CHAPTER VII
CONCLUSIONS AND RECOMMENDATIONS

Introduction

The recent thinking and learning has acquired a new orientation towards scientific inquiry and experimental work. If education is to become an instrument of national goals, our educational institutions must become active laboratories for the promotion of socio-economic change and growth. In future efforts of teachers must go beyond preparing pupils for a restricted kind of citizenship and narrow vocational efficiency. Modern education must enable students to commit themselves to achieve national goals. Therefore we should now boldly help our teachers to apprehend intellectually and accept planned changes in education on a fairly large scale. Almost similar ideas have been put forth by Donald J. Mc Carty. He has remarked:

Teacher training should do more than prepare a professional for a class-room, important though that is. A true professional must look beyond the expectations of his public and of his corporate constituency. He must understand not only the inherited traditions of the craft
through apprenticeship but he must also visualise the practical implications for the learning of youngsters both of his own commonsense and of theoretical reformulation based on new scientific evidence.¹

The viewpoint presented by B.O. Smith that professional training is to be concentrated in so-called teacher complexes has been basically consistent with the recommendations of J.B. Canant and Lord James. The complexes do imply that although reform is needed, it is reform within the parameters of the existing schools, by existing teachers and under existing administrative set up that is desirable. Various commissions and committees appointed from time to time in India also have endorsed such a viewpoint. One may not find much difference in viewpoints presented by educators of different countries. Donald McCarty has rightly written that 'British and American Educators will consume hours of time wrangling over the details of such training as they have in the past, but the broad outlines of teacher education for the schools are unlikely to be contested. Indeed the details will probably make very strong, sensible, obvious but constructive theme'.²

The investigator through this study has tried to present briefly the reforms in the field of teacher education. Conclusions and recommendations, related to Secondary Teacher Education Pro-

²Ibid., p. 45.
gramme in Orissa have been made on the basis of analysis of
the data. The line of action henceforth would be to present
separately a set of recommendations for each aspect of teacher
education for the purpose of clarity and convenience.

Thus, the investigator has attempted to classify the
recommendations according to major variables (listed below)
involved in ensuring the quality of teacher education.

B. Curriculum and Methods of education.
C. The Student-teacher.
D. The Faculty Member.
E. Facilities.
F. Finance.
G. Problems and Trends.

A. NATURE AND ORGANISATION OF T.E.I.s

In the State of Orissa there are six T.E.I.s with a total
intake capacity of 893 student-teachers. It is evident from the
data that there is no private secondary teacher education institu-
tion in the State. Five T.E.I.s are run by the State Government
and one by the N.C.E.R.T. All are co-educational institutions
located in urban areas. The T.E.I. at Cuttack was started in 1923
whereas the rest of the T.E.I.s were set up after independence.
The following recommendations are made in this area of Teacher Education, on the basis of the data gathered:

1. It is recommended that in order to make education a powerful instrument of social, economic and cultural transformation necessary for realisation of national goals, both governmental and private efforts should be encouraged. Private agencies should be encouraged to set up T.E.I.s in rural areas so as to correct the imbalance between rural and urban areas of Orissa.

2. In order to improve the quality of teacher education and to follow democratic principles, it is recommended that T.E.I.s located at Bolangir and Angul should not impose restrictions on admission. However, reservation should be made for weaker sections of society (Scheduled Caste and Scheduled Tribes) but student-teachers belonging to this section should be distributed all over the T.E.I.s of the State, through a central selection procedure.

3. All the T.E.I.s in the State should be made residential in nature in order to improve quality of teacher education and to provide happy experience of community living and mutual understanding. T.E.I. at Bhubaneswar should continue to cater to the need of the eastern region and the rest of the T.E.I.s should cater to the need of the State only.
4. For each T.E.I. there should be a Governing Body, comprised of a Chairman (the Vice-chancellor of the university), Vice-chairman (the Principal of the T.E.I.) and eight members (one M.L.A of that constituency, one Faculty Member, D.P.I or his nominee, Chairman of the Municipal Board/ Zila Parishad, one Educationist of the locality, one Alumni, one Journalist/ Advocate/ Doctor/ Engineer, one student may be the President of the Student Council.)

5. There should not be any restriction on age or academic qualifications of governing body-members. Student's participation in administrative and academic life of T.E.I.s. (including the Governing Body) should be encouraged.

6. The Governing Body must meet quarterly to deal with academic as well as administrative matters. Functions of the Governing Body should be:

a) to review from time to time the programme including institutional plan of the T.E.I.

b) to fix up the criteria and procedure of selection of student-teachers.

c) to suggest policies and plans, teaching practice, field experience and co-operation with schools.
d) to decide the administrative problems such as the appointment of superintendent of hostel, approval of the number of holidays, approval of boy's fund and appointment of ministerial staff etc. and

e) to discharge such responsibilities as may be assigned to it by the State Department of Education or the N.C.E.R.T.

7. A State Board of Teacher Education should be established in Orissa for promoting an integrated effort for replanning and reorganising Teacher Education in the State. It should be made responsible for co-ordination and professional manpower planning at the State level. It should provide data relevant to the preparation and employment of teachers.

8. The duration of the Bachelor of Education (B. Ed.) Course should remain for one-year only for both graduates and post-graduates. There should be minimum 235 working days in one academic session. Thus, number of holidays should be restricted to 130 days including about 52 Sundays.

9. Out of 235 working days, 15 days may be set apart for emergency, and examinations etc. and the rest 220 days should be counted as instructional days. Each T.E.I. should run for 6 hours a day, preferably from 10-30 A.M. to 4-30 P.M. with half an hour recess in between. Thus
about 1200 instructional hours will be available in a T.E.I. to be divided equally in theory and practice. The scheme to be adapted is given below:

10. In order to ensure minimum 235 working days in a session, it is recommended that long vacations, specially Christmas holidays and summer vacations should be cut down.

11. Organisation of a T.E.I. should leave scope where teachers should work in schools with students, teachers and parents. Teacher educators should try to relate pre-service and in-service education with local schools as laboratories. It is desirable that college and university teachers spend more time in schools.
12. The organisational pattern and programmes of teacher-education should be carefully evaluated every five years, and modified, where necessary.

B. CURRICULUM AND METHODS OF EDUCATION

It is evident from the analysis of the data that there are many variations and omissions in the existing pattern of secondary teacher education programme in Orissa. A few examples may be cited as weaknesses of the curriculum such as lack of subject knowledge on the part of the student teacher, defective evaluation procedure, more emphasis on theory than practical work, and all theory papers being compulsory etc. The investigator recommends the following in order to strengthen the curriculum:

Pattern of Courses

1. It is recommended that the time devoted to theory and practical work should be 50:50 out of 1200 hours of teaching work, 600 hours should be assigned for theoretical papers and 600 hours for teaching practice and other practical work. Time allotment is shown below:

- Teaching Practice/Internship +
- Other Practical work (assignments, craft & community work).
- Practical work
- Theory
- 600 hours
- 600 hours

Five theory papers including elective paper.

Figure 3 Showing time allotment between theory and practical work.
2. The curriculum should be divided into two parts - theoretical and practical. The theoretical part should contain two core papers and two other papers and one elective paper dealing with specialisation in a particular area. The structure of the curriculum along with relative weightage attached to items constituting it, is given below:

Paper 1  
Principles of Education and Current Problems of Indian Education  
- 100

Paper 2  
Educational Psychology and Elementary Statistics, and Educational and Vocational Guidance  
- 100

Paper 3  
Elective paper (specialisation in one of the following):  
- 100

- Educational Administration and Supervision
- Educational Measurement and Evaluation
- Educational and Vocational Guidance
- Audio-Visual Education
- Pre-Primary and Primary Education
- Health and Physical Education
- School Library Organisation
- Curriculum Planning and Preparation of Instructional Materials
- Social Education
- Art and Craft Education

Paper 4  
Contents and Methods of Teaching any two school subjects (Each)  
- 100
Practical work

Teaching in Two method subjects - 150 marks each.
Other Practical assignments - 100 marks.
Craft and community life - 100 marks.

3. In each theory paper topics having relevance to teaching situation should be included and emphasised, and matter which is out dated and not relevant should be left out.

4. It is evident from the analysis of data that the tutorial system cannot be implemented properly in T.E.I.s due to lack of adequate staff, accommodation, library facilities etc. However, the system may be tried in T.E.I.s when such facilities are made available.

5. A student-teacher should be exposed to simulated teaching and pre-internship programme, before he or she is actually placed in a class-room situation. It is suggested that each day two periods may be devoted to simulated teaching throughout the session.

6. Minimum one demonstration lesson on each method subject should be delivered by the staff member, if possible in a school situation. There should be thorough discussion on different aspects of the lesson.

7. A student-teacher should deliver 15 lessons in each of the two method subjects opted for teaching practice. For a week or so he should deliver one lesson a day with full fledged planning and preparation. Detailed lesson plan should be corrected by the method
master. These lessons of the first-week should be supervised fully by the supervisor of the T.E.I. in selected schools. However, he may be allowed to prepare short plans for the rest of the lessons to be covered during teaching practice.

8. During the period of block teaching, student-teachers should be treated as regular teachers of the school and should abide by the rules and regulations of that school. They should be under the administrative control of the Head of the institution and should work in collaboration with co-operating teachers.

9. A student-teacher should not be permitted to offer a subject for teaching practice which was not studied by him at the degree level.

10. A student-teacher should be allowed to teach through any regional language chosen as medium in a co-operating school within the radius of two kilometres from the T.E.I.

11. Supervision of lessons delivered by the student-teacher should be done by a faculty member/co-operating teacher having competence in both content and pedagogy. They should supervise lessons pertaining to their own subjects. Such persons should be given encouragement by reducing their workload.

12. A few student-teachers may attain the optimum standard in teaching in less than the minimum number of lessons prescribed by the university. The individual differences should be taken into account and the university statutes may be modified accordingly.
13. Supervisors and co-operating teachers should maintain an elaborate record of their supervisory work and should discuss the strengths and weaknesses of the lesson with the student-teacher at the end of the lesson.

14. A five point proforma for supervision (modification of the Stanford Teacher Competence Appraisal Guide, according to Indian situations) may be used by the supervisors. (Appendix-D)

15. It is recommended that new ways of providing clinical experience in professional preparation should be invented. Staff members should sharpen their ability to get acquaintance with the problems in school and to develop clinical capacity in supervision work.

Evaluation

16. As is evident from the analysis of the data that the evaluation procedure adopted in T.E.I.s is far from being satisfactory, it is recommended that after defining the specific competencies to be developed in the student-teacher, various procedures and techniques should be adapted to evaluate each of these competencies more objectively and reliably. This should be done with regard to both, the theory and practical work.

17. It is recommended that the theory and the practical work should have equal weightage in the evaluation i.e. 500 marks each.
The break up may be as follows:

<table>
<thead>
<tr>
<th>Maximum Marks</th>
<th>Theory Papers - 500 Marks</th>
<th>Practical work - 500 Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>1. Principles of Education &amp; current problems of Indian Education - 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Educational Psychology &amp; Statistics &amp; Educational and Vocational Guidance - 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Elective Paper - 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Method of Teaching - Content - 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Teaching Practice - 300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Practical Assignments - 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Practical Test in Craft &amp; Community life - 100</td>
<td></td>
</tr>
</tbody>
</table>

18. Those who teach the subject should examine the answer scripts pertaining to their subject area. A system should be evolved where random sample checking and re-examination of scripts is possible.

19. The paper setter should supply an elaborate scheme of evaluation to the examiners. Model answer should be made available to the examiners.

20. Evaluation should be both External and Internal. In each theory paper 20% of marks should be set apart for internal evaluation.
tion and 80% of marks should be assigned to questions to be evaluated externally at the end of the session. In practical work equal weightage should be given for external and internal evaluation.

21. Internal assessment of Teaching Practice (150 marks) should be done by the cooperating teacher, the Head of the cooperating school and college supervisors.

22. The assessment of practical work should be done on the basis of a carefully maintained record. This should be evaluated objectively.

23. 5 practical assignments (case study, teaching aid, objective test, survey report, co-curricular activity organised) each carrying 20 marks should be evaluated both internally and externally. Similarly the practical work in craft and community life carrying 100 marks should be evaluated externally and internally.

24. Practical work should be taken up in the right spirit and conditions of the workshops should be improved. The outline of the scheme of evaluation is presented below:

<table>
<thead>
<tr>
<th>Five Theory Papers</th>
<th>20% for Internal Evaluation</th>
<th>Periodical Test Term Paper etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 marks each</td>
<td>80% for External Evaluation</td>
<td>Objective, objective based, essay type, and short answer type questions.</td>
</tr>
<tr>
<td>Practical work</td>
<td>Teaching Practice 300 Marks</td>
<td>150 Internal</td>
</tr>
<tr>
<td>500 marks</td>
<td>5 Practical assignments - 100</td>
<td>150 External</td>
</tr>
<tr>
<td></td>
<td>Craft &amp; Community life - 100</td>
<td>50 Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 External</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 Internal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50 External</td>
</tr>
</tbody>
</table>
25. System of pass and failure as indicated by percentage of marks should be replaced by gradings and the results should show the total achievement of the student-teacher. Although the conventional five point grading system has come under severe criticism, research has found nothing better to take its place. The weakness lies in the lack of common understanding as to the levels of performance the symbols are supposed to represent. It is recommended to find out ways and means to reach a common agreement among the teaching staff regarding the meaning of the various grading symbols.

26. In order to solve a bigger problem of incomparability of standards of performance obtained at different T.E.I.s, it is recommended that some kind of tests of graded competencies should be developed. If such a tool is made available, norms of teacher performance can be prepared in the long run.

27. Innovations in evaluation such as central question bank, team of university examiners and moderators may be tried in some selected T.E.I. to find out the weaknesses of the system. However, evaluation procedures may be developed by a team of teachers.

Medium of Instruction, Method of Teaching and Pass percentage etc.

The data reveal that in all the T.E.I.s under survey the medium of instruction is English. By and large, faculty members have been using old Herbartian steps and lecture method in teaching. There is a sharp difference between the T.E.I.s run by the
State Department and T.E.I. run by the NCERT. On the basis of conclusion drawn by the analysis of the data and information collected at the time of interview, and personal visits, the following points are recommended, so far as pass percentage, divisions and grace marks system are concerned:

23. It is recommended that the curriculum should be made more flexible and suited to the requirements of student teachers. Curriculum suggested earlier will minimise the difficulties such as inadequacies in content knowledge, lacking in options, emphasis on theory more, being heavy and time consuming etc. It is essential to reorganise the pattern of curriculum without further delay.

29. Other techniques such as Project, Microteaching, Team-teaching, Programmed Instruction etc., should be used frequently in T.E.I.s. The choice of the method should be left to the faculty member but senior teachers should help him in case of any difficulty. Student-teachers should be made acquainted with such emerging trends of instruction as combination of mass media with the use of text books, instructional machines, microteaching etc. Self-study methods should be encouraged by reading assignments, group discussions, consultation with resource persons etc.

30. Curtailment of long lectures and discontinuance of dictation of lengthy notes, are strongly recommended to avoid the habits of cramming for getting through examinations. Seminars of faculty members should be arranged to discuss new techniques of instruction.
31. Till the grading system is implemented divisions should base on percentage of marks. Each student teacher should get 40% of marks in each theory paper and 50% of marks in practical work in order to pass. \( \frac{60}{60} \) of aggregate second class and above 60% first class degree should be awarded. In any subject where he gets 75% of marks, a mention should be made that he has passed with Distinction in that subject. Grace marks system should be abolished.

C. THE STUDENT TEACHER

Admission Procedure

The data collected and the notes taken at the time of interview reveal that none of the T.E.I.s conduct any written test for admission. However there is a system of awarding marks on academic career, special talents, teaching experience. But the marks awarded under these heads for the purpose of compilation of a merit list are to a large extent subjective and the procedure varies from institution to institution. However, the majority of the Principals of T.E.I.s have favoured the idea of holding some aptitude test in order to eliminate subjectivity and bring uniformity in the recruitment policy. The following points are recommended with a view to improve selection procedure:

1. There should be a written test for all the candidates who apply for teacher training. On the basis of their performance in the written examination a merit list should be made. Candidates twice the number of seats available should
be called for interview and the rest should be screened out.

2. There should be a 'Central Selection Board' consisting of Heads and Academicians of all the T.E.I.s. This board should hold interview at different places to select the candidates for admission in T.E.I.s. This very board should be empowered to conduct the written test for entrance.

3. The Central Selection Board should publish finally the merit list of candidates selected on the basis of interview, written test, teaching experience and academic record but the choice of a T.E.I should be left to the student-teacher.

4. Weightage assigned should follow the following pattern:

(a) Written Test  -  50 marks
(b) Interview  -  25 marks
(c) Teaching Experience-  10 marks
(d) Academic Record  -  15 marks

Total  100 marks

A break up may be suggested over here

(a) Written Test (50 marks)

    Intelligence Test  -  10
    Aptitude Test  -  15
    Content Test  -  20
    (any 2 school subjects)
    Language  -  5
(b) **Interview** (25 marks)

Personality - 5
Communication - 5
Resourcefulness and manner - 5
Co-curricular activities - 5
Confidence and poise - 5

(c) **Teaching experience** (10 marks)

Upto 2 years of service, 1 mark for each complete year of experience of teaching - 2
From third year 2 marks for each year, subject to the maximum of 8 marks - 8

(d) **Academic Record** (15 marks)

<table>
<thead>
<tr>
<th></th>
<th>I Division/ Distinction/ Honours</th>
<th>II Division</th>
<th>III Div.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.A./M.Sc./M.Com.</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>B.A./B.Sc./B.Com.</td>
<td>7</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>H.S./Hr. Second./P.U</td>
<td>5,</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

5. Choice of intelligence and aptitude test should be made by the Central Selection Board. However a verbal group intelligence test in English or Oriya eg. Dr. S. Jalota's or Dr. R.C. Dasa's group test of intelligence may be selected. Dr. K.P. Pandey's or M.M. Shaha's standardised tests for aptitude testing may be chosen.
It is evident from the analysis of data that by and large the population of student-teachers is young in age, and belonging to rural areas. Hardly 3% of students are above 30 years of age, and only 6% of them possess a post-graduate degree in arts and science. Division to various streams in terms of percentage was found 58 in Arts, 41 in Science and 1 in Commerce. A major section of student population (79%) possess teaching experience. On the basis of the data and interview record, the following recommendations are made:

6. Minimum age limit for freshers should be made 20 years and maximum 30 years. For people already in the teaching profession, there should be no such restriction of age.

7. Certain incentives should be given to fresh students other than arts, having a good academic record to enable them to join training course.

8. Minimum 45% of marks in the aggregate of the degree examination should be made a condition of eligibility for teacher training. Only the candidates who have offered at least one school subject at their degree examination should be made eligible for admission.

Sanctioned strength and enrolment

The data reveal that sanctioned strength varies in T.E.I.s and in some cases enrolment was less than the sanctioned strength.
probably due to drop outs. On the basis of analysis of the data, it can be concluded that increase in sanctioned strength did not accompany with corresponding increase in facilities always. Reservation of seats for scheduled caste and scheduled tribes and lady teachers was upto the tune of 10% and 25% respectively. Two T.E.I.s are meant for the student teachers coming from tribal districts only. The following points are recommended in this connection:

9. Each T.E.I. should admit student-teachers according to the sanctioned strength and the number should not increase.

10. If there is any increase in the enrolment it should accompany with corresponding increase in facilities such as teachers, equipment, library etc.

11. One T.E.I. meant exclusively for lady teachers may be set up in future to meet the requirements of lady teachers in Orissa.

Output and Wastage

Combined wastage in secondary teacher-education in Orissa was calculated considering failures and drop-outs together. In order to avoid wastage and to build a proper programme of teacher education in future, the following recommendations are made:

12. Wastage in the form of drop-outs and failures in secondary teacher education should be reduced to the minimum. A separate study may be undertaken by someone to find out ways and means to avoid wastage in financial and human terms.
13. In general it is recommended that based on research findings there should be a careful selection of student-teachers, and proper planning of teacher education in order to avoid the wastage.

D. THE FACULTY MEMBER

Staffing pattern, qualification, experience, staff-student ratio, status and salary scales etc.

The data reveal that many sanctioned posts have not been released in T.E.I.s. Staff student ratio comes to 1:19. 53% of teacher educators in Orissa do not possess the qualifications laid down by the Kothari Commission. 56% of the faculty members are working in a temporary capacity. Usually promotion is based on seniority. Teacher Educators are getting less pay than that suggested by the Kothari Commission. Conditions for professional growth, publication and research etc. are not congenial in T.E.I.s. In-service Training for teacher educators was found inadequate to a large extent. The investigator recommends the following points in order to strengthen the areas where weakness exists.

Staffing pattern and staff-student ratio.

1. Posts of lecturers, readers and professors already sanctioned should be released immediately by the concerning authorities.

2. Staff-student ratio should be 1:10 (norm at the national level) and it should be accompanied with a corresponding increase of teaching staff at the rate mentioned above.

3. A perspective plan should be prepared to calculate the
requirement of teacher educators and the estimates for teacher educators should be worked out on the basis of the requirements of the components of the curriculum. However, in general it may be suggested that each T.E.I. should have at least one method master for each method subject on its staff along with other teachers teaching pedagogical subjects.

4. Staff pattern of a T.E.I. should not be based solely on staff-student ratio, but on the number of specialists required, on the hours of attendance and work per week to be prescribed for each and on per capita expenditure to be allowed per student-teacher.

5. Since the staff recruited today is required to teach effectively (at least up to the end of the century) the recruitment should be on a long term planning.

6. There should be a Central Selection Committee responsible to recruit the teaching-staff. Needs of the T.E.I. should be communicated beforehand to the Selection Committee.

7. Merit should be taken into consideration as major factor for both recruitment and promotion and not the seniority. Only persons having adequate qualifications should be recruited to the teaching profession. Double masters degree along with 3-years of teaching experience as recommended by Kothari Commission should be taken as minimum qualification for recruitment of a teacher educator. However, qualifications can be relaxed in case of specialists in the field of psychology, Philosophy etc.
8. A faculty member should get confirmation after the expiry of 2-years of probationary period and cases where a teacher educator is working on a temporary basis since 3-years or more should be cleared immediately by the concerned authorities.

9. Recruitment of staff with adequate and suitable qualifications for physical education and craft subjects should be emphasised in the next few years.

10. Teacher Educators teaching the post-graduate classes also, should have a lighter work-load than the others. It may be added that the maximum workload of a teacher educator should not exceed 13 periods/week as recommended by the U.G.C.

11. Other departmental work such as supervision of teaching practice, correction of lesson plan, tutorial work, demonstration lesson should be considered at the time of calculating the work load of a faculty member. Teachers involved in guiding research projects should be given a certain relief in their workload.

12. It is recommended that even though the T.E.I.s may continue to work under the control of the Education Department, status and salary scales of teacher educators should be in accordance with the U.G.C. recommendations.
Conditions of work, professional growth and in-service training (I.S.T.)

Analysis of the data reveal that residential accommodation for faculty members is scanty. Staff members have been attending seminars and conferences occasionally. They get less opportunity for professional growth. Facilities for in-service training (I.S.T) are far from being satisfactory. Teacher educators themselves do not get ample opportunities for I.S.T. Planning and co-ordination is lacking to a great extent so far as I.S.T is concerned. Thus the following recommendations are made with a view to eradicate the shortcomings.

13. Since pre-service professional education serves only a process of induction into a job, it is essential to follow it up by programmes of I.S.T or continuing education. Thus immediate steps should be taken to strengthen I.S.T programmes which are aiming at professional growth of teacher educators.

14. It is recommended that a major portion of I.S.T. should take place in the schools and communities.

15. Government should provide financial assistance along with leave of absence to the teachers attending I.S.T. courses.

16. A provision should be made so that each teacher gets opportunity to attend I.S.T. Courses for a minimum period of 10 days per year of service. It should offer the participating teachers both incentives and real professional satisfaction.
17. There is a fundamental need at this moment to try to systematise I.S.T. A co-ordinating committee comprising of representatives of the university, the T.E.I and other agencies should be made. Its function should be to bring together information about the variety of provision, within the area it covers.

18. To ensure that teacher educators are up to date, particularly in a period when radical changes in content and methodology are taking place, I.S.T programmes should be organised for them.

19. Opportunities for I.S.T should be made available to all the faculty members of a T.E.I in a phased and balanced manner. This point is vital in the education of teacher educators because no programme can be more effective than the training of teacher educators.

20. Young teacher educators during the probationary period should be given every possible help in the form of (a) limited teaching work (b) aid in collecting instructional materials (c) consultation of senior teachers (d) special instructions and guidance related with the child and the environment etc.

21. After every five years, the need of the teacher educators should be ascertained and expert advice should be rendered to them to attend different I.S.T. Courses for ensuring efficiency and job satisfaction.
22. Encouragement and facilities should be granted to faculty members for both research and publication. Facilities for dissemination of research results should be increased. There is a need to bring out an educational journal at the State level.

E. FACILITIES

Building, hostel, laboratory, audio-visual aid etc.

The data reveal that except one T.E.I which is housed in a rented building, all have their own buildings. Two T.E.I.s are lacking so far as adequacy of space and desirability of surroundings are concerned. In two of the T.E.I.s hostel facility extended to student-teachers is almost negligible. Three-fourths of the student population expressed dissatisfaction with the existing conditions in hostels. Lady teacher educators experience a lot of difficulty due to non-availability of residential accommodation. The data further reveal that the library and reading room facilities are lacking to a large extent in majority of the T.E.I.s. A small collection of books and journals in the name of a library is hardly helpful either as reference material to the staff or as assistance to the studies of student-teachers. In all the T.E.Is untrained people have been working as Librarians. Doors of the library are closed when the teaching work is suspended. Other facilities such as drinking water, cycle stand and medical aid etc. are also not upto the expectations of the student teachers.
In one T.E.I there is neither laboratory nor workshop, whereas in four T.E.I.s there is a single science laboratory and in one there are many laboratories. In the T.E.I.s run by the State there are workshops for craft subjects. Money available for the upkeep and maintenance of these laboratories or workshops is not adequate. In only one T.E.I audio-visual education has been included in the curriculum. About fifty percent of the student-teacher's population face difficulties in procuring audio-visual aids for effective classroom teaching. The data reveal further that use of aids such as tape recorder, overhead projector, video tapes etc. is negligible. Investigator recommends the following on the basis of his personal visits, interview records and analysis of the data.

1. It is recommended that economy, decency, durability and utility should be kept in mind while making any alterations or constructing new buildings. Future needs of the institution should be apprehended by the planners. Fresh norms should be evolved for administrative, teaching and residential buildings.

2. As recommended earlier all the T.E.I.s should be made fully residential institutions and as such hostel buildings and staff quarters etc. should be constructed according to the requirements.

3. Physical conditions of the hostels of T.E.I.s should be improved in order to provide a congenial atmosphere for both living and learning.
4. The investigator is aware that the availability of funds to the library alone will not improve the academic situation in the T.E.I.s. It is, therefore, recommended that books, student-teachers and teacher educators, should be brought together under conditions which encourage self study, research, intellectual venture and curiosity.

5. Books on loan may be taken from National, American and British libraries also.

6. It is a matter of top priority that all the librarians working in T.E.I.s should be sent for library science training at suitable places of the country.

7. Libraries should remain open during vacations also. Working hours of the library should be extended and facilities for open shelf system and reading room should be provided in all the T.E.I.s.

8. Adequate arrangements should be made in all the T.E.I.s for facilities like drinking water, cycle stand, toilets and medical aid etc.

9. For an effective teacher education programme, laboratory and workshop conditions should be improved without delay and their use to the fullest extent should be stressed.

10. A separate room should be set apart for audio-visual education. Use of mass media in teaching-learning process and exposing student teachers to the use of variety of aids should be emphasised in teacher education programme. Thus there is a need to make it an integral part of the curriculum.
Co-curricular activities, alumni association and other facilities

On the analysis of the data it may be concluded that the most popular games in T.E.I.s are Volley-ball, football and badminton and the least popular ones are hockey, cricket and basketball etc. No qualified coach is available in any of the T.E.I.s. Recreational facilities are also lacking to a large extent. Drama and debate are among the popular academic activities involving participation of student-teachers. In only two T.E.I.s there is an alumni association but that also is not on a desirable pattern. Students of T.E.I.s vary greatly in regard to their age, educational attainments and interests etc. These are some of the barriers for social intercommunication between them. The investigator recommends the following in order to make an improvement in this aspect of teacher education programme:

11. It is recommended that more interest should be created in co-curricular activities among student teachers and teacher educators. It is desirable that co-curricular activities which may help build up a proper relationship between the members of the T.E.I. within the shortest possible time, should be preferred.

12. Requisite material, play-ground and coach etc. should be made available to the T.E.I.s.

13. Faculty members should take an active part in games and sports, excursions and organising tournaments. Inter-college competitions should be organised to encourage student-teachers.
14. Activities promoting verbal expression and delivery of teachers should be incorporated in teacher education programme. Social, literary and cultural associations or clubs should be allowed to function on more democratic basis in these T.E.I.s.

15. Alumni associations should be set up in all the T.E.I.s. Their working should be formulated on arranging frequent meetings on a planned basis and they should offer assistance in publishing reading materials to be used by the old students.

16. As in none of the T.E.I.s the scheme of Employment Information and Advisory Bureau and Career advising units exists, there is a genuine need to help student teachers in selection of courses of studies and careers after completing their education.

17. There is no harm in extending the facility to school librarians and Inspector of Schools to appear at B. Ed. examinations privately but one must ensure that the standard of teacher education does not deteriorate.

F. FINANCE

It is clear from the analysis of the data that half of the student population is entitled for getting a stipend. The maximum amount of stipend is Rs.80/- p.m. They do not get any other loan or financial help. Grants given to T.E.I.s are not
sufficient to meet their requirements. Therefore, it is recommended that:

1. The amount of stipend should be raised to Rs.100 per month and the same should be granted to all student teachers admitted to B. Ed. course in order to meet their requirement and check the tendency of earning through other means.

2. The U.G.C and the Government should give liberal grants to T.E.I.'s (recurring and non-recurring) for the development of academic, professional and physical facilities necessary for the development of teacher education.

3. Specific grants should be given for the development of research and in-service training programmes in order to bring teacher education face to face with the realities of education.

4. The financial implications of the location and the intake capacity of the T.E.I etc. should receive very careful attention while preparing the plan for teacher education. This is essential for improving the quality of teacher education.

5. The per capita expenditure in teacher education in Orissa seems to be higher than that of the national figure, because all the T.E.I.'s are run by the State Government/the N.C.E.R.T. However, in view of the hike in prices it is recommended that a provision for more grants should be made in order to improve the quality of teacher education in Orissa.
6. A loan policy should be chalked out for student teachers. The amount of loan should be sufficient to cover expenses and the loan should not be recovered if he has worked for five years as a teacher.

G. PROBLEMS AND TRENDS

The data reveal that proper machinery for innovations is lacking in majority of the T.E.I.s under investigation. Shortage of staff and lack of facilities have become a barrier toward this goal. However, some of the innovative trends and outcome of the efforts made to bring about the change in various aspects of teacher education are praise worthy. A few innovative practices are mentioned below:

Institutional Planning

It is evident from the data that half of the T.E.I.s have adapted institutional planning though in a crude form. They usually hold staff meetings to decide issues for the next session.

It is recommended that the institution planning should be taken up in the correct sense of the term. Optimum use of existing facilities for the development and growth of a T.E.I. should take place with the help of all the human factors connected with it i.e. the student, the teacher, and the community. It is a must for all the T.E.I.s in order to utilise existing resources in the most effective manner and to overcome the short-comings of material inputs through better planning and greater human effort.
Integrated courses and correspondence courses

In only one T.E.I. there is a provision of summer school-cum-correspondence course (SS/CC) leading to B. Ed. degree. Such a provision has been made with a view to clear the backlog of untrained teachers. The same T.E.I. has 4-year integrated course in Arts and Science leading to a combined degree viz. B.A., B.Ed./B.Sc., B. Ed. Though it has not been able to establish the superiority of such a course over the traditional one-year course through research findings so far, the feeling is that the integrated course gives a more and better grasp of subject matter as well as the technique of teaching. A separate study may be undertaken by some one to have a comparative evaluation of both types of courses existing in the State of Orissa.

In view of the demand of such courses it is recommended that a few desirous T.E.I.s (Angul and Cuttack) may be given assistance to start such courses to cater to the need of the State and the T.E.I. at Bhubaneswar may be allowed to cater to the need of the eastern region. However, necessary precautions must be taken so that the quality of teacher education does not go down by such provisions.

Work Experience

From the data it is evident that in all the T.E.I.s governed by the State Department of Education, work experience has been included in the curriculum which is based on participation in pro-
ductive and social activities. It has been felt at the time of interview that inconsistency in awarding marks, lack of proper equipment in workshops and taking the programme of work experience lightly etc. are the major defects worth mentioning.

It is recommended that the work experience programme should be included in all the T.E.I.s of the State and it should be considered an integral part of the teacher education programme. It should aim mainly at inculcating the habits of inquiry, careful observation and experimentation and developing the quality of self-reliance and the right attitude towards the manual labour.

Student Participation

From the data and interview schedule it is revealed that student participation in T.E.I.s is found in the areas of

1. shouldering responsibilities of handling student affairs and maintaining discipline in the student community.

2. initiating activities relating to student welfare.

3. helping authorities in the management of co-curricular activities and holding functions.

4. helping administration to manage hostel affairs etc.

However, in matters such as admission, promotion and examination etc. where decision making is reserved for judgement of the academic staff, their participation has been nil.
In view of the democratic set up and growing demand it is recommended that student participation should be encouraged in all the T.E.I.s. Students should be represented in the university bodies such as senate and academic council etc.

Size of T.E.I.s and comprehensive college idea

In view of the fact that higher enrolment minimises the per capita expenditure without affecting quality of education, it is recommended that large size T.E.I.s should be set up. In Orissa T.E.I.s at Cuttack and Bhubaneswar may be made comprehensive colleges, offering courses for pre-primary, primary and secondary teachers. These comprehensive colleges will have four-fold advantages.

a) minimising per capita cost of teacher education.
b) removing compartmentalisation of teacher education programme.
c) bringing variety in qualifications of the faculty members.
d) integrating all school stages for research and experimentation.

These comprehensive colleges have to be necessarily looked after by the State or the Central Government both academically and financially.
Emerging Trends

There is an awareness that teacher educators should put their efforts to improve the teaching-learning process through the use of new techniques and approaches. However, resistance by teacher educators to new terminology, use of audio-visual aids, new techniques such as programmed learning and micro-teaching etc. should be done away with I.S.T. programmes. Time is not far off when Protocol materials (audio and video recordings) are to be made available to T.E.I.s for instructional purposes. In developed countries there is a trend to reproduce teaching behaviour due to development of educational technology. In India organisations like CASE, NCERT and TTTIs etc. should take lead in producing such recordings of behavioural situations.

There is a general awareness that a teacher should know something about the process by which democratic social behaviour emerges in students and T.E.I.s should own the responsibility of providing opportunities for educating teachers in such a process. There is a tendency to bring student teachers nearer to the real life of the school and surroundings. This is a healthy sign. There is a general awareness that the T.E.I.s should involve experts of different disciplines in their programme from inside as well as outside of the T.E.I.s in order to follow inter disciplinary approach.