



FRAME WORK
FOR
IMPLEMENTATION
OF
EDUCATIONAL REFORMS
IN
PUNJAB

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SECTION V SUMMARY OF RECOMMENDATIONS
EDUCATION REFORMS COMMISSION PUNJAB, 1985

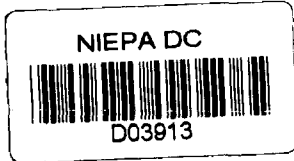
SUMMARY OF RECOMMENDATIONS

In the fourteen chapters of our report presented to Government we have critically analysed the educational system in the State of Punjab, in the perspective of the national trends emerging in education over the past four decades since independence.

2. We have examined each aspect of education as a service to the community, starting with the educational structure, followed by school curriculum over the ten years' educational cycle of general education and diversification of education at the Senior Secondary level, providing for a vocational alternative at the plus 2 stage, with all its implications. The teacher being at the centre of all educational reforms, we have examined the programmes of teacher training existing in the state and tried to suggest ways and means of improving them to meet the challenges of the 21st century by setting up an Institute of Educational Studies and Development to act as a catalyst and a pace setter, using E.T. and other up-to-date strategies of teacher education. In view of the fact that examinations form an integral part of the teaching-learning process, we have looked into the prevalent examination system, which we found totally inadequate in its present form to meet the objectives of the educational process. We have also examined the special schemes of the Government directed towards special target groups to supplement the educational effort within the formal system to achieve our objectives of the development of human resources.

3. Our educational system, under the stress of universalization of primary education and the accelerating community demand for more education and continuing education, has grown too far beyond its optimal size for efficient management and control. We have, therefore, examined its deficiencies and suggested changes that need to be made to cope with the needs of the future, which would not only mean catering for larger numbers but also greater diversity in keeping with our developing economy. We have also analysed the financial resource prospects needed for expansion and modernization of our educational system and ways and means of raising additional resources for the implementation of the reforms. It was clear to us that without examining the resources situation, suggesting any educational reforms would have no meaning. We have attempted to examine the feasibility of other support system needed for achieving our educational goals to supplement the formal system of education so as to reach all the target groups through non-formal education, using educational technology and guidance and counselling as supporting strategies. The use of strategies is essential when dealing with such large numbers and such a diversity of levels.

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4. In the end we have also looked at the governance of the apex institutions at the tertiary level of education. Their strengthening is of the utmost importance to the whole educational pyramid. Some reforms that are over-due to strengthen these institutions, have been suggested.

5. The analysis of all these aspects of education has been presented by us sequentially, as indicated above, in the 14 chapters of our report. Each of these chapters carries a critical analysis of a specific aspect along with our suggestions for introducing changes and reforms with their full rationale. In the case of most of these chapters we have also attempted a summary except in the case of chapters I to III and chapter X, as they contain either historical or factual information and, therefore, no summary is called for.

6. It has been suggested to us that while the summary at the end of each chapter may be helpful in understanding the main thrust of our recommendations in each case without going into full details of its rationale, for purposes of implementation of the proposed reforms it may be worthwhile picking up the salient features of the framework for action. This is a difficult task in the case of education reforms as the measures to be taken for implementation are mostly inter-related and have to be treated as a package. The measure of success of the proposed reforms depends upon how the system as a whole is modified so as to become more efficient and responsive to the changing needs. We would, therefore, like to add a word of caution, namely, that all measures suggested in the report are important and necessary. The only choice before us is of priorities to enable the changes to be made within a certain time frame. Viewed in the above perspective, we recommend the following framework for implementation.

Educational Structure

7. The educational structure in any educational system signifies something more than merely setting time limits for the educational preparation at different levels. After careful consideration the Education Commission (1964--66) recommended to the Government of India 10+2+3 as the national pattern of education, which has been accepted by them as a national policy. To fall in line with this policy based on sound academic grounds we recommend that we should accept it as the pattern of educational structure in Punjab.

National Pattern of Education 10+2+3

8. The proposed structure of 10+2+3 would include 10 years of schooling consisting of 8 years of elementary education and 2 years of lower secondary preceded by 1--3 years of pre-primary education. The 8 years of elementary education would be further divided into 5 years of primary and 3 years of what is known as the middle school stage in Punjab.

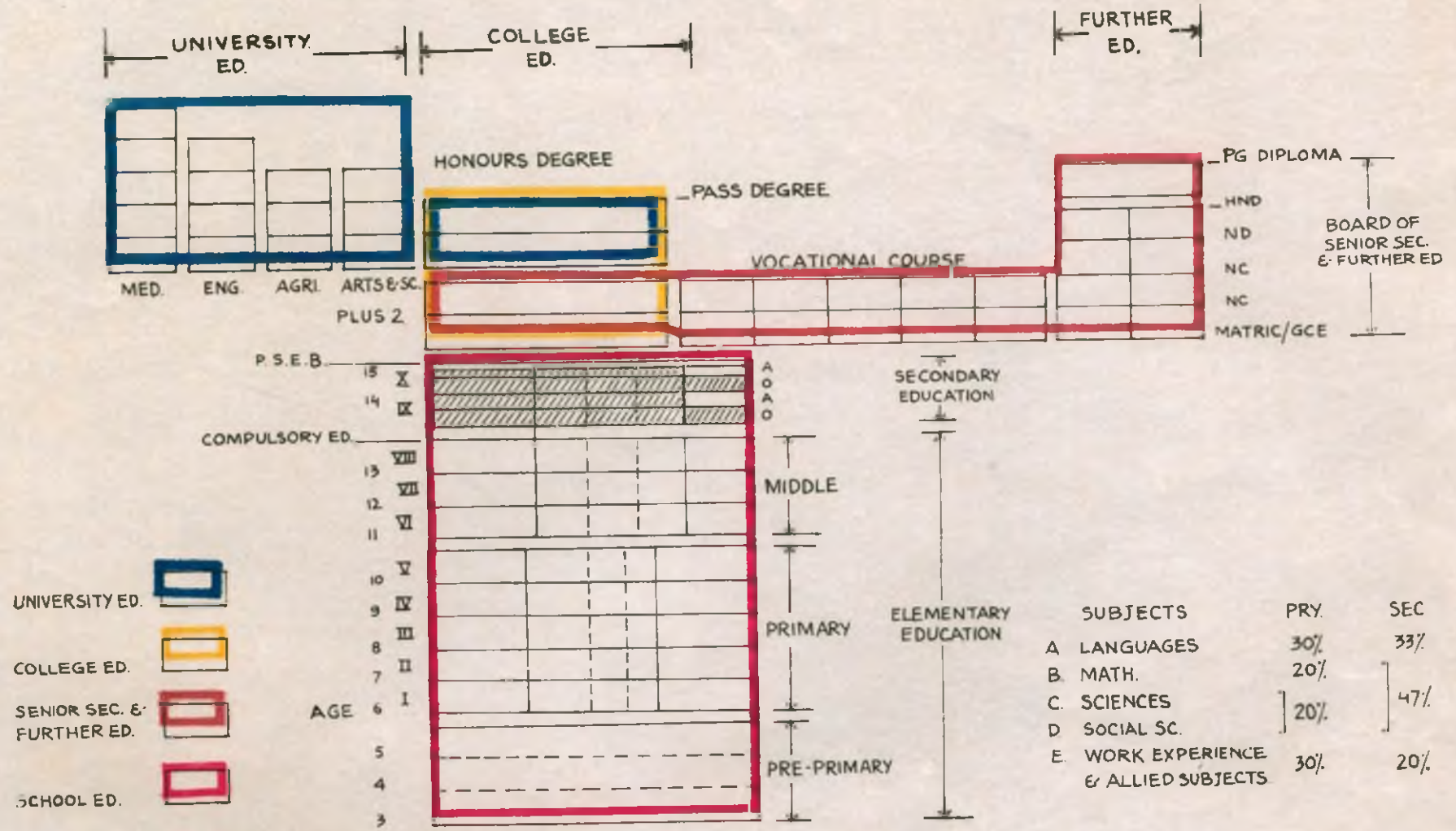


DIAGRAM 4 I

PROPOSED EDUCATIONAL STRUCTURE

9. We are inclined to accept the existing break-up of 10 years of schooling into 5+3+2. It is administratively convenient and psychologically justified except that the three year middle school is not a viable unit and creates administrative problems. It could be made viable by adding one year of primary to it and introducing one year of pre-primary in the primary schools.

10. We are not in favour of recommending any specialization during the ten year school cycle, as it would be too early to begin special studies or train for developing any skills.

11. The two years of senior secondary education, popularly known as plus 2 stage, are crucial for syphoning off the students pursuing higher studies into the academic and vocational streams. Diversification of courses should take place here for the first time. There will, therefore, be two clear cut streams at this level--academic and vocational.

12. The success of the plus two stage would largely depend upon how carefully the courses have been planned and how they lead to further education. The courses at this stage have to be structured on a modular basis, for continuous assessment, and cumulative grades to provide for both horizontal and vertical mobility

13. After completing the senior secondary the options open to the academically motivated students in the academic stream will be the following :--

- a programme of 2 years' pass degree course ;
- a programme of 3 years' honours degree course at the university or a college with facilities for post-graduate courses ; and
- first degree programme in professional colleges/ institutes.

14. We recommend that there should be two types of courses at the first degree level at least for the next decade or so, as indicated above. However, to provide flexibility in the system it is suggested that a provision should be made for such students as may wish to continue their studies after having obtained their pass degree, to join college for another year where facilities exist, to complete the honours programme.

15. On the other hand, the options open to the vocationally motivated students after completing their senior secondary education in the vocational stream will be to find gainful employment in the economy or be self-employed in the vocations of their choice.

16. If, however, a student wishes to continue his education in the tertiary sector, we recommend the following:-

- It should be possible for him to pursue Technicians courses in his chosen vocation at the higher level in polytechnics for the award of the National Diploma ;
- after completing his studies for the national diploma, or even straightaway after senior secondary, he could pursue his studies for the higher national diploma in polytechnics or colleges of further education (this diploma should be equated with the first degree of a university on the vocational side.)

Unfortunately facilities for further education on the vocational side in the tertiary sector have not been developed to any reasonable extent so far. Some courses at the national diploma level do exist in some areas in the polytechnics and some specialised institutions, but these are totally inadequate and need enrichment and diversification. We have given very serious thought to this problem and have reached the conclusion that, unless this limb of our tertiary education is properly organised, no syphoning off of the students towards vocational courses will take place and no reforms in our educational system for raising standards or reducing unemployment will be possible.

17. Post-Graduate education in our state, as in the rest of the country, is generally located in university departments. By tradition these courses in this country as well as abroad are of two years' duration for the Master's Degree and a minimum of three years for a research degree depending upon the nature of the research project.

18. This allocation of time for various levels of education has stood the test of time in this country. It is similar to the international norms at this level. We, therefore, see no reason to suggest any changes in their structure.

Location of Plus 2 Stage

19. We have in Punjab the following pattern of education at the Post-matric level.

- Higher Secondary Education followed by three years of first degree course in colleges (11+3)
- Pre-University courses after matriculation followed by three years for the first degree (10+1+3)
- Pre-Engineering/Pre-Medical followed by two years of education in a college leading to the first academic degree (10+2+2)

20. The statistics for 1983 reveal that there were 28,279 students enrolled in 244 higher secondary schools in Punjab and 38,921 students were enrolled in the Pre-University classes in 164 colleges affiliated to the three universities. It will be seen that the student enrolment at this stage is almost equally divided between schools and colleges.

21. At this stage it is necessary to point out that our present system of education for preparation for the university stage suffers from a major drawback. Students coming from the higher secondary stream and those from colleges do not follow the same curriculum, nor do they take the same examination. This creates many problems of equivalence and standards.

22. Before introducing the Plus 2 stage it would be necessary, therefore, to ensure that the courses of study followed by the students at the Plus 2 stage are the same irrespective of where the courses are located, whether in higher secondary schools or colleges, and that they take the same examination. This will help in over coming the present distortion in the system.

23. Academically it could be argued that for the successful implementation of Plus 2 in our system it would be desirable to locate it in one place i.e. either in schools or colleges. But, taking into account the problems involved in the transfer of these courses to one location--the need for additional financial resources to upgrade facilities in all the schools to cope with the increased numbers, or redundancy of staff and facilities in the case of choosing the other alternative--the Commission has come to the view that under the circumstances and on account of the limited finances available in the state it would be wiser to allow the Plus 2 stage to be located both in colleges and schools. It has been accepted as a policy by the Government of India, provided it is ensured that the courses followed by all students in the plus 2 stage are the same and they take the same examination. This would cause minimum dislocation and require the minimum financial inputs.

State Council of General, Vocational and Further Education

24. We have an unbalanced system of education for developing our human resources. This distortion in the educational system can be corrected only through the introduction of the Plus 2 and vocationalisation of our educational system. We have considered this matter in detail and have come to the conclusion that, as a first step, general and vocational education must be brought much closer together with strong linkages for interaction where they could become perceptive of each other's needs. Secondly it is important not only to devise vocational courses at the Plus 2 stage with a potential for gainful employment but also to provide an alternative system

of further education for vocational courses at the tertiary level, at par with university education on the vocational side and with certification such as the Higher National Diploma obtained in U.K. and else where abroad

25. In order to promote that alternative it seems necessary that there should be an apex body for planning and monitoring all vocational education in the state. At the national level such bodies exist for all professional education. We recommend that such a body be constituted in the Punjab as early as possible to plan and monitor the vocational component of our educational system. What its linkages would be with general education, with society and with other institutions of the educational system will be spelt out separately in our report.

Board of Senior Secondary Education

26. In addition it would appear necessary for us to recognise that Senior Secondary Education, i.e. plus 2, is a distinct stage in the total educational structure of 10+2+3, with different objectives, approach and contents, and not merely a prolongation of the ten years' school cycle which precedes it, as assumed by some people. The management and evaluation of courses at this stage has to be very different from the existing arrangement in the schools, and planned with care if it has to succeed. This matter has been carefully examined by the Commission after taking into account the experience available to us in other states and consulting persons involved in such planning. We have come to the conclusion that a separate Board of Senior Secondary and Further Education, autonomous in its constitution, and with its boards of studies as statutory bodies, needs to be created before the implementation of the plus 2 stage can be embarked upon.

School Curriculum

27. The term curriculum includes all activities and experiences that are planned for the pupils in an educational system to advance their educational goals. Education has three important components : (i) imparting of information and knowledge, (ii) development of skills needed for the growth of society, and (iii) inculcation of desirable interests, habits and values for its harmonious functioning. In our attempts at curriculum design we have mainly concerned ourselves with the first of these three components without paying any attention to the others, thus leading to an unbalanced approach to curriculum development.

27-A. The school curriculum all over the world is for ever in a state of flux because of the altered view of the basic concepts in science due to the explosion of knowledge which has widened the gap between school programmes and the needs of society.

28. Curriculum development is not a one time affair. It requires constant appraisal and renewal. Attempts made so far have been on an ad hoc basis generally not preceded by careful research nor followed by the necessary supporting measures such as preparation of learning material, re-orientation of teachers etc., with the result that it has made no impact on the educational programme in the schools.

29. It has been accepted that the curriculum of general education for the first ten years of school, consisting of the various stage i.e. Primary, Upper Primary and Secondary stages, should be organised as a continuous and integrated programme of studies. However, the standard of attainment at the end of each stage needs to be clearly defined. These standards should be defined in terms of knowledge, skills, attitudes and capabilities to be acquired.

30. We have examined this problem in depth. We have also consulted experts in this area from NCERT and other national institutions. The matter has already been exhaustively examined by the Education Commission (1964--66). We have come to the conclusion that these standards and goals could not be better defined than in terms of the Education Commission's statement in this respect, with which we totally agree. The Commission's views are included in our report and should be accepted.

Essential Elements of School Curriculum

31. We are in favour of accepting an undifferentiated core programme for the first ten years of the school cycle, with a slight modification whereby the talent of the gifted students at the lower secondary stage may be optimally canalised by giving them options of utilizing half of the time for work experience and allied subjects, for offering advanced courses in selected fields or vocational alternatives in the areas of their interest. This, we have argued, is not diversification of the courses but only an enrichment which is advocated by all educationists.

32. We accept the division of the curriculum into four areas of study, as suggested by the Education Commission (1964--66):

- (1) Study of languages for developing communication skills.
- (2) Mathematics and allied subjects for developing numeracy and logical thinking.
- (3) Sciences (which include physical and social sciences and which have become very important in the context of the present industrial age).

- (4) Work experience and allied subjects for developing personality traits and value system in the context of our national integration.

These areas of curricular study are of equal importance. It is, therefore, being suggested that they be given generally equal weightage. We recommend that this approach be accepted and the distortion in our curriculum be set right as far as possible, and as early as possible.

33. For purposes of curricular design it would be worthwhile highlighting some significant features in each of the curricular areas of study.

Languages

34. The importance of language instruction in any formal system of education is self-evident. It is a basic requirement for all types and levels of education. India being a multi-lingual society, we have accepted what has come to be known as the three language formula. According to this formula, besides teaching the mother tongue, there is need for the teaching of a link language and also a library language for advanced study and international communication, which, in our case, happens to be English.

35. The state should continue with the present three language formula. The mother tongue should be introduced in grade—I, the link language in grade III/IV and the library language in grade VI. Time allocation for languages at the primary stage seems in order, and does not need any change. However, it is noticed that in the middle and high schools the time allocated for the languages is as much as 37–43%, which appears to be excessive. This is being done at the expense of other important areas of study such as mathematics and sciences and should be corrected as early as possible.

36. By this we do not wish to suggest that we are in favour of bringing down the standard of attainment in languages at the secondary level. On the contrary it needs to be raised, if the standard of general education has to be improved. We are convinced that this is possible by employing other approaches for their effective teaching such as the use of more competent and better qualified teachers and equipping them with better teaching methods and aids.

Science Teaching

37. We believe that the most significant contribution made by the Education Commission was to recommend that Science and Mathematics should form compulsory areas of study in the school curriculum of general education. Though this has been accepted as a policy, there is a lot left to be desired in its implementation. We made a special study of this problem

and have gathered the impression that the infrastructure and the facilities available for the teaching of science in our schools are very inadequate. There are many schools without science rooms and well equipped laboratories. No use is made of educational technology for the teaching of science. The syllabus and teaching material for the teaching of science are out of date and needs to be reviewed and revised. We recommend that this process should be started as early as possible through a statutory board of studies with the collaboration of the Science Institute established for the purpose.

38. Time allocation for science at the middle and high school stages is 15% and 11% respectively and that for mathematics at both these stages is 15%. In a society where the major emphasis is for scientific and technological change, there is need for upward revision of time allocation to 18% at least, in these areas.

Work Experience and allied Subjects

39. Recommendations: to link work with education have been made by various commissions and committees; yet much has not been achieved. The concept of work experience promoted by Gandhiji in basic education has been re-defined by the Education Commission (1964--66). It made a laudable contribution by recommending to bridge the gap between work and education by making work experience a compulsory component of the school curriculum. Work experience, in this context, is not to be considered as an attempt to train skilled and professional workers to suit a particular vocation, but is to be interpreted as an educational experience to enhance general personality traits and skills manual, artistic and creative- and give the pupils a good value education.

40. For this purpose the Education Commission (1964--66) has suggested organising educational experiences in the following areas of study within the 20% of time allocation out of the curricular schedule. We have examined this matter in detail, and would recommend the following break-up :--

	<u>Primary Stage</u>	<u>Secondary Stage</u>
(a) Work experience	10%	6-7%
(b) Creative activities	4-5%	3-4%
(c) Value Education and Social Service	5-6%	4--6%
(d) Physical Education	10%	6-7%

The Education Commission had identified value education and social service as one of the four areas of educational activity to be included in this cluster of educational experiences. This area of study is completely missing from our curriculum.

We are strongly of the view that efforts should be made to include it in this cluster of subjects.

Value Education

41. In view of the importance of this subject we have consulted a number of people involved in designing the school curriculum. We also held a seminar at which a number of papers were presented. The deliberations of the seminar proved very useful for developing guidelines for working out instructional arrangements for this area. We have included these in our report. The salient features of these recommendations are reproduced below :

- It has been universally accepted that Moral Value education should be included in the school curriculum both as a curricular and co-curricular educational activity.
- There are two possible options regarding the instructional strategies for imparting value education, one involves an indirect approach viz. using suggestions, discussions and co-curricular activities for teaching social and moral values. The other is the direct approach, viz. teaching through curricular subjects.
- We can allocate 4% time i.e. two periods a week, for this subject. Boards of Studies should work out the syllabus and produce teaching material.
- The teaching of various curricular subjects should be restructured and taken up in their true spirit for developing healthy habits and attitudes. For instance, Mathematics should emphasise accuracy, Science the pursuit of truth, History tolerance, communal harmony and international understanding, Literature aesthetic sense and altruism. This would require re-structuring of text-books so that all subjects yield the teaching of values.

Evaluation of moral development is extremely difficult. Every child has his own individual characteristics, which should be identified and appreciated. Moral development is a continuous process and it should be continuously assessed by a team of teachers. Proper records should be maintained and remedial measures planned accordingly. It should not be made an examination subject but the continuous assessment by the teachers should accompany the grade card.

Guidelines on Curricular Design

42. We are conscious of the fact that a curriculum should never be imposed on the system but evolved by the teachers themselves involved in it. We, however, suggest the following guidelines for the information of those that undertake to do this work :

Classes I--III

First Language	25%
Mathematics (Social Studies and General Science)	45%
Work experience and the Arts Health Education and Games and Moral Education	30%
Total :	<u>100%</u>

Classes IV-V

First Language and Second Language	30% (15+15)
Mathematics	20%
Environmental Studies--I (Social Studies)	20%
Environmental Studies--II (General Science)	20%
Work Experience and the Arts, Health Education and Games.	30%
Total :	<u>100%</u>

Classes VI--VIII

First Language, Second Language and Third Language	30/33%
Mathematics, Science (Life Sciences and Physical Sciences) Social Sciences (History, Geography, Civics and Economics)	47/50% (Equally divided)
Art Work Experience, Physical Education, Health Education and Games inclu- ding Moral Education	20%
	<u>100%</u>

Classes IX and X

First Language, Second Language and Third Language	33/35%
Mathematics (Life Sciences and Physical Sciences) Social Sciences (History, Geography, Civics and Economics)	45/47% (equally divided)
Art, Work Experience, Physical Education, Health Education and Games including Moral Education	<u>20%</u> <u>100%</u>

43. At present the total number of working days prescribed for educational institutions is 240--255. Of these 40--60 days are spent on examinations, 5--10 days for sports tournaments and a similar number of days on annual functions like foundation day, prize-distribution P.T.A. meetings etc. Thus the actual instructional work goes on for only 165-190 days. This appears to be too meagre to cover the curriculum, as proposed in the report. In our view the number of instructional days in a year should be increased to about 234--240 days, as recommended by the NCERT.

44. The curriculum for general education courses at the senior secondary stage has been widely discussed. The consensus seems to emerge, with which we agree, that there should be three clusters of subjects designated under Language, Work Experience and Elective subjects, of which three options would be chosen for independent study. We recommend that 15% of the time should be devoted to languages, 15% to work experience and the remaining 70% to the study of the three independent subjects.

Vocational Education

45. We have stressed several times in our report the importance of vocational education at the senior secondary level for the developmental needs of our economy and for reducing educated unemployment. That it is so needs no further convincing. Further, it needs to be recognised that the Plus 2 stage in the national pattern of education recommended by the Education Commission 1964-66 was also specifically designed for the diversification of school education so that students may not only be confined to academic courses but could opt out for vocational alternatives consistent with their interests and aptitudes.

46. It would be of interest to note that in 1981 in a developed country like the Federal Republic of Germany out of the total number of gainfully employed persons, 64% had

undergone trade (vocational) training and only 9% had a university background i.e. ratio of 7 : 1. On the other hand, the Education Commission had suggested diverting a mere 50% of students to vocational courses by 1986, and even that target is not likely to be achieved.

47. Why, one may ask, is the progress towards vocationalisation of education so slow? This matter has been carefully examined by us and we are inclined to accept the view that there is in all such innovations a long and difficult gestation period between the conceptualization of the idea and its implementation. This is so not only because in education the new strategies always require internal restructuring and modification of content which has to be preceded by adequate planning and re-orientation of teachers etc., but also because in this case we require even more urgently the development of strong links between the school and the user agencies.

48. It would be interesting to note that whatever facilities for vocational training exist today are located in the user departments such as Department of Health, Technical Education etc. This training has no links with the school system. On the other hand in states where vocational education is being introduced, the attempt appears to be to locate it in schools irrespective of the trade concerned, resulting in a total divorce from the professional in-puts needed for such training.

49. The Commission has carefully examined this matter and has reached the conclusion that if vocational education is to be successfully implemented in Punjab, that has to be done in such a manner that strong links are formed between the schools and the departments concerned with vocational training, and are constantly strengthened, to mutual advantage. It is with this end in view that we suggest that where facilities for training can be created in the school environment, e.g. in the field of agriculture, commerce and home science, vocational education be introduced in the schools, while that in the field of engineering and para-medical trades where special facilities and professional inputs are needed, may be located in special institutions such as I.T.I./I.T.C. and Medical Schools attached to hospitals where these facilities be easily organised.

50. The Commission is of the view that whereas the Department of Education and the Department of Technical Education and Training should maintain their respective identities, they should be placed under the charge of the same Minister, to enable fruitful collaboration between the two departments. Collaboration with other user departments such as health, agriculture etc. could be established through their representation on the State Council of General and Vocational Education proposed to be set up. The minister may have two Advisory Committees, one for General Education and the other for Vocational Education.

51. The Government of India and N.C.E.R.T. have been urging upon states to establish their own State Councils for Vocational Education so that vocational activities can receive effective guidance, promotion and co-ordination. The Commission would like to go a step further and recommend the establishment of a statutory body to be called the State Council for General, Vocational and Further Education, which could promote, direct and monitor collaboration between Vocational and General Education, with the power and responsibility of accrediting institutions at the secondary level and above, as well as with the power of certification, after due assessment, of the performance of students by the appropriate Board of Education. Only with such a Council can vocational education get the stimulus that is needed for its successful implementation. It would ensure :

- integration of the vocational education programmes with general education ;
- would ensure that vocational programmes are organised to suit the requirements of the user agencies ;
- would take steps to evolve a tertiary level continuing education programme for the students going through the vocational stream ; and
- would act so as to ensure that employers give due recognition to students of the vocational stream by amending the eligibility requirements for jobs which vocationally trained students can perform more competently.

52. There are 20,000 students in the State of Punjab being trained in vocational trades in various institutions such as ITI's, ITC's, Medical Schools etc. This constitutes only 5% of the student population in the school system. As per our projections there will be 3,40,000 students at the senior secondary stage by 1990 and 5,10,000 by the end of the century. Although the Education Commission (1964--66) had expressed the hope that by 1986, 50% of the students at the senior secondary stage would be diverted towards the vocational courses, we know now that this target, even though it is most desirable is not likely to be achieved. As a hind-sight one could, perhaps, say that it was too optimistic. We would recommend, therefore, a more modest approach and set for ourselves a target of attempting to divert only 15% of these students by 1991, and 25% by the end of the century, into vocational courses. With these targets in view the Commission has proposed a tentative plan for vocational education as described in the report in detail.

53. In the preparation of this plan the Commission has sought to broadly conform to the guidelines proposed by the NCERT. The differences in approach, wherever existing, have

been pointed out in our report. The plan has as its basis the following considerations :--

- (1) The proposed arrangements must utilise the existing infrastructure and resources to the maximum.
- (2) All vocational education for children of school going age in the state should be a co-ordinated activity.
- (3) At the conclusion of the plus 2 vocational education a student must have the skill to be employed in his or her trade and specialisation ; but at the same time must also have a broader understanding of the trade so that, if necessary, he/she can, with further training, fit into a job or activity related to his/her specialisation, and
- (4) Attempts be made to identify or design a continuing education programme for each vocational specialisation or stream.

54. These four considerations have been reflected in the following salient features of the plan :--

- (1) Vocational streams be evolved in five distinct groups consisting of :--
 - (a) Agriculture
 - (b) Commerce
 - (c) Engineering
 - (d) Health Care
 - (e) Home Science
- (2) For each group, in addition to the common programme on the study of language and general foundation course there should be a broad-based core programmes as well as separate training programmes for specific streams identified within each group constituting the overall plan of study in the plus 2 vocational programmes. All students opting for different specific streams within each group will together be exposed to the core programme and will separately pursue the training programmes relevant to their respective specific streams.
- (3) Vocational programmes in the Commerce and Home Science Groups be provided in schools and colleges where plus 2 programmes are introduced, since facilities for these programmes do not require a heavy capital investment. Programmes for these groups currently running in ITI's etc. should continue after being modified to conform to the requirements of the

plus 2 vocational spectrum. Vocational programmes in the Agriculture Group requiring farm land be organised initially in 11 Higher Secondary and 158 High School which, under the Agriculture scheme, have farms and irrigation systems attached to them. The Engineering Group Programmes running in ITI's, ITC's etc. be modified to conform to the requirements of the plus 2 vocational spectrum. Health care group programmes currently being run in Medical Colleges and Training Schools run by the Health Department be suitably altered to serve as plus 2 vocational spectrum programmes.

- (4) Regardless of the environment where plus 2 programmes of the vocational spectrum are located, as also of the administrative agency conducting these programmes, all of them must conform to the academic requirements to be formulated by the Board of Senior Secondary and Further Education to be established as per the Commission's recommendations detailed elsewhere in this report.

55. The proposed scheme for each of the five vocational groups identified above is presented in the report in detail, and may be perused.

56. It would, perhaps, be appropriate to highlight two points at this stage. We agree that the curriculum for vocational courses at the plus 2 stage in its broad concept should conform to the one proposed by Adiseshiah in his report, that is, (1) Language with the time allocation of 15%, (2) General Foundation course with the time allocation also of 15% and (3) electives with a time allocation of 70% for subjects related to the specific vocations. We would, however, like to make some slight modifications in this time allocation. We would like to increase the allocation of 70% for the vocational component of the curriculum to 75% consisting of 25% for the supporting courses and 50% for practical work. This may be done by reducing the time allocated for foundation courses by 5%.

57. In respect of the core programme we visualise that there would be a large number of vocational streams and that the training programmes in each stream would be of sufficient depth to ensure the student's competence for immediate employment ; and finally that the training should not be solely for one specific stream but for a family of streams so as to increase the students' potential for employment.

58. For this purpose the strategy to be employed should consist of a training programme in three parts :

- (i) Study of language and general foundation courses which would be common for all vocational courses ;

- (ii) Study of a broad based core programme relevant to the group to which the chosen specific stream belongs ; and
- (iii) Study and training programme for the chosen specific stream itself.

59. We have endeavoured to formulate plans for each group on the basis of the guidelines indicated above. The respective board of studies will need to work out the courses of study and the textual material for the students under the guidance of the Board of Senior Secondary Education.

60. To conceive of any reform in education without thinking of improving the quality of teachers would be unrealistic. We have, therefore, to carefully plan teacher education programmes for creating a potential among them to fill their future roles. The training programmes, as at present, are not relevant to the actual teaching-learning situation prevalent in our schools. Teacher Education

61. In keeping with the futuristic trends in education and the broad objectives of teacher education three categories of training programmes, namely (1) Basic Courses, (2) Special Training Programme Packages (STPP) and (3) Student-teaching programmes are relevant.

62. The curriculum needs to be designed in such a way that an integration is achieved among the theory courses and values are woven with skill dominated and attitude building areas.

63. Students' teaching will become a continuous process with STPP. The content-cum-methodology approach would suit primary school teachers' training, which needs to be imparted in a variety of situations such as micro-teaching, simulating situations, multiple-class teaching, multiple-subject teaching, polytalent teaching, non-formal situation etc.

64. All institutions of education must have their own practising schools. Educational technology should be introduced and made use of during training. For secondary teachers there should be one major area of concentration for practice teaching in which intensive practice is given, and the second subject be included as minor area of concentration.

65. The integration of basic courses, STPP and student-teaching would largely favour the adoption of modular courses, built-in internal assessment for STPP, and external as well as internal evaluation for basic courses and skills in teaching.

66. The basic philosophy of planning and integrating the courses to design a viable programme that will produce the correct attitudes and skills in teachers to cope with the

demands of future education has been carefully spelt out in the report, which may be perused.

Institute of Educational Studies and Development

67. In order to break away from the conventional methods and for speedy changes in teacher education, an autonomous Institute of Educational Studies and Development should be set up in the state to make it possible to revamp teacher education, modernise courses of study, bring pre-service and in-service training on the same continuum and introduce innovative training and pace-setting courses.

68. We recommend that the proposed Institute be granted an autonomous status. Experience has shown that the type of autonomy granted to IIT's or Institutes of Management has resulted in improving educational standards and the environment for innovation and experimentation. The institute would offer pace-setting courses in new areas at various levels of teacher education. Although details of the courses need to be amplified, yet we have clearly in mind the introduction of courses like B.Ed. (Primary), B.Ed. (Secondary), B.Ed. (Science Education), B.Ed. (Commerce), B.Ed. (Agriculture) etc. followed by M.Ed. programmes in each one of these specialities. It seems odd that the primary school teachers are taught by B.Ed's who, at no stage of their training, have had any grounding of teaching such classes, nor are they well-conversant with the modalities to be employed for the teaching of children at the primary school level.

69. Besides, a four years' integrated course in education after 12 years of academic preparation is worth giving a fresh trial. These innovative experiments can be easily undertaken by the proposed institute.

70. The proposed institute will also function as the main centre for developing materials for the in-service education of teachers, which will be its direct responsibility in addition to the various courses and programmes that it would organise, as indicated above.

Centre for Educational Technology

71. Among several departments it would have a department of Educational Technology, which would function as a centre for educational technology for the state. With a network of several staff development centres at the district headquarters and learning resource centres at the level of school complex it will constitute the educational technology sub-system. This department will build a laboratory of software, produce software, act as a feeder of educational technology material, monitor the feed-back on the material produced and utilised by different target groups and make use of the same for its further refinement. The staff development centres and the learning resource centres will constitute components of the support

system, which will cater to the needs of the feeder schools and serve as an instructional material bank, having both print and non-print modules for formal and non-formal streams. To start with we suggest that 100 higher secondary schools in the state should be converted into learning resource centres in the 7th Five-Year Plan. This number could be increased as and when further need arises.

72. Central assistance is available for the establishment of a sound recording studio and a T.V. studio on a 100% grant basis. Some infrastructural facilities are also being made available to the State Government under the central scheme for educational technology. We recommend that facilities available for these schemes should be utilised for the infrastructural facilities proposed to be created above. The Commission is convinced that if Central Government resources, State Government resources and resources from voluntary agencies are mobilised and put together, it would not be impracticable to implement this scheme.

73. To promote in-service training, which is of vital importance for bringing about any reforms in education, it would be necessary to provide monetary and non-monetary incentives to motivate teachers.

Subject Teachers' Associations

74. The formation of subject teachers' associations would be most helpful in fostering professionalism. They can also bring out educational journals, which would be of great help in improving their professional competence. This would, however, take some time. Till such time that the teachers' associations are formed and become effective, we recommend that initiative in this direction may be taken by the Institute of Educational Studies and Development through its departments.

Teachers Qualification and Training

75. The 21st century would require graduate teachers for the first ten years of the school cycle, with no hierarchical differentiations. We strongly feel that these should be done away with as soon as possible. Till such time that these differentiations are dispensed with, the senior secondary certificate be taken as the minimum academic preparation for entry into the J.B.T. course. Alternatively, after 10 years of schooling the trainees in J.B.T. can be taken into a four years' integrated teacher education programme, of which 2 years can be at the plus 2 level in the vocational stream.

76. The eligibility qualifications for entry into B.Ed. must be raised to 15 years' academic preparation, i.e. first academic degree in the 10+2+3 system, followed by one year of training in a college of education. All categories of teachers must have this background irrespective of the subject they teach. For the teaching of English at the high school stage

the teachers should have offered English as a full-fledged compulsory subject at the first degree level.

77. Social Studies Masters must offer one of the subjects constituting the broad field of social studies at the graduate level, and be required to make up the deficiencies in the remaining subject areas by taking additional teaching modules to be organised during the pre-service training programmes, as also afterwards.

78. The system will require supporting staff in educational technology and guidance and counselling. We recommend that suitable training courses should be organised for this category of staff on a continuous basis at the proposed Institute of Educational Studies and Development/Universities. The minimum qualifications for admission to these courses should be a master's degree in any of the subjects to be taught in a school or a college.

Examinations

79. Examinations are an integral part of the total educational process. The teaching learning process and examinations constitute a unity of functions. The examination component of the educational process has two broad objectives, namely, (a) to serve as a feed-back mechanism and (b) to classify the students for purposes of promotion. In our situation examinations are being used mostly for the latter, completely ignoring the main function of the examination as a feed-back mechanism, resulting in a very meagre impact on the educational process.

80. Examinations have, therefore, been a matter of very great concern to all those connected with education. A number of commissions and committees have investigated it. They have all come to the unanimous conclusion that "this is one area of education about which one may say that the problem is known, its significance is realised, broad lines of solution have been worked out, but for some reason or the other very little has been done about it."

External examination

81. In the present system when the future of the pupils is decided totally by one external examination at the end of the year, they pay minimum attention to teaching, do little independent study and cram desperately for the final examination. The crippling effect of the external examination on the educational process is very drastic, calling for early reforms in the examination system, if the standard of education has to be improved.

82. One line of attack would be to abolish external examinations with a set syllabus and to replace them by total internal assessment, as has been done by some institutions such as IIT's Institute of Management etc. This may, however, not be feasible immediately on account of affiliated colleges of very unequal standards in the universities and lack of teacher

orientation in the schools. The main strategy could be to attack the problem on three fronts :--

- firstly, introduction of more frequent periodical tests to reduce undue emphasis on the final examinations as the sole determinant for success ;
- secondly, reform of the evaluation techniques and teacher reorientation ; and
- finally, introduction of a system of internal assessment as a supplement to the external examinations based upon periodical evaluation. We strongly recommend that some of the universities and schools could give these proposals a practical shape. Detailed proposals in this connection have been suggested in the relevant chapter.

Status of Examinations in Punjab

83. The examination system prevalent in Punjab is much the same as elsewhere in the country. The Punjab School Education Board undertakes to hold public examinations at the end of each stage of the ten year school cycle, i.e. Primary, elementary and Secondary levels. It also conducts a public examination at the end of the Higher Secondary stage, which it will shed after the introduction of Plus 2. All other examinations are conducted by the schools themselves for promoting the students. Generally the annual examination is preceded by quarterly tests given to each of these classes, but these tests do not serve any useful purpose, as they are neither used for providing a feed-back by the teachers for effecting changes in the teaching learning process, nor is performance in these tests counted towards the overall assessment of the students at the end of the year.

84. The ideal situation, without any doubt, would be to entrust the work in connection with the assessment and evaluation of the pupils to the teachers who teach them. This has been accepted by all those connected with education. On that basis it is possible to argue that the two public examinations at the end of the primary and senior primary stage could be eliminated. On the other hand, it would be good to remember that elementary education is a terminal stage for many of our students, and as such, some certification for them after a public examination would be necessary for their future careers. We are, therefore, not in favour of the elimination of this examination at the end of the elementary stage, i.e. class VIII.

85. On the other hand, there is a strong case for the discontinuance of the Class V examination under the present circumstances. This examination is the joint responsibility of the Punjab School Education Board and the Directorate of Education. The former sets the question papers within the

syllabus prescribed by them and the latter conducts the examination, evaluates the scripts and declares the results. This dyarchical approach has created many problems. We have considered this matter in detail, and have come to the conclusion that this examination could be dispensed with ; we recommend that it should be replaced by an examination to be conducted internally by the School Complex to restore the credibility of primary education.

Examination Schemes

86. a critical analysis of the examination schemes prevalent in Punjab at Primary, Middle and the Secondary levels reveals that they have many flaws that distort the educational system. These have been analysed on the basis of the statistics available, and will be found in the chapter on Examinations in our report. We are anxious that these defects should be looked into and rectified as early as possible for the health of the system.

87. We would like to highlight the following for urgent attention :--

- There is a mal-distribution of weightage for different subject Areas. In the middle school examination weightage assigned to languages is 37-1/2% and at the High School level, the weightage is further raised to 42%. Thus the importance of other subjects is not fully emphasised and they are given less weightage.
- Weightage given to Sciences in the examination scheme is meagre, which is unsound in the modern context.
- Essential components in the cluster of subjects associated with Work Experience and allied topics (e.g., value education, which is important in the context of nation building and national integration) are conspicuously absent.
- Pass marks required for different subject areas are not equal at the middle school level. This has been done to reduce the percentage of failures and is not academically justifiable.
- There is no provision for internal assessment at the middle school level, and although some provision exists at the high/higher secondary level, it is very meagre i.e. just 10% and in practice even that is neither properly carried out nor monitored.

Internal Assessment

88. We realise that external examinations will stay with us for some time yet. The system of total internal assessment

of students as an alternative, even though it is logical and accepted as rational by all educational authorities, may not be acceptable or even feasible for the moment. However, it would be desirable to introduce internal assessment as a supplement to the external examinations, both in the annual examinations being conducted by the schools and the external examinations being conducted by the PSEB. We have examined this matter in detail, and strongly recommend that continuous assessment of the pupils' work throughout the year should be accepted as a policy supplementing the external examination. It should include class tests, graduated tests, given assignments, home work etc. It should be given enough weightage, up to 50%, which may be gradually phased up.

Proposed Examination Reforms

89. A detailed scheme for carrying out reforms is indicated below :

- The system of internal assessment should be incorporated in the examination system. Fifty per cent marks in a subject should be earmarked for internal evaluation and fifty per cent for the written external examination held annually. The in-service teachers not being fully equipped, the percentage of marks for internal assessment may be 25 to begin with.
- The in-service teachers should be provided adequate training for working the scheme efficiently. This responsibility should be given to the Institute of Educational Studies and Development discussed elsewhere in this report.
- A comprehensive scheme must be developed for the purpose. The internal evaluation should be spread evenly over the year, and should be based on class tests & home assignments. The weightage to be assigned to each should be communicated to the students in the beginning of the session. Records of assessment should be meticulously maintained. It may be necessary to develop a proforma for a systematic maintenance of records. Much literature is available on this issue, and it would be desirable to consult the latest on the subject for developing a proper proforma.
- The records of the assessment should be open to inspection by all concerned i.e. the students, the parents and the teachers. It will help in building the credibility of the system.
- The supervisory officers must scrutinise the assessment at the time of school inspection and try to ascertain its objectivity and reliability.

- The students must be made aware of the award based on the assessment. It would be desirable to display the assessment for all the students on the notice board.
- The internal assessment marks should not be added to the external examination marks. The two should be shown separately in the mark-sheet, and the students may be required to pass separately in either.
- A comparative study of Internal and External assessment should be made for each school to study the discrepancies between the two. This responsibility should be taken up by SCERT. The SCERT should prepare a note on discrepancies for each school and develop a mechanism for exercising a check and balance, so that the credibility of the scheme may improve.

Special Schemes

90. For equalising educational opportunities and for developing man-power resources to the optimum, it is necessary to plan special schemes for special target groups such as Scheduled Castes/Backward Tribes, Girls and Physically and Mentally handicapped children, as also for developing our man-power resources by creating additional facilities for talented pupils in the system.

91. Most State Governments devise Special Schemes to supplement their formal educational effort to achieve the twin objectives of social justice and optimal development of man power resources. We, therefore, conceive of 2 types of special schemes to provide a balanced educational system :

- (a) Schemes directed towards special target groups that need assistance for their normal development ; and
- (b) Schemes for developing our man power resources.

Scheduled Castes/Tribes

92. After attaining independence the Government paid special attention to the education of the children of the under-privileged classes i.e. scheduled castes/tribes, to promote education amongst them, and improve their enrolment and retention ratio in the system. These were :

- (A) free tuition at all levels ;
- (b) re-imburement of examination fees ; and
- (c) fixed stipends for all children in this target group.

93. Since these measures have been successful, we recommend that they should be continued. In respect of the stipend scheme, however, as the rates were fixed in 1969, and have not been revised since, they would require revision.

94. In addition to these incentives the Social Welfare Department of the Government of Punjab, during the Year 19776-77, devised an additional scheme for the Scheduled Castes/Tribes students to improve their general performance in the matriculation/higher secondary examinations. It consisted of :

- (a) supply of text-books and stationery free of cost ;
and
- (b) special pre-matriculation coaching for Scheduled Castes/Tribes students.

Both these measures were steps in the right direction. We recommend that they should be continued. The special coaching scheme, however, suffers from two deficiencies. It is being run by the Social Welfare Department, who are unable to monitor it. Secondly, the special coaching is confined only to a period of six months in certain subjects which, in our view, is inadequate to improve the merit of the students. It would be desirable to increase the coaching period to two years of the secondary stage, if their merit has to be improved. We recommend that the scheme should be transferred to the Education Department as it is being run in their schools.

Girls' Education

95. The other sociologically backward group, who had received scant attention before independence, was that of girls/women. In spite of the fact that women constituted as much as 46% of the total population, the government had paid very little attention to their education. Immediately after independence, therefore, the national government set about correcting this imbalance in the educational effort. A number of schemes were undertaken, and assumed the shape of almost a national movement.

96. From the available statistics given in the report it will be observed that while the sex ratio in the State of Punjab has 8.6 females to 10 males, the number of girl students to boys in the educational system in the year immediately after independence was only 2.6 to 10. This was exceedingly low. But since then the situation has been changing rapidly. By the year 1971 the ratio had improved to 6.9 girls to 10 boys, and by 1981 it had stabilised at 8.2 girls to 10 boys. The retention ratio of the boys and girls in the system is also not very dissimilar.

97. However, the situation at the secondary level is still somewhat discouraging, as there are only 6.4 girls to every 10 boys in this sector. We have, therefore, to take measures to improve this situation. As the drop-outs may be due to sociological reasons, we would have to supplement our educational efforts at this level by non-formal education for girls, and improve upon the choice of subjects for them.

98. From the statistics available to us it could be argued that the enrolment and retention of girls in the school system presents no special problems any more. They may not, therefore, be treated as a special target group. However, we recommend that the incentives offered so far, which have proved so successful, should be continued. In addition, in order to improve their participation in programmes of secondary education, full fee concession should be granted to them beyond the elementary stage. We also recommend that against the scheme for gifted students, a certain quota should be reserved for girls to motivate them further.

Merit Scholarships

99. So far we have dealt with special schemes for the socially and economically deprived and handicapped children in the educational system. We have separately argued that the development of human resources is as important for the social and economic development of the nation as its physical resources.

100. It is unfortunate that so far very few State Governments have devised schemes for the development of their man power resources through their gifted students. The measures generally taken by the States are confined only to the identification of the meritorious and award of scholarships as a recognition of their special merit. In Punjab, too, we have had a Merit Scholarship Scheme now for some time. It was last revised in 1969. Since then there has been a phenomenal increase in the number of students in the system and the cost of living has gone up, but the scheme continues to be the same. We suggest that the scheme be up-dated in terms of the present day cost and enrolment statistics, keeping at least the same percentage of students' enrolment as in 1969.

Gifted Students

101. The grant of scholarships to the meritorious is a step towards their recognition only. The development of human resources, however, requires something more. Special strategies have to be devised not only for their identification but to develop this human resource, particularly when we are short of competently trained man power in the country. Having identified them, we suggest the following strategies for their development :

- education of the gifted in specially identified schools and under the best teachers ;
- expanded programme for the gifted ; and
- special coaching camps for the gifted.

102. At the current level of enrolment there are 2.73 lac students in class VIII. A review of the performance of this target group would reveal that at least the top 5% of them are gifted students with special aptitudes that need to be

nurtured. It is appreciated that the resources of the State Government may not permit special arrangements to be made for all of them in selected schools. However, a beginning can be made at least with the top 0.5% to be treated as a special target group. At the current level of enrolment the number of such students will be 1,368. It is recommended that this group of 1,300 to 1,400 students should be given education and training in specially identified schools on a scholarship of Rs. 100/- P.M. for the 4 years of secondary education. The cost estimate of this scheme has been given in our report.

Gifted among SC/ST

103. Similarly there are meritorious students amongst the Scheduled Castes/Tribes and other backward classes. It is felt that if the top 0.5% of the meritorious students from amongst this class too (which would be about 200), are picked up at the middle standard, given a monthly scholarship of Rs. 300/- to remove their economic deprivation, and placed in specially selected model schools to improve their merit during the course of 2 years of the secondary and 2 years of the senior secondary stage, their merit will be improved so as to bring them into the main-stream. The scholarship should be paid to the schools to meet all their expenses and the schools be made accountable for improving their merit. Detailed cost of the scheme has been worked out and given in the report.

104. The Commission is strongly of the view that these two schemes should be given serious consideration by Government. With these financial incentives and special educational facilities it would be possible for the State to turn out 1,500 to 1,600 talented students from the senior secondary schools every year, to form the most valuable asset of the nation and provide competent and trained man power for various branches of our national life.

Model Schools

105. Educational development in the States during the post-independence decade was marked by a high rate of enrolment expansion. The recent national policy statements and plans reflect an increasing awareness of the need for the qualitative improvement of our education. In this context it would be desirable to lay emphasis on the development of Model Schools, whose main concern would be the qualitative improvement of school education.

106. The strategy of qualitative improvement in education is intimately tied up with the question of how the improved practices are generated and diffused into the system. There are a variety of factors that determine this. Principal among them are :

- (a) Teachers, their qualifications and attitudes ;

- (b) Management of the class room i.e. teacher-pupil ratio ; and
- (c) The total environment, infrastructure and grants.

107. The philosophy and structure of this system of model schools have been carefully spelt out in our report. We recommend that 100 such schools i.e. 8--10 per district, may be set up in the 7th Plan. This number be doubled during the next plan. From available information it seems that some central assistance may be available for such measures to upgrade school education..

108. We envisage that this network of 100 model schools in the State, besides imparting knowledge, will pay special attention to the development of character attitudes and work habits, and would give training in citizenship. For this purpose they would need special attention and grants.

School Complex

109. The most significant contribution made by the Education Commission (1964--66) is in respect of the projection of the idea of school complex to improve the standard of education at this level. With the universalisation of primary education it was anticipated that the educational system at the primary level would expand so much that the normal processes of providing academic leadership and supervision from the block/district level would be inadequate. The Commission, therefore, suggested separation of the administrative and academic functions at the grass-root level within the system for its efficient functioning. It is in this context that the scheme of school complex is relevant, and we suggest its adoption in the State of Punjab at a very early date.

110. We have 2,446 secondary schools with 169 middle and 12,389 primary schools in the state. It would be conceivable to integrate all these schools into 2,446 complexes so that each secondary school becomes a nucleus for academic interaction between 5--7 primary and middle schools. The cluster of these schools within one complex will be a manageable group which can function in close co-operation, and would be easily accessible for purposes of inter-action and mutual guidance. These school complexes should endeavour to develop pacesetting programmes and provide leadership for improving education, using educational technology techniques and other innovative strategies.

111. The school complex may be managed by a Committee to be called Co-ordination Committee, consisting of representatives of the constituent schools. Details of management of the complexes have been given in our report.

Community Involvement in Education

112. Since independence there has been a phenomenal expansion of educational facilities at all levels due to various factors, such as fulfilment of the constitutional obligation for free and compulsory education in the age group 6--14, the increasing social demand for education and continuing growth of the population. As education spreads and becomes more mass based, the need for linking the school and the beneficiaries directly becomes imperative.

113. The Parent-teacher Association forms the most important mechanism in Punjab for purposes of promoting community involvement and participation in education. PTA's have been started in our schools in the stage, but their impact on the educational system is marginal. In order to improve the present situation and to encourage greater participation of the community in providing good education for their children we need to take certain measures. This process can be initiated by creating a three tier organisational structure for community participation forming a sub-system supporting school education :

- (1) The existing structure of the PTA's at the institutional level may be re-organised and re-vitalised ;
- (2) PTA's may be set up at the level of the school complex ; and
- (3) An Advisory Educational Committee/Body may be constituted in each district.

The structure and functions of these committees have been carefully worked out in our report.

114. Experience in Maharashtra shows that sponsorship of weak schools helps to raise the standards of education in them considerably. We would like to recommend that the Advisory Committee at the district level may undertake a scheme of that nature by identifying weak schools on the basis of their performance, to sponsor and monitor their improvement through the school complex system. Such a movement, if developed in each district through community support and involvement, would considerably help in generally upgrading the level of education in the state.

115. In the wake of the phenomenal growth of educational facilities during the recent years the composite Directorate of Education was split into three separate directorates, one each for primary, school and college education. These directorates function in isolation with utter disregard to continuity of the educational experiences from one stage to another. What we gained in administrative convenience we lost in educational terms.

Educational
Administra-
tion and
Management

116. Further, the introduction of vocational education at the plus 2 stage is crucial to overall development in the state.

For its success an integrated approach towards vocational and general education will be necessary for horizontal and vertical mobility.

Apex Management of General and Vocational Education

117. In order to bridge the gap between general and vocational education there are a number of steps that need to be taken. First among these is the setting up of a State Council of General and Vocational Education and Training, which will be headed by the Chief Minister and assisted by the Minister of General and Technical Education. Both the departments of General Education and Technical Education and Industrial Training should be put under the control of the same Minister and Secretary-General and Technical Education should be in charge of both these departments.

118. There should be a Director-General of Public Instruction to co-ordinate the functioning of the directorates working under him. In fact all these directorates will work as a single organic unit under the Director-General of Public Instruction as the main co-ordinating link.

119. There should be two advisory committees--one for General Education and the other for Vocational Education. Both the advisory committees may be headed by the Minister of Education. The constitution and functions of the State Council and the advisory bodies have been carefully worked out and included in the report.

120. The Director-General of Public Instruction in the proposed set-up should be an ex-officio Additional Secretary to elevate his decision-making level to promote smooth functioning of the department. This would set right the anomalies created in respect of financial control and day-to-day working of the directorates under the present system.

121. For a sharp focus on the rehabilitation of drop-outs in the age group of 6--11, which is a matter of serious concern for the Government, we recommend that there should be an Assistant Director of Public Instruction added in the directorate of primary education.

Field Organisation

122. The field organisation which, under the existing arrangement, is different from the revenue divisions, is needed to be co-terminous with them, so as to ensure efficiency in implementation of the education policies and also monitoring the processes in a befitting manner. The Circle Education Office at present has no link with primary education or physical education, which weakens the whole chain of management.

123. Similarly, under the existing arrangement, there is no linkage between the secondary and the primary stages of

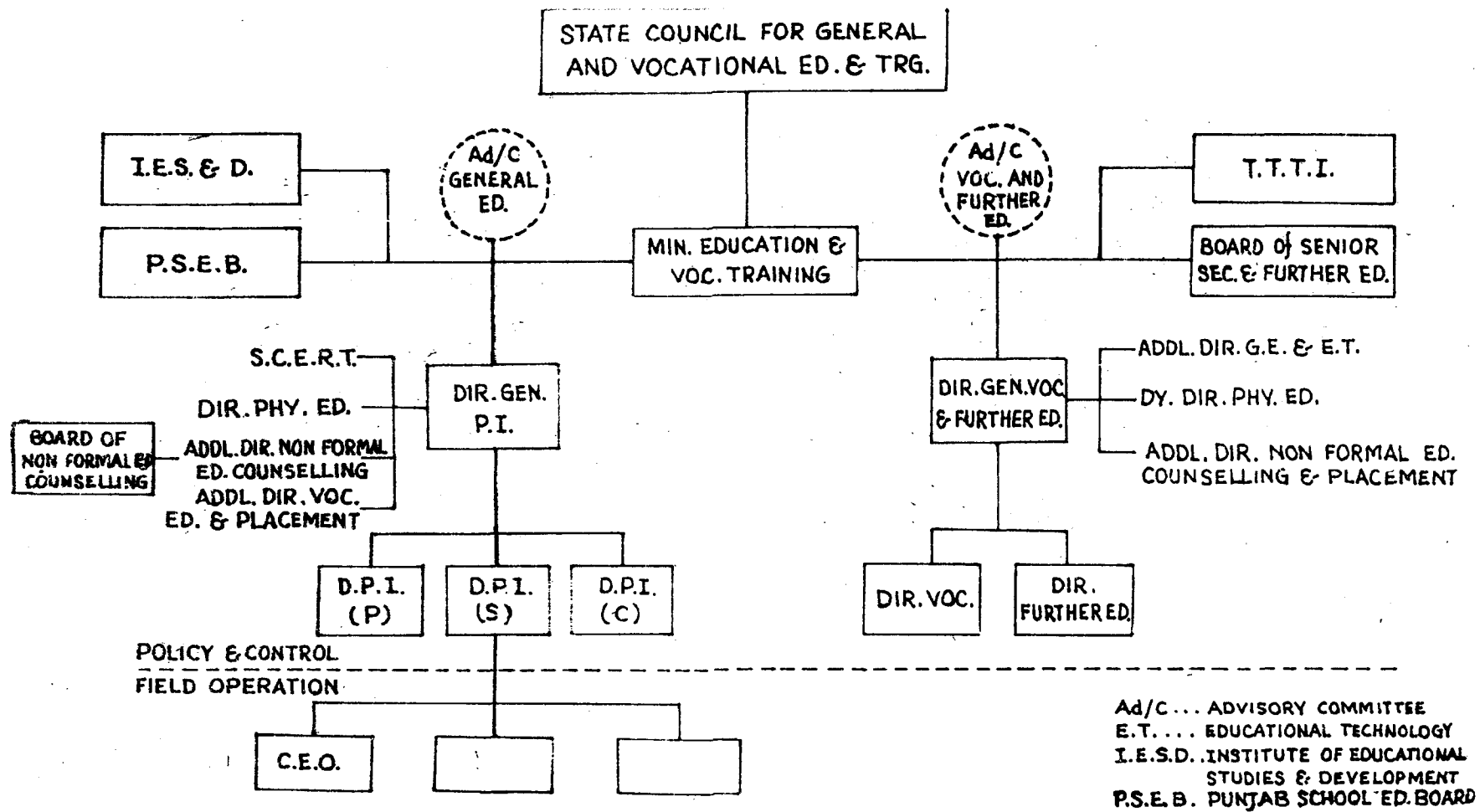


DIAGRAM II.1 — PROPOSED ORGANIZATIONAL SET-UP (POLICY & CONTROL)

education at the district level. This arrangement does not permit of reorganising the field operation on the basis of School Complexes which are the arch stone of the proposed reforms in our report. We strongly recommend that this link, both at the district and circle levels, should be restored both for formal and non-formal education.

124. There should be a District Education Advisory Committee in each district. Its role would be to assess the need for resources, evaluation of better and weaker schools and periodical examination of the issue of drop-outs. Evaluation of both positively and negatively skewed schools may provide solid information, which may be effectively used for bringing about progressive improvement in the school management.

Academic Supervision

125. We believe that every school, irrespective of its stage and standard, should be visited twice and inspected once a year in actual practice. The Sub-Divisional Education Officers in the proposed set-up would share most of the District Education Officer's academic, supervisory and administrative functions and other related activities. This arrangement would provide much needed relief to the District Education Officer, who may be able to focus his main attention on the inspection of senior secondary schools. The Sub-Divisional Education Officers would look after the high and middle schools, while the Block Education Officers would take care of primary schools.

126. All inspecting officers should associate with themselves panels of teaching personnel representing different levels. They may also associate subject specialists, who are being provided in the proposed set-up at the district level. The school complex, while breaking the isolation of schools, would give the constituents the genuine complexion of a co-operative group. A judicious sharing of academic experience and material resources in a complex is expected to reinforce not only the mutual cohesion of the constituents but also the teaching learning strategies. Learning Resource Centres would also provide adequate support in educational technology and counselling to the schools concerned in a complex. PTA's should also be associated intimately with the educational affairs of the school complex.

School Education Board

127. We are of the considered opinion that the School Education Board, which, at present has multifarious responsibilities under the act, should concentrate on the vital function of examinations, while curriculum construction should essentially be the function of the SCERT. The Board should, however, continue to shoulder responsibility for the preparation of syllabi and the development of textual material. Field programmes should fall within the purview of the State Education Department.

Autonomous Book Corporation

128. The publication, supply and sale of text-books involve professional and commercial expertise. This function, therefore, should be separated from the academic functions. Accordingly, we propose a separate Text-Book Corporation for the publication and distribution of textual material right up to the plus 2 stage. This will be essentially an autonomous corporation, serving both the Boards.

SCERT

129. In our view the SCERT should be responsible for the research and development functions of the department and also for organising in-service education in collaboration with the proposed Institute of Educational Studies and Development. Except the evaluation and survey units, all units presently attached to the SCERT could be located gainfully in other parts of the system.

Board for Senior Secondary Education

130. Senior Secondary Education is an extremely crucial stage, irrespective of its location in schools, colleges, poly-technics etc. To ensure uniform academic, professional and vocational standards at this stage we propose a Board of Senior Secondary and Further Education. It will be autonomous in character.

Organisation of Sports

131. The sports activities in the state are controlled by five different agencies. They need re-organisation. We suggest that the Directorate of Physical Education should be mainly responsible for organising the sports activities in respect of students in schools and colleges, while the Punjab Panchayati Raj Khed Parishad should look after and arrange the sports activity for the non-student youth both in rural and urban areas. The Punjab State Sports Council should act as an apex institution, co-ordinating the activities of the other two organisations. The Directorate of Physical Education, under the proposed set-up, would comprise the existing sports wings of the Directorates of Schools and Colleges and will be an integral part of the D.G.P.I.'s office.

132. A separate Deputy Director Physical Education should be attached to the Director General Vocational and Further Education for organising and co-ordinating sports activities in vocational and technical institutions.

Educational Cadres

133. While recommending rationalisation of cadres, our main focus is on providing parities between functionaries working both on the school and college cadre, on the basis of

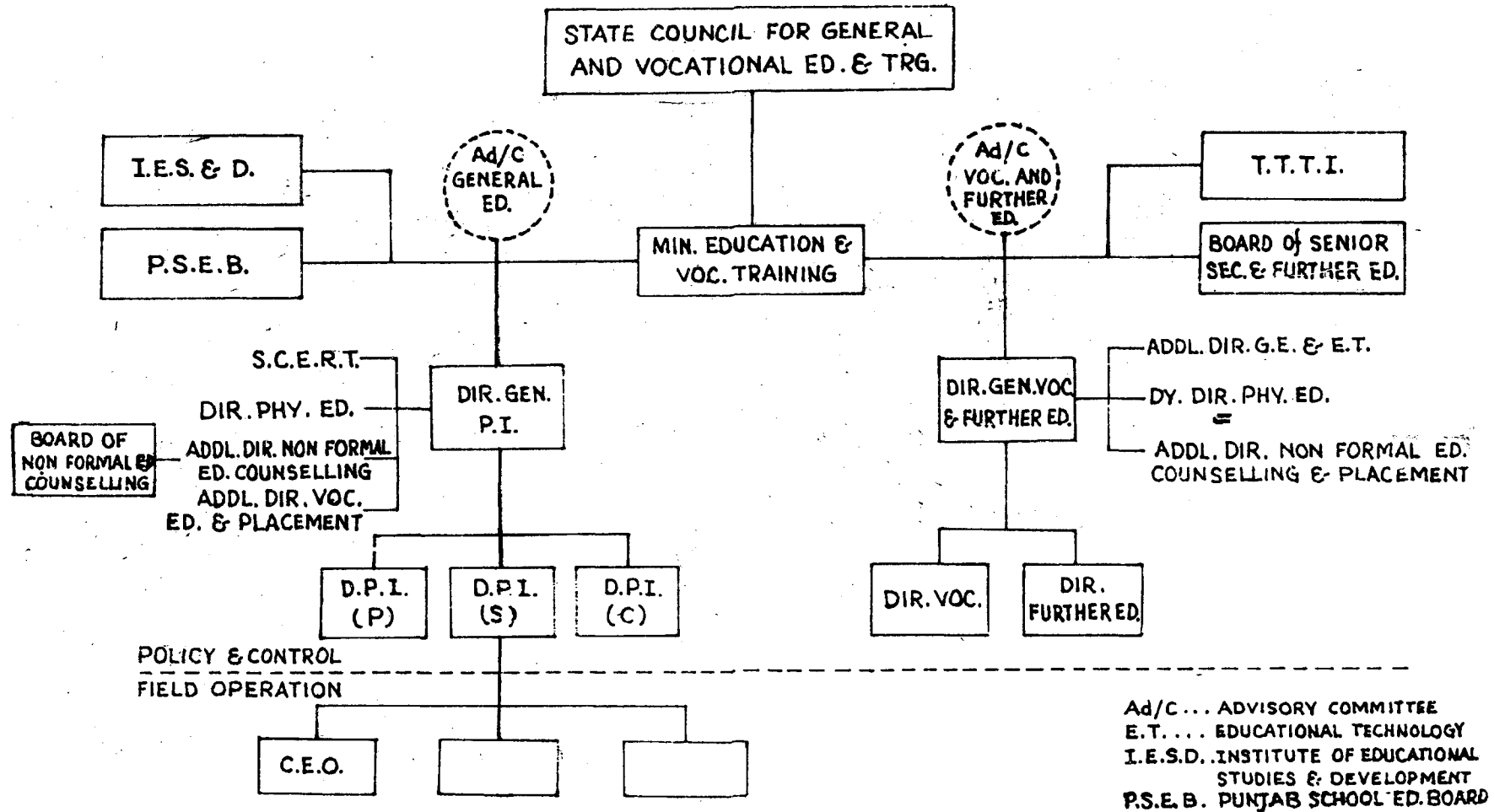


DIAGRAM II.1 – PROPOSED ORGANIZATIONAL SET-UP (POLICY & CONTROL)

comparable qualifications, professional expertise and the nature of responsibilities attached to the jobs. While extending opportunities for direct selection to persons with distinctive merit at different entry points, we have followed the principle of the golden mean. We have tried to provide two steps of promotion/selection grade for all categories of teaching personnel.

134. The first two steps of promotion for primary teachers upto the level of Central Head Teacher may be on the basis of seniority, while the third step, being a supervisory posts, should be filled on the basis of selection from amongst the teachers of the district cadre.

135. Shastris and Language Teachers known as Classical and Vernacular Teachers should be merged with the cadre of masters working in secondary schools. Other categories of classical and vernacular teachers like Drawing Teachers, Art and Craft Teachers, Physical Education Instructors and Agriculture Teachers may be designated as Instructors and may continue to be in their original cadre.

136. The Master (Trained Graduate) in secondary schools has an important role in the educational process and nation building. His status needs to be suitably raised, if we expect any spectacular improvement at the secondary level. We propose that he should be placed in PES-II. We genuinely feel that this rise in his salary and status would be reflected in his performance.

137. In the proposed set-up both school and college lecturers will be called upon to do the same type of work with students of the same standard at the plus 2 stage. They should, therefore, be at par in respect of grades and emoluments. It would be befitting to place them in PES Class I in School and College cadres respectively.

138. The head of a school, who has a multi-dimensional role, should be placed in a pay scale higher than those of the school and college lecturers. Heads of High and Senior Secondary Schools may also be given an administrative allowance to attract talented persons.

139. As the existing scale of college lecturers is a running grade without any promotional avenues, we recommend the provision of another entry point, as a Reader, by promotion for 75% of lecturers.

140. 75% of the readers having successfully completed 15 years of service in the grade, may be given the Principal's grade on the basis of seniority, irrespective of their posting. The College Principal should also be given an administrative allowance of a reasonable amount and the Selection Grade Principals be treated at par with Additional Directors.

141. Deputy DEO's, Principals, SDEO's and Subject Specialists in the proposed set-up should be placed above the heads of high schools.

142. The DEO has to be a vital link, both horizontally and vertically, in the administrative structure, and would be required to shoulder huge responsibilities in the proposed set-up. He should be in a scale sufficient to support his status and responsibilities and placed in PES Class I.

143. The existing scale of Circle Education Officers/ Deputy Directors, Additional Director, DPI (Primary and Secondary Schools) and Director SCERT, may be suitably raised in keeping with the added responsibilities and recommendations of the Teachers' Commission. The Director General may be in the scale of DPI with a special allowance for his additional responsibilities.

144. We have proposed parity in pay scales and emoluments between school and college cadres at certain levels of functionaries : (1) School and College Lecturers, (2) Principals of Senior Secondary Schools and Readers, (3) College Principals and Deputy Directors, and (4) Additional Directors and Senior Grade College Principals. Such parity is expected to be conducive to better coordination and also a free flow among them, which is expected to break the existing isolation.

145. We have recommended the provision of selection grade up to the level of DEO on the school cadre and the level of the college Principal on the college side. This benefit be extended to all functionaries who successfully complete a tenure of ten years of service on a particular post. 75% of the posts at all entry points subsequent to the first entry may be filled by promotion and 25% by direct selection. Table C may be referred to for recruitment modalities, educational qualifications and experience for all entry points.

146. The privilege of providing Personal Assistants and Private Secretaries at the Secretariate level should be extended to the directorates as well as to the field offices. We specifically recommend provision of posts of Private Secretary with the DGPI and Director General of Vocational and Further Education and Personal Assistants with the DPI's down to the DEO level.

Ministerial Staff of the Education Department

147. The modalities and avenues of promotion including the selection grade relating to the ministerial staff, whether working in the education directorate or in the Secretariate, must in all fairness be identical to ensure functional efficiency at all levels.

State Education Services Commission

148. Our policy and procedure for the recruitment of teaching personnel have been far from satisfactory. This is evident, because no regular recruitment has been effected since 1977-78. Only ad-hoc employees are being regularised. The department would need to recruit about 5000 teachers annually, which is a whole-time job for any whole-time agency. We, therefore, propose a separate State Education Services Commission for the recruitment of teaching personnel and educational administrators. The Commission may consist of a Chairman supported by four members. The Chairman may be an eminent educationist. Two of the four members may be renowned educationists while the remaining two may represent fields other than education.

Non-Formal Education

149. We strongly favour the development of an efficient system of non-formal education which could be complementary to the formal system. The need for non-formal education has emerged out of the pressing demands of the community for education and the limitations of the formal system. The formal system, being time bound, does not allow entry to the drop outs at any stage.

Support
System in
Education

150. The problem of further education, on the other hand, is not limited only to the drop-outs of the formal system but extends beyond to those who are settled in jobs and are desirous of a change or wish to achieve greater progress in their chosen fields.

151. Non-Formal Education of drop-outs, adult literacy, functional literacy and continuing education for all from different walks of life. The need to develop a strong base of non-formal education in Punjab is all the more pressing, as Punjab happens to be one of the affluent and progressive states, and therefore, there is a greater demand for educational opportunity by its people.

152. The target groups that need to be covered under the non-formal system, include the following :

- (a) Infants and children below the age of 6 years for whom no educational facilities exist ;
- (b) Children in the age groups 6--11 and 11--14 years, who dropped out of the system ;
- (c) Target groups of 15 years, who are unemployed or employed and are in need of further education ;
- (d) 15--35 years age group of illiterates which needs to be covered under literacy programmes; and
- (e) Continuing education for all.

153. The infants and children in the pre-school age group constitute an important segment of our population. No organised facilities exist for them. We hopefully believe that integrated child development programmes will catch up in Punjab and appropriate programmes will be developed for them. Most of these programmes are being handled so far by welfare organisations such as the Social Welfare Department and other voluntary agencies. They, however, need to be supported financially to a much greater extent.

154. In respect of children in the age groups of 6-11 and 11-14 years who have dropped out of the formal system, we strongly feel that they should be covered through non-formal educational programmes and be given the educational content to make up for the deficiencies resulting from non-attendance or dropping out of the system, the intention being to bring them back to the formal system, these two age groups i.e. 6-11 and 11-14 years, whom we wish to restore to the formal system, can be given education in schools in their own time, perhaps in the evening after regular school hours, through the school complex.

155. We are of the view that with the help of the community through PTA's the drop-outs, non-formal education as well as adult education programmes can take advantage of the opportunities for education available in the school complex, if new methods and technologies of education are brought into effective use for this purpose.

156. For the age group 15 and above open school can provide an alternative channel, which would supplement the formal system. Through the open school the drop-outs, left-outs, girls and women and adults from economically deprived classes can be imparted general education relevant to their needs.

157. We believe that in the life of our nation we have reached a stage when the dictum about education as a ~~life-long process for all should be realised, and attempts made to~~ put it into practice. The open learning system can meet the educational needs of the working force in the age group of 15 years and above as well as of those who could not avail themselves of the facilities of regular schooling. It would, however, need thorough planning and preparation before the project can be launched.

158. The proposed Institute of Educational Studies and Development, though it would have its main focus on teacher education, should be utilized for this purpose. If an open school was associated with this Institute, it would provide us with the much needed opportunity to experiment with non-formal and continuing education. The Institute would be an ideal setting for this purpose, with its various departments of educational technology, guidance and counselling and adult and continuing education.

159. The success of various schemes to eradicate illiteracy and tackle adult education programmes, however, yet remains to be established in terms of the desired outcomes. This is more so in the absence of careful monitoring and evaluation. We are, therefore, in favour of recommending the setting up of a State Monitoring Committee or an 'Adult Education Board', which would look into all adult education programmes run by different agencies.

160. The non-formal system of education must gain, in coming years, a place of special privilege for itself as a support system complementary to the formal system. We, therefore, strongly recommend that all non-formal education programmes for various target groups be put under the administrative control of an Additional Director of Education and a separate cell, with adequate staff, be created for this purpose, supported by an organised sub-system in the fields so as to ensure effective implementation.

Educational Technology

161. The impact of science and technology and the increased number of people in the educational system have made it imperative to devise new strategies for supporting the traditional system of education. We feel that educational technology and guidance and counselling services can be of immense utility in supporting both the formal and non-formal educational system.

162. To-day we are more conscious of the technologies by which information is conveyed. They existed in the past as well, but the choice was restricted. Besides books, the blackboard was being used as the visual aid and the teachers voice as audio aid. The situation has, however, considerably changed now. In the modern world we have multi-media kits, video cassettes, close circuit T.V. and computer assisted learning programmes.

163. We believe that video cassettes offer a very versatile medium for inter-active learning in our situation due to easy and quick accessibility to any part of the cassette and its easy use and flexibility without an elaborate support system. Excellent programmes can be put on the tape for use in the present situation.

164. Educational technology can be utilised for both quantitative expansion of education and for its qualitative improvement. For quantitative expansion it would be a facilitating device for taking the educational message to deprived target groups. For qualitative improvement it would devise helping strategies to learning and the mechanism to match the same with the objectives and the learners' characterisation. This would require a systems approach to teaching and learning, which can help in improving the quality of education.

165. Wider utilisation of these technologies through an educational network can be envisaged and established for teaching and extension activities. This, however, will take some time. In the meantime we recommend the use of cassettes, learning packages and the print programme on a large scale.

166. We have also separately recommended that the role of in-service teacher training programmes should be based on the use of educational technology as a sub-system to improve the quality of the teachers in our schools.

167. The present situation in respect of the utilisation of educational technology is not very encouraging. Although the Educational Technology Cell attached to SCERT is required to function for the school going population, their effort has not yielded any results. Conceptually it has not been boldly conceived, with the result that it has had very limited success.

168. In the chapter on Teacher Education we have recommended a Department of Educational Technology to be set up in the proposed Institute of Educational Studies and Development. While this department would have as its main function the organisation of teacher training on a large scale, we believe that this department could also develop appropriate software for use in the formal and non-formal streams of education for qualitative improvement.

169. We recommend that this department should also function as a centre for educational technology for all educational programmes, formal or non-formal, in the state. As an apex body it should organise an ET sub-system, with the District Development Centres at the District headquarters and the learning resource centres at the School Complex level.

170. The District Development Centres headed by trained educational technologists would organise a library of instructional material collected from the Department of Educational Technology for use at the learning resource centres, which would be located in selected school complexes as support material for enriching their educational programmes.

171. The Learning Resource Centres would acquire the status of centrality for all innovative educational programmes both formal and non-formal. Trained educational technologists at these centres would act as resource persons for the feeder institutions, and would keep in constant touch with the District Units.

172. The instructional material will be placed at the Learning Resource Centres. The various target groups, including the teachers for in-service training, would come to these centres for exposure. We expect the District Development Centres to have direct communication with the Department of Educational Technology in the proposed Institute of Educational Studies and Development in matters of academic interest. The

feed-back coming from the schools will be fed back to them for purposes of further refinement of the programmes.

173. Likewise the non-formal system of education would utilise the resources available with the Learning Resource Centres as far as their programmes of adult and functional literacy are concerned.

174. We recommend that large scale software production should be undertaken by the centre of ET with the help of multi-disciplinary teams of experts and specialists in education, languages, and media technology and other subject specialists for all target groups. This department should also establish a communication research data base and a communication network for the extensive and efficient utilisation of the data on a statewide basis.

175. This extensive use of Educational Technology would require a large number of highly competent and well trained educational technologists. A course in educational technology would need to be run by the Institute of Educational Studies and Development and universities in the state. Trained persons from this course would be needed for running District Development Centres (Headquarters) and Learning Resource Centres/School Complex.

Guidance and Counselling

176. Like educational technology a well organised guidance and counselling service can render valuable support to the educational system. Guidance in terms of rendering service to the pupils aims at the maximum development of the individual's potentials, by providing assistance in making correct choices and helping with personal problems. The aims of guidance are both adjustive and developmental. Therefore, there should be provision for organised guidance programmes well knit with the educational system.

177. Realising the importance of guidance for schools, the State Government set up a Guidance Bureau in Punjab as early as 1960-61. The state is supposed to have a three tier organisational guidance service, namely, State level, District level, and School level. On the evidence of available information we understand that the present efforts have had no perceptible impact on the system on account of an acute dearth of trained personnel, equipment and financial resources urgently needed by them.

178. In order to provide an efficient guidance service in the state, the guidance agency existing at present will have to be reorganised. We recommend that the Bureau of Guidance and Counselling be placed under the administrative control of a senior officer of the rank of Additional Director of Education, who would function under the direction of the DGPI, for better co-ordination as also for policy formulation.

179. Most of the counselling will be taken care of by teacher counsellors at the primary stage. It would appear that at this stage, as the classes are organised on the basis of a single teacher, who is intimately in touch with the pupils, a professional counsellor is not needed. The teacher himself, with some training, could maintain their cumulative records and learn to identify the problem children to be treated or handled by the professional counsellor at the learning resource centre.

180. We recommend the organisation of a strong centre of guidance and counselling at the level of district and learning resource centre. These centres would provide counselling services to the various target groups, as mentioned earlier. Professional Counselling Service will be needed at all high and Senior Secondary Schools.

181. An effective counselling service pre-supposes to maintenance of cumulative record cards and complete information regarding academic, extra-curricular and psychological aspects of the students. These cumulative record cards, in fact, should be passed on with the pupil to higher institutions of learning in the event of his promotion for higher studies, and should be continuously marked and supervised by expert counsellors.

182. The Bureau will procure from time to time guidance material developed at the Institute of Educational Studies and Development and make it available to the district and learning resource centres' counsellors. It is also expected to organise periodic conferences and seminars for guidance workers and provide consultancy services to cover, and sustain liaison with, the activities of different agencies.

183. The work of a counsellor is going to acquire paramount importance in the coming years. His work will be highly specialised and the counsellor extremely valuable. Half-baked personnel, in our view, should, therefore, not be appointed against these specialised posts. In view of the emerging trends in education, moreover, there will be tremendous pressure on eligible men and women for professional training, for counsellors will be required in large numbers. We would expect the Universities and the proposed Institute of Educational Studies and Development to run such courses on a continuous basis.

184. We are convinced that a well organised and planned guidance programme, as indicated above, as and when established as a support system to formal and non-formal education, would prove to be as meaningful and purposeful as education itself.

Educational
Finance

185. Punjab is the most prosperous state in India, as per capita income would indicate. But its share in expenditure on education has so far been low, 2.7% of its net domestic product during 1979--82, compared with the national average of 3.3%.

186. Economically better off countries normally spend a larger share of their national income on education for the qualitative improvement of their people. In most of the developed countries expenditure on education forms around 6% of the national product.

187. The low rate of revenue raising in Punjab is partly due to the fact that the state has a large primary sector which has traditionally remained out of the tax net. This fact, however, does not wholly explain the situation. Punjab raised only 12.5% of its NDP as revenue during the period 1979--82, which was markedly lower than the national average of 16.9%. Even in the adjoining State of Haryana, which has a much larger primary sector, 16% of NDP was raised as revenue.

Growth of Student Population

188. The student population in Punjab is expected to rise at a rate much faster than the likely growth of its population. At present while nearly 100% children of age about 6 years get enrolled in Class I, a very small proportion of them, about 41%, reach Class VI, registering a 59% drop-out at various stages for various sociological reasons, including lack of aptitude for studies.

189. There is a good chance of reduction in the drop-out rate with the growth of economy in the near future. Simultaneously the government will be taking adequate measures to improve the retention rate all along the line to educate and train people in good time to meet the future man power requirements of Punjab's economy, which is expected to diversify to high technology areas in coming years.

190. The state will have to step up markedly its expenditure on education not only to match the larger student population but also simultaneously to bring about much needed qualitative improvement in its educational standards, which will include a real rise in teachers' salaries, expansion of facilities such as buildings, furniture, equipment and items of teaching aid and improvement in supporting educational facilities.

191. The Punjab Government spent Rs. 137.7 crores as revenue expenditure on education in 1980-81. Capital expenditure under the combined head of education and culture, scientific services and research was just Rs. 1.1 crores. The State Government's share in the total expenditure on education forms about 82%, the remaining being contributed by the centre and other agencies.

192. Average per student expenditure increases sharply with the level of education. The share of the recurring cost of teaching is very high, especially at the lower level of education, leaving little for maintenance, scholarships, libraries etc.

and for capital expenditure on such items as buildings, furniture and equipment.

193. There is need to rationalise the composite per student expenditure, so that the share of teachers' salaries in the total declines with a corresponding rise under non-teaching recurring expenditure and capital outlay. This means that while teachers' salaries would rise in absolute terms, expenditure under other heads will have to rise at a much faster rate.

Capital Backlog

194. A large number of schools in the state lack basic facilities such as school building, furniture etc. There is an urgent need to provide these facilities, for which an estimated Rs. 131 crore was needed in 1983. In addition there is a pressing need for setting up certain state level institutions like the Institute of Educational Studies and Development and the support systems for in-service training, educational technology and guidance and counselling services, the expenditure for which will come to around Rs. 60 crores. While the bulk of the backlog expenditure needs to be cleared as early as possible, expenditure on special schemes can be passed in a progressive manner.

195. In addition the impending decision to introduce the 10+2 system in the state and the need for introducing and strengthening vocational courses at the plus 2 level will place an extra financial burden on the exchequer. The existing annual training facilities have a total capacity to train about 12000 students in para-engineering vocations. There is need to increase this as well as to create new facilities for training students in other vocations such as para-medical, agriculture, commerce and trade etc. to reduce unemployment.

Future Expenditure

196. On the basis of norms discussed in the report the requirements of expenditure for education at the 1980-81 prices will be of the order of Rs. 453 crores in 1991-92 and Rs. 1181 crores in 2001-02. The statistical data from which this has been deduced are given in the chapter on Educational Finance.

197. Assuming that the external agencies would continue to contribute 18% of this expenditure, the share of the State Government in the total will be of the order of Rs. 371 crores in 1991-92 and Rs. 968 crores in 2001-02--the share of capital expenditure being 17 crores and 55 crores respectively. This means that expenditure by the state on education will rise from 137 crores in 1980-81 to Rs. 355 crores in 1991-92 and Rs. 913 crores in 2001-02--exceeding resource availability at the present rate of revenue allocation.

198. Considering the present low rate of revenue raising in Punjab, it appears that the method to bridge this resource gap will be through additional revenue mobilisation without

disturbing the share on education in the total revenue expenditure. If Punjab's revenue receipts could be raised to 16.3% of the NDP by 1991-92 and 21.6% by 2001-02--proportions which befit a developed State like Punjab, and do not look difficult to achieve, all the resources needed for development of education in the state can be achieved. Simultaneously this single step would also yield proportionately higher revenue for other competing schemes and sectors.

Capital Expenditure

199. There is a pressing need to step up capital expenditure for education from the level of less than 1 crore during 1980-81 to Rs. 17 crore in 2001-02. In addition there is need for an expenditure of Rs. 191 crores for wiping out the capital backlog and the creation of certain institutions. The capital budget of the state will have to provide for a rise in its receipts for educational purposes through the usual sources--loan from the public, loan from the Central Government, bonds and educational cess etc., in addition to generating a higher surplus in the revenue account and diverting it to finance such capital schemes. This is an accepted way of financing future capital development, and has been resorted to by all developing societies.

200. Altogether, finances are not expected to pose any problem for the development of the educational system in Punjab. The economy is poised to attain a sizeable growth, and there is considerable un-exploited potential capable of yielding the requisite funds. The total expenditure of Rs. 371 crores for education in 1991-92 and Rs. 968 crores in 2001-02, as visualised by us, represents only 4.3% and 5.7% of the likely NDP in the two respective years. This will still be lower than the national norm of 6% found in most developed countries.

201. Universities constitute the apex institutions in the field of tertiary education. The major task before them is not only to hold examinations as affiliating bodies but to develop research and teaching as well, and to expand and explore new horizons of knowledge relevant to our social needs and purposes. In the present context the limited ideal of pursuit of excellence has proved to be inadequate. The universities to-day are expected to contribute directly to the national development by bringing about qualitative improvement and extending educational facilities.

202. Higher Education in India faces the twin problem of numbers and the challenges posed by the explosion of knowledge. The technological revolution requires the creation of a reservoir of highly skilled workers, planners, inventors and managers. This requires radical changes in the organisational set-up and methods of teaching and examination. The added role of universities would demand dedicated teachers, students and administrators alike.

203. The need for effective participation by and involvement of, teachers in decision making and governance and that of all students in areas concerning their welfare and development becomes paramount. It is equally important to provide real autonomy to the universities for achieving their goals, while recognising and respecting the right of the community to expect the universities to be responsive to their needs.

204. A university is a corporate complex primarily engaged in the pursuit of excellence and in the promotion of programmes essential for national development. It is imperative to safeguard the universities' autonomy in order to enable them to play an effective and meaningful role in the spheres with which they are concerned. Financial aid or grants provided to straiten their frame of enquiry and speech. Without financial autonomy university autonomy has no meaning. To ensure financial autonomy block grants should be provided to a university with an in-built mechanism for meeting its normal needs.

205. For effective participation in the discussion and decision making processes in the university system the different constituent elements should be adequately associated with these processes. Adequate representation should be provided to different sections of the academic community. However, this objective can well be achieved by methods other than holding elections for the purpose. Elections should be held only when they become unavoidable, and that too through compact electoral colleges and on the basis of proportional representation by means of a single transferable vote. It has been observed that elections encourage factionalism, and not all sections of the community get represented in the decision making process.

Academic Council

206. Amongst the recommendations made by us there is one of particular significance with regard to the Academic Council. The Academic Council, in our view, should deal with broad matters of academic policies and provide appropriate direction to the university in the pursuit of its academic programmes. It should not be burdened with the responsibility of going through and approving the courses of study recommended by other bodies.

Boards of Studies

207. There should be two Boards of Studies in each subject--one for Under-graduate courses and the other for Post-graduate courses, with an in-built mechanism for adequate co-ordination between the two sets of Boards in a subject. The Boards should play a decisive role in matters of teaching and research relating to their respective disciplines. The recommendation for two separate Boards is made because of the difference in emphasis on teaching and research at these two levels.

Teaching Departments

208. The teaching departments should be provided with a competent and efficient leadership. Every Department should be managed in a participative manner, so that the members of the faculty have a sense of involvement in managing the affairs of the department. This could be ensured by the mechanism of Committee system in which the members of the teaching faculty are given various responsibilities for different aspects of the work in the department.

University Act

209. The University Act should provide for broad supervision by the Chancellor, who, in dealing with universities, should not be bound by the advice of the government, though he may seek advice from any source he deems proper. He can exercise control over University affairs by judiciously using his power of appointing the Vice-Chancellor, nomination to different bodies and, if the situation so requires, ordering an inspection or an enquiry. He should also have the power to annul any proceedings of the university inconsistent with the Act.

210. The acts of the university should include provisions for the following statutory bodies :--

- Senate
- Syndicate
- Academic Council
- Finance Committee
- Planning Board
- College Development Council

and such other bodies as may be so declared by the university statutes.

Senate

211. The Senate should provide a forum where a cross-section of the academic community, including representatives of different sections of the general community, meet together periodically to plan academic programmes in the interest of society. The Senate should be a deliberative body, and it should not be involved in the day-to-day administration and supervision in the university set-up.

Syndicate

212. The Syndicate is the executive body of the university. But it is not to be deemed as a governing body in a hierarchical sense, because in the university system the emphasis should be on the concept of shared responsibility. Different im-

portant bodies are assigned independent functions, and they take their decisions, of course, within the general framework of the university rules and regulations and accepted policies.

213. The Syndicate should be freed from the work of approving the decisions of the Academic Council regarding matters like admissions, courses of reading, examinations and the like. It should be primarily concerned with carrying out its executive responsibilities with a view to creating those conditions which would make the fulfilment of the university's objective easier and smoother.

Board of Research and Advanced Studies

214. There should be a Board of Research and Advanced Studies headed by a Dean, whose main responsibility should be to ensure procurement of necessary facilities for stimulating and maintaining standards of high level research relevant to the aims and objectives of the university.

215. A faculty comprising cognate departments should be given a large measure of autonomy to ensure co-ordination between teaching and inter-departmental programmes.

Finance Committee

216. Each university should have a Finance Committee to advise the Syndicate in all financial matters. There should be a provision for planning programmes concerned with the perspective planning. For that purpose every university should have a separate Board of Planning and Development, which should not only concern itself with the annual budget and the five year plans, but should also involve itself in perspective planning for a period of a decade or so.

College Development Council

217. There should be a College Development Council to address itself to the task of co-ordinating the development of affiliated colleges with a view to sharing the available facilities in a neighbourhood, both physical and human, for optimal utilization.

Students' Council

218. The universities should take adequate steps to promote corporate life among students. Students' Advisory Committees should be set up for the management of hostels/halls of residence, maintenance of discipline and organisation of extra-curricular activities--cultural and other programmes involving corporate endeavour. The organisational set-up has been indicated in the report.

219. Their association for academic guidance and counselling at the departmental level and in academic tutorials will

help solve many a problems which tend, otherwise, to blow up out of all proportions.

Other Committees

220. With a view to streamlining some other important aspects of the working of a university there is a need to constitute the following statutory bodies :--

- (a) Admission Committee ;
- (b) Examination Committee ;
- (c) Grievances Committee ;
- (d) Joint Consultative Committee ; and
- (e) Campus Committee.

The constitution and functions of all these committees, which are very important, have been given in detail in the report, and may be perused.

Officers of the University

221. The role of the Vice-Chancellor is of vital importance both from the point of view of providing academic leadership and administrative direction. In order to enable the Vice-Chancellor to function in an independent manner, and to ensure that he is not stressed beyond endurance, and yet has sufficient opportunity to look forward to some achievement, it has been recommended that the Vice-Chancellor should be appointed only for one term of five years, and that he should not normally be older than 65 years.

222. To share the heavy responsibilities and work load of the Vice-Chancellor each university may have four Rectors--one each for administration, academic affairs, affiliated colleges and the students' welfare. We are not in favour of the post of pro-Vice-Chancellor for obvious reasons, as explained in the report.

223. Deans of Faculties should be appointed from amongst university Professors by rotation for a period of two years.

224. As stated in the foregoing paragraphs, the university system is one in which the concept of shared responsibility operates. The same concept is needed to permeate the working of the administrative structure of the university. The principal function of the Registrar should be to ensure co-ordination in the implementation of the policies framed and decisions taken by the various university bodies. Within the administrative structure where senior positions have become more and more specialised jobs, he should play the role of a co-ordinator of the work of the senior functionaries like the Controller of Examinations, the Finance Officer, the Personnel Officer and the like.

Need for Review of Rules, Regulations & Procedures

225. Universities in general, and especially the new universities, adopt various government practices, procedures and rules for carrying on their day-to-day administrative work. This is not in consonance with the nature and the role that the universities are required to play. Most of the irritations in the university system, which vitiate the atmosphere, arise out of the application of rules that were framed for a totally different situation and objectives. It is essential, therefore, that universities should devise their own rules, procedures and norms of functioning, which should help in the promotion of a flexible approach to the various problems which arise from time to time. For this purpose, universities would be well advised to secure the services of special experts and consultants to devise their own set of rules, regulations and procedures. University functioning should be permeated with the concept of delegation of powers at all levels.

226. There is also the need for a continuous and critical examination of the various provisions in the statutes, rules and regulations of universities, so that these are kept up to date in consonance with the changing situations from time to time. A separate cell should be created in each university for the purpose.

Autonomous Colleges

227. Provision should be made in the Acts of the universities for constituting certain well established and reputed colleges in Punjab and Chandigarh as autonomous colleges, as suggested by the Education Commission, 1964--66. This would relieve the pressure on the universities to a considerable extent.

City University

228. The affiliating character of our universities has a definite bearing on the quality of education, as also on the slow pace of developmental programmes in many important academic matters. We feel that a city university should be set up in this region, and should be sponsored for innovative experimentation and for devising pace-setting courses. It will act as a catalyst for setting and improving standards in most tertiary level institutions.

Grievance Mechanism

229. The university system should provide for a three-tier mechanism to deal with the problems and grievances of students, teachers and members of the administrative and supportive staff. The establishment of this mechanism of a Grievance Committee, a Joint Consultative Committee and a Committee at the departmental level would go a long way for the creation of a co-operative and congenial climate on the campus, which is so essential for the smooth working of the universities. It has been spelt out in detail in the report.