. This procedure will enable the education officers to pick out the weaker schools and help them to improve their performance. It will also assist the schools in finding out the weakness of their pupils for purposes of remedial work.

9.74 A Common Internal Examination for Inter-School Comparability. By making use of the standardized or refined test material referred to above, the district educational authorities may, if they so desire, arrange for a common examination to be taken by the pupils of all the schools in a district at the end of the primary stage. This common school leaving examination will be different from the school certificate examination now held in many States, because though the question papers will be set by the district educational authorities or by special paper-setters appointed by the State Evaluation Organization, the performance of the pupils of each participating school will be assessed by the teachers of the school themselves, and not by any external examiners. The advantages of such a common final examination for the primary schools are obvious. As the question papers will contain standardized tests and highly refined and professional test items, the evaluation will be more valid and reliable than what is possible through the kind of annual and final examinations conducted in the ordinary primary school. Moreover, through such common tests inter-school comparability with regard to levels of performance in the district can be obtained, and this would be helpful, as shown above, both to the education officers and to the schools. We would like to emphasize that the question papers in the different subjects at this common examination should be of short

duration, each of not more than one hour or one hour and a half, so that the entire examination should be completed in two or three days.

9.75 The whole purpose of the proposal is to reform the existing examination by making it less formal, reducing its burden on the pupils' minds, and increasing its validity as a measure of educational attainment. The school at the primary stage plays the determining role in the total assessment of such attainment. The certificate regarding the completion of the course should be given by the school and not by the external agency, and this certificate should be accompanied by a statement showing the results of the common final examination, if any, together with the results of the internal assessment made by the school of the pupils' performance throughout the year, as shown in his cumulative records.

9.76 In addition to the common examination, special tests may be held at the end of the primary course for the award of scholarships or certificates of merit or for the purpose of identifying talent and pupils may appear for these tests on a voluntary basis. The evaluation of the pupil's performance in these tests will be done by external examiners.

9.77 Improvement in External Examination. At present the external examination in the case of the higher secondary class or the intermediate classes located in the school, the external examination is held by the State Board of Secondary (or Higher Secondary) Education and in the case of pre-university class, by the university concerned. We have recommended that the pre-university classes now located in affiliated colleges should be transferred to schools as higher secondary classes in a phased programme spread over ten years, and that the duration of the higher secondary course should be extended to two years everywhere by 1986.[103] When these classes are located exclusively in the schools, the Board of School Education will conduct the external examination at the end of class XI (or class XII) as well as that at the end of class X. In the transitional period the present dual control will continue. What we state below applies to all external examinations at the school stage, whether they are at present conducted by the Boards or by the universities.

(1) Most of the weaknesses in the present system of external examinations are due to defects in the questions and the question papers set for the examination. The paper-setters are, by and large, appointed on the basis of seniority, subject competence, and experience in teaching. Very few of them possess the necessary knowledge and skill in the construction of valid and reliable tests. We are of the opinion that no major break-through towards the improvement of external examinations is possible unless (a) the technical competence of paper-setters is raised through an intensive training programme sponsored by the State Boards; (b) the question papers are oriented to testing not merely the acquisition of knowledge but the ability to apply knowledge and the development of problem- solving abilities; and (c) the nature of the questions asked is improved.

[103]Chapter II.

(2) Apart from the improvement of questions and question papers, many other procedures of the external examinations need to be made more systematic and scientific. For example, the marks of different subjects are added without being standardized. The determination of cut-off points, the award of grace marks and other similar methods are also not based on any sound rational. All these factors tend to make the examination scores less and less reliable. It is essential that scientific scoring procedures should be devised so that there may be optimum reliability in the assessment of the candidate's performance.

(3) With the ever-increasing number of students appearing for the Board examinations, the task of getting the answer scripts properly valued and of processing the results efficiently within a given time is becoming more and more difficult. It is necessary that this process should be mechanized so as to make it more accurate and expeditious.

9.78 Large Incidence of Failures. The matter about which the public at large is most deeply concerned is not the irrationality of the scoring procedures or the inefficiency of the administrative processes, but the large incidence of failures in the external examination at the end of the school stage. An analysis of the results of the different Board examinations for the last five years show that about 55 per cent of the candidates appearing for the high school examination and about 40 per cent of those appearing for the higher secondary school examination fail regularly every year. In the case of the private candidates the percentage soars up to 70 or even more. Failure often has a demoralizing effect on the unsuccessful candidate. The failure of such large numbers of students, particularly after they have been screened year after year by means of annual and other school examinations, is a sad reflection on our methods of education as well as on our system of examination.

9.79 There is no doubt that if the measures suggested above for the reform of the external examination are properly implemented, the situation will gradually change in the years to come. We also believe, that with the proposed improvement in the curriculum, instructional materials and methods of teaching and the reorientation in the training of teachers, the incidence of examination failures will be reduced. But we do not think that a student should be branded as a total failure, if he passes in certain subjects but is unable to make the grade in others. There is no reason why he should carry with him the stigma of being declared an unsuccessful candidate if he has partially succeeded in his educational effort.

9.80 Certificates Given by the Board and the School. We recommend that the certificate issued by the Board on the basis of the results of the external examination at the end of the lower or higher secondary stage, should give the candidate's performance only in those subjects in which he has passed, but there should be no remark to the effect that he has passed or failed in the whole examination. The Board, however, should issue a statement along with the certificate showing his marks or grades in all the subjects. We further recommend that the candidate should be permitted to appear again, if he so desires, for the entire examination or for separate subjects in order to improve his performance.

9.81 On the completion of the course, at the end of the lower or higher secondary stage, the student should receive a certificate from the school also giving the record of his internal assessment as contained in his cumulative record card. This certificate may be attached to that given by the Board in connection with the external examination. We are however of the opinion that the external examination need not be compulsory for all the students of class X or class XI/XII A student may choose to leave the school with the school certificate only without appearing for the external examination, and seek a job or even an entry into some vocational course on the basis of the certificate and the school records. It must be recognized, however, that since admission to institutions of higher secondary education as well as of higher education will be selective, the authorities controlling such institutions will lay down their own rules of eligibility for admission. A student seeking entry into these institutions may have not only to pass the external examination in the subjects laid down and secure the prescribed grades but also submit himself if necessary to certain admission tests required by the institutions.

9.82 Establishment of Experimental Schools. We have suggested certain measures above for reducing the domination which the external examination exercises over school education. In order to lessen its importance stiff further, we recommend that a few selected schools should be given the right of assessing their students themselves and holding their own final examination at the end of class X, which will be regarded as equivalent to the external examination of the State Board of School Education. The State Board will issue the certificates to the successful candidates of these schools on the recommendation of the schools. A committee set up by the State Board of School Education should develop carefully worked-out criteria for the selection of such schools. The schools should not only be freed from the requirements of an external examination but should be permitted to frame their own curricula, prescribe their own textbooks, and conduct their educational activities without departmental restrictions.

9.83 This is a bold step in the direction of freedom and of educational experimentation. But the right given to the experimental schools should be reviewed periodically as institutions invested with such powers should continuously earn their privilege. We hope, however, that after the experiment is tried out successfully in a few schools, more and more schools will be released from the restrictive influence of the external examination and given the freedom to work out their own ideas in education.

9.84 Methods of Internal Assessment. We shall now pass on to the question of internal assessment to which a reference was made earlier in this section. This internal assessment or evaluation conducted by individual schools is of great significance and should be given increasing importance. It should be comprehensive, evaluating all those aspects of the student's growth that are measured by the external examination and also those personality traits, interests and attitudes which cannot be assessed by it. Internal assessment should be built into the total educational programme of the school and should be used for improvement rather than for certifying the level of achievement of the student. it must be pointed out that all items of internal assessment need not follow qualified scoring procedures. Some of them may be assessed in descriptive terms. The

results should be kept separately and not be combined artificially with other results to form aggregate scores.

9.85 The written examinations conducted in schools should be improved on the same lines as the external examination. The use of standardized achievement tests, wherever available, is strongly recommended. There is need for developing other types of evaluation tools for improving internal assessment such as interest inventories, aptitude tests and rating scales. They should be prepared by specialists and made available to schools, and the teachers should be trained to use them through a network of in-service programmes. Teachers should also be trained to make simple tests of their own on the models supplied and use them for the assessment of the performance of their Pupils.

9.86 We are aware that the experience of introducing internal assessment has not been very happy so far and that there has been persistent over-assessment by the weaker schools. This has led some critics to suggest that the system should be abandoned altogether. We cannot agree with this view. Internal assessment has to continue and its importance will have to be increasingly emphasized. To overcome the shortcomings discovered, we make the following recommendations:

(1) The results of the internal assessment and external examination should not be combined because the purposes and techniques of the two evaluations are different and because the results of the internal assessment of the different institutions are not strictly comparable. The results of the external and internal assessment should, therefore, be shown separately in the certificate(s) given at the end of the course.

(2) It should be an important point in the inspections of schools to review the internal assessment made and to examine the correlation between the internal and external assessments. Persistence in over-assessment should be regarded as a weakness in the school programmes. It should be taken due note of while classifying the schools and should also be related to grants-in-aid so that institutions which tend to over- assess their students persistently would stand to lose in status and finance. The grant-in-aid rules should also authorize the Education Department to withdraw recognition for persistent irresponsible assessment.

9.87 Higher Secondary Examination during Transition. We have recommended above that the first external examination should be held at the end of class X or the first stage of school education, and the second examination should come after class XII which will be the end of the higher secondary stage. At present, the higher secondary stage in all the States except Uttar Pradesh and Kerala ends with class XI after which there is the higher secondary school examination. This will continue to be the position till the duration of the course is extended to two years. During the transitional period, therefore, most students in the higher secondary school will have to appear for two successive external examinations, at the end of class X and class XI, within the period of a year. This is undesirable but cannot be avoided, particularly where the course of class IX, X and XI is not integrated. When the P.U.C. class gets transferred from the affiliated colleges to the high schools, the course will be a non- integrated one.

9.88 As a number of existing higher secondary schools with inte- grated courses are already in existence in some of the States, we do not insist that this integration should be broken up and the students of the schools should be made to appear for two public examinations within a year. There may be only one public examination for such students- the higher secondary school examination at the end of class XI. However, we would like to invite attention in this connection to the procedure that is followed in some areas, where the higher secondary school examination is staggered over a period of two years, the core subjects being offered for examination at the end of class X and the electives at the end of class XI. This procedure may be adopted with suitable modifications in other places. It must be remembered that the problem is a temporary one and will disappear when schools are organized on the 10 plus 2 pattern.

9.89 The comprehensive programme of evaluation that we have described in the preceding paragraphs requires for its implementation a well-organized machinery both at the State and the Central levels. The Secondary Boards of School Education that now conduct external examinations at the secondary stage will be converted into State Boards of School Education with enhanced powers and functions. At the Centre, there will be a National Board of School Education that will be responsible for evaluation programmes at the national level. The composition, the powers and the functions of these Boards will be considered in the next chapter.

SUMMARY

1 Teaching Methods: Discovery and Diffusion. The continual deepening of the curricula should be accompanied by an equally vigorous improvement in the method of teaching and evaluation. The main factors responsible for the dull and uninspiring school teaching today are the rigidity of the educational system and the failure of the administrative machinery to diffuse new educational practices to schools. These weaknesses should be overcome. 9.02-03

(1) Elasticity and Dynamism. A good educational system should be dynamic, flexible and discriminating enough to help institutions and teachers to proceed along different levels of development-thc good schools be free to go ahead on creative and experimental lines while the weaker ones should be supported to gain a sense of security.

(2) Such elasticity and dynamism are possible if the experimenting teacher is supported by the administrative authority, a general atmosphere of reform, the encouragement of the head of the institution, a mastery of subject-matter, leadership provided by training institutions, and the availability of teaching materials.

(3) Elasticity in a school system will have little value if new practices developed are not diffused to schools and teachers given skilled help in trying out innovations. The educational administration can encourage and hasten the diffusion of new teaching methods by:

- combining permissiveness with persuasion;

- approaching the new methods in stages according to the ability of schools;

- giving necessary in-service training to teachers;

- providing adequate guide materials which should be constantly revised and improved.

At the same time the administrator has to guard himself against letting any 4 progressive) measure settling down into another orthodoxy. 9.04-12

2 Textbooks, Teachers' Guides and Materials. (1) Provision of quality textbooks and other teaching-learning materials is a key programme for raisin, standards at comparatively low cost.

(2) A comprehensive programme of textbook production at the national level should be implemented by mobilizing the best talent in the country on the lines already being attempted by NCERT. Such books will facilitate the definition and practical indication of expected standards. They will also help in national integration.

(3) The Ministry of Education should take steps to establish in the public sector an autonomous organization, functioning on commercial lines for the production of

textbooks at the national level, especially scientific and technical books. A small committee may be set up to work out the details of the project.

(4) The effort at the national level should be supported and augmented by each State setting up an expert section for the production of textbooks.

(5) The preparation, try-out and evaluation of textbooks should be the responsibility of the State Education Departments. The production aspect of the textbooks may preferably be done by the State Education Departments, wherever possible, through their own textbook presses. The sale and distribution of textbooks are better left to the student cooperatives and not be assumed directly by the Departments.

(6) The production of textbooks and teaching aids at the State level should preferably be entrusted to an autonomous agency functioning in close liaison with the Education Department.

(7) The machinery set up should be such that the textbooks are subjected to continuous revision and improvement

(8) At least 3 or 4 books should be provided in each subject to provide a multiple choice of books for the schools.

(9) Liberal policies should be adopted for remunerating authors.

(10) The entire organization of State production of textbooks should be run on a no-profit-no-loss basis.

(11) Manuscripts should be invited from a variety of sources including teachers, and a high-level committee of professional persons should select and approve manuscripts.

(12) Teachers' guides and other instructional material should supplement textbooks.

(13) Lists of minimum teaching aids and equipment needed by each category of schools should be prepared and steps taken to provide the equipment to every school on a high priority basis.

(14) Education Departments should work with the All-India Radio for the use of radio lessons, supplemented by printed guide materials for teachers and pupils. Broadcasting of special radio talks specially designed for teachers in the mornings and evenings will help teachers in lesson preparation. Sophisticated forms of newer techniques would not be suitable at present in the general run of schools but may be tried out experimentally in teacher-training institutions.

(15) Teachers should be helped and trained to rely on inexpensive and locally available or improvised teaching aids. Costly equipment should be shared by schools in a neighbourhood. 9.1.3-25

3 Class Size. (1) Classes of somewhat larger size than what is strictly considered as desirable cannot be avoided in our country for a long time. However, it is necessary to restrict the number of pupils admitted to each class to a maximum of 50 in the lower primary, 45 in the higher primary and lower secondary, and 40 in higher secondary classes. 9.26-31

(2) Multiple-class Teaching. Research should be undertaken in the problems and techniques of multiple-class teaching. Training institutions should orient teachers to these techniques. 9.32

4 School Buildings. (1) In view of the present unsatisfactory position regarding school buildings, it is necessary to take steps to clear the backlog of unconstructed school buildings as well as to provide additional buildings for new enrolment. 9.33

(2) Allocations for construction of school buildings should be increased in the Central and State budgets, and community resources mobilized on the basis of equalization. Loans and grants-in-aid should be given on a liberal basis to private schools for The construction of buildings. 9.34

(3) Reduction of Costs. The norms and guidance already available for spacing and planning of school buildings should be put into practice. (4) In view of the shortage of traditional building material and the cost involved, well-designed and constructed kacha structures should be accepted as part of the school system. 9.35

(5) Buildings in Rural Areas. In rural areas, efforts should be made to encourage local initiative and contribution in putting up school buildings. The 'nucleus' approach suggested by the Ministry of Education is recommended for general adoption. 9.37

(6) Buildings in Urban Areas. Economy in these buildings should be effected by using locally available materials, omission of certain finishes, and acceptance of a lower standard of construction. Temporary structures may be used, wherever possible, and improved techniques of construction may be adopted in putting up pucka buildings. 9.39

(7) Expeditious Construction. In order to accelerate provision of school buildings, construction in rural areas may be entrusted to local communities or village panchayats, and in urban areas, municipalities and corporations may be utilized for the purpose.

(8) In order to supervise and guide the programme of construction of school buildings and introduce improved techniques, an Educational Building Development Group should be set up in each State within the Public Works Department and working in close association with the Education Department. These groups will standardize details of construction in the region so as to make possible the mass production of the components on a factory scale. A similar Building Development Group should be set up at the Centre to coordinate the work of the State groups.

(9) To avoid delays in the construction of government buildings, a separate unit of the PWD should be set up for the execution of education building programmes. At a later stage an Education Building Consortia may be set up to exploit the advantages of industrialized buildings.

(10) The economy measures worked out by the Educational Building Development Group should be made known to private institutions and grants-in-aid given on the basis of upper cost limits. 9.40

5 Guidance and Counselling. Guidance and counselling should be regarded as an integral part of education, meant for all students and aimed at assisting the individual to make decisions and adjustments from time to time. 9.43

(1) Guidance at the Primary Stage. Guidance should begin from the lowest class in the primary school and in view of the large numbers of schools involved, the programme may be introduced through simple measures such as (a) familiarising teachers under training with diagnostic testing and the problem of individual differences; (b) organizing in-service courses for primary teachers; (c) producing occupational literature; and (d) helping pupils and parents in choice of further education. 9.44-45

(2) Guidance at the Secondary Stage. Guidance at the secondary stage should, among other things, help in the identification and development of the abilities and interests of adolescent pupils. The ultimate objective should be to introduce adequate guidance services in all secondary schools with a trained counsellor in charge of the programme. But in view of the limited financial and personnel resources, a short-range programme should be adopted for the next 20 years consisting of

(a) a minimum guidance programme for all secondary schools through a visiting school counsellor for a group of ten schools, assisted by the school teachers in the simpler guidance functions;

(b) comprehensive guidance programme in selected schools, one in each district, to serve as models; and

(c) provision of necessary supervisory staff in the State Bureaux of Guidance.

(3) All secondary school teachers should be introduced to guidance concepts through pre- or in-service training. The training colleges should be suitably staffed for the purpose. 9.46-50

(4) General. Arrangements should be made for the professional training of guidance workers by the State Bureaux of Guidance and training colleges. Advanced training should be organized at the national level.

(5) Ancillary programmes should include the production of guidance literature and materials and research into problems of guidance in the Indian situation. 9.51

6 Search for and Development of Talent. (1) The search for talent must be a continuous process, pursued at all stages, but the secondary stage is the most crucial.

(2) In addition to programmes of enrichment and advanced curricula, a variety of extra-mural programmes should be organized for the talented such as summer schools, visits to places of educational interest and provision of hostels and day-centres for those whose home environment is not conducive to study.

(3) Teachers should be oriented to the special techniques of dealing with the talented children, especially to the need for providing an atmosphere for free expression and creative work. 9.52-57

7 The Backward Child. Neglect of backward children leads to wastage of educational facilities and human resources and it is necessary for a developing country to reduce this wastage to the minimum. In particular, attention has to be given to the under- achievers who represent a loss of potential manpower often of high ability. Steps should, therefore, be taken to diagnose the causes of underachievement and to formulate and implement remedial programmes within the school system, with the help of interested teachers and child guidance clinics, where available, and parent-teacher associations. 9.58-64

8 Evaluation. Evaluation is a continuous process, forms an integral part of the total system of education and is intimately related to educational objectives. It exercises a great influence on the pupil's study habits and the teacher's methods of instruction and thus helps not only to measure educational achievement but also to improve it.

(1) The new approach to evaluation will attempt to improve the written examination so that it becomes a valid and reliable measure of educational achievement and to devise techniques for measuring those important aspects of the student's growth that cannot be measured by written examinations. 9.65-68

(2) Evaluation at the Lower Primary Stage. Evaluation at this stage should help pupils to improve their achievement in the basic skills and development of right habits and attitudes.

(3) It would be desirable to treat classes I to IV as an ungraded unit to enable children to advance at their own pace. Where this is not feasible, classes I and II may be treated as one block divided into two groups-one for slow and the other for fast learners. Teachers should be appropriately trained for the ungraded system. 6.69-70

(4) Evaluation at the Higher Primary Stage. In addition to written examinations, weightage should be given at this stage to oral tests as a part of internal assessment. Diagnostic testing should be through simple teacher-made tests. Cumulative record cards are important in indicating pupils growth and development but should be very simple and should be introduced in a phased manner. 9.71

(5) External Examination at the End of the Primary Stage. Although the first national standard of attainment is to be set at the end of the primary stage, it is not considered necessary or desirable to prescribe a rigid and uniform level of attainment through a compulsory external examination. However, for the proper maintenance of standards, periodic surveys of the level of achievement of primary schools should be conducted by district school authorities through refined tests prepared by State Evaluation Organizations. 9.72-73

(6) A Common External Examination for Inter-School Comparability. The district educational authority may arrange for a common examination at the end of the primary stage for schools in the district, using standardized and refined tests. This examination will have greater validity and reliability than the school examination and will provide inter-school Comparability of levels of performance.

(7) The certificate at the end of the primary course should be given by the school and should be accompanied by the cumulative record card and the statement of results of the common examination, if any.

(8) In addition to the common examinations, special tests may be held at the end of the primary course for the award of scholarships or certificates of merit and for the purpose of identifying talent. 9.74-76

(9) Improvement in External Examinations. External examinations should be improved by raising the technical competence of paper- setters, orienting question papers to objectives other than to acquisition of knowledge, improving the nature of questions, adopting scientific scoring procedures, and mechanizing the scoring of scripts and the processing of results. 9.77-79

(10) Certificate given by the Board and School. The certificate issued by the State Board of School Education on the basis of the results of the external examination should give the candidate's performance in different subjects for which he has appeared and there should be no remark to the effect that he has passed or failed in the whole examination. The candidate should be permitted to appear again, if he so desires, for the entire examination or for separate subjects in order to improve his performance.

(11) The student should receive a certificate also from the school, giving the record of his internal assessment as contained in his cumulative record card and this should be attached to that given by the Board. 9.80-81

(12) Establishment of Experimental Schools. A few selected schools should be given the right of assessing their students themselves and holding their own final examination at the end of class X, which will be regarded as equivalent to the external examination of the State Board of School Education. The State Board of School Education will issue the certificates to the successful candidates of these schools on the recommendation of the schools. A committee set up by the State Board of School Education should develop carefully worked-out criteria for the selection of such schools. The schools should be

permitted to frame their own curricula, prescribe their own textbooks, and conduct their educational activities without external restrictions. 9.82-83

(13) Methods of Internal Assessment. Internal assessment by schools should be comprehensive and evaluate all aspects of student growth including those not measured by the external examination. It should be descriptive as well as quantified. Written examinations conducted by schools should be improved and teachers trained appropriately. The internal assessment should be shown separately from the external examination marks. 9.84-86

(14) Higher Secondary Examination. During the transition period, higher secondary students will have to appear for two successive external examinations-at the end of classes X and XI, within one year. Where, however, the courses in classes IX to XI are integrated, the examination at the end of class X need not be insisted upon. 9.87-89

CHAPTER X

SCHOOL EDUCATION : ADMINISTRATION AND SUPERVISION

10.01 In this chapter on school education, we deal with problems of super-vision and administration, especially from the point of view of improving standards. A sympathetic and imaginative system of supervision and administration can initiate and accelerate educational reform. On the other hand, a rigid bureaucratic approach can stifle all experimentation and creativity and make any educational reconstruction almost impossible.

10.02 Essential Reforms. If the administration and supervision of school education is to be improved, a number of far- reaching reforms will have to be carried out. Among these, the following may be mentioned:

- A common school system of public education should be evolved in place of the present system which divides the management of schools between a large number of agencies whose functioning is inadequately coordinated.

- A nation-wide programme of school improvement should be organized with three objectives: (a) to raise all schools at least to a minimum prescribed level; (b) to assist every school to rise to the highest level of which it is capable; and (c) during the next ten years, to raise at least ten per cent of the institutions to an optimum standard.

- The offices of the District Educational Officers should be strengthened and the existing techniques of supervision should be replaced by new methods which emphasize guidance, objective evaluation and provision of extension services.

-The State Institutes of Education should be strengthened.

- State Boards of School Education and State Evaluation Organizations should be established at the State level- accompanied by the creation of a corresponding machinery at the national level-to stimulate a continuous improvement in standards and to assess them periodically.

- The Central Government should develop a large programme in the Centrally sponsored sector to assist in the improvement of standards at the school stage.

We shall discuss these major reforms in the order given above.

THE COMMON SCHOOL SYSTEM OF PUBLIC EDUCATION

10.03 The Present Position. At present, schools are managed by three agencies: government, local authorities and voluntary organizations. The latest available statistics regarding these are for the year 1960-61 and are given in Table 10.1.

TABLE 10.1 SCHOOLS IN INDIA, BY TYPE OF MANAGEMENTS (1960-61)

Type of Schools	Number of Institutions			
	Government managed	Local authority managed	Privately managed	Total
1. Pre-primary Schools	308 (16.2)	247 (12.9)	1,354 (70.9)	1,909 (100.0)
2. Lower Primary Schools	72,380 (21.9)	184,825 (55.9)	73,194 (22.2)	330,399 (100.0)
3. Higher Primary Schools	9,695 (19.5)	26,481 (53.4)	13,486 (27.1)	49,662 (100.0)
4. Secondary Schools	3,239 (18.8)	2,066 (12.0)	11,952 (69.2)	17,257 (100.0)
5. Vocational Schools	1,729 (41.7)	39 (0.9)	2,377 (57.4)	4,145 (100.0)
6. Special Schools	8,766 (13.1)	5,307 (7.9)	53,011 (79.0)	67,084 (100.0)
TOTAL	96,117 (20.5)	218,965 (46.5)	155,374 (33.0)	470,456 (100.0)

Source. Ministry of Education, Form A.

N.B. The figures in parentheses indicate percentages to total.

It will be seen that government institutions form only one-fifth of the total. The institutions conducted by the local authorities are the largest in number a little less than half of the total-and most of them are primary schools. The institutions run by private enterprise form about one-third of the total, and dominate pre-primary and post- primary education.

10.04 In so far as finances are concerned, the State supports not only its own institutions but also those of local authorities and voluntary organizations to a substantial extent. In fact, it may be said that the bulk of the expenditure on school education comes from State

funds and fees, and that only a small and relatively less significant contribution is made by local authorities or private sources.

It will be seen from, Table 10.2 that most of the expenditure on

TABLE 10.2 EXPENDITURE ON SCHOOLS IN INDIA, BY MANAGEMENTS AND BY SOURCES (1960-61)

Source	Percentage of Total Expenditure Met from the Source Concerned on Schools Conducted by			
	Government authority	Local bodies	Private	Total
Government funds	94.3	68.1	48.2	67.5
Local Board funds	0.1	26.0	1.7	9.7
Fees	5.1	4.2	36.7	16.9
Other sources	0.5	1.7	13.4	5.9
TOTAL	100.0	100.0	100.0	100.0

Source. Ministry of Education, Form A.

government institutions in 1960-61 was met from government funds (94.3 per cent) and fees (5.1 per cent). The local authorities received 68.1 per cent of their expenditure from government funds and their own contribution was only 26.0 per cent. Fees formed a minor source of their revenue (4.2 per cent) because most of their schools were primary. In private institutions, government grants accounted for 48.2 per cent and fees 36.6 per cent of the total expenditure.[104] Voluntary organizations contributed only a little more than one-eight of the total expenditure of the private institutions.

10.05 The Creation of the Common School System of Public Education. The main problem before the country is to evolve a common school system of public education which will cover all parts of the country and all stages of school education and Strive to provide equality of access to all children. This System will include all schools conducted by government and local authorities and all recognized and aided private schools. It

[104]A large proportion of the fee receipts in private institutions is indirectly paid by the State itself through reimbursement in lieu of fee concessions and scholarships.

should be maintained at an adequate level of quality and efficiency so that no parent would ordinarily feel any need to send his child to the institutions outside the system, such as independent or unrecognized schools. This is the goal which the country should strive to reach, and a number of steps will have to be taken for its early realization.

(1) The first is to ensure that the undesirable discrimination that now exists between teachers working under different managements- government, local authority and private organizations-should be done away with. This has been discussed more fully elsewhere;[105] and we have recommended that

- all teachers should have equality of privileges irrespective of the different managements under whom they serve;

- teachers with similar qualifications and responsibilities should have a similar system of remuneration;

- there should be a uniform system of retirement benefits for all teachers;

- the conditions of work and service under the different types of managements should be similar; and

- the methods of recruitment of teachers in institutions of different categories should also be essentially similar.

2) The ultimate goal should be to provide tuition-free education at the school stage from this point of view, tuition fees will have to be abolished in a phased programme-fees at the primary stage being abolished by the end of the Fourth Plan and those at the lower secondary stage by the end of the Fifth Plan. This has been discussed more fully elsewhere. [106]

(3) The roles of local bodies and private organizations in school education should be properly integrated with those of the State Governments to ensure that the minimum conditions necessary for the successful working of educational institutions are provided in every institution within the common system of public education irrespective of its management. For instance, every such institution should be intimately involved with its local community. Each should be regarded as an individuality and given adequate freedom. A continuous attempt should be made to develop each school to the best extent possible in accordance with a plan to be prepared and implemented jointly by the management, parents, teachers and students, and the Department; and every institution should be assured of adequate financial support to discharge its responsibilities to its student body.

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(4) The neighbourhood school plan should be adopted as a step towards eliminating the segregation that now takes place between the schools for the poor and the underprivileged classes and those for the rich and the privileged ones.

it is these last two aspects that we shall now discuss in some detail.

10.06 Establishment of District School Boards. We attach great significance to the association of the local community with the development of education. We have, therefore, recommended elsewhere [107] that a statutory local authority, to be called the District School Board, should be established in each district and that it should be in charge of all education below the university level in the district. This Board will have, under its direct control, all schools now conducted by government as well as by local authorities. In addition, it will also give grant-in-aid to private and aided schools within the district, on the recommendation of the District Educational Officer in whom is vested the authority to supervise and inspect schools. The School Board will be responsible for the planning and development of all school education in accordance with the directive given by the State Government from time to time. We have shown earlier [108] that there are immense differences in educational development between one district and another. We believe that the creation of such a statutory authority for each district would greatly assist in reducing these differences. Each State Government should prepare plans for creating this machinery in accordance with its own local conditions and traditions.

10.07 Government and Local Authority Schools. Some problems of schools under the management of government and local authorities deserve notice. Government institutions, for instance, have certain advantages, such as good financial support, good system of remuneration and retirement benefits and security of tenure for their teachers, and a fairly adequate provision of other physical facilities. In spite of all these assets, however, most government schools show, an average performance; and though some of them rise above the average, very few qualify for the top places in the school system. This is so because of several reasons. The average government school is isolated from its community, and sometimes even indifferent to it. The over-security of service creates an atmosphere of complacency and lethargy, especially because the conduct and discipline rules are such that it is difficult to reward merit, and even more so, to punish slackness. The teachers are recruited, not to individual institutions, but to a cadre and are frequently transferred from one institution to another. Consequently, they do not ordinarily develop loyalty to any individual institution. They also have the minimum academic freedom and are hampered by rules and regulations at every step. The local authority schools also suffer from all these disadvantages. They have one compensating asset, namely, that they are more closely involved with their community. In practice, however, this generally proves to be not an asset, but a disadvantage, because their teachers are often harassed through postings and transfers and become involved in local politics and factions. A programme is, therefore, needed to overcome these weaknesses of

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government and local authority schools, so that the country can get an adequate return for the comparatively large investment it makes in these schools.

10.08 For this purpose we make the following recommendations:

(1) There should be a School Committee to look after every government or local authority school (or all the government and local authority schools in given area, such as a village panchayat or a town municipality). Such a committee will bring these schools closer to their local communities. Half the members of these committees should be elected by the local authority in charge of the area-village panchayat or municipality-and the remaining should be persons interested in education, nominated by the District School Boards. The functions of these committees will include, among other things, the following:

(a) Responsibility for securing proper accommodation and construction and maintenance of school buildings, school gardens, children's parks and playgrounds;

(b) Provision of equipment;

(c) Distribution of books and writing materials to children;

(d) Grant of uniforms, scholarships and prizes;

(e) Enforcement of compulsory education within the area; Assisting in the organization of extra-curricular activities and in building up a close relationship between the schools and the community;

(g) Provision of midday meals;

(h) Securing residential accommodation for teachers; and

(i) Generally taking all such measures as will help in improving school education within the area.

Each school committee should have a fund of its own for the proper discharge of its responsibilities. This fund, which may be designated as the School Fund, will consist of (a) amounts placed at its disposal by the municipality or the village panchayat in the area; (b) donations and contributions voluntarily made by the parents and local community from time to time; and (c) a grant-in-aid given by the District School Board to stimulate local collections under (a) and (b) on some basis of equalization, i.e. a larger grant-in-aid being given to the poor areas while the richer ones may get a smaller one or none.

The entire proceeds of the fund should be locally available for the development of such services in the schools as would supplement the effort made by the District School Board.

It is evident that all school committees will not be equally efficient. The system to be designed should, therefore, be elastic. School committees that are functioning well should be given more powers and more funds. The powers of those which are not working efficiently may be curtailed.

If properly developed, this programme would make the local communities vie with one another in improving their schools, and their efforts should be a good supplement to those of the District School Board itself.

(2) Rational and appropriate policies have to be developed for transfers and postings of teachers which now cause considerable harassment, particularly to primary teachers under local bodies. As a rule, teachers should be allowed to remain in the same schools as long as possible and to develop loyalties to individual institutions.

(3) It is also necessary to give greater freedom to government and local authority schools and to reduce the existing red-tape to the minimum. Private schools already have a good deal of freedom, which is their main asset. There is no reason why similar freedom should not be given to government schools, where teachers and facilities are ordinarily of a better quality and where the freedom is likely to be better utilized.

10.09 Private Schools. The private educational institutions form a very heterogeneous group, falling into three main categories: recognized and aided institutions, recognized but unaided or independent institutions, and unrecognized institutions. The magnitude of the last two of these categories is small and we shall deal with them separately later. But the recognized and aided institutions, in spite of their 'private' management, have to be treated as an integral part of the system of public education. Most of their expenditure comes from government grants and fees; and where fees have been abolished, they depend almost exclusively on government funds. Their main assets are: strong ties with the local community on whom they depend for support; a fair measure of freedom, although this is disappearing rapidly wider increasing departmental controls; and the loyalty of teachers who are recruited, unlike in government or local authority service, to individual institutions. These institutions have main weaknesses: a precarious financial position, due partly to the uncertainty of government grants and partly to their own increasing incapacity to raise funds; and very often, a bad and even unscrupulous management.

10.10 From the point of view of quality and efficiency, these institutions fall into two broad groups: a small group of very efficient institutions and a large group of weak and even undesirable ones. The institutions in the former have attracted-and continue to attract-competent and dedicated teachers who often form a self- perpetuating body of their own, and who remain virtually in charge of the management. Consequently, they maintain very good standards. The latter group includes a number of voluntary organizations which are dominated by sectarian considerations that affect the recruitment of teachers as well as their atmosphere. Several of them are run, not for purposes of education or social service, but for exploitation and patronage and are like commercial undertakings. The conditions of service of teachers working under several of these

organizations are far from satisfactory. They have little security of tenure and no pensionary benefits and sometimes not even a contributory provident fund; their remuneration is generally lower than that given to teachers of corresponding status under government or local bodies. In many cases, they do not even receive the amount which supposed to have been paid, to them because the managements, who are unable to raise popular contributions, often try to produce the matching contributions required of them under the grant-in-aid rules by an illegal and un- acknowledged cut in teachers' salaries. It must be admitted that, by and large, these schools make a rather negative contribution to education and life, and they pose a major problem in school education.

10.11 In spite of all these limitations and deficiencies, however, these institutions will have to be treated as an integral part of the common school system of public education. It is the responsibility of government to see that they are improved through adequate support and proper management. This responsibility becomes all the greater because the bulk of the students in secondary schools are in these institutions. Unfortunately, the efforts of the Education Departments in dealing with this problem have not been very successful. As the existing grant-in-aid rules are based on egalitarian principles, all private schools are treated alike for purposes of financial assistance. This very often cramps the progress of the good schools while funds are unduly wasted on the poor ones. The attempt to check malpractices which are often found in the second group of these institutions and to give security of tenure to their teachers has resulted in a large measure of detailed control which again is applied to all schools alike. This has not achieved its primary purpose, but has, on the contrary, weakened the discipline in these institutions and made things unnecessarily difficult even for good institutions who need, not greater control, but greater freedom. Moreover, the grant-in-aid rules are generally complicated and difficult to administer and the amount of aid is inadequate. Consequently, most of these institutions have remained in a very unsatisfactory condition.

10.12 What is really needed is a discriminating rather than a uniform policy in respect of assistance to and control of private aided institutions. The good private schools which maintain high standards and which have been able to attract the services of dedicated and competent teachers will have to be identified and given more freedom and adequate financial assistance. These institutions even today are the quality schools in the system and set the pace for others. They can quickly and effectively be developed as the 'seed farms' in the common school system of public education. At the same time, a sympathetic but firm policy will have to be adopted with the large group of private institutions which are substandard. They should be given time and assistance to put their houses in order. We expect that many of them will rise to the occasion and become good schools; but there will be many more that may not do so. These latter should be dealt with firmly and either closed down or taken over by the Government.

10.13 The position of private schools will be greatly affected by our recommendation that tuition fees should be abolished till the end of class X. When this recommendation is implemented, all fee-charging and aided private schools should be given the option either to abolish the fees and remain within the system or continue to charge fees and become independent. We anticipate, however, that most of the private schools will choose to

remain within the common school system of public education. Ultimately, therefore, there will be only two types of private schools: (1) those which do not charge fees and remain within the common school system of public education and are mostly supported by the State; and (2) those which charge fees and remain outside the system and receive no aid from State funds.

10.14 With regard to those which remain within the common school system of public education, the action required will be very different from that suggested earlier for government and local authority schools. For the latter, we have recommended a closer association with the local community, grant of greater freedom, and a restraint on transfers so that teachers will remain stabilized in individual institutions for long periods. The private schools have these advantages already. What they need is greater financial assistance and, in several cases, a better management. For this we recommend the following:

(1) Each private school should have a Managing Committee consisting of the representatives of the voluntary organization conducting it, the Education Department and its teachers. The grant- in-aid codes will have to prescribe the details of the composition of these committees and their powers and responsibilities. It has to be noted that the primary objective of government nominations is to assist the management: by securing for them the advice and guidance of persons interested in education. The success of the system will depend upon the quality of the persons nominated. If this authority is judiciously exercised, as it should be, the managements will welcome the government nominees as a source of strength.

(2) The staffing of the private schools should be broadly on the pattern prescribed for government or local authority schools and their remuneration should also be similar.

(3) For calculating the recurring grant-in-aid to private schools, the total expenditure should be divided into two parts- teacher costs and non-teacher costs. It will be easy to determine the total teacher costs because of the recommendation made in (2) above. For all non-teacher costs, a minimum and a maximum expenditure should be prescribed, preferably as a percentage of the teacher costs, and the management should be given the freedom to incur this expenditure at its discretion. The grant-in-aid to a school should be equal to

(a) the total teacher costs;

(b) plus the actual non-teacher costs[109] incurred (or the upper limit prescribed, whichever is less);

[109]As in the case of affiliated private colleges, the rent on buildings constructed by the management from its own funds should be allowed for purposes of grant-in-aid. See Chapter XIII.

(c) minus income from fees at 'standard' rates, after allowing for the prescribed percentage of free studentships (it being open to the management to give additional free studentships from their own resources); and

(d) minus the prescribed contribution to the total recurring expenditure which the management will be required to make from its own funds and not from fees.

Note: (i) The lower and the upper limits to non-teacher costs as well as the contribution to be made by the management should be prescribed separately for each type of school and also separately for advanced or poorer areas. Some concessions should also be shown to girls' schools.

With regard to the contribution from private managements, we expect a secondary school to provide an endowment of Rs. 50,000 and a higher secondary school, an endowment of Rs. 100,000. Until that is formed, the contribution of the management should be equal to the interest on an endowment of this order.

(ii) Where fees are charged, it is only the standard fees prescribed by government (and not the actual fees) that should be taken into account for purposes of grant-in-aid. It should be open to the management to charge fees at lower rates and meet the loss thus incurred from its own resources. Similarly, it will be also open to the management to charge fees at higher rates, not exceeding fifty per cent of the standard fees, with the approval of the Department, and to utilize the proceeds for providing additional services in the school or for raising its standard of instruction.

(iii) When fees are abolished, item (c) will disappear. We, however, recommend that in such cases, it should be open to private secondary school (this authority should be given also to government and local authority secondary schools) to charge a `betterment fund' from their student subject to an upper limit, say five rupees a year, with the approval of the Department. The income from this fund should be utilized for improvement of instruction or provision of additional facilities. Its accounts will be kept separately and be open to inspection by the Department, but these should not be taken into consideration while fixing the grant-in-aid to the school.

(4) With regard to non-recurring costs, we think that the managements of private schools should bear a fair share of the total expenditure. By and large, the grant-in-aid should, therefore, be limited to 30 to 50 per cent of the total non-recurring expenditure. In special cases, such as poorer localities or girls' schools, the proportion of grant-in-aid may be increased. It should also very from one type of institution to another.

(5) The formula suggested above in meant for grant-in-aid to the average school. In implementing it, two provisos will have to be added:

(a) There should be a system under which cuts could be made in the grant-in-aid due to a school for patent failure to maintain standards, e.g., inability to retain staff for sufficiently

long periods, complaints from staff regarding treatment, poor discipline among students, low results in public examinations.

(b) Schools which maintain high standards and show good results should be given special encouragement grants for any projects which they may like to undertake with the approval of the Department.

(6) In the preceding chapter, we have recommended that some schools should be regarded as experimental schools and given the freedom from external public examinations and all that they imply. When such schools are in the public sector, the State Government or the local authority, as the case may be, will have to make adequate provision of funds for their maintenance and development on a basis different from that of the average school. When such schools are in the private sector, grants-in-aid to them will also have to be given on a special basis, e.g., a liberal block grant renewable every three of five years. These schools will not develop adequately under the normal grant-in-aid code.

10.15 We have recommended above that a discrimination approach should be adopted with regard to private schools and that greater freedom and assistance should be made available to good schools while a larger control should be exercised over the weaker ones. We may illustrate how this might be done in the system we have proposed. In the first place, government may vary the number of members nominated by it on the managing committees from institution to institution. In the case of very good institutions which have maintained standards over a considerable time, this representation may be reduced to the minimum. On the other hand, in the case of weaker schools where complaints have been received and are frequent, the proportion of members nominated by the Department should be increased till it forms the majority. A management which makes a larger contribution from its funds may be given a greater representation to induce a larger flow of private funds, Secondly, the limits prescribed for the non-teacher costs could be higher for good schools which have shown good performance and merit. Thirdly, better staffing may be permitted to schools that show good results-in the sense of a more favourable pupil-teacher ratio or a larger proportion of posts in the higher categories.

10.16 In many grant-in-aid codes it has been laid down as a condition of recognition or aid, that education institution should be conducted only by non-profit-making-bodies such as public trusts or societies, registered under the Charitable societies Act. In some areas, however, proprietary schools are still recognized and aided. We recommend that it should be an invariable rule that educational institutions must be conducted by non-profit-making bodies if they have to qualify themselves for assistance.

10.17 The existing grant-in-aid codes confer on the State Education Departments the right to withdraw recognition under certain conditions. In practice, however, this theoretical right is hardly ever exercised. There are two main reasons for this: sympathy for the teachers who will be thrown out of job, and concern for the students whose studies will be disturbed. We, therefore, recommend that the grant-in-aid codes should be

amended to authorize the State Education Departments to take over the management of private schools which do not satisfy requirements and which have persistently failed to come up to standard. Before this extreme action is taken, the Department should frame charges against the management and give due notice. If necessary, an appeal may be made to a tribunal specially set up for the purpose. But the Department should have the authority, in extreme cases, to take over private schools. Such a provision will have a very salutary effect and help in raising standards in the weaker group of private schools.

10.18 Good Quality Private Schools. There is one important point that needs attention. Many of the good private schools are fee- charging institutions at present. When fees are abolished, some of these schools will become independent. But the vast majority will try to remain within the system and they should be encouraged to do so by being promised adequate grant-in-aid and autonomy. In Madras, when fees were abolished at the secondary stage the existing level of expenditure of each private school that remained within the system and the salaries of the existing staff were protected. This has yielded excellent results. There is, however, one flaw in the Madras arrangement, viz., the future pattern of expenditure-as existing teachers retire-is brought down to the common level. We propose an important alteration: such of these schools as are really good should be regarded as the nuclei of the quality schools to be developed (this recommendation of ours is discussed in a later section), and should be adjusted to the higher level prescribed for the quality schools rather than to that of the ordinary schools. This will ensure that the existing standards of the institutions will not be adversely affected and, in some cases at any rate, they may even be improved further. Incidentally, this will also discourage the trend to step out of the system as independent institutions.

10.19 The Neighbourhood Schools. We drew attention earlier[110] to the social segregation that now takes place in our primary and secondary schools and pointed out that such segregation should be eliminated if education is to be made a powerful instrument of national development in general and social and national integration in particular. From this point of view, we recommend the ultimate adoption of the 'neighbourhood school concept' first at the lower primary stage and then at the higher primary. The neighbourhood school concept implies that each school should be attended by all children in the neighbourhood irrespective of caste, creed, community, religion, economic condition or social status, so that there would be no segregation in schools. Apart from social and national integration, two other important arguments can be advanced in support of the proposal. In the first place, a neighbourhood school will-provide 'good' education to children because sharing life with the common people is, in our opinion, an essential ingredient of good education. Secondly, the establishment of such schools will compel the rich, privileged and powerful classes to take an interest in the system of public education and thereby bring about its early improvement.

[110]Chapter I.

10.20 We are of the view that the neighbourhood school concept should be adopted as a long-term goal, to be reached in a well-planned programme spread over the next 20 years. The strategy for its adoption should be as follows:

(1) During the next ten years, two programmes should be pursued side by side. The first is to improve all primary schools to a minimum level prescribed and to raise about ten per cent of them to a higher standard of quality.

(2) Simultaneously, the neighbourhood school system should be introduced at the lower primary stage, as a pilot project, in a few areas where public opinion is favourable to the acceptance of the proposal.

10.21 Scholarships. On grounds of social and national integration, we believe that all the children of the country should study in the common school system of public education, because this experience is extremely significant for their development as citizens. To encourage this trend in the national interest, we recommend that the public scholarships at the school stage, i.e., those given by government and local authorities, should be tenable only in a school functioning within the common school system of public education, which will ultimately charge no fees and to which every child shall have access. This will not cause any hardship, because it is mostly the children of the rich persons who will be attending the independent schools and they will not be in need of any such scholarships.

10.22 At the university stage also, it is essential to see that children coming up from the common school system of public education are not at a disadvantage in comparison with those appearing from the independent schools. We, therefore, suggest that ninety per cent of the scholarships awarded from public funds at the university stage should be open only to those students who have received their secondary education in schools functioning within the common school system of public education.

10.23 Conclusion. If the proposals made above are implemented, we will have created a common school system of public education embracing three categories of educational institutions- government, local authority and private-aided-which form the vast bulk of all the educational institutions at this stage. The residual responsibility for the financial support of this system will be borne entirely by the State, although the local authorities and private management will be raising some resources of their own to supplement State effort. Within this organization, the existing 'caste' system on the basis of management will largely disappear and a number of common features will be maintained for all schools, such as parity with regard to teachers; common admission policies which will prevent segregation of classes and ensure admissions to all quality institutions on the basis of merit; involvement with local communities; and freedom for experimentation and creativity.

ORGANIZATION OF A NATION-WIDE PROGRAMME OF SCHOOL IMPROVEMENT

10.24 In view of the great need to improve standards of education at the school stage, we recommend that a nation-wide programme of school improvement should be developed in which conditions will be created for each school to strive continually to achieve the best results of which it is capable. No comprehensive programme of educational development can ever be put across unless it involves every educational institution and all the human factors connected with it--its teachers, students and the local community-and unless it provides the necessary inducements to make them put in their best efforts. For various reasons, this involvement does not take place and the motivation is not created at present. The main objective of this programme is to create these factors which have a large share in determining standards.

10.25 Preparation of Institutional Plans. The first step in the undertaking would be to request each school to prepare its own developmental programme spread over a given time. One of the major weaknesses of our system of planning is that it begains at the top and hardly ever descends down to the institutional level. Consequently, most of our schools remain unconcerned with the educational development plans prepared at the State or national levels. Very often, they are not even aware of these plans and of their policies and programmes. It is imperative to change this situation. It is, of course, true that, in order to avoid a waste of effort, some broad framework for the preparation of these plans would have to be supplied by the appropriate authorities at the State, district or block level. It should not be difficult to enable each school, within the resources likely to be available, to prepare a plan of optimal utilization and growth.

10.26 Each such plan will necessarily include proposals for the improvement of the physical facilities available in the institution. We realize the need to provide certain minimum essential facilities without which it is almost impossible for teachers to work. However, we would like to emphasize two points in this regard:

(1) The first is that even within its existing resources, however bruited they may be, every educational institution can do a great deal more, through better planning and harder work, to improve the quality of education it provides. In our opinion, therefore, the emphasis in this movement should be, not so much on physical resources, as on motivating the human agencies concerned to make their best efforts in a coordinated manner for the improvement of education, and thereby offset the shortcomings in the physical resources. There are a large number of programmes which an educational institution can undertake on the basis of human effort and in spite of paucity of physical resources. These include: reduction in stagnation and wastage; improvement of teaching methods; assistance to retarded students; special attention to gifted students; enrichment of the curricula; trying out new techniques of work; improved method of organizing the instructional programme of the school; and increasing: the professional competence of teachers through programmes of self-study. It is the planning and implementation of programmes of this type that should be emphasized.

(2) The second is that an intensive effort should be made to improve the facilities provided in schools through the cooperation of the local community. Very good work in this respect has been done in the Madras State where school improvement conferences have been organized for some years and large-scale assistance from the local community has been obtained for improving school facilities. Similar programmes should be developed in all parts of the country, both at the primary and secondary stages.

10.27 Intelligent Planning and Continuity of Effort. The secret of success in such a programme will depend upon intelligent planning and continuity of effort. It is essential to give an orientation to all officers of the Education Departments and all headmasters of schools in the preparation of such plans. Success will also depend on the programme being a nation-wide movement-or at least a State-wide movement-taken up earnestly by the Ministry of Education at the Centre and by the Education Departments in the States. Intensive campaigns of this type were sometimes launched in the past in some parts of the country under the guidance of enthusiastic officers. But their effort was both localized and short-lived and they generally faded out with the motivating personality. It is, therefore, necessary to make this campaign an integral part of our educational plans so that its tempo could be continuously maintained at a high level for a sufficiently long time.

10.28 Elasticity and Experimentation. Another pre-condition for the success of a programme of this type is to encourage initiative, creativity and experimentation on the part of teachers and institutions. One of the weaknesses of our existing educational system is its rigidity which practically denies freedom for experimentation to teachers and institutions. What is needed is a decentralized approach which can permit each institution (or at least a group of institutions) to go ahead at its own pace and try out new ideas. This is not possible in the existing system where educational plans are prepared with the State as a unit and where all that is expected on the part of teachers and institutions is conformity. In the proposal made above, Government has to regard each institution as a unit in itself, having an individuality of its own, and to help it to grow at its own pace and in its own individual manner. This will make it possible for teachers to participate in the joy of creation and will motivate them to more intensive efforts at qualitative improvement.[111]

10.29 Classification of Schools. Some administrative and financial issues will have to be taken care of adequately if this programme is to succeed. Reference has already been made to three of them: the need to secure continuity of staff which will make long-term planning and its implementation feasible; the need to involve each institution closely with its local community and give it some local resources and freedom to plan its own programmes; and the need to break the isolation of schools and enable them to function in small, face-to-face, cooperative groups.[112] Yet another step that will help in this process is the classification of schools.

[111]See Chapter IX for details.

[112]See Chapter II.

10.30 For this purpose, we make the following recommendations:

(1) It would be necessary to prepare scientific evaluative criteria for supervision of different types of educational institutions. The National Council of Educational Research and Training has already undertaken a research project for this purpose. The work thus 'initiated will have to be developed further by each State, through the State Institute of Education.

(2) The criteria should be defined at two levels- minimum and optimum. The optimum level should conform to the concept of a 'good' school. To begin with, each State will define, with respect to its own conditions, what these minimum and optimum levels should be. But in due course, these criteria could be coordinated and national norms evolved by the National Board of School Education whose establishment we are recommending. It is also necessary to revise these criteria from time to time and to upgrade them.

(3) On the basis of such evaluative criteria, a scheme for the classification of schools should be devised on the basis of their performance. The factors to be considered for such classification may, among others, include: relations with the local community; the qualifications of the staff and the continuity of the staff in the same institution; in-service training programmes arranged by the school or participated in by members of the staff; special programmes developed in the school such as experimental work, advanced or enriched curriculum, or new methods of evaluation; attention paid to the gifted or retarded students; school discipline; wastage and stagnation; results of public examinations; scholarships secured by students; after-school careers of past students; and organization of co-curricular activities and awards won by the school in these fields.

(4) The classification should be made applicable to all schools- government, local authority and private. Norms may be defined at two levels-optimum and minimum, and a three-point scale may be adopted on that basis:

A-Schools: above the optimum level.

B-Schools: average schools between the minimum and the optimum levels.

C-Schools: below the minimum level.

(5) The general convention should be that each school evaluates its own work on the basis of the given criteria and the classification is then finalized by the inspecting officers of the Department in consultation with the school teachers and authorities.

10.31 Programme for Action. It will not be possible, for lack of resources, to raise all schools to a high level within a short period. The strategy to be adopted for development should, therefore, be on the following lines:

(1) The highest priority in the programme should be given to the creation of a minimum proportion of 'quality' schools at every stage which would serve as pace-setting institutions. The number of really good schools in the present system is pitifully small, and in order to obtain good results in the shortest time, it is necessary to concentrate available resources in a few centres. As a first step towards improving all schools, therefore, we should strive to improve, during the next ten years, at least ten per cent of the schools at the primary stage to an optimum level. At the secondary stage, the target should be to have a good secondary school (i.e., at the optimum level) in every community development block. [113]

(2) This programme of creating optimum level schools will begin with the strengthening of the existing good schools. At the secondary stage most of these are in the private sector. While these should be assisted to develop, an attempt should be made in future to have good secondary schools in the public sector as well.

(3) At the lower primary stage, the access to these schools will mostly be for children in the neighbourhood only. That is why it is essential to distribute these schools equitably in all parts of the State and to pay special attention to the needs of the rural areas and the urban slums.

(4) At the higher primary and secondary stages, admissions to these schools-with the abolition of fees they will be really open to all children-should be regulated on the basis of merit to ensure that the brighter children from all strata of society receive the best education available. There should be adequate provision of scholarships in these schools. They should also be equitably distributed on a geographical basis, one secondary school being set up in each community development block and two or three higher primary schools in different parts of the same block.

(5) The second priority in the programme is to ensure that no school falls below the minimum levels.

(6) With regard to other schools, each should be assisted to rise to the best level of which it is capable. The system of assistance should be such as to reward good performance as indicated by periodical evaluations. As time passes, more and more of these schools will rise higher and pass into the class of 'quality' schools.

10.32 The basic approach so far in the programmes of qualitative improvement has been to stress the provision of physical facilities rather than the operation of the human factor. It will be seen that the object of the nation-wide programme of qualitative improvement proposed here is to reverse this process and to stress the contribution which the combined

[113] The urban areas have more than their share of good schools already, but the needs of slum areas in cities may have to be specially looked after.

efforts of teachers, supervisors, parents and students themselves can make to the qualitative improvement of education. We believe that, if such a programme of the type indicated above is organized and sustained over the next 10-20 years. standards in education will rise immensely.

SUPERVISION: REORGANIZATION OF THE STATE EDUCATION DEPARTMENTS: DISTRICT LEVEL

10.33 In our view which has been more fully discussed elsewhere, [114] school education is essentially a local-State partnership. We have already referred to the responsibilities of the local authorities-the District School Boards and local school committees. The picture, however, will not be complete unless we supplement it with a description of the role of the State Government in school education. As we visualize it, the responsibility for school education will rest squarely on the State Governments. The local authorities will, no doubt, have a good deal of initiative and we should like the State Governments to encourage them by adopting flexible policies. But, by and large, they will act as agents of the State Governments and exercise delegated powers. The State Education Departments, which are the principal agency of the State Government to deal with educational matters, therefore, should

- develop an intensive programme for school improvement which would include periodical revision and upgrading of curricula, preparation of textbooks, teachers' guides and other teaching and learning materials, and improvement in methods of teaching and evaluation;

- prescribe the standards to maintained in schools, in consultation with professional bodies like the State Board of School Education, and State Evaluation Organization and enforce them through the inspectorate, provision of funds, and organization of the needed supporting services;

- be responsible for the supply of teachers, for fixing their remuneration, retirement benefits and conditions of work and service, and for organizing teacher preparation-both pre-service and in-service-on proper lines and for establishing, conducting or aiding training institutions of high quality with adequate in- takes and outputs;

- be solely responsible for inspection and supervision of schools which may be exercised directly through the officers of the State Education Departments or indirectly through a special organization set up for the purpose, e.g., the State Boards of School Education, or both;

[114]Chapter XVIII.

- establish and maintain a State Evaluation Organization whose objective would be to coordinate standards as between the different districts in the State and to help in the development of national standards at the end of the higher primary, lower secondary and higher secondary stages;

- encourage, guide and assist the local authorities created for the administration of school education and help them maintain quality institutions at different stages of school education and provide a regular programme of extension services to Schools In order to secure a continual improvement of standards;

- establish and maintain a State Institute of Education whose primary objective is to help, through suitable programmes of research, training and extension, the local authorities and the inspecting officers to improve standards; and

- coordinate and eventually assume responsibility for all vocational and technical education at the school stage.

10.34 Reorganization and Strengthening of District Offices. If these functions are to be properly implemented, one major change is needed in the organization of the State Education Departments. In the last few years the Directorates of Education at the State level have expanded very considerably in response to the expansion of educational facilities at the school stage. Unfortunately, there has been no adequate delegation of authority to the lower levels, and the district offices in particular continue to be weak. In fact, no feature of the State educational administration is so conspicuous as the wide gap between the heavy responsibilities which are placed upon the district-level officer of the department on the one hand and the inadequacy of his staff (both in number and quality) and of his authority on the other. It is this gap that has to be bridged.

10.35 It is hardly necessary to emphasize the importance of the District Educational Officer and his establishment at the district level. He is charged with leadership functions in relation to the district as the Director is in relation to the State. He supervises the educational institutions at the school level and is assisted by one or more deputy inspectors and a number of assistant or sub-deputy inspectors who are responsible for the inspection of primary schools. In some districts, he belongs to Class I of the State Service, but in a large number of other districts, he is still in Class II. In our opinion, neither status is adequate for the purpose. The nature of the administrative duties he has to perform differs from State to State. In some States, he is the sanctioning authority for grants-in-aid to secondary schools. In almost all States, he is the reporting authority for recognition of schools, a member of the appellate body which hears appeals of teachers, and generally also a member of the Selection Board to select teachers for local authority schools. His main function is, however, inspection and supervision, which lies at the heart of educational administration.

10.36 As time passes, the district will assume still greater importance. Today, a district has an average population of about 1.5 million, an enrolment of about 200,000, about 7,000 teachers and a total educational expenditure of about Rs. 20 million. By 1986, the

population of the average district will be about 2.5 million. Its enrolment may rise to about 500,000 with a total cadre of about 20,000 teachers and a total educational expenditure of about Rs. 125 million. All things considered, the future of development and reform lies in strengthening the district offices of the Department, making them service and supervision centres of all schools, and retaining the State-level Directorates only for general coordination and policy-making. This is the only way in which the weaknesses of the present departmental administration- rigidity, distance from schools, lack of contact with the local communities, emphasis on control rather than on service, etc.-can be remedied.

10.37 In view of the importance of strengthening the departmental organization at the district level, we make the following recommendations:

(1) The District Educational Officer should be given adequate status. This can most conveniently be done by including this post in the proposed Indian Educational Service when it is created.

(2) There should be adequate delegation of authority to the district level so that the district office can function with effectiveness and efficiency. In our opinion, the district office should virtually be the Directorate in so far as the schools are concerned, and the need for schools to go to the higher levels in administrative matters should be reduced to the minimum.

(3) With regard to the inspectorial staff at the district level, there are three main weaknesses at present: inadequacy of numbers; comparatively poor quality of personnel because of the inadequate scales of pay; and lack of specialization because most inspecting officers are 'generalists'. All these limitations will have to be overcome. We, therefore, recommend an upgrading of the scales of pay and recruitment of a higher quality of officers. We also recommend that there should be an adequate specialized staff at the district level, e.g., in evaluation, curriculum improvement and guidance or special areas like physical education. It is also necessary to increase the strength of the district staff to cope with all the new responsibilities delegated to it. In particular, there is need to provide a small statistical cell in each district office. It is the absence of this staff that is mainly responsible for the inordinate delays that now occur in the collection and publication of educational data. Similarly, a fair proportion of the staff at this level should consist of women officers, especially with a view to encouraging the education of girls.

10.38 Headmasters. This chain of delegation of authority cannot end with the district office. it is also essential to give wider powers to headmasters and greater freedom to schools. At present, the headmasters as a class have been neglected. It will be seen that, in our proposals, better scales of pay have been provided for headmasters and also better qualifications. [115] We further recommend that special training courses (which do not exist at present) should be organized for headmasters. They

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should include short induction courses for those who are newly promoted as headmasters as well as periodical refresher courses for others. Besides this, there should be greater delegation of authority to head- masters than is found at present. The government schools often suffer the most in this regard. For instance, the headmasters are not always consulted with regard to the transfers of staff from or to their schools; they are not generally involved in the selection of their assistants; they have no authority to fill short-term vacancies in their institutions, with the result that these posts remain unfilled for days together; and in several cases, even the necessary authority to control assistants is not given, and if an assistant does not behave, the headmaster call do little beyond 'reporting' to the appropriate authorities. If schools are to improve, this situation has to be radically changed. The general principle should be to select the headmasters carefully, to train them properly, to trust them fully and to vest them with necessary authority. They might commit mistakes-as all human beings do. But unless the freedom to, commit mistakes is given, no headmaster will be able to take deep interest in the school and in its improvement. In private schools, the department should insist that the management should delegate similar and adequate powers to the headmasters to enable them to manage the institutions properly.

10.39 The School Complex. The idea of the school complex or the manner in which a high school, about three or four higher primary schools and 10 to 20 lower primary schools in the neighbourhood would be integrally linked together, has been described earlier. [116] We shall now proceed to discuss how the school complexes should function as a part of the new supervision we are proposing. As explained earlier, the objectives of introducing the school complex will be two: to break the isolation of schools and help them to function in small, face-to-face, cooperative groups; and to make a delegation of authority from the Department possible. As we visualize the picture, the District Educational Officer will be mainly in touch with each school complex and, as far as possible, deal with it as a unit. The complex itself will perform certain delegated tasks which would otherwise have been performed by the inspecting officers of the Department, and deal with the individual schools within it. Under this programme, the schools will gain in strength, will be able to exercise greater freedom and will help in making the system more elastic and dynamic. The Department will also gain-it will be able to concentrate its attention on major essentials and call afford to have fewer officers but at a higher level of competence.

10.40 How will the school complex function ? If the system is to be effective, adequate powers and responsibilities will have to be delegated to the complex. These may include the following:

(1) The school complex may be used as a unit for the introduction of better methods of evaluation and for regulating the promotion of children from class to class or from one level of school to another.

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(2) As stated earlier, it is possible to provide certain facilities and. equipment, which cannot be provided separately to each school, jointly for all the schools in a complex. This will include a projector with a portable generator which can go round from school to, school. Similarly, the central high school may have a good laboratory and students from the primary schools in the complex may be brought to it during the vacation or holidays for practical work or demonstration. The central high school may maintain a circulating library from which books could be sent out to schools in the neighbourhood. The facilities of special teachers could also be shared. For instance, it is not possible to appoint separate teachers for physical education or for art work in primary schools. But such teachers are appointed on the staff of secondary schools; and it should be possible, by a carefully planned arrangement, to, make use of their services to guide the teachers in primary schools and also to spend some time with their students.

(3) The in-service education of teachers in general, and the upgrading of the less qualified teachers in particular, should be an important responsibility of the school complex. For this purpose, it should maintain a central circulating library for the use of teachers. It should arrange periodical meetings of all the teachers in the complex say, once a month, where discussions on school problems could be had, some talks or film shows arranged, or some demonstration lessons given. During the vacations, even short special courses can be organized for groups of teachers.

(4) Each school should be ordinarily expected to plan its work in sufficient detail for the ensuing academic year. Such planning could preferably be done by the headmasters of the schools within the complex. They should meet together and decide on broad principles of development in the light of which each individual school can plan its own programme.

(5) It is very difficult to provide leave substitutes for teachers in primary schools, because the size of each school is so small that no leave reserve teacher can be appointed. This becomes particularly difficult in single-teacher schools where, if the teacher is on leave, the school has to remain closed. In the school complex concept, it will be possible to attach one or two leave reserve teachers to the central secondary school; and they can be sent to schools within the complex as and when the need arises.

(6) Selected school complexes can be used for trying out and evaluating new textbooks, teachers' guides and teaching aids.

(7) The school complex may also be authorized to modify, within prescribed limits and subject to the approval of the District Educational Officer, the usual prescribed curricula and syllabuses.

10.41 It is obvious that this idea of the school complex will have to be preceded by the careful preparation and orientation of teachers. We recommend that the scheme should be first introduced in a few selected districts in each State as a pilot project. When a district is selected for the purpose, the necessary literature regarding the scheme should be prepared in the regional languages and distributed to all the schools and teachers in the

district as the first step in the programme. The plan should then be discussed in all its details in group meetings of all teachers and headmasters within the district-these can be conveniently arranged by each inspecting officer for his own beat. In the light of the discussions, the plan may be modified and a final decision taken. secondly, not all powers should be conferred on each school complex within the district simultaneously. A minimum of powers should be conferred to begin with. Where good work is shown-as will be done in many complexes additional powers may be delegated. On the other hand, if for some reason or the other the complex does not function properly-and some are bound to create difficulties-it may even be desirable and necessary to withdraw the powers. Given proper leadership on the part of the District Educational Officer and his staff and persistent effort, the scheme is bound to succeed.

10.42 The great advantages of the school complex are obvious. But like all human things, it has its dangers also. If the dominant headmasters in any unit happen to be thorough-going educational conservatives, the imaginative classroom teacher may find himself less able to experiment under the system of school complex than he is at present. This is a risk that must be run. It will be for the District Educational Officer (if he is not also a thoroughgoing conservative) to throw his influence in favour of a more liberal policy. It must also be remembered that the kinds of group reform that will get the blessing and support of a committee of headmasters will tend to be more stale and conservative than those that might be generated by an adventurous individual or single school. The Education Department must, therefore, make it amply clear that the purpose of the school complex scheme is not just to encourage a unit to experiment en bloc but also to foster individual experimentation within the unit.

10.43 It is also necessary to note that the proposal involves additional expenditure. For instance, we expect the headmasters and teachers of the high schools to visit the higher primary schools in the neighbourhood on an average, say, of once a month, and some lower primary schools in the same manner. We also expect that similar visits would be paid by the headmasters of the higher primary schools to the lower, primary schools in the neighbourhood. Some payment will have to be made on this account. The programmes of in-service education we have suggested will also involve expenditure. If the students of the primary schools are to be taught science in the high school laboratory during vacations, some payment will have to be made to the teachers concerned. But the scale of this expenditure will not be large and it will yield good results.

10.44 The New Supervision. Supervision is, in a sense, the backbone of educational improvement. Unfortunately, the programme of supervision of schools has largely broken down in most States for several reasons such as:

- the large expansion in the number of institutions which has not been accompanied by a corresponding increase in the number of inspecting officers;

- the combination of administrative and supervisory functions in the same officer which affects supervision adversely because administrative work, which has increased greatly in recent years, always has a priority;

- the use of supervisory officers, when they are members of the block development team, for non- educational work, leaving them very little time for their own responsibilities;

- continuance of old techniques of supervision oriented to control rather than to development; and

- lack of adequate competence in the inspecting staff.

One of the major programmes in the reform of school education is to overcome these difficulties and to create the new system of supervision.

10.45 Separation of Administration from Supervision. One important recommendation, i.e., separation of administration from supervision has already been made and we have suggested that the District School Boards should be largely concerned with the former and the District Educational Officer and his staff, with the latter. These two wings should work in close collaboration. When differences arise, the last word wilt lie with the District Educational Officer, who will have a higher status, or with the Director of Education. Under this arrangement, it will be possible for the District Educational Officer and the staff to concentrate on supervision proper, i.e. on improvement of instruction, guidance to teachers, organization of their in-service programmes and provision of extension services to schools. [117]

10.46 Recognition of Schools. It is also important that there should be nothing like 'automatic' recognition of schools. At present, there are rules or conventions in several States under which every school conducted by government is deemed to be automatically recognized. Such rules or conventions are also applicable to all local authority schools in some areas. In our opinion, there is no justification for this procedure. Recognition is a privilege which has to be deserved and continuously earned by every school, irrespective of its management. Under our proposals, there will be no government schools as all of them will be transferred to the District School Boards. We expect the private schools and all the local authority schools under the District School Boards to apply to the Department of Education for recognition. The Department will prescribe the conditions for recognition, and on the basis of these, will grant or refuse recognition on merit. The Department will also periodically inspect all recognized schools to ensure that the prescribed standards are being maintained.

[117]Where the District School Boards have not been set up, it would still be advantageous to have two separate teams of officers-one for administration and another for supervision-rather than combine both the functions in one set of officers. For details, see Chapter XVIII.

10.47 Types of Inspections. At present only one common form is adopted for all supervision, which is too elaborate for the annual inspection but too sketchy for a thorough or quinquennial inspection. We propose that in future every school should have two types of inspections annual and triennial-and two different forms should be used for the purpose. The annual inspection will be more or less a departmental affair and will be carried out by the officers of the District School Boards for the primary schools and by the officers of the State Education Departments for the secondary schools. In addition, there will be a thorough triennial or quinquennial inspection of every school. This will be organized by the District Educational Officer for the primary schools, and the panel will consist of an inspecting officer of the Department and two or three headmasters or teachers of primary and secondary schools selected for the purpose. In the case of secondary schools, this will be organized by the State Board of School Education and the panel will consist of an officer of the Department and some selected head-masters/educationists/teachers.

10.48 Flexibility. One of the main characteristics of the new approach to supervision will be its flexibility in the treatment of different schools. It will have to provide support and guidance to the weaker schools, lay down guidelines of progress for the average schools, and give freedom to experiment to the good schools. It will have to assume responsibility for extending the process of continually deepening the curricula from school to school and of diffusing new methods of teaching which have been discovered and have proved their efficacy. The responsibility of the supervision for these significant tasks and the manner in which it can discharge it satisfactorily have already been discussed in the preceding two chapters. We may re-emphasize, in this context, the need for the provision for guidance and extension services to schools which becomes one of the major responsibilities of the new supervision; and it is from this point of view that we have recommended that the district and not the Directorate of Education should become the chief unit for school services.

10.49 If this new supervision is to become a reality, the quality of supervising officers will have to be considerably improved. Three measures will. be needed from this point of view. Two of these, namely, upgrading the qualifications of inspecting officers and the appointment of specialists, have already been referred to. The third is the need to provide in-service training for all supervisory and administrative officers. This function would have to be performed, as will be discussed later, by the State Institutes of Education and the National Staff Colleges for Education Administrators.

REORGANIZATION OF STATE EDUCATION DEPARTMENTS: STATE LEVEL

10.50 State Institutes of Education. The district educational officer will receive guidance and advice from the headquarters principally through two main channels. The first is the Directorate proper which will give him the necessary instructions in all administrative and financial matters; and the second is the State Institute of Education which is a part of the Directorate and forms the principal academic wing of the Department. in so far as the administrative supervision over the districts is concerned, we

have already recommended extensive delegation of authority to the district. With regard to the academic guidance to be given to district officers, there was no organization for the purpose at the Directorate level until the State Institutes of Education were established. These are still new and feeling their way. A few words about the need, functions and proposed development of these Institutes will, therefore, be in place.

10.51 It is now universally recognized that the Education Departments need an academic wing and that it should be staffed by experts in different fields who can make their expertise available to field officers, teachers and headmasters. Some steps in this direction have already been taken. For example, there are special inspectorates for Physical Education and Audio-visual Education. Subject-inspectors have been appointed in some States. Most States have State Institutes of English (for improving the standards of English), Vocational Guidance Bureaux (for providing guidance services and for training school counsellors), and Evaluation Units (for the improvement of examinations). Recently, steps have been taken to establish Institutes of Science also. In one or two States, there are also Bureaux of Curriculum Research; and in some States, a separate machinery has been set up for the production of textbooks and instructional materials. There is, therefore, hardly any need to make out a case for the establishment of functional inspectorates or bureaux in the State Education Departments. On the other band, there is need to introduce harmony and order in a situation which, in some cases at least, is becoming a little chaotic.

10.52 There were solid reasons for establishing comprehensive State Institutes of Education as replicas of the National Council of Educational Research and Training recently established at the Centre. Each of the different organizations set up at the State level is small and not very viable. Consequently, they are often ineffective, and the coordination of the programme of a large number of such small and different organizations is difficult. This will be overcome if they can be integrated with the State Institute of Education. Similar developments took place at the Centre during the first three plans. A beginning was made with a large number of separate institutions established for small specific purposes. As these did not prove to be effective enough, they were combined under a single organization which has been designated as the National Council of Educational Research and Training. This has been a progressive step and has yielded good results. A time has now come to take a similar step at the State level also.

10.53 The following sections or programmes will have to be developed in the academic wing of the Education Department, preferably in the State Institute of Education but, if necessary, outside it:

(1) In-service Education of Departmental Officers. Provision of in-service training for all officers of the Department and to all teacher educators (whether in public or in private schools).

(2) Improvement of Teacher Education. For this purpose, it has already been suggested[118] that each State Government should establish a State Board of Teacher Education, which should work in collaboration with the State Institute of Education.

(3) Curricula, Textbooks, Guidance and Evaluation. It is also necessary to set up a competent and adequate agency for dealing with curricula, textbooks and evaluation. The textbook production part of this agency should preferably take the form of an autonomous organization, operated on a commercial basis but on the principle of no profit and no loss.

(4) Research and Evaluation of Programmes. At present, this is mostly a neglected area. It would be a responsibility of the State Institutes of Education to develop these programmes, in collaboration with the universities and training colleges.

(5) Publications. These would deal with educational problems and will have to be brought out on a large scale, in the modern Indian languages.

STATE AND NATIONAL BOARDS OF EDUCATION

10.54 Educational Standards. One of the major objectives of educational development is to secure a continuous improvement in standards. To initiate and carry on this process within the programme for school improvement, an adequate machinery at the State level is needed for defining, revising and evaluating educational standards, expected as well as attained. A suitable Organization at the national level is also necessary to stimulate, coordinate and guide this work. It is to these proposals that we shall now turn our attention.

10.55 Educational standards are of three kinds:

- 'expected' educational standards, defined in terms of specific educational goals and subject-matter content and made more explicit in syllabuses, textbooks, teachers' guides and other learning materials; and

- 'accomplished' educational standards, defined in terms of students' performance as measured by examination and other evaluation instruments;

- 'projected' educational standards defined in terms of the expected or accomplished standards at some future date, say five or ten years hence, as a part of a programme of continual improvement of standards.

10.56 The definition and measurement of these educational standards at the national level can materially help in raising the standards of the educational system as a whole in the following ways:

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(1) The expected and projected national standards will provide definite targets for educational attainments at different stages of education at given periods, on the basis of which State Governments may formulate their own expected standards of attainment at all levels and at different periods.

(2) The national standards may be useful in establishing general comparability of educational attainment between different States.

(3) The formulation of national standards and their continual appraisal can be useful in educational planning. In particular, projected educational standards can be worked out at the national level with a phased programme for the attainment of higher standards from one plan period to another.

(4) The measurement of accomplished educational standards may also help in establishing national norms of educational performance of students at various levels and in various subjects, and thus provide an objective appraisal of the educational progress of the individual States and of the nation as a whole, and make inter- State and international comparisons possible. Longitudinal studies of accomplished standards on the basis of norms and dispersion are the only means of forming valid objective judgments as to whether educational standards have deteriorated, remained stationary, or been raised over a period of years. In a developing country, the need for the establishment of such a procedure for the measurement and evaluation of educational standards is obvious.

10.57 State and National Standards. Assuming the need to plan and implement a programme on the above lines, it becomes necessary to decide the levels at which these standards should be defined. We recommend that, to begin with, they should be defined at two levels: at the end of the higher primary stage and at the end of the lower secondary stage (or at the level of the present secondary school leaving examination). When the higher secondary stage will cover a period of two years and we have twelve years of schooling everywhere prior to admission to the university, it will become necessary to define standards at the end of the higher secondary stage also.

10.58 We further visualize the following steps to be taken:

(1) All these standards should be prescribed, to begin with, by the State Governments in the light of local conditions.

(2) The State Governments will create an adequate machinery at the State level for defining these standards, for measuring them and for their periodical revision. They will also define projected standards at these levels from time to time. This machinery will consist of the State Evaluation Organizations and the State Boards of School Education.

(3) There wilt be a National Board of School Education which will coordinate the national standards and assist the State-level organizations to develop a programme of continuous improvement of standards. The work will begin with the standard at the end

of class X, then extend to the standard at the end of class VII/VIII and finally to that at the end of class XII.

(4) To begin with, there may be wide gaps in the standards defined in the different States at each of these levels. But as the work develops, these gaps will tend to diminish and the standards attained in different States at these levels will tend to come closer together. We would, however, like to emphasize that the concept of a national standard implies only a minimum below which no State should be allowed to fall, and does not connote a uniformity which all States should accept for all time. On the contrary, it is presumed that every State will aim as high as possible, and that the minimum standards prescribed will themselves rise continuously.

10.59 State Evaluation Organization. With a view to implementing this programme, we recommend that a State Evaluation Organization should be set up in each State broadly on the lines of the Central Testing Organization for higher education which we have recommended for establishment on a national basis. A beginning in this direction has been made already through the establishment of State Evaluation Units. These have been located, sometimes in the Departments and sometimes in the State Boards of Secondary Education. We find that difficulties arise in both cases. When the Unit is set up as a part of the Department, it fails to develop a close relationship with the Board of Secondary Education which is the most important examining body in the State. On the other hand, when it is established in the Board, it tends to lose contact with the schools and with the programme of improving evaluation throughout the school stage and particularly at the primary level. We are, therefore, of the view that the State Evaluation Organization should be set up as an independent institution, preferably autonomous, and its services should be available to all concerned-Boards of Secondary Education, District Educational Officers who are in charge of improving evaluation techniques in primary and secondary schools, and the schools themselves.

10.60 The main function of the State Evaluation Organization will be to assist the State Education Departments in prescribing, revising and measuring educational standards. From this point of view, it will

- help the District Educational Officers improve the evaluation practices in primary and secondary schools; and

- help the State Boards of School Education improve the external public examinations conducted by it, particularly the examinations at the end of class X and class XI/XII.

10.61 We have discussed earlier the manner in which evaluation practices in primary and secondary schools and the external public examinations conducted by the Boards of Secondary Education at present are to be improved.[119] This will be the principal responsibility of the District Educational Officer who will have, on his staff, at least one specialist officer in evaluation. The State Evaluation Organization will assist in these programmes by:

- preparing and keeping in stock a rich supply of evaluation material, including standardized achievement tests and making it available to all concerned;

- by cooperating with the training colleges in providing training to prospective teachers in new techniques of evaluation;

- by cooperating with the State Institutes of Education in providing in-service education in new techniques of evaluation to all inspecting officers;

- by conducting training programmes for specialist officers of the Department in evaluation, headmasters of schools, and examiners and paper-setters of the State Boards of School Education; and

- conducting research relating to problems of evaluation at the school stage.

10.62 The State Evaluation Organization will advise the State Education Department on the curricula for and the expected standards at the end of the higher primary and lower secondary stages. It will also advise the Department on the preparation of textbooks and other teaching and learning materials. In addition, it will be its sole and important responsibility to measure the accomplished standards at the end of the higher primary and lower secondary stages from time to time and publish reports about the manner in which they vary from block to block or district to district in the State. Needless to say, these periodical and objective assessments of accomplished standards will be an important tool in improving standards continuously.

10.63 It will be a responsibility of the State Government to establish the State Evaluation Organization. It will be headed by a senior officer of the Education Department specially trained in modern evaluation techniques and will have an adequate staff provided to him for this purpose. It will have an Advisory Committee presided over by the Chairman of the State Board of School Education and consisting of some District Educational Officers, teachers (primary and secondary) and educationists interested in the problem.

10.64 State Boards of School Education. We recommend that, in each State, a State Board of School Education should be established and it should take over the functions and responsibilities of the existing

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Boards of Secondary Education and allied agencies. It should consist of a full-time chairman, representatives of Departments (other than education) which may be in charge of education (e.g., medicine, industries, agriculture, etc.), some senior officers of the Department, representatives of the universities, representatives of the District School Boards, headmasters and teachers of secondary and primary schools, and educationists. It should have two full-time secretaries-one for the administrative section to be in charge of all the routine work of holding examinations, and the other to be in charge of the academic unit which will be mainly concerned with the periodical inspections of secondary schools and with the improvement of examination in collaboration with the State Evaluation Organization. The Board should be established bylaw and should have large powers and freedom to enable it to function and discharge its responsibilities satisfactorily. This would be greatly facilitated if its finances are not treated as government revenue and credited to the treasury (as in Mysore), but are pooled together in a separate fund managed and maintained by the Board (as in Maharashtra).

10.65 With regard to the appointment of the chairman of the Board, one view was that the Director of Public Instruction should be ex-officio chairman of the Board on the ground that this will lend status to the Board, integrate its work adequately with that of the Department and make the implementation of its policies easier. While we accept the need for a close liaison between the Board and the Department, we think that the Director is otherwise too busy to devote adequate time to its work and that the responsibilities of the Board are so heavy that it needs a full-time officer. The choice, therefore, lies between two practices, each of which has certain points in its favour. The first and the more commonly adopted practice is to appoint a senior officer of the Education Department of the status of a joint or Deputy Director as the chairman of the Board. The other practice is adopted in Rajasthan where the chairman is a non-official, having the status of a Vice-chancellor, and appointed in accordance with the same procedure. There is also a third possibility: that the chairman should be an eminent educationist and a non-official who should be given an adequate status in the Department after his appointment. There is obviously room for experimentation here and we would not like to insist on any particular method of appointing the chairman. On one point, however, we are all agreed: the Board has to function as an integral part of the Department. The standards in schools will not rise unless the State Board of School Education (which is a professional body with authority to prescribe standards and curricula and to hold examinations), the State Department of Education (which has the inspectorate and provides the funds) and the District School Board (which administers the schools) work together as one team.

10.66 The State Board of School Education will be responsible for the following functions:

(1) It will advise the State Government in all matters relating to school education.

(2) It will prescribe conditions for recognition of primary and secondary schools in terms of teachers, curricula, equipment and other educational facilities.

(3) It will grant recognition to secondary schools desiring to send candidates for its examinations and to arrange for their periodical inspection.

(4) It will prescribe curricula for all school classes-from class I to class XII-and textbooks for the examinations conducted by it.

(5) It will conduct the public examinations at the end of classes X and XI/XII and such other examinations as may be entrusted to it by the State Government.

(6) It will conduct special examinations such as those for talent search or award of scholarships.

It will be seen that we would like the Board to be in charge of the entire school stage for purposes of curricula. Such a unified approach has great advantages. With regard to the recognition of schools, however, we propose that the recognition of primary schools will be done finally by the District Educational Officer. The secondary schools will need recognition from two sources-the Department and the State Board of School Education. The former, through its District Educational Officers, will carry out the annual inspections. The Board will grant the first recognition to the institution and also arrange for its periodical inspection, preferably triennial, by appointing panels of teachers with which the Departmental officers would be associated. We think that a double check of this type is essential for improving standards.

10.67 One important point regarding the responsibilities of the Board deserves a closer examination. All the existing Boards of Secondary Education conduct the external public examination at the end of the lower secondary stage (class X). The new Board will continue to do so. In addition, the Board will also have to conduct examinations in general education at the end of the higher secondary stage (class XI or XII). Since higher secondary education would now be very largely vocationalized, the question is whether this Board should conduct examinations for the vocational courses as well. On this point, two different views were placed before us.

(1) The first was that the sphere of the Board should include all secondary education-both general and vocational-and that it should conduct examinations even for vocational secondary education.

(2) The other view was that the scope of the Board should be limited to general education and that separate bodies should be set up for holding examinations for the vocational courses which should be integrated with higher courses in the same subject. For example, the State Board of Teacher Education would be in a better position to conduct examinations for the training of teachers.

We have given careful consideration to this problem. We feel that, in the long run, it would be desirable to bring all school education-general and vocational-within the scope of a single organization like the, State Board of School Education. But this step may not be immediately practicable. We, therefore, recommend that separate organizations may

be set up, for the time being, for different vocational courses at the State level. There should, however, be a close coordination between these bodies and the State Board of School Education and there should also be overlapping membership to sonic extent.

10.68 We think that some special arrangement is also needed for the higher secondary stage which forms the bridge between the school and the university. We, therefore, recommend that a special committee of the Board should be established to look after the higher secondary stage. Half of its members should represent the schools, and the other half, the universities. Such a body will ensure that adequate standards are maintained at this stage.

10.69 At present, some of the Boards of Secondary Education in the States take an inordinately long time in the declaration of examination results. This will have to be reduced to less than two months and for this purpose, it may be an advantage, as stated earlier, to mechanize the entire process. Secondly, it may also be desirable to set up sub-boards to cover one or more districts, depending upon the number of candidates for examinations, on the pattern of the Maharashtra Board. The State Board would set the papers etc., and the sub-boards will carry on the examination and evaluation of papers under the State Board.

THE ROLE OF THE CENTRE

10.70 Establishment of National Board of School Education. It will be for each State Government to define, in relation to national standards, the expected standards at the end of primary and secondary stages. The principal responsibility of the Government of India would be to function in an advisory, clearing house and coordinating capacity, to promote research in the subject, and to assist in the training of the personnel of the State Education Departments engaged in this programme. This flows as a corollary from the duty and responsibility which devolves on the Government of India for the Coordination and maintenance of standards in higher education. As the process of education is an integrated whole, and since high quality university education cannot be built on low school standards, no effective action in the field of higher education is possible unless similar measures are simultaneously adopted at the school stage.

10.71 In this connection, it was suggested to us that a Secondary Education Commission on the lines of the University Grants Commission, should be established. We have given careful thought to this problem and feel that this suggestion is impracticable for sever- al reasons. For instance, the large number of secondary schools creates insurmountable administrative problems. The Constitutional position is against it. It cannot even be supported on educational grounds. The establishment of an autonomous organization like the University Grants Commission is necessary in higher education where problems of autonomy are involved. But in school education, the responsibility for the maintenance of standards has to be placed squarely on the State Governments. it will, therefore, be more desirable to assist the State Governments in improving standards of school education through the Ministry of Education rather than through any autonomous organization of the type of the proposed Secondary Education Commission.

10.72 We, therefore, recommend that a National Board of School Education should be established in the Ministry of Education to advise the Government of India on all matters relating to school education. It would perform the following functions:

- define the expected and projected standards of attainment at different stages of school education;

- revise such standards from time to time in keeping with national needs and with international developments;

- evaluate the standards actually attained at the various stages of school education in the different parts of the country and ascertain the extent to which they approximate to the corresponding expected standards;

- advise and assist the State Governments in the development of a programme of curricular reform, in the preparation of textbooks, teaching materials, and in evaluation aimed principally at raising standards at the school stage; and

- advise and assist the State Governments and other authorities in the planning and implementation of all programmes essential for the improvement of standards in school education.

10.73 Composition and Duties of the Board. The Board should be organically linked with the Ministry of Education. Its full-time chairman should be an outstanding educationist, recruited from outside on the basis of professional competence, and appointed for a period of five years. On appointment, he should have the status and exercise the powers of a joint Educational Adviser. The membership of the Board should be made up as follows:

(1) Chairman;

(2) Two representatives of the Ministry of Education and the NCERT;

(3) Two representatives of the UGC;

(4) The chairmen of different State Boards of School Education;

(5) Four practising teachers at the school stage, of whom at least one should be a primary teacher; and

(6) Three university teachers specially interested in school education.

The Board should have an adequate and competent secretariat.

10.74 The Board will work in an advisory capacity and will pro- vide guidance to the State Education Departments in developing their programme regarding standards. It would also maintain close collaboration with the UGC and the universities.

10.75 In relation to the standards, the work of the Board would broadly be of two kinds:

- diagnostic, i.e., assisting State Education Departments in measuring achievements and indicating what are the accomplished educational standards in the different parts of the country; and

- developmental, i.e., helping State Governments adopt measures which would assist in raising standards through such programmes as curricular reforms, textbook preparation, and examination improvement.

The developmental work should be of greater importance and we expect the Board to provide the much-needed leadership for an intensive, continuous and intelligently planned programme of improving educational standards on the basis of the appraisal of educational progress, the constant study of the needs of the nation and of new developments, both in India and abroad, in various subjects. It can also help to reduce the time-lag between new developments in subject areas and their absorption in the education system. Since one of the most significant tasks in the proposed educational reconstruction is to raise standards, we recommend the early establishment of this Board which has to function as a catalytic agent in the process of education at the school stage.

10.76 Programmes in the Centrally Sponsored Sector. We also recommend that there should be a fairly large programme, in the centrally sponsored sector, for the development of school education, particularly in secondary education. Some of these programmes are indicated below.

(1) Development of Vocational Education. As we have repeatedly stressed in this Report, secondary education has to be largely vocationalized. This process would be expedited if the Government of India were to offer grants to State Governments for the establishment of vocational institutions at the secondary stage on a matching basis. This has already been discussed. [120]

(2) Secondary Schools with Optimum Standards. Another purpose of assistance under the centrally sponsored sector would be the establishment of quality schools. At present, the Government of India is establishing a number of secondary schools in different parts of the country which are mainly meant for the children of Central Government employees. But this programme will be very inadequate to meet total needs. We believe that it is the responsibility of the Government of India to assist State Governments establish a number of good quality institutions. We have explained earlier how a nation-wide movement for

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school improvement should be developed over the next ten years and recommended a target of raising at least 10 per cent of institutions to a higher level and establishing at least one good secondary school in each community development block. We suggest that State Governments should be requested to prepare concrete phased programmes for this purpose and that the finances needed should be shared between the Centre and the State Governments on a matching basis during the next two plans.

(3) Scholarships. We have recommended already that, for the next two plans, there should be a centrally sponsored programme for the development of scholarships at the school stage. [121]

(4) High Level Examinations. The Central Board of Secondary Education should conduct some high standard examinations in individual school subjects at two levels-classes X and XII-in consultation with the National Board of School Education. Curricula for these examinations should be prescribed in relation to the national standards. For instance, these may be related to the projected national standards five or ten years hence or what is attained in some of the best schools in the country under the present standards. A beginning may be made with mathematics and science subjects and other subjects may be included in the programme in due course. It should be open to the student of any recognized secondary school in the country to appear at these examinations and he should be awarded a certificate about his performance therein, separately for each subject. We trust that such examinations, when instituted, would gradually become more popular and would help in raising standards.

INDEPENDENT AND UNRECOGNIZED SCHOOLS

10.77 Educational Institutions Outside the Common School System of Public Education. Private schools have a right to exist under the present Constitution, irrespective of the fact whether they are or are not recognized or aided by the State. For instance, Article 30 lays down that Call minorities, whether based in religion or, language, shall have the right to establish and administer educational institutions of their choice' and that these shall not be discriminated against in matters relating to grant-in-aid on the ground that they belong to such minorities. Articles 28(1) and 28(2) imply that all citizens shall have the freedom to establish private educational institutions in order to provide religious instruction of their choice. The right to establish private schools for any purpose whatsoever has also been given to all citizens under clauses (c) and (g) of Article 19 which provide that all citizens shall have the right `to form associations' and 'to practise any profession, or to carry on any occupation, trade or business' and which obviously cover the right of individuals and groups to establish and conduct educational institutions of their choice. Private schools may, therefore, be established under these provisions of the Constitution and, if they do not seek aid or recognition from the State, they will have to be treated as being outside the national system of public education.

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10.78 These institutions can be divided into two convenient groups: independent schools, and unrecognized institutions.

10.79 The Independent Schools. The independent schools generally charge high rates of fees, pay higher scales of salary to their teachers and adopt English as the medium of instruction. The number of these schools is almost microscopic in relation to the total number of educational institutions in India. But they have a very high prestige, partly because of their standards and traditions, but mainly because the children of the most powerful groups in society attend them. As stated earlier, these schools create an important problem in social integration by segregating the richer classes from the rest of the community. As a partial step to mitigate this evil, the Government of India has started a programme of scholarships under which about 200 gifted students a year are selected under a national competition and sent to the independent schools. The number of these students is too small to produce any noticeable impact.

10.80 The Unrecognized Institutions. These form a very heterogeneous group about which little is known. It includes, for instance, a large number of pre-schools in urban areas which do not seek recognition; coaching classes of various types which do more harm than good; private institutions which are striving for recognition but whose standards are so bad that they have not been able to earn it; institutions which insist on a form of religious instruction that is contrary to the Constitution or are restricted to certain castes or communities; and some institutions which deliberately desire, for some reason or the other, to remain outside the official system of education. Some of these do useful work; but others make a negative contribution to education and society. It is not possible, under the provisions of the Constitution, to prevent such schools from coming into existence. The State Education Departments cannot control them at present because they seek neither recognition nor aid. But a time has probably arrived when the first steps towards ultimate regulation have to be taken and it may be desirable to introduce legislation for the compulsory registration of all educational institutions and to make it an offence to conduct an unregistered institution. Power should also be vested in the State Government to remove any education- al institution from the register on all or any of the following grounds: (1) the school premises or any parts thereof are unsuitable for a school; (2) the accommodation provided at the school premises is inadequate or unsuitable, having regard to the number, ages and sex of the pupils attending the school; (3) efficient and suitable instruction is not being provided at the school having regard to the ages and sex of the pupils attending thereat; and (4) the proprietor of the school or any teacher employed therein is not a proper person to be the proprietor of an independent school or to be a teacher in the school, as the case may be. But before the final decision to remove the institution from the register is taken, it should be served with a notice specifying the charges against it and giving it adequate time to comply with the requirements. It should also have the right to appeal to a special tribunal set up for the purpose. This modest measure would serve the immediate need of the situation and further action may be taken in the light of experience gained. [122]

[122]The proposals made above are based on the Education Act, 1944, in England.

SUMMARY

1 A sympathetic and imaginative system of supervision and administration is essential for initiating and accelerating educational reform. 10.01

2 The Common School System of Public Education. The Common Sys- tem of Public Education would include all government schools, all local authority schools and all aided private schools. only two types of schools will remain outside it-independent schools and unrecognized schools.

(1) The objective of educational policy should be to evolve, over the next 20 years, a common school system of public education which would cover all parts of the country, provide equality of access to all children and will maintain such a standard that an average parent will not feel the need to send his child to an independent or unrecognized school.

(2) The following steps will have to be taken to create the common school system of public education:

(a) The existing discrimination between teachers working under different managements should be done away with.

(b) Tuition fees should be abolished in a phased programme-at the primary stage by the end of the Fourth Plan and at the lower secondary stage by the end of the Fifth Plan.

(c) The existing discrimination between schools under different managements should be reduced to the minimum and all schools should be provided with the minimum essential conditions necessary for good education.

(d) The neighbourhood school plan should be adopted at the lower primary stage so as to eliminate the segregation between schools for the privileged and schools for the underprivileged. 10.02-06

(3) Government and Local Authority Schools. Government and local authority schools do not generally maintain requisite standards because teachers in these schools develop little institutional loyalty and the contact with the local community is either negligible or absent. These weaknesses should be overcome by the following measures:

(a) A school committee with local representation should look after the management of every government and local authority school or a group of schools in an area. Each committee will operate its own school fund for the provision of services in schools.

(b) Rational policies of transfers should be formulated so that teachers are not changed too often.

(c) Greater freedom should be given to these schools. 10.07-08

(4) Private Schools. It is the responsibility of government to see that private aided institutions are satisfactorily managed through adequate support. Those that are not so managed should be taken over or eliminated.

(5) A discriminating policy needs to be adopted in respect of assistance to and control of private aided institutions. The better schools should be given more freedom and assistance so as to enable them to develop into the nucleus of the common school system.

(6) With the abolition of tuition fees, most private schools will come within the common school system and should be assisted to strengthen their management in the following ways:

(a) Each private school should have a managing committee consisting of representatives of the management, the Education Department and teachers.

(b) The staffing of these schools should be broadly on the pattern of government or local authority schools.

(c) Grant-in-aid should be improved on the basis indicated in the Report.

(7) It should be an invariable rule that educational institutions must be conducted by non-profit-making bodies in order to be eligible for assistance.

(8) Grant-in-aid codes should be amended to authorize the State Education Departments to take over the management of private schools which do not satisfy requirements and which have persistently failed to come up to prescribed standards. 10.08-17

(9) Good Quality Private Schools. Good private schools which abolish tuition fees under the common school system should be helped to maintain existing standards and grant-in-aid should be adjusted on the basis of the quality schools as recommended in the Report and not on the basis of the level of the ordinary schools. 10.18

(10) The Neighbourhood School. The present social segregation in schools should be eliminated by the adoption of the neighbourhood school concept at the lower primary stage under which all children in the neighbourhood will be required to attend the school in the locality. This plan should be implemented in a period of 20 years as follows:

(a) During the first ten years, all primary schools should be improved to the minimum level and about 10 per cent of schools should be raised to a higher standard.

(b) Simultaneously the neighbourhood school system should be introduced at the lower primary stage as a pilot project in areas where public opinion is in favour of it. 10.19-20

(11) To encourage children to study in the common school system, scholarships at the school stage given by government and local authorities should be tenable only in a school functioning within the common school system of public education. Similarly, ninety per

cent of the scholarships awarded from public funds at the university stage should be open only to those students who have received their secondary education in schools functioning within the common school system. 10.21

3 A Nation-wide Programme of School Improvement. In view of the great need to improve standards of education at the school stage, a nation-wide programme of school improvement should be developed in which conditions will be created for each school to strive continually to achieve the best results of which it is capable. From this point of view, the following steps should be taken:

(1) Each institution should be treated as a unit by itself and helped to grow at its own individual pace. For this purpose, it should prepare its own developmental programme of optimum utilization and growth.

(2) The emphasis on these plans should be on motivating human agencies to make their best effort for the improvement of education rather than on increasing physical resources. Physical facilities should be improved through the cooperation of the local community.

(3) The success of the programme will depend upon the degree to which the effort is sustained over a period of time.

(4) Evaluative criteria for schools should be worked out by each State and may be used by schools for self- evaluation and by inspecting officers for their annual and triennial inspections. On the basis of these criteria, the schools should be classified on a three-point scale, norms being defined at optimum and minimum levels.

(5) During the next ten years, at least 10 per cent of the schools at the primary stage and one secondary school in each block should be raised to the optimum level. At the lower primary stage, access to these schools will be for the children in the neighbourhood. At the higher primary and secondary stages, admission will be on the basis of merit. 10.24-32

4 Supervision: Reorganization of the State Department. (1) The State Education Department will be the principal agency to deal with educational matters and will therefore be responsible for:

- the development and implementation of a programme of school improvement;

- the prescription and enforcement of standards;

- the training and supply of teachers;

- inspection and supervision;

- the establishment and maintenance of a State Evaluation Organization;

- the maintenance of quality institutions and provision of extension services;

- the establishment and maintenance of a State Institute of Education; and

- the coordination and eventual assumption of responsibility for vocational and technical education at the school stage. 10.33

(2) In view of the importance of strengthening the departmental organization at the district level-

(a) the District Educational Officer should be given adequate status by including the post in the proposed Indian Educational Service;

(b) adequate authority should be delegated to the district level;

(c) scales of pay and qualifications of inspectoral staff at the district level should be upgraded;

(d) the strength of the district staff should be increased with the addition of 'specialists' and a statistical cell; and

(e) A fair proportion of the district staff should consist of women officers in order to encourage girls' education. 10.34-37

(3) Headmasters should be selected carefully and specially trained. They should be vested with necessary authority and freedom. 10.38

5 Role of the School Complex in the New Supervision. (1) The District Educational Officer will be in touch with each school complex and as far as possible, deal with it as a unit. The complex itself will perform certain delegated tasks and deal with the individual schools within it. Adequate powers and responsibilities should be delegated to the complex so that better methods of teaching and evaluation are made possible, facilities are shared, in-service training programmes are facilitated and new programmes are tried out.

(2) The scheme should be first introduced in a few selected districts in each State as a pilot project before being implemented on a large scale.

(3) The school complex should not only encourage experimentation en bloc but also foster individual experimentation within the unit. 10.39-43

6 The New Supervision. Supervision being in a sense the backbone of educational improvement, it is imperative that the system of super- vision should be revitalized.

(1) Administration should be separated from supervision, the District School Board dealing with the former and the District Educational Officer with the latter. But the two should function in close collaboration.

(2) Recognition should not be a matter of course but should be continuously earned by every school, irrespective of its management.

(3) Every school should have two types of inspections: an annual one by the officers of the District School Board for primary schools and by officers of the State Education Departments for the secondary schools; and a triennial or quinquennial inspection organized by the District Educational Officer for the primary schools and by the State Boards of School Education for the secondary schools.

(4) The provision of guidance and extension services to schools is one of the major responsibilities of the new supervision.

(5) In-service training should be provided for all supervisory and administrative officers by State Institutes of Education and the National Staff College for Educational Administrators. 10.44-49

7 State Institutes of Education. An academic wing will have to be developed in the State Institutes of Education to look after the in-service training of departmental officers' improvement of teacher education, curricula and textbooks, guidance and evaluation, and research and evaluation of programmes. 10.50-53

8 State and National Boards of Education. In order to secure continuous improvement in standards, an adequate machinery should be set up at the State and national levels.

(1) Standards should be defined at the end of the higher primary and lower secondary stages and later on, at the end of the higher secondary stage also when it covers a period of two years.

(2) All these standards should be prescribed by the State Government in the light of local conditions; the State Evaluation Organization and the State Boards of School Education will assist in defining, measuring and periodically revising these standards.

(3) The National Board of School Education will coordinate standards at the national level and help States to raise them continuously.

(4) The national standard will only indicate the minimum below which no State should fall. These minima should be kept rising from time to time. 10.54-58

9 State Evaluation Organization. To assist the State Education Department in this programme of prescribing, maintaining and revising standards, a State Evaluation Organization should be set up in each State, as an independent institution, preferably autonomous, and its services should be available to all concerned.

(1) The State Evaluation Organization will assist the District Educational Officers in improving evaluation practices in schools, will advise the State Education Departments on curricula geared to expected standards, preparation of textbooks and other materials and measure accomplished standards from time to time.

(2) An Advisory Committee presided over by the Chairman of State Board of School Education will assist the State Evaluation Organization. 10.59-63

10 State Boards of School Education. In each State, a State Board of School Education should be established and it should take over the functioning and the responsibilities of the existing Boards, of Secondary Education and allied agencies. The Board should be established by law and should have large powers and freedom to enable it to function and discharge its responsibilities satisfactorily. This would be greatly facilitated if its finances are pooled together in a separate fund managed and maintained by the Board. The Board should functions as an integral part of the Department.

(1) The Board will be in charge of the entire school stage in respect of curricula. Recognition of primary schools will be given by the District Educational Officer and of secondary schools by both the Department and the State Board of School Education.

(2) In addition to conducting the external examination at the end of the lower secondary stage, the Board will also conduct examinations in general education at the end of the higher secondary stage.

(3) In the long run, it would be desirable to bring all school education-general and vocational-within the scope of a single organization like the State Board of School Education. But this step may not be immediately practicable. Therefore, separate organizations may be set up, for the time being, for different vocational courses at the State level. There should, however, be a close coordination between these bodies and the State Board of School Education, and there should be overlapping membership to some extent.

(4) A special committee of the Board should be established to look after the higher secondary stage. Half of its members should represent the schools and the other half, the universities.

(5) The time taken for the declaration of examination results should be minimized by (1) mechanizing the procedures, and (2) setting up sub-Boards to cover one or more districts in order to handle small- er numbers of candidates. 10.64-69

11 Role of the Centre. (1) A National Board of School Education should be established in the Ministry of Education to advise the Government of India on all matters relating to school education. It will define expected standards at different stages of education, revise these Standards from time to time, evaluate standards attained in different parts of the country, and advise and assist State Education Departments in curricular reform and in

improving standards. it will maintain close collaboration with the UGC and the universities.

(2) A large programme should be developed in the centrally sponsored sector for the development of school education, particularly in respect of the establishment of vocational institutions, developing quality institutions and provision of scholarships.

(3) The Central Board of Secondary Education should conduct some high standard examinations in individual school subjects at two levels-classes X and XII-in consultation with the National Board of School Education. Curricula for these examinations should be pre- scribed in relation to the national standards. A beginning may be made with mathematics and science subjects. It should be open to the student of any recognized secondary school in the country to appear at these examinations and he should be awarded a certificate about his performance therein, separately for each subject. Such examinations would help in raising standards. 10.70-76

12 Unrecognized Schools. It may be desirable to introduce legislation for the compulsory registration of all educational institutions and it should be made an offence to conduct an unregistered institution. Power should also be vested in the State Government to remove any educational institution from the register if stipulated conditions are not fulfilled. 10.80

APPENDIX I

AN EXPLANATORY NOTE ON ENROLMENT STATISTICS INCLUDED IN THE REPORT

(Prepared by Shri D. L. Sharma under the guidance of the Member- Secretary)

AI.01. The object of this Note is to explain the basis of compilation for the enrolment statistics included in this Report.

AI.02. The organization of the educational system, as visualised by the Education Commission, has been explained in detail in Chapter II. The manner in which the existing structure in the different States at the school stage is equated with this proposed structure, is shown below:

TABLE AI.1

EQUIVALENCE OF CLASSES I-X AT THE SCHOOL STAGE (1965-66)

X	X	XI	X
IX	IX	X	IX
VIII	VIII	IX	VIII
VII	VII	VIII	VII
VI	VI	VII	VI
V	V	VI	V
IV	IV	V	IV
III	III	IV	III
II	II	III	II
I	I	II	I
Pre-Primary Education	B A	I	

As proposed by the Education Commission	Group A Assam Nagaland NEFA	Group B Andhra Pradesh Bihar Gujarat Madras Maharashtra Orissa Dadra & Nagar Haveli Goa, Daman and Diu Pondicherry	Group C Jammu & Kashmir Kerala Madhya Pradesh Mysore Punjab Rajasthan Uttar Pradesh West Bengal A & N Islands Delhi Himachal Pradesh L.M.A. Islands Manipur Tripura

A

Explanatory Note. (i) The chart given above shows the position in 1965-66. It has varied from time to time. In tabulating enrolment, the position as it was in the year concerned, has been adopted.

(ii) There is no public examination at the end of Class X in Madhya Pradesh, Delhi and A & N Islands. But the higher secondary examination in these areas, which is held at the end of Class XI, leads to the three-year degree course. We have, therefore, equated Class X in these areas with the class leading to the high school examination in other States.

AI.03. In the school stage ending with the high school, the total duration of schooling is 12 years in one group of States and Union Territories, 11 years in another group, and 10 years in the third group.

AI.04. The central point in this proposal is to treat the public examination at the end of the high school stage (which is Class X in some States and Class XI in others) as equivalent and to go downwards, equating each successive class in school education and also upwards, equating each successive year in higher education.

In the enrolment statistics given in the Report, the equation of school classes is as follows:

TABLE AI.2

Class in the Commission's Report	Equated with
Pre-Primary Stage	Infant A and B in Group A, Class I in Group B and Pre-Primary (not shown in the chart) in 1 State.
Class	
I	Class I in Groups A & C and Class II in Group B.
II	Class II in Groups A & C and Class III in Group B,and so on.
X	Class X in Groups A & C, and Class XI in Group B.

AI.05. The equivalence in higher education courses (arts and science) has been shown in the chart given below.

TABLE AI.3
EQUIVALENCE IN HIGHER EDUCATION
(1965-66)

(a)	(b)	(c)	(d)	(e)	(f)	(g)
	III	III	A	III	III	III
First	II	II	II	II	II	II
Degree	I	I	I	I	I	I
Higher	XII	II	XII	A	A	A
Secondary	XI	I	XI	XI	XI/XII/ PUC	PUC

(a)	(b)	(c)	(d)	(e)	(f)	(g)
	As proposed by the Education Commission	Kerala (The first two years belong to junior Colleges)	U.P.	Madhya Pradesh A & N Islands Delhi	Andhra Pradesh Assam Bihar Jammu & Kashmir Mahar-ashtra Mysore Punjab Rajasthan West Bengal Himachal Pradesh Manipur NEFA Tripura	Gujarat Madras Nagaland Orissa Goa, Daman, and Diu Pondicherry

Explanatory Note

(i) Columns marked 'A' show the year to be added by 1986.

(ii) The chart given above shows the position in 1965- 66. It has varied from time to time. In tabulating enrolment, the position as it was in the year concerned has been adopted.

(iii) PUC=Pre-University Course.

AI.06. Pre-Primary Education. In our statistics, pre-primary education includes enrolments in the following three categories:

(1) Pre-Primary classes proper

(2) Infant A Class

(3) Infant B Class and Class I (where it corresponds to the Infant B Class).

AI.07. In each year of tabulation the corresponding enrolments in an the States and Union Territories which had the categories mentioned above have been aggregated together and given in Table AI.4

AI.08. General School Education. (Classes I-X). Enrolment in Classes I-X as aggregated by us, includes Classes II-XI in those States where the school stage is spread

over 11 years and Classes I-X in all the other States. The retabulated enrolments are **given in Table AI.5.**

AI.09. Basis of Estimating Enrolments at the School Stage in 1965-66. The total enrolments at the school stage for 1965-66 were assumed to be the same as given by the Planning Commission. In breaking down these enrolments class by class, however, it was assumed that owing to the reduction of wastage and the increasing desire to stay longer at school the proportion of the enrolment in higher classes to the total enrolment at the school stage will be a little better in 1965-66 than in 1960-61. Table AI.6 shows the actual proportion of the enrolments in each class to the total enrolment at the school stage for the years 1950-51, 1955-56 and 1960-61 (on the new pattern of aggregation adopted by us). It also gives the assumptions made by us regarding this proportion for 1965-66.

AI.10. General School Education (Classes XI and XII). In tabulating enrolments in general school education in Classes XI and XII, the enrolments in the following categories were included:

(i) Class XI of the higher secondary schools in all the States which have adopted the higher secondary pattern.

(ii) The pre-university class.

(iii) Intermediate classes (1st and 2nd year) in U.P. except the second year in the Universities of Aligarh and Banaras which have adopted the three-year degree course.

(iv) The first year of the Intermediate class in all the other States which have now adopted the three-year degree course (the second year, where it existed, has been shown in the undergraduate stage).

TABLE A1.4. ENROLMENT IN PRE-PRIMARY EDUCATION (1950-51 TO 1965-66)

(in thousands)

Class	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Pre-Primary . . .	15	13	28	45	31	75	97	82	179	130	120	250
Infant A	687	221	908	445	224	668	352	227	579	453	300	753
Infant B and Class I . .	2,675	1,566	4,241	4,108	2,283	6,391	4,932	2,922	7,855	6,563	4,207	10,770
TOTAL	3,377	1,800	5,177	4,598	2,537	7,135	5,381	3,231	8,612	7,146	4,627	11,773

Source: Ministry of Education, Form A of the States concerned till 1960-61. The figures for 1965-66 were estimated in the Secretariat of the Commission.
N.B. Totals do not tally because of rounding.

TABLE A1.5. ENROLMENT IN CLASSES I-X (1950-51 TO 1965-66)

(in thousands)

Class	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
I	3,750	1,466	5,216	4,808	2,137	6,945	6,401	3,127	9,528	9,057	4,827	13,884
II	2,664	939	3,603	3,149	1,295	4,443	4,383	2,026	6,409	6,246	3,210	9,456
III	2,101	686	2,788	2,450	934	3,384	3,534	1,538	5,073	4,888	2,546	7,434
IV	1,587	458	2,045	1,963	645	2,608	2,852	1,135	3,987	4,345	1,971	6,316
Total of classes I-IV	10,102	3,549	13,651	12,369	5,011	17,380	17,170	7,826	24,996	24,536	12,554	37,090
V	1,111	244	1,355	1,470	398	1,867	2,276	814	3,090	3,666	1,550	5,216
VI	873	184	1,056	1,215	304	1,519	1,819	601	2,421	2,897	1,151	4,048
VII	686	131	816	975	232	1,206	1,491	461	1,952	2,399	886	3,285
Total of classes V-VII	2,669	559	3,228	3,659	933	4,592	5,587	1,876	7,463	8,962	3,587	12,439
VIII	581	91	672	790	163	953	1,191	320	1,511	1,856	620	2,476
IX	378	54	433	630	120	751	920	220	140	1,494	421	1,915
X	315	41	356	505	91	596	764	166	930	1,267	332	1,599
Total of classes VIII-X	1,275	186	1,461	1,926	374	2,300	2,876	706	3,582	4,617	1,373	5,990
GRAND TOTAL	14,046	4,293	18,339	17,954	6,318	24,272	25,633	10,408	36,041	38,115	17,514	55,629

Sources: Ministry of Education, Form A of the States concerned till 1960-61. The figures for 1965-66 were estimated in the Secretariat of the Commission.
N.B. Totals do not tally because of rounding.

TABLE AI.6

PROPORTION OF ENROLMENT IN EACH CLASS AT THE SCHOOL STAGE TO TOTAL ENROLMENT

	1965-66		1950-51		1955-56		1960-61 (estimated)	
Class	Boys %	Girls %	Boys %	Girls %	Boys %	Girls %	Boys %	Girls %
Pre-Primary	0.1	0.2	0.2	0.4	0.3	0.6	0.3	0.6
A	3.9	3.6	2.0	2.5	1.1	1.7	1.0	1.3
B	15.4	25.7	18.2	25.8	15.9	21.4	14.5	19.0
I	21.5	24.1	21.3	24.1	20.6	22.9	20.0	21.8
II	15.3	15.4	14.0	14.6	14.1	14.9	13.8	14.5
III	12.1	11.3	10.9	10.5	11.4	11.3	10.8	11.5
IV	9.1	7.5	8.7	7.3	9.2	8.3	9.6	8.9
V	6.4	4.0	6.5	4.5	7.3	6.0	8.1	7.0
VI	5.0	3.0	5.4	3.4	5.9	4.4	6.4	5.2
VII	3.9	2.1	4.3	2.6	4.8	3.4	5.3	4.0
VIII	3.3	1.5	3.5	1.8	3.8	2.3	4.1	2.8
IX	2.2	0.9	2.8	1.4	3.0	1.6	3.3	1.9
X	1.8	0.7	2.2	1.0	2.5	1.2	2.8	1.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source. Ministry of Education, Form A of the States till 1960- 61. The figures for 1965-66 were estimated in the Secretariat of the Commission.

In short, we have shown the first year of the Intermediate class as a part of Classes XI and XII in all cases. Where the three-year degree course has been adopted, the second year has been shown in the undergraduate stage. Where the three-year degree course has

not been adopted, both the years have been shown under classes XI and XII, the only exception to this being the city of Bombay for which no separate figures are available.

The Intermediate (Commerce) classes have been regarded as part of general education and the corresponding enrolment has been shown under Classes XI and XII.

The retabulated enrolments on these assumptions have been given in Table AI.7

AI.11. General Education (Undergraduate Stage). In our retabulation, the enrolments in general education at the undergraduate stage include the following:

(i) Enrolments in the second year of the Intermediate classes in all States which have now adopted the three- year degree course.

(ii) Enrolments in the First Degree Courses for Arts and Science.

(iii) Enrolments in the First Degree Courses for Commerce.

AI.12. General Education (Postgraduate and Research). There are no difficulties about the enrolments in general education at the postgraduate stage and research. These have been taken from the publications of the Ministry of Education and are given in Table AI.8 along with the enrolments at undergraduate stage.

Al. 13. Vocational Schools. The enrolment in vocational schools is of a mixed character. In some courses such as polytechnics, admission is given only to those who have completed the secondary school. In other courses such as teacher-training or in industrial training institutes, admission is given to those who have completed the secondary school as well as to those who have completed the primary school only. In some other courses such as arts and crafts (e.g. tailoring) the admission is mostly of those who have not completed the secondary school, although there are a few students who have done so. It is, therefore, necessary to make certain assumptions regarding the enrolment of students who have completed the secondary school and of those who have completed the primary school only. We make the following assumptions:

(i) Teacher Training. 20 per cent of the enrolment was regarded as not having completed the secondary school.

(ii) Arts and Crafts. All the enrolment was regarded as not having completed the secondary school.

In all other vocational courses, such as engineering and technology, medicine and veterinary science, agriculture and forestry, commerce, physical education, library science, co-operation, marine training, etc., the enrolment was regarded as being of the higher secondary stage or equivalent to Classes XI to XII. We realize that there is a small proportion of students in agriculture and medical schools who have not completed the

secondary school. But we have assumed that this will be off-set by the enrolment of students who have completed the secondary school and joined courses of arts and crafts.

AI.14. The enrolments in vocational courses retabulated on these bases are given in Table AI.9

AI.15. Professional Education at the University Stage. In professional education at the university stage, we divided the enrolments into three parts:

(i) Enrolments corresponding to the higher secondary stage or Classes XI and XII;

(ii) Enrolments for the first degree or the undergraduate stage; and

(iii) Enrolments for the second degree or the postgraduate stage.

Enrolments corresponding to those at the higher secondary stage (Classes XI and XII)

In the statistics of enrolments in training colleges, the enrolments of graduates preparing for the B.T. or B.Ed. degree are mixed up with those of matriculates undergoing a one or two year course. The enrolments in the B.T. or B.Ed. class are also separately available in the publication, Education in Universities issued by the Ministry of Education. Deducting these, after making adjustments for certain relevant factors, we estimated the enrolments of students in the training colleges who have completed the secondary school stage only. These have been shown as belonging to the higher secondary stage.

Similarly the enrolments for Intermediate Science (Agriculture) have been estimated and shown as vocational education at the school stage corresponding to Classes XI and XII.

In the same way we have estimated the enrolments in Intermediate (Commerce) and as pointed out earlier these have been shown under general education at the higher secondary stage.

All the remaining enrolments in the professional courses in higher education were divided into two categories: enrolments at the first degree stage (or undergraduate) and enrolments at the second and research degrees (or postgraduate).

AI.16. The retabulated enrolments on the above assumptions have been shown in Table Al. 10.

AI.17. Total Enrolments. The total enrolments in the educational system as a whole, re-tabulated on the lines indicated above, are given in Table Al. 11. In this context the following points may be noted:

(i) Enrolments in vocational education corresponding to the lower secondary stage (Classes VIII-X) have been taken from the school portion in Table Al. 9.

(ii) Enrolments in vocational education corresponding to the higher secondary stage (Classes XI-XII) have been taken from Tables Al. 9 and AI. 10.

(iii) No attempt has been made to retabulate the enrolments in special schools and colleges. These have been reproduced from the publications of the Ministry of Education.

AI.18. Enrolment Statistics published by the Ministry of Education. The enrolment statistics published by the Ministry of Education adopt a different system of equivalence at the school stage. They start by equating the lowest classes with one another, i.e. Infant 'A' in Assam, Class I in a State like Maharashtra with 11-year school system and also Class I in a State like Uttar Pradesh with a 10-year school system are all equated together. The equivalence proceeds upwards class by class. In this method, the main weakness is that classes which are quite unlike to each other are added together. For example, Class X of Uttar Pradesh which is matriculation class is added to Class X of Bihar which is pre-matriculation class or Class XI of Delhi which is the higher secondary class is added to Class XI of Maharashtra which is the matriculation class.

The enrolments according to this system have been given in Table Al. 12 for purposes of comparison. It will be seen that the totals of enrolments in Tables Al. 11 and Al. 12 tally. But the enrolments at substages do not tally for reasons already explained.

TABLE AI.7. ENROLMENT IN GENERAL SCHOOL EDUCATION CLASSES XI AND XII (1950-51 TO 1965-66)

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Classes XI and XII												
General Education . .	121,693	17,193	138,886	223,388	35,635	259,043	384,964	72,353	457,317	638,690	138,320	777,010
Intermediate (Commerce) .	18,554	58	18,612	28,242	242	28,484	33,303	405	33,708	56,745	700	57,445
TOTAL . . .	140,247	17,251	157,498	251,630	35,897	287,527	418,267	72,758	491,025	695,435	139,020	834,455

Source: Ministry of Education, Form A of the States concerned.

TABLE AI.8. ENROLMENT IN GENERAL EDUCATION AT THE UNDERGRADUATE AND POSTGRADUATE STAGES (1950-51 TO 1965-66)

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1. Undergraduate Courses in Arts & Science . .	153,151	22,029	175,180	248,571	45,961	294,532	313,385	82,483	395,868	549,510	147,480	696,990
2. Undergraduate Courses in Commerce . . .	15,579	104	15,683	27,254	162	27,416	37,919	416	38,335	61,455	800	62,255
TOTAL (UNDERGRADUATE)	168,730	22,133	190,863	275,825	46,123	321,948	351,304	82,899	434,203	610,965	148,280	759,245
3. *Postgraduate* M.A. & M.Sc. . .	14,401	2,127	16,528	21,293	4,040	25,333	37,541	9,298	46,839	62,350	15,910	78,269
Research . . .	1,051	139	1,190	2,193	371	2,564	3,576	697	4,273	6,450	1,290	7,740
TOTAL (POSTGRADUATE AND RESEARCH) . . .	15,452	2,266	17,718	23,486	4,411	27,897	41,117	9,995	51,112	68,800	17,200	86,000

Source: Ministry of Education, Form A of the States concerned.

TABLE A1.9. ENROLMENT IN VOCATIONAL SCHOOLS/COURSES (1950-51 TO 1965-66)

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Lower Secondary Stage (Classes VIII—X)												
1. Teacher Training .	10,414	3,599	14,013	13,007	5,176	18,183	18,226	6,310	24,536	..	..	..
2. Arts & Crafts etc. .	18,185	14,156	32,341	25,553	26,669	52,222	46,584	29,110	75,694	..	..	..
TOTAL . . .	28,599	17,755	46,354	38,560	31,845	70,405	64,810	35,420	100,230	90,100	46,800	136,900
Higher Secondary Stage (Classes XI—XII)												
1. Teacher Training .	41,655	14,395	56,050	52,026	20,705	72,731	72,904	25,242	98,146	..	..	..
2. Engineering and Technology . .	20,811	337	21,148	41,181	214	41,395	85,864	438	86,302	..	..	..
3. Medicine and Veterinary Science .	3,221	1,452	4,673	4,308	2,565	6,873	5,332	6,536	11,868	..	..	..
4. Agriculture and Forestry . . .	1,872	9	1,881	5,332	14	5,346	7,832	74	7,906	..	..	..
5. Commerce . .	34,206	3,280	37,486	69,241	10,326	79,567	95,790	17,034	112,824	..	..	..
6. Physical Education* .	1,000	300	1,300	1,871	372	2,243	2,929	515	3,444	..	..	..
7. Library Science . .	..	..	..	..	..	..	50	..	50	..	..	..
8. Co-operation . .	..	..	..	..	..	..	1,656	15	1,671	..	..	..
9. Marine Training. .	116	..	116	1,206	..	1,206	1,561	..	1,561	..	..	..
10. Other Subjects . .	..	..	..	354	..	354	770	275	1,045	..	..	..
TOTAL . . .	102,881	19,773	122,654	175,519	34,196	209,715	274,688	50,129	324,817	439,900	73,200	513,100
GRAND TOTAL . .	131,480	37,528	169,008	214,079	66,041	280,120	339,498	85,549	425,047	530,000	120,000	650,000

Source: Ministry of Education, Form A.

*We have ignored, for 1950-51, the enrolment in Akhuras because this enumeration was later on discontinued.

TABLE A1.10. ENROLMENT IN PROFESSIONAL COURSES (1950-51 TO 1965-66)

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Agriculture												
Higher Secondary Stage .	1,630	2	1,632	2,359	16	2,375	6,717	74	6,791	11,600	200	11,800
Undergraduate Stage .	2,579	20	2,599	3,000	15	3,015	8,627	65	8,692	14,750	150	14,900
Postgraduate & Research.	400	2	402	481	6	487	355	10	365	3,280	20	3,300
TOTAL . . .	4,609	24	4,633	5,840	37	5,877	15,699	149	15,848	29,630	370	30,000
Commerce												
Higher Secondary Stage .	18,554	58	18,612	28,242	242	28,484	33,303	405	33,708	56,745	700	57,445
Undergraduate Stage .	15,579	104	15,683	27,254	162	27,416	37,919	416	38,335	61,455	800	62,255
Postgraduate & Research .	2,047	5	2,052	3,000	18	3,018	6,226	43	6,269	9,440	60	9,500
TOTAL . . .	36,180	167	36,347	58,496	422	58,918	77,448	864	78,312	127,640	1,560	129,200
Teacher Training												
Higher Secondary Stage .	180	150	330	1,112	890	2,002	17,656	9,032	26,688	25,415	13,685	39,100
Undergraduate Stage .	3,399	1,486	4,885	8,500	3,288	11,788	13,500	6,000	19,500	21,500	10,500	32,000
Postgraduate & Research.	260	110	370	350	140	490	450	170	620	600	300	900
TOTAL . . .	3,839	1,746	5,585	9,962	4,318	14,280	31,606	15,202	46,808	47,515	24,485	72,000

Source: Ministry of Education, Form A (ii) 1960-61. For 1965-66 figures have been estimated in the Secretariat of the Education Commission.

TABLE A1.10. ENROLMENT IN PROFESSIONAL COURSES (1950-51 TO 1965-66) *(Contd.)*

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Engineering and Technology												
Undergraduate Stage	12,968	37	13,005	19,311	34	19,345	46,719	372	47,091	..	..	78,000
Postgraduate and Research	260	3	263	509	4	513	745	2	747	..	..	2,000
TOTAL	13,228	40	13,268	19,820	38	19,858	47,464	374	47,838	..	..	80,000
Law												
Undergraduate Stage	12,936	287	13,223	19,349	331	19,680	25,400	769	26,169	30,662	1,038	31,700
Postgraduate and Research	207	4	211	572	16	588	936	36	972	1,250	50	1,300
TOTAL	13,143	291	13,434	19,921	347	20,268	26,336	805	27,141	31,912	1,088	33,000
Medicine												
Undergraduate Stage	11,930	2,231	14,161	19,721	3,719	23,440	29,264	7,638	36,902	..	..	60,500
Postgraduate and Research	690	110	800	1,364	268	1,632	2,900	600	3,500	..	..	4,500
TOTAL	12,620	2,341	14,961	21,085	3,987	25,072	32,164	8,238	40,402	..	..	65,000
Veterinary Science												
Undergraduate Stage	1,290	6	1,296	3,536	13	3,549	5,328	45	5,373	..	..	6,250
Postgraduate and Research	50	..	50	100	..	100	170	2	172	..	..	250
TOTAL	1,340	6	1,346	3,636	13	3,649	5,498	47	5,545	..	..	6,500

TABLE A1.10. ENROLMENT IN PROFESSIONAL COURSES (1950-51 TO 1965-66) *(Concld.)*

Type of Course	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Forestry												
Undergraduate Stage	243	..	243	250	..	250	558	..	558	600	..	600
Postgraduate and Research	70	..	70	70	..	70	125	..	125	200	..	200
TOTAL	313	..	313	320	..	320	683	..	683	800	..	800
Others												
Undergraduate Stage	323	53	376	656	51	707	1,944	410	2,354	..	..	3,250
Postgraduate and Research	..	..	..	40	5	45	145	35	180	..	..	250
TOTAL	323	53	376	696	56	752	2,089	445	2,534	..	..	3,500
Grand Total												
Higher Secondary Stage	20,364	210	20,574	31,713	1,148	32,861	57,676	9,511	67,187	93,760	14,585	108,345
Undergraduate Stage	61,247	4,224	65,471	101,577	7,613	109,190	169,259	15,715	184,974	256,040	33,415	289,455
Postgraduate and Research	3,984	234	4,218	6,486	457	6,943	12,052	898	12,950	20,200	2,000	22,200
TOTAL OF ALL STAGES	85,595	4,668	90,263	139,776	9,218	148,994	238,987	26,124	265,111	370,000	50,000	420,000

Source: Ministry of Education, Form A, except for 1965-66 which have been estimated in the Secretariat of the Commission.
Note: For net enrolments in professional education, the enrolments in I. Com. and B. Com. which are included in the above figures should be excluded.

TABLE A1.11. TOTAL ENROLMENT IN THE EDUCATIONAL SYSTEM (RETABULATED ON THE NEW PATTERN)
(1950-51 TO 1965-66)

(In thousands)

Stage of Education	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
General Education												
1. Pre-Primary	3,377	1,800	5,177	4,598	2,537	7,135	5,381	3,231	8,612	7,146	4,627	11,773
2. Lower Primary (Classes I to IV)	10,102	3,549	13,651	12,369	5,011	17,380	17,170	7,826	24,996	24,536	12,554	37,090
3. Higher Primary (Classes V to VII)	2,669	559	3,228	3,659	933	4,593	5,587	1,876	7,463	8,962	3,587	12,549
4. Lower Secondary (Classes VIII to X)	1,275	186	1,461	1,926	374	2,300	2,876	706	3,582	4,617	1,373	5,990
5. Higher Secondary (Classes XI to XII)	140	17	157	252	36	288	418	73	491	695	139	834
6. Undergraduate	169	22	191	276	46	322	351	83	434	611	148	759
7. Postgraduate and Research	15	2	18	23	4	28	41	10	51	69	17	86
Vocational Education												
8. At the Lower Secondary Stage	29	18	46	39	32	70	65	35	100	90	47	137
9. At the Higher Secondary Stage	105	20	125	179	35	214	299	59	358	477	87	564
10. Professional Education (First Degree)	46	4	50	74	7	82	131	15	147	195	33	227
11. Professional Education (Postgraduate & Research)	4	..	4	6	1	7	12	1	13	20	2	22
Special Education												
12. Special Schools	132	18	150	182	33	215	162	36	197	185	40	225
13. Special Colleges	6	2	7	9	3	12	15	7	22	23	12	35
Total	18,068	6,197	24,265	23,592	9,053	32,645	32,508	13,959	46,467	47,626	22,666	70,292

Note: Totals do not tally because of rounding.

TABLE A1.12 ENROLMENT IN EDUCATION ON THE EXISTING PATTERN (1950-51 TO 1965-66)

(In thousands)

Stage of Education	1950-51			1955-56			1960-61			1965-66 (Estimated)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
General Education												
Pre-Primary	15	13	28	45	31	75	97	82	179	130	120	250
Lower Primary (Classes I-IV)	12,294	4,961	17,256	15,706	7,058	22,764	21,002	10,380	31,383	29,185	16,430	45,615
Higher Primary (Classes V—VII)	3,338	829	4,167	4,308	1,229	5,536	6,299	2,259	8,558	9,789	3,866	13,655
Lower Secondary (Classes VIII—X)	1,551	259	1,809	2,204	474	2,677	3,250	841	4,091	5,294	1,562	6,856
Higher Secondary (Classes XI—XII)	230	33	263	294	66	360	447	92	539	991	195	1,186
Pre-University/Intermediate@	195	26	221	342	55	396	381	77	458	621	136	757
Undergraduate	75	12	87	126	25	151	236	64	299	439	118	557
Postgraduate & Research	15	2	18	23	4	28	41	10	51	69	17	86
Vocational Education (School Standard)	149	41	191	214	66	280	339	86	425	530	120	650
Professional Education (College Standard)	86	5	90	140	9	149	239	26	265	370	50	420
Special Education (School Standard)	132	18	150	182	33	215	162	36	197	185	40	225
Special Education (College Standard)	6	2	7	9	3	12	15	7	22	23	12	35
TOTAL	*18,086	*6,201	*24,287	23,592	9,053	32,645	**32,508	**13,959	**46,467	47,026	22,666	70,292

@ Includes enrolment in Classes XI and XII in U.P.

* Includes 17,965 boys and 3,595 girls in Akhatas (Vocational education school standard). These have been excluded in the revised consolidation.

** Excludes 6,197 boys and 852 girls in NEFA and includes 2,842 boys and 1,485 girls in unrecognized institutions in Nagaland whose class-wise distribution is not available.

Note: Totals do not tally because of rounding.

APPENDIX II

RESOLUTION OF THE GOVERNMENT OF INDIA SETTING UP THE EDUCATION COMMISSION*

AII.01. The Government of India, ever since the attainment of independence, have given considerable attention to the development of a national system of education rooted in the basic values and the cherished traditions of the Indian nation and suited to the needs and aspirations of a modern society. While some advances have been made in these directions, the educational system has not generally evolved in accordance with the needs of the times, and a wide and distressing gulf continues to persist between thought and action in several sectors of this crucial field of national activity. In view of the important role of education in the economic and social development of the country, in the building of a truly democratic society, in the promotion of national integration and unity, and above all, for the transformation of the individual in the endless pursuit of excellence and perfection, it is now considered imperative to survey and examine the entire field of education in order to realize within the shortest possible period a well-balanced, integrated and adequate system of national education capable of making a powerful contribution to all spheres of national life.

AII.02. The attainment of independence ushered in a new era of national development founded upon: the adoption of a secular democracy, not only as a form of government but also as a way of life; the determination to eliminate the poverty of the people and to ensure a reasonable standard of living for all, through modernization of agriculture and rapid development of industry; the adoption of modern science and technology and their harmonizing with traditional spiritual values; the acceptance of a socialistic pattern of society which will secure equitable distribution of wealth and equality of opportunity for all in education, employment and cultural advancement. Greater emphasis came to be placed on educational development because of the realization that education, especially in science and technology, is the most powerful instrument of social transformation and economic progress and that the attempt to create a new social order based on freedom, equality and justice can only succeed if the traditional educational system was revolutionized, both in content and extent.

AII.03. Quantitatively, education at all levels has shown a phenomenal development in the post-Independence period. In spite of this expansion, however, there is widespread dissatisfaction about several aspects of educational development. For instance, it has not yet been possible to provide free and universal education for all children up to 14 years of age. The problem of mass illiteracy continues to be immense. It has not been possible to raise standards adequately at the secondary and university stages. The diversification of

*N. F.41 3(3)64-E.I. Ministry of Education, Government of India, New Delhi, the 14th of July 1964 as finally modified.

curricula in secondary and higher education has not kept pace with the times so that the problem of educated unemployment has been intensified on the one hand while, on the other, there is an equally acute shortage of trained manpower in several sectors. The remuneration and service conditions of teachers leave a great deal to be desired; and several important academic problems are still matters of intense. controversies: In short, qualitative improvements in education have not kept pace with quantitative expansion, and national policies and programmes concerning the quality of education, even when these were well-conceived and generally agreed to, could not be implemented satisfactorily.

AII.04. The Government of India are convinced that education is the key to national prosperity and welfare and that no investment is likely to yield greater returns than investment in human resources of which the most important component is education. Government have also decided to mobilize all the resources of science and technology which can only be done on the foundation of good and progressive education and, to that end, to increase considerably their total investment in the development of education and scientific research. The nation must be prepared to pay for quality in education, and from the value attached to education by all sectors of the people it is clear that they will do so willingly.

AII.05. It is desirable to survey the entire field of educational development as the various parts of the educational system strongly interact with and influence one another. It is not possible to have progressive and strong universities without efficient secondary schools and the quality of these schools is determined by the functioning of elementary schools. What is needed, therefore, is a synoptic survey and an imaginative look at education considered as a whole and not fragmented into parts and stages. In the past, several commissions and committees have examined limited sectors and specific aspects of education. It is now proposed to have a comprehensive review of the entire educational system.

AII.06. While the planning of education for India must necessarily emanate from Indian experience and conditions, Government of India are of the opinion that it would be advantageous to draw upon the experience and thinking of educationists and scientists from other parts of the world in the common enterprise of seeking for the right type of education which is the quest of all mankind, specially at this time when the world is becoming closely knit together in so many ways. It has, therefore, been decided to associate with the Commission, either as members or as consultants, some eminent scientists and educationists from other countries. The United Nations Educational, Scientific and Cultural Organization has provided three members for the Commission, viz., Mr. Jean Thomas, Inspector General of Education, France, and formerly Assistant Director General of UNESCO, Prof. Shumovsky, Director, Methodological Division, Ministry of Higher and Special Secondary Education, RSFSR, Moscow, and Professor of Physics, Moscow University, and Prof. Sadatoshi Ihara, Professor of the First Faculty of Science and Technology, Waseda University, Tokyo, who have since joined the Commission. It is expected that the collaboration of some eminent scientists and educationists, as consultants, with the work of the Commission, will also be forthcoming.

Negotiations are in progress with some more specialists and additions of names of foreign consultants will be notified from time to time. In addition, the Commission has been authorized to invite from time to time such other consultants in India in relation to any aspect of its enquiry as it may consider necessary.

AII.07. For the purposes outlined in the foregoing paragraphs, Government of India have decided to set up an Education Commission consisting of the following members:

Chairman

1. Prof. D. S. Kothari, Chairman, University Grants Commission, New Delhi.

Members

2. Shri A. R. Dawood, former Director, Extension Programmes for Secondary Education, New Delhi.

3. Mr. H. L. Elvin, Director, Institute of Education, University of London, London.

4. Shri R. A. Gopalaswami, Director, Institute of Applied Manpower Research, New Delhi.

5. Dr. V. S. Jha, former Director of the Commonwealth Education Liaison Unit in London.

6. Shri P. N. Kirpal, Educational Adviser to the Government of India, New Delhi.

7. Prof. M. V. Mathur, Professor of Economics and Public Administration, University of Rajasthan, Jaipur.

8. Dr. B. P. Pal, Director, Indian Agricultural Research Institute, New Delhi.

9. Kumari S. Panandikar, Head of the Department of Education, Karnatak University, Dharwar.

10. Prof. Roger Revelle, Dean of Research, University of California, USA

11. Dr. K. G. Saiyidain, former Educational Adviser to the Government of India, New Delhi.

12. Dr. T. Sen, Rector, Jadavpur University, Calcutta.

13. Mr. Jean Thomas, Inspector General of Education, France, and formerly Assistant Director-General of UNESCO.

14. Prof. S. A. Shumovsky, Director, Methodological Division, Ministry of Higher and Special Secondary Education, RSFSR, Moscow, and Professor of Physics, Moscow University.

15. Prof. Sadatoshi Ihara, Professor of the First Faculty of Science and Technology, Waseda University, Tokyo.

Member-Secretary

16. Shri J. P. Naik, Head of the Department of Educational Planning, Administration and Finance, Gokhale Institute of Politics and Economics, Poona.

Associate Secretary

17. Mr. J. F. McDougall, Assistant Director, Department of School and Higher Education, UNESCO, Paris.

AII.08. The Commission will advise Government on the national pattern of education and on the general principles and policies for the development of education at all stages and in all its aspects. It need not, however, examine the problems of medical or legal education, but such aspects of these problems as are necessary for its comprehensive enquiry may be looked into.

AII.09. The Commission will submit its final report as early as possible and not later than the 31st March, 1966. Where immediate implementation of certain programmes is necessary the Commission may also submit, from time to time, interim reports dealing with limited sectors on problems of education. Government are anxious that the implementation of agreed recommendations about specific matters of importance shall on no account be held up until the completion of the Commission's work. On the other hand its expert advice and guidance should be continuously available to those charged with the responsibility for implementing educational programmes and policies.

Ordered that a copy of the Resolution be communicated to all State Governments and Administrations of Union Territories and to all Ministries of the Government of India.

Ordered also that the Resolution be published in the Gazette of India for information.

PREM KIRPAL

Secretary to the Government of India

B

APPENDIX III

CONSULTANTS TO THE EDUCATION COMMISSION

1. Dr. James E. Allen, Jr., Commissioner, State Education Department, and President, University of the State of New York, New York, USA.

2. Dr. C.E. Beeby, Visiting Professor, Centre for Studies in Education and Development, Graduate School of Education, Harvard University, Cambridge, Massachusetts, USA.

3. Prof. P.M.S. Blackett, President of the Royal Society, UK, and Professor of Physics, Imperial College of Science and Technology, University of London, London.

4. Recteur J.J. Capelle, Professor, University of Nancy, and former Director-General of Education in France, Paris.

5. Sir Christopher Cox, Educational Adviser, Ministry of Overseas Development, UK, and Fellow, New College, Oxford.

6. Dr. Philip H. Coombs, Director, UNESCO International Institute for Educational Planning, Paris.

7. Prof. Andre Daniere, Centre for Studies in Education and Development, Graduate School of Education, Harvard University, Cambridge, Massachusetts, USA.

8. Prof. S. Dedijer, Institute of Sociology, University of Lund, Sweden.

9. Dr. Nicholas DeWitt, Director, International Survey of Educational Development and Planning, Indiana University, Bloomington, Indiana, USA.

10. Dr. John Guy Fowlkes, School of Education, University of Wisconsin, Madison, USA.

11. Sir Willis Jackson, Head of the Department and Professor of Electrical Engineering, Imperial College of Science & Technology, University of London, London.

12. Dr. J. Paul Leonard, Professor of Education, Columbia University Teachers' College, and Chief of Party, Columbia University Team in India, New Delhi.

13. Dr. Gordon N. Mackenzie, Professor of Education, Teachers' College, Columbia University, New York, USA.

14. Professor C. A. Moser, Director, Unit for Economic and Statistical Studies on Higher Education, London School of Economics and Political Science, London.

15. Prof. S. Okita, Executive Director, Japan Economic Research Centre, Tokyo, and Special Adviser to the Minister of Economic Planning Agency, Government of Japan.

16. Professor A.R. Prest, Professor of Economics and Public Finance, University of Manchester, Manchester, England.

17. Lord Robbins, Professor Emeritus, London School of Economics, and Chairman of Financial Times, London. Recently Chairman of the Committee on Higher Education, UK.

18. Professor Edward A. Shils, Professor of Sociology and Social Thought in the Committee on Social Thought, University of Chicago, USA, and Fellow of King's College, Cambridge, UK.

19. Dr. Frederick Seitz, President, National Academy of Sciences, Washington, USA.

20. Professor W.C. Smith, Professor of World Religions and Director, Centre for the Study of World Religions, Harvard University, Cambridge, Massachusetts, USA.

APPENDIX IV

TASK FORCES AND WORKING GROUPS

AIV.01 Task Force on Adult Education

1. Dr. V. S. Jha, Member, Education Commission, New Delhi. Convener

2. Shri Abdul Qadir, Director-General of Employment & Training, Ministry of Labour & Employment, New Delhi.

3. Shri G. K. Chandiramani, Additional Secretary, Ministry of Education, New Delhi.

4. Shri A. R. Deshpande, Adviser (Social Education), Ministry of Education, New Delhi.

5. Shrimati Durgabai Deshmukh, Vice-Chancellor's Residence, Delhi University, Delhi.

6. Mrs. Welthy Fisher, Literacy House, Kanpur Road, Lucknow.

7. Shri K. L. Joshi, Secretary, University Grants Commission, New Delhi.

8. Shri D. R. Kalia, Director, Delhi Public Library, Delhi.

9. Dr. T. A. Koshy, Director, National Fundamental Education Centre, 38-A, Friends Colony (East), Mathura Road, New Delhi.

10. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

11. Dr. M. S. Mehra, Vice-Chancellor, Rajasthan University, Jaipur.

12. Mrs. A. R. Moore, Regional Adviser on Health Education, World Health Organization, WHO House, Ring Road, New Delhi.

13. Shri J. P. Naik, Member-Secretary, Education Commission. New Delhi.

14. Dr. M. S. Randhawa, Special Secretary, Ministry of Food & Agriculture (Department of Agriculture), New Delhi.

15. Dr. K. G. Saiyidain, Member, Education Commission, New Delhi.

16. Dr. Hans Simons, Ford Foundation, 32, Feroze Shah Road, New Delhi.

17. Shri Sohan Singh, Asia Foundation, 29, Rajpur Road, Delhi.

18. Dr. S. M. S. Chari, Deputy Educational Adviser, Education Commission, New Delhi. Secretary

Sub-Group on Literacy Education

MEMBERS

1. Mrs. Durgabai Deshmukh, Vice-Chancellor's Residence, University of Delhi, Delhi. Convener

2. Shri A. R. Deshpande, Adviser (Social Education), Ministry of Education, New Delhi.

3. Dr. T. A. Koshy, Director, National Fundamental Education Centre, New Delhi.

4. Shri Mustaq Ahmed, Director, Literacy House, Lucknow.

5. Shri H. P. Saxena, Assistant Director, National Fundamental Education Centre, New Delhi.

Sub-Group on Role of Universities and Institutions of Higher Learning in Adult Education

MEMBERS

1. Shri Sohan Singh, Asia Foundation, New Delhi. Convener

2. Shri Bashiruddin, 33-A, Kasturba Gandhi Marg, Allahabad.

3. Dr. Nagendra, Chairman, University Extension Lectures Board, University of Delhi, Delhi.

4. Dr. K. G. Saiyidain, Member, Education Commission, New Delhi.

5. Dr. Hans Simons, Ford Foundation, New Delhi.

6. Shri Uma Shankar, Director, Adult Education Department, Rajasthan University, Jaipur.

Sub-Group on Education of Workers

MEMBERS

1. Dr. T. A. Koshy, Director, National Fundamental Education Centre, Friends Colony, New Delhi. Convener

2. Shri Abdul Qadir, Director-General, Employment and Training, Ministry of Labour and Employment, New Delhi.

3. Shri N. Bhadriah, President, Mysore State Adult Education Council, Mysore.

4. Shri L. S. Chandrakant, joint Educational Adviser, Ministry of Education, New Delhi.

5. Shri Chenstal Rao, Secretary, Federation of Indian Chambers of Commerce and Industry, New Delhi.

6. Shri S. C. Datta, Secretary, Indian Adult Education Association, Indraprastha Estate, New Delhi.

7. Shri M. C. Nanavatty, Director (Social Education), Ministry of Food and Agriculture, New Delhi.

8. Shri Annasaheb Sahasrabuddhe, Chairman, Rural Industries Planning, Planning Commission, New Delhi.

9. Dr. R. K. Singh, Director, Rural Institute, Bichpuri (Agra), U.P.

Sub-Group on Role of Cultural Institutions in Adult Education

MEMBERS

1. Shri D. R. Kalia, Director, Delhi Public Library, Delhi. Convener

2. Shrimati Kamladevi Chattopadhyay, Chairman, All- India Handicrafts Board, Wellingdon Crescent, New Delhi.

3. Shri J. C. Mathur, joint Secretary, Ministry of Food and Agriculture, New Delhi.

4. Dr. Grace Morley, Director, National Museum, New Delhi.

5. Dr. Mulk Raj Anand, Panjab University, Chandigarh.

6. Dr. M. S. Randhawa, Special Secretary, Ministry of Food and Agriculture, New Delhi.

AIV.02. Task Force on Agriculture Education

1. Dr. B. P. Pal, Director-General and Vice- President, I.C.A.R. and Additional Secretary, Ministry of Food and Agriculture, New Delhi. Convener

2. Dr. Amir Ali, Director, Rural Institute, Jamia Millia, Jamia Nagar, New Delhi.

3. Dr. Anant Rao, Dean, U.P. Agricultural University, Pant Nagar.

4. Dr. Chintamani Singh, Dean, Veterinary College, Punjab Agricultural University, Hissar.

5. Dr. R. W. Cummings, Field Director, Rockefeller Foundation Programme in India, 17, Kautilya Marg, Chanakyapuri, New Delhi-21.

6. Prof. V. M. Dandekar, Centre for Advanced Study in Agricultural Economics, Gokhale Institute of Politics and Economics, Poona.

7. Dr. K. C. Kanungo, Head of the Division of Agricultural Economics, Indian Agricultural Research Institute, New Delhi.

8. Dr. A. B. Joshi, Dean and Deputy Director (Education), Indian Agricultural Research Institute, New Delhi.

9. Managing Director, Banana and Fruit Development Corporation, 7, 1st Main Road, C.I.T. Colony, Madras.

10. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

11. Dr. S. N. Mehrotra Deputy Secretary, Education Department, Government of Uttar Pradesh, Lucknow.

12. Dr. S. K. Mukherji, Deputy Agricultural Commissioner, Indian Council of Agricultural Research, Krishi Bhavan, New Delhi.

13. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

14. Dr. K. C. Naik, Vice-Chancellor, University of Agricultural Science, 9-XI Main, 16th Cross, Malleswaram, Bangalore-3.

15. Dr. N. K. Panikar, Director, Indian Programme, Indian Ocean Expedition, C.S.I.R., New Delhi.

16. Shri C. S. Ranganathan, Fertilizer Association of India, New Delhi.

17. Dr. S. C. Verma, Field Adviser (Agriculture), N.C.E.R.T., New Delhi.

18. Shri S. Ramanujam, Assistant Educational Adviser, Education Commission, New Delhi. Secretary

AIV.03. Task Force on Educational Administration

1. Shri Prem Kirpal, Secretary, Ministry of Education and Member, Education Commission, New Delhi. Secretary

2. Shri A. C. Deve Gowda, Director, Directorate of Extension Programmes for Secondary Education (N.C.E.R.T.). 7, Lancer Road, Timarpur, Delhi-6.

3. Dr. V. Jagannadham, Professor of Social Administration, Indian Institute of Public Administration, Indraprastha Estate, New Delhi.

4. Prof. M. V. Mathur, Member, Education Commission, New Delhi.

5. Dr. S. Misra, Director of Public Instruction, Orissa (now Vice-Chancellor, Utkal University), Cuttack

6. Dr. S. N. Mukherjee, Head of the Department of Educational Administration, (N.C.E.R.T.), B-2/6A, Model Town, Delh-9.

7. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

8. Shri H. M. Patel, Chairman, Charotar Vidya Mandal, Vallabh Vidyanagar, via Anand (Gujarat).

9. Dr. D. M. Sen, Education Secretary, West Bengal, (now Vice-Chancellor, Burdwan University), Calcutta.

10. Shri J. D. Sharma, Director of Public Instruction, Punjab, Chandigarh.

11. Shri V. D. Sharma, Education Secretary, Rajasthan, Jaipur.

12. Dr. Rudra Dutt Singh, Head of the Research Project on Panchayati Raj Institutions, Indian Institute of Public Administration, Indraprastha Estate, New Delhi.

13. Miss S. Rajan, Assistant Educational Adviser, Education Commission, New Delhi. Secretary

AIV.04. Task Force on Educational Finance

1. Prof. M. V. Mathur, Member, Education Commission, New Delhi. Convener

2. Shri D. A. Dabholkar, Principal, Chintamanrao College of Commerce, Sangli (Maharashtra).

3. Dr. B. Dutta, Education Secretary, Government of West Bengal, Calcutta.

4. Shri R. A. Gopalaswami, Member, Education Commission, New Delhi.

5. Shri K. L. Joshi, Secretary, University Grants Commission, New Delhi.

6. Dr. D. T. Lakdawala, Head of the Department of Economics, University of Bombay, Bombay-1.

7. Dr. Gautam Mathur, Head of the Department of Economics, Osmania University, Hyderabad.

8. Dr. Atmanand Misra, Director of Public Instruction, Madhya Pradesh, Bhopal.

9. Dr. Sadashiv Misra, Director of Public Instruction, (now Vice-Chancellor, Utkal University), Cuttack, Orissa.

10. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

11. Dr. K. A. Naqvi, Delhi School of Economics, University of Delhi, Delhi.

12. Dr. Pritam Singh, Director, National Council of Applied Economic Research, New Delhi.

13. Shri Gurbax Singh, Assistant Educational Adviser, Education Commission, New Delhi. Secretary

AIV.05. Task Force on Higher Education

1. Dr. K. G. Saiyidain, Member, Education Commission, New Delhi Convener

2. Shri j. W. Airan, Principal, Wilson College, Bombay-7.

3. Shri P. K. Bose, Principal, Bangabasi College, Calcutta.

4. Shri Chandrahasan, Head of the Department of Hindi, University of Kerala, Ernakulam.

5. Dr. V. S. Jha, Member, Education Commission, New Delhi.

6. Dr. A. C. Joshi, Adviser, Planning Commission, New Delhi.

7. Shri K. L. Joshi, Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

8. Shri C. L. Kapur, Retired Director of Education and Education Secretary, Punjab, IE/5, Patel Road, Patel Nagar, New Delhi-12.

9. Dr. D. S. Kothari, Chairman, Education Commission and University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

10. Prof. M. V. Mathur, Member, Education Commission, New Delhi.

11. Shri P. G. Mavlankar, Principal, L. D. Arts College, Navrangpura, Ahmedabad.

12. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

13. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

14. Dr. P. J. Philip, joint Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

15. Shri A. B. Shah, Executive Secretary, Indian Committee for Cultural Freedom, Army and Navy Building, 148, Mahatma Gandhi Road, Bombay-1.

16. Dr. Hans Simons, Consultant in General Education, Ford Foundation, 32, Feroze Shah Road, New Delhi-1.

17. Dr. Amrik Singh, Secretary, Inter-University Board of India and Ceylon, 1, Rouse Avenue, New Delhi.

18. Dr. R. K. Singh, Director, Balwant Vidyapeeth Rural Higher Institute, Bichpuri, Agra (U.P.).

19. Dr. H. J. Taylor, Principal, Union Christian College, Barapani, Shillong (Assam).

20. Miss. S. Rehman. Assistant Educational Adviser, Education Commission, New Delhi. Secretary

SPECIAL INVITEES

1. Dr. C. Gilpatric, Visiting Professor of Philosophy, University of Delhi (The Rockefeller Foundation), Delhi-7.

2. Dr. M. S. Mehta, Vice-Chancellor, Rajasthan University, Jaipur.

3. Prof. M. Mehrotra, 43, Lal Quarters, Govinda Nagar, Kanpur-6.

Sub-Group on Equalization of Educational Opportunities at University Level

1. Dr. R. K. Singh, Director, Balwant Vidyapeeth Rural Higher Institute, P.O. Bichpuri (Agra). Convener

2. Shri K. L. Joshi, Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

3. Shri P. G. Mavlankar, Principal, L. D. Arts College, Navrangpura, Ahmedabad-9.

4. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

5. Shri A. P. Shah, Executive Secretary, Indian Committee for Cultural Freedom, Army and Navy Building, 148, Mahatma Gandhi Road, Bombay-1.

Sub-Group on Rural Higher Education

1. Shri G. Ramachandran, Director, Gandhigram, Gandhigram P.O., Madurai District (Madras). Convener

2. Dr. H. Amir Ali, Director, Jamia Rural Institute, Jamia Millia Islamia, P.O. Jamia Nagar, New Delhi-25.

3. Shri K. L. Bordia, Director, Vidya Bhavan Rural Institute, Udaipur (Rajasthan).

4. Dr. V. S. Jha, Member, Education Commission, New Delhi.

5. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

Sub-Group on Salaries of Teachers

1. Shri K. L. Joshi, Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1. Convener

2. Dr. C. Gilpatric, Visiting Professor of Philosophy, University of Delhi, (The Rockefeller Foundation), Delhi-7.

3. Shri C. L. Kapur, Retired Director of Education and Education Secretary, Punjab, IE/5, Patel Road, Patel Nagar, New Delhi-12.

4. Prof. S. A. Shumovsky, Member, Education Commission.

Sub-Group on University Standards

1. Dr. P. J. Philip, joint Secretary University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

2. Shri J. W. Airan, Principal, Wilson College, Bombay-7.

3. Shri A. R. Dawood, Member, Education Commission, New Delhi.

4. Dr. V. S. Jha, Member, Education Commission, New Delhi.

5. Shri M. N. Kapur, Principal, Modern School, New Delhi.

6. Shri C. L. Kapur, Retired Director of Education and Education Secretary, Punjab, IE/5, Patel Road, Patel Nagar, New Delhi-12.

7. Shri A. B. Shah, Executive Secretary, Indian Committee for Cultural Freedom, Army and Navy Building, 148, Mahatma Gandhi Road, Bombay-1.

Sub-Group on Evaluation at University Level

1. Dr. K. G. Saiyidain, Member, Education Commission, New Delhi. Convener

2. Dr. R. H. Dave, Deputy Director (Examination Unit), Directorate of Extension Programmes for Secondary Education (N.C. E.R.T.), 7, Lancer Road, Timarpur, Delhi-9.

3. Dr. V. S. Jha, Member, Education Commission, New Delhi.

4. Dr. A. C. Joshi, Adviser, Planning Commission, Yojana Bhavan, Parliament Street, New Delhi-1.

5. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

6. Shri Shantinarayan, Principal, Hans Raj College, Delhi.

7. Shri Ishwarbhai Patel, Vice-Chancellor, Sardar Vallabhbhai Vidyapeeth, Vallabh Vidya Nagar (via Anand).

8. Dr. Hans Simons, Consultant in General Education, The Ford Foundation, 32 Feroz Shah Road, New Delhi-1.

9. Dr. H. J. Taylor, Principal, Union Christian College, Barapani, Shillong.

Sub-Group on the Functions of a University

1. Dr. C. Gilpatric, Visiting Professor of Philosophy, University of Delhi, (The Rockefeller Foundation), Delhi-7. Convener

2. Dr. V. S. Jha, Member, Education Commission, New Delhi.

3. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

4. Dr. R. K. Singh, Director, Balwant Vidyapeeth Rural Higher Institute, P.O. Bichpuri (Agra).

Sub-Group on Policy of Admissions and Sub-standard Institutions

1. Dr. V. S. Jha, Member, Education Commission, New Delhi. Convener

2. Dr. C. Gilpatric, Visiting Professor of Philosophy, University of Delhi (The Rockefeller Foundation), Delhi-7.

3. Shri C. L. Kapur, Retired Director of Education and Education Secretary, Punjab, IE/5, Patel Road, Patel Nagar, New Delhi-12.

4. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

5. Dr. R. K. Singh, Director, Balwant Vidyapeeth Rural Higher Institute, P.O. Bichpuri (Agra).

AIV.06. Task Force on Manpower

1. Shri R. A. Gopalaswami, Member, Education Commission, New Delhi. Convener

2. Shri Abdul Qadir, Director-General, Employment and Training, New Delhi.

3. Shri K. L. Joshi, Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-1.

4. Prof. M. V. Mathur, Member, Education Commission, New Delhi.

5. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

6. Shri R. Prasad, Director, Manpower, Ministry of Home Affairs, (now Development Commissioner, Bihar), New Delhi.

7. Dr. T. Sen, Member, Education Commission, New Delhi.

8. Dr. S. P. Aggarwal, Head of Division, Area Manpower, Institute of Applied Manpower Research, Indraprastha Estate, New Delhi.

AIV.07. Task Force on Techniques and Methods in Education

1. Dr. V. S. Jha, Member, Education Commission, New Delhi. Convener

2. Shri G. K. Athalye-later Shri S. L. Ahluwallia, Director, National Institute of Audio-Visual Education (N.C.E.R.T.), Indraprastha Estate, New Delhi.

3. Shri M. L. Bharadwaj, Director, Advertising and Visual Publicity, Ministry of Information and Broadcasting, 'B' Block, Curzon Road, New Delhi.

4. Shri A. R. Dawood, Member, Education Commission, New Delhi.

5. Dr. (Miss) S. Dutt, Reader in Education, Central Institute of Education, N.C.E.R.T., 33, Chhatra Marg, Delhi-6.

6. Shri C. L. Kapur, IE/5 Patel Road, Patel Nagar, New Delhi-12.

7. Dr. S. S. Kulkarni, Psychometrician, Department of Psychological Foundations, N.C.E.R.T., 2/3, Model Town, Delhi-9.

8. Shri J. C. Mathur, joint Secretary, Ministry of food and Agriculture (Department of Agriculture), Krishi Bhavan, New Delhi.

9. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

10. Dr. S. K. Mitra, Head of the Department of Psychological Foundations, N.C.E.R.T., 2/3, Model Town, Delhi-9.

11. Shri J. P. Naik, Member-Secretary, Education Commission, New Delhi.

12. Dr. Paul Neurath, Ford Foundation Consultant, Educational Television, 222, Jor Bagh, New Delhi.

13. Miss S. Panandikar, Member, Education Commission, New Delhi.

14. Dr. Albert J. Perrelli, Expert, Central Institute of Education, N.C.E.R.T., 33, Chhatra Marg, Delhi-6.

15. Miss S. Rehman, Assistant Educational Adviser, Education Commission, New Delhi.

16. Mr. J. M. Ure-later Mr. D. A. Smith, Chief Education Officer, British Council, 21, Jor Bagh, New Delhi.

17. Dr. S. M. S. Chari, Deputy Educational Adviser, Education Commission, New Delhi. Secretary

AIV.08. Task Force on Professional, Vocational and Technical Education

1 . Dr. T. Sen, Member, Education Commission, New Delhi. Convener

2. Prof. S. K. Bose, Director, Indian Institute of Technology, Powai, Bombay.

3. Shri G. K. Chandiramani, Additional Secretary, Ministry of Education, New Delhi.

4. Shri L. S. Chandrakant, joint Educational Adviser, Ministry of Education, New Delhi.

5. Dr. D. R. Dhingra, 3/40, Vishnupuri, Nawabganj, Kanpur.

6. Shri R. N. Dogra, Director, Indian Institute of Technology, Hauz Khas, New Delhi.

7. Prof. V. G. Garde, Principal, Malaviya Regional Engineering College, Jaipur (Rajasthan).

8. Shri R. A. Gopalaswami, Member, Education Commission, New Delhi.

9. Shri K. L. Joshi, Secretary, University Grants Commission, New Delhi.

10. Dr. P. K. Kelkar, Director, Indian Institute of Technology, Kanpur.

11. Mr. J. F. McDougall, Associate Secretary, Education Commission, New Delhi.

12. Col. S. G. Pendse, Director of Training, Directorate General of Employment and Training, New Delhi.

13. Shri S. C. Sen, Principal, Delhi College of Engineering, Delhi.

14. Shri R. K. Srivastav, Deputy Secretary, Directorate of Manpower, Ministry of Home Affairs, New Delhi.

15. Dr. H. C. Visvesvaraya, Deputy Director, Indian Standard Institute, New Delhi.

16. Shri S. Venkatesh, Deputy Educational Adviser, Education Commission, New Delhi. Secretary

AIV.09. Task Force on Science Education

1. Dr. D. S. Kothari, Chairman, Education Commission, New Delhi. Convener

2. Prof. S. Deb, Head of the Department of Geology, Jadavpur University, Jadavpur.

3. Prof. B. D. Jain, Professor of Chemistry, Delhi University, Delhi.

4. Miss P. Florence Nightingale, Lecturer, Science Education Unit, Hyderabad.

5. Prof. R. C. Paul, Head of the Department of Chemistry, Panjab University, Chandigarh.

6. Dr. R. N. Rai, Head of the Department of Science Education, N.C.E.R.T., H-2/3, Model Town, Delhi-9.

7. Prof. T. S. Sadasivan, Director, Centre of Advanced Study in Botany, Madras University, Madras.

8. Dr. D. Shankernarayan, Development Officer, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi.

9. Prof. Shantinarayan, Principal, Hansraj College, Delhi.

10. Dr. A. R. Verma, Director, National Physical Laboratory, New Delhi.

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