

TRAINING NEEDS OF HIGHER SECONDARY TEACHERS

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### 3.1 Introduction

The new pattern of education (10+2+3) recommended by the Education Commission (1964-66) has been implemented in almost all the states.<sup>1</sup> The change in the pattern of education has resulted in the structural changes in curriculum, methods of teaching and training of teachers. The plus two stage was created with the definite purpose of increasing the standard of students' education and lessen the burden on the university admissions. The plus two stage was conceived as the terminal stage and it was expected that fifty per cent of students would go to the world of work after the completion of their higher secondary education. However, in practice, it was found that the plus two stage became merely a preparatory stage for university education and much less number of pupils entered the world of work after the completion of plus two stage education. The teachers to be prepared for this stage and the needs of the teachers working in this stage was not at all systematically assessed. Therefore, the investigator with a view to developing a programme for higher secondary teachers, tried to assess the training needs of such teachers.

### 3.2 The Purpose

In order to understand the pre-service and in-service training needs of higher secondary teachers, the investigator developed questionnaires for teacher educators and higher secondary teachers.

### 3.3 Data required

The following were the types of data required for assessing the pre-service and in-service training needs of higher secondary teachers:

1. The data regarding the current status of higher secondary teacher.

2. The data regarding the training needs of higher secondary teachers.
3. The data about the adequacy of the B.Ed. programme in relation to needs of higher secondary teachers.

Questionnaire : In order to realize the objective 1 (please refer objectives in Chapter I, p.31 ), the investigator prepared a questionnaire for teacher educators and another for higher secondary teachers.

#### 3.4.1 Questionnaire for teacher educators

This questionnaire was specially developed to collect perceptions, ideas, critical remarks and comments of teacher educators with regard to the pre-service and in-service training needs of higher secondary teachers. Questions in this questionnaire call for evaluation of the existing B.Ed. programme in relation to the needs of higher secondary teachers and further seek the new elements which have to be incorporated into the existing training programme. This questionnaire also attempts to examine the need for designing a separate training programme for higher secondary teachers.

#### 3.4.2 Structure of the questionnaire

In this questionnaire the first page seeks to collect general information regarding the teacher educator. The general information includes the name of the teacher educator, the address of the institution, the age of the teacher educator, the sex of the teacher educator, his academic qualifications and experience. The category 'experience' is further classified into teaching experience at school level, at college level or any other and research experience in years. The purpose of collecting the general information was two fold. Firstly, it helps the investigator to identify the data and classify them and secondly it helps the investigator to match the background

of the teacher educator with that of his opinions, remarks and suggestions. Further, it helps the investigator to weigh the opinion of the teacher educator with the proper understanding of the context.

In the beginning, definition of certain terms used in the questionnaire are provided to facilitate the teacher educators to interpret the meaning of the terms in the same manner, while answering questions in the questionnaire.

Questions are classified under eight sections. They are presented in the following table 3.1

Table 3.1 showing the distribution of questions in different sections in the questionnaire for teacher educators

Section Number	Title of the Section	Item numbers included in the section
1	Objectives of teacher training	1a, 1b
2	Curriculum	2a, 2b, 2c, 3a, 3b
3	Methods of teaching	4, 5a, 5b, 6a, 6b, 7a, 7b, 8, 9a, 9b, 10a, 10b, 11a, 12a, 12b, 13a, 13b, 14a, 14b, 14c, 15a, 15b, 15c, 16a, 16b, 16c, 16d, 17a, 17b, 18a, 18b, 19a, 19b, 20a, 20b, 20c, 20d.
4	Evaluation	21a, 21b, 21c, 21d, 22a, 22b
5	Practice teaching	23a, 23b, 23c, 23d, 23e, 24a, 24b, 25a, 25b, 25c, 26a, 26b, 26c, 26d, 26e
6	Administration and organisation	27a, 27b, 27c
7	Co-curricular Activities	28a, 28b, 28c, 28d
8	In-service programmes	29a, 29b, 30a, 30b, 30c, 31, 32, 33a, 33b, 34
		35 for any comment/remark/suggestion with reference to any section

(for further structural details please see Appendix IIIA).

### 3.4.3 Sample

The information regarding the total number of teacher educators present in all the teacher training colleges, postgraduate departments of education in Gujarat was collected. Then 'questionnaire for teacher educators' was mailed to two hundred and fifty teacher educators in all training colleges and departments of education in Gujarat State.

After sending two reminders and meeting a few teacher educators and principals personally the investigator could collect seventyfive questionnaires. It may be observed that questionnaires were received from almost all the districts of Gujarat and it finds fair representation of the different regions of the state. The present study has been conducted with a national perspective and therefore, selecting the teacher educators of a particular state viz., Gujarat was done with two purposes:

1. The study was undertaken for doctoral degree in education and due to the constraints of money and other resources, the investigator selected only one state for the study viz., Gujarat.
2. As the investigator was working at the Centre of Advanced Study in Education, Faculty of Education and Psychology, M.S. University of Baroda, Baroda, the data collection from Gujarat State was more feasible. Further, as the investigator was interested in collecting the opinions, ideas of teacher educators for evolving teacher education programme, the regional sample does not vitiate the validity of the study.

#### 3.4.3.1 Sample characteristics

Nearly half of the teacher educators in the sample (i.e. 38 teacher educators) are having doctorate degree in education. One teacher educator has done M.Litt course and another has done D.M. and S.P. Course (Diploma in Medical and Social Psychology). Thirty six teacher educators have M.A. qualification and only two teacher educators have M.Com. qualification. Eight teacher educators are having M.Sc. degree. Out of seventyfive teacher educators sixtyfive teacher educators are having M.Ed. degree. The teaching experience of teacher educators ranges from four years to thirtyfour years and research experience from one year to twenty two years. The sample constitutes fifty male teacher educators and twentyfive female teacher educators. The age of the teacher educators in the sample ranges from twenty eight years to fifty seven years.

The regional distribution of the sample and the number of questionnaires received are presented in Appendix III B.

#### 3.4.4 Data Collection

The questionnaires were mailed to two hundred and fifty teacher educators in the sample. At the first instance, some of them filled the questionnaires and sent them back. But, the investigator had to send reminders twice with a gap of one month to collect the remaining questionnaires. Further, the investigator personally visited most of the teacher education institutions to collect the data. The investigator could interview some of the teacher educators and gather their valuable opinions. (The interview schedule has been presented in Appendix III C).

### 3.4.5 Data analysis

The questionnaire for teacher educators consists of eight sections. The answers received for the questions in the questionnaire were qualitative in nature. Considering the nature of the data, the investigator content analysed the data and the significant observations, comments, and suggestions have been presented sequentially with proper explanations. The data have been analysed sectionwise for the sake of convenience of presentation ( Please refer table 3.1 on page no. 156 ).

#### 3.4.5.1 Section : Objectives of Teacher training

When the teacher educators in the study were requested to give their opinion about the adequacy of the objectives of B.Ed. programme with reference to the needs of higher secondary teachers (item 1a), majority of the teacher educators opined that the present B.Ed. programme does not adequately cover all the purposes of the higher secondary teaching (73%). However, twentyfour per cent of teacher educators have opined that the objectives of the present B.Ed. programme adequately cover the purposes of higher secondary training. Further, two teacher educators in the study have opined that the objectives of the present B.Ed. programme to some extent cover the purposes of higher secondary training. These opinions clearly indicate that there is a need to examine the B.Ed. programme with reference to the needs of higher secondary teachers. Perhaps, it shows that there is some common element relevant for both secondary as well as higher secondary teaching.

Majority of the teacher educators in the study (more than 70%) have recommended the following objectives as relevant for higher secondary teacher training (item 1b).



1. To develop competence to teach the subject of his specialization on the basis of accepted principles of learning and teaching and knowledge of the subject by striving to keep in touch with the latest developments in both the subject and the methodology of teaching (96%).
2. To develop innovative attitude towards teaching (87%).
3. To develop cognitive, effective and psychomotor skills for teaching academic subjects by providing appropriate learning experiences (84%).
4. To develop skills in making use of educational technology in teaching academic subject (84%).
5. To provide knowledge about the bio-psycho-social needs of the adolescent and the problems arising out of their non-fulfilment (80%).
6. To develop skills in guiding and counselling the adolescent in solving his personal and academic problems (73%).
7. To develop an understanding of the aims and objectives of education in general and of school education in the Indian background, to promote awareness of the role of education and of the teacher in building up a democratic, secular and socialist society (70%).

A perusal of the above objectives indicates that they are comprehensive and they cover all the aspects of professional development of higher secondary teachers.

#### 3.4.5.2 Section 2 : Curriculum

When the teacher educators were asked whether the present curriculum in B.Ed. programme (in which they are

currently involved) is able to satisfy all the needs of higher secondary teachers (item 2a). Majority of the teacher educators (77%) opined that the B.Ed. programme is not able to satisfy all the needs of higher secondary teachers. However, some teacher educators (15%) opined that B.Ed. programme is able to satisfy all the needs of higher secondary teachers. Eight per cent of the teacher educators think that B.Ed. programme is able to satisfy partially (some of the) needs of higher secondary teachers.

The above data clearly indicate that the B.Ed. programme has to be examined to meet the needs of higher secondary teachers. This also shows that there may be some components which can be common to secondary as well as higher secondary teacher training.

The following are the inadequacies of B.Ed. programme listed by teacher educators with respect to the needs of higher secondary teachers (item 2b):

- i) The B.Ed. curriculum caters only to the needs of secondary stage teachers (85%).
- ii) The B.Ed. curriculum is rigid and does not focus on higher secondary stage (74%).
- iii) The B.Ed. curriculum does not make any distinction in the fundamental courses like psychology, sociology, philosophy etc. (40%).
- iv) The content part of the B.Ed. course needs to be enriched (84%).
- v) The B.Ed. course does not differentiate methods and techniques for secondary and higher secondary teachers (80%).

The above data clearly show that the majority of the teacher educators think that B.Ed. curriculum caters only to the needs of secondary stage teachers and that it is rigid and it does not focus on the needs of higher secondary teachers. The third inadequacy listed above finds less support (40%). Perhaps, it implies that the same courses with some relevant modifications can be provided for higher secondary teacher training course. The other inadequacies pointed out by teacher educators (i.e. iv and v) are poignant and needs to be considered while restructuring the B.Ed. course.

Recognising these inadequacies the teacher educators have suggested the following elements to be incorporated to make the present B.Ed. curriculum need based with special reference to higher secondary teachers (item 2c).

- Historical approach should be adopted in teaching special subjects.
- Skills of discovery and research have to be introduced as a part of teacher training.
- Various teaching methods should be used.
- Teaching at the +2 level should be encouraged.
- The duration of teacher training for higher secondary teachers should be made 2 years.
- The method of teaching and curriculum should be experiment oriented.
- Higher secondary teacher trainees should be provided with rich experiences of preparing various teaching models.
- Demonstration lessons should be given in higher secondary classes and illustrations should be according to the higher secondary level.
- More weightage should be given for assignment and self study methods.

- To include methodology of teaching the subjects of +2 stage in the context of the psycho-social needs of the students of that age group.
- To include component of organization of social life of the students of the age group.
- To include educational management and administration of +2 stage.
- To include action research techniques relevant to the problems of +2 stage.
- Specific methodologies for the special subjects may be developed appropriate to the content e.g., Science, Commerce.
- Sociological background and environment of +2 stage students should be considered while planning for redesigning the course.
- There should be only one method which should be allocated as per the specialization at post-graduate level of the student teacher.
- Practice teaching should be organized in the higher secondary section of the school.
- Another strategy may be to provide one method at advanced level and another general method.
- An understanding of the psychology of late adolescent stage and its relevance in personal and academic problems to be provided.
- Training in conducting seminars, discussions, guiding and evaluating in practical sessions have to be provided.
- Longer field experience (meaning involvement in higher secondary teaching) in the form of internship lasting at least 2 to 3 months should be introduced. Concrete clinical experiences with adolescents in the +2 stage should be provided in order to orient the teacher trainees towards a sympathetic understanding of their peculiar problems.

- Skills in guiding and counselling the adolescent in solving students' personal and academic problems should be developed.
- Opportunities should be provided to teacher trainees to conduct practicals at higher secondary stage.

A perusal of the suggestions provided by the teacher educators reveals that there is need to drastically change the curriculum to suit the needs of higher secondary teachers. The suggestions provided have been comprehensive and relevant for higher secondary teacher training. However, the suggestion such as providing action research may not be feasible. Furthermore, the experience with action research in teacher training colleges and schools are not encouraging. Therefore, while providing research elements to teacher trainees, care should be taken such that the programme elements are gradually introduced, testing at every stage to modify the programme elements to suit the needs.

The suggestions regarding alternative strategies for providing special subjects (methods) have to be examined with reference to the relative advantages that accrue to the teacher trainees and the organisational implications of accepting this change have to be worked out.

#### Alternative models needed for teacher training

Primary and secondary stage teachers are prepared in well designed separate training programmes (i.e. Primary teachers - T.Ch. programme or B.Ed. elementary course and secondary teachers - B.Ed. course). However, higher secondary teachers do not have any specific programme of training (except M.Sc.Ed. courses offered at Regional Colleges of Education, Mysore and Bhubaneswar). In view of the fact that

the higher secondary stage has emerged as a distinct stage, a few alternative models of teacher training were presented (item 3a) for teacher educators' approval and comments.

Majority of the teacher educators (48%) have recommended that in the present B.Ed. training programme two streams could be made i.e., stream A) for secondary teachers, stream B) for higher secondary teachers. This model seems to be more feasible, the needed structural changes and organisational implications have to be worked out. However, nearly half of the total number of teacher educators (i.e. 43%) opine that there is need for a separate teacher training programme for higher secondary teachers. Some teacher educators (35%) are of the view that in the present B.Ed. programme a special orientation could be given to higher secondary teachers.

The detailed comments, observations of teacher educators supporting their recommendations of a particular teacher training model have been presented separately in the following paragraphs:

Comments and observations of the teacher educators who have advocated a separate teacher training programme for higher secondary teachers.

- It's better to think afresh about a plausible model for training teachers for this link stage, it should be more practice-oriented training, less of pedantic lectures- more of laboratory work, project work and seminars should be provided, since all the trainees are already postgraduates such an approach seems to be the most appropriate.
- As +2 is a unique stage, socially and psychologically, it would need specialised training of teachers for various needs like the subject matter preparation, large-group handling, learning materials improvisation etc.

- For higher secondary teacher education separate training college is necessary.
- Another model, which could be considered is the N.C.T.E. teacher education curriculum. The following patterns of courses could be considered:

Two semester courses of 36 credit hours for the +2 stage of academic stream.

Two semester courses of 36 credit hours for the +2 stage of vocational stream.

One semester course of 18 credit hours for the skilled artisans vocational streams.

- Higher secondary teachers should have something more than the B.Ed. programme. (i.e. present B.Ed. programme should be considered as a base).

Considering these view points the investigator has developed a separate teacher training programme for higher secondary teachers.

Comments and observations of teacher educators who have advocated a B.Ed. programme with two streams i.e., Stream A: for secondary teachers and Stream B: for higher secondary teachers

- Considering the human as well as material resources available in the teacher education institutions the two stream model seems to be feasible.
- There are quite a few things in philosophical, sociological, historical and even to some extent psychological foundations which could be common to both the streams. Teaching methodology, evaluation, class management etc., could be provided separately.
- This model is more practical.

- The candidates having postgraduate qualifications may be admitted to the stream of higher secondary teacher training while only graduates may be admitted to the stream of secondary teacher training.
- This model can be implemented by making some changes in the existing B.Ed. syllabus. Methods of teaching subjects could also be introduced easily.

This model seems to be practically more feasible and working out the organisational requirements also will be easy. However, this model may not be able to satisfy all the needs of higher secondary teachers.

Comments and observations of teacher educators who have advocated orientation course for higher secondary teachers in the B.Ed. programme

- The B.Ed. programme should have a special orientation course for higher secondary teachers. They have to be provided content course and there should be an examination in content course. As far as the methods are concerned much change is needed as the age group of +2 students are in adolescent stage. It is a challenging job to teach them. In co-education classes, the teacher has to evolve his own style of teaching.
- At present most of the higher secondary teachers are trained and they need special orientation in content enrichment courses.
- The higher secondary teacher trainees should be provided with skills needed to promote self study in students. They also need to develop library skills.

The view points expressed by teacher educators indicate clearly that the models considered are viable and need some concrete structural changes in terms of curriculum, methods and materials and evaluation.



The teacher educators have recommended the following subjects for higher secondary teacher training (item 3b):  
Languages such as English, Hindi, Gujarati, Sanskrit, Marathi, etc.

Methods and content courses	}	Special Subjects: Mathematics, Commercial mathematics, Physics, Chemistry, Biology, Economics, History, Geography, Commerce, Book-keeping, Accountancy, etc.
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Foundation courses :

Psychology of adolescents (later period)  
Sociology of education  
Philosophy of education  
History of education  
Mental Hygiene  
Educational and vocational guidance and counselling.  
Education and social action - a course with field experience on social action.  
Measurement and evaluation with special reference to higher secondary stage.  
Educational administration and management.  
Educational technology.  
Principles and practices of teaching at +2 stage with special reference to higher secondary stage.  
Emerging trends in Indian education problems and issues related to +2 stage.  
Curriculum development and analytical procedures.  
Current trends in higher secondary education.

An attempt has been made to include as many courses as possible in the model being evolved taking into consideration the structure, level and duration of the courses proposed (please refer chapter VI).

### 3.4.5.3 Section 3 : Methods of Teaching

The data in this section have been analysed and presented under the following captions a. strategies of teaching, b. Use of instructional aids, c. Problems of higher secondary teacher trainees, d. Classroom management, e. Guidance and Counseling, f. Methods of teaching special subject.

#### (a) Strategies of teaching :

Majority of the teacher educators have indicated that apart from traditional lecture method, they frequently use the methods like lecture-cum-demonstration, seminar, and demonstration. (item 4) other methods of teaching are sparingly used (please refer table 3.2). This clearly shows that student involvement in the teaching learning process is less. Further, it could be observed that there is a need for more <sup>\*</sup>nondirective methods of teaching. Some of the teacher educators have rightly pointed out that it is very difficult to prescribe the methods in advance. However, the size of the class, the structure of the discipline and facilities available in terms of resources and time will determine, to a large extent, the choice of methods like non-directive methods (seminar, group discussion, project method etc.) or teacher centred methods (lecture, lecture-cum-demonstration etc.). Therefore, in teacher education course, more emphasis should be given to pupil centred methods and approaches of teaching.

When the teacher educators in the study were enquired whether they find any difficulty in teaching higher secondary teacher trainees as they are already postgraduates in their specialization (item 5a), fortythree per cent of the teacher

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\*Here the non directive methods refers to the methods of teaching where the teacher guides the student in his learning activities.

Table 3.2 showing the methods used by teacher educators, frequencies and percentages

Methods used by teacher educators	Frequencies	Percentages
Demonstration	36	46
Lecture-cum-demonstration	49	65
Seminar	47	63
Discussion	4	5
Lecture-cum-discussion	5	7
Role play	1	1
Problem solving	1	1
Self study method	3	4
Assignments	6	8
Panel discussion	1	1
Programmed learning	2	3
Workshop	2	3
Symposium	1	1
Supervised study	4	5
Simulation	2	3
Small group discussion	6	8
Group assignment	3	4
Team teaching	2	3
Project work	2	3
Field work to study the situations and problems in higher secondary schools like laboratory work, library work, etc.	3	4

educators have reported that they find no problem or difficulty in teaching higher secondary teacher trainees. However, the other teacher educators have made the following significant observations:

- The higher secondary teacher trainees are poor in content.
  - Most of them tend to be rigid and often fail to see the issues from others' point of view.
  - Some of the teacher trainees are highly qualified (they have doctorate degrees) whereas the teacher educators do not possess post-graduate degree in the content subject. In such cases, the teacher educators find difficulty in discussions.
  - The content which the teacher trainees have studied in their master's degree level have little bearing on the content of the +2 stage.
  - These problems have been overcome to some extent through the following strategies (item 5b).
1. Teacher educators having master's degree in content and master's degree in education are selected in new recruitments.
  2. Assignments are given to teacher trainees on eleventh and twelfth standard subjects.
  3. By suggesting teacher trainees to refer books prescribed for higher secondary level.
  4. Some of the teacher educators are sent for refresher courses in content.

The teacher trainees who do not possess a P.G. degree in the school subject, some content course of the school subject of the allied discipline may be given to equip the teacher trainee to teach the school subject. For the difficulties of teacher educators less qualified than the students, it is necessary that these teacher educators keep in touch with the recent developments in their respective

field of specialization and the teacher educators should treat teacher trainees (who are more qualified) as companions in the enquiry.

With regard to the giving of assignment or projects to teacher trainees, (item 6a), majority of the teacher educators (79%) have reported that they give assignment to teacher trainees; and while giving the assignment majority of the teacher educators have assigned common assignment to all the B.Ed. students irrespective of the background (qualifications) of teacher trainees (item 6b). However, some teacher educators have reported that the assignments are given in accordance with their syllabus (i.e. secondary and higher secondary schools). Some training colleges have tried to make some distinction among their trainees while assigning the projects in terms of difficulty level of the assignment. This clearly shows that the higher secondary teacher trainees most of the time get the same type of assignment as that of secondary teacher trainees. Consequently, the higher secondary teacher trainees may not find the projects assigned to them as challenging.

The following are the teaching skills recommended by most of the teacher educators as essential for higher secondary teacher to teach effectively (item 7a):

The skill of planning

- writing instructional objectives
- analysing the content
- introduction
- explaining
- demonstration
- questioning
- illustrating with examples
- black board writing

The skill of

- stimulus variation
- reinforcement
- using audio-visual aids
- silence and non-verbal cues
- increasing pupil participation
- preparing assignments and exercises
- probing questioning
- narrating
- achieving closure
- discussion/group discussion/panel discussion
- organising seminar
- designing problem situations
- designing experiments
- constructing test/s
- administering test/s

The above list of general teaching skills are relevant for higher secondary teaching. It helps the higher secondary teacher to develop his own repertoire of teaching skills. Further, during the course of his teaching career he may identify many subject specific skills of teaching and master them. The general teaching skills help the higher secondary teacher to develop his own style of teaching.

In order to develop the teaching skills listed in the previous paragraph the teacher educators in the study have recommended the following training methods (item 7b).

The teacher educators have adopted various method of training to develop teaching skills. Although, each teacher educator follows his individualistic style of training, some of the common training methods have been described as follows:

Model : 1 : This consists of the following steps

Contextual skill development programme

1. A flow chart of all concepts in the higher secondary curriculum is prepared by teacher trainees.
2. Discussion on basic concepts.
3. Orientation in skills (theoretical aspects of the teaching skills).
4. Demonstration and discussion.
5. Simulation aiming at concept development (not skillwise).
6. Feedback and discussion.
7. Individual skill practice with the same context as in step 5.
8. Actual teaching (Real teaching).
9. Simulation slabs in between real teaching, if needed.

Nearly sixty seven per cent of teacher educators have recommended micro-teaching approach for giving training in teaching skills. Within the general framework of micro-teaching, various training models have been recommended by teacher educators. The following are the models given by teacher educators:

Model 1 : This model consists of the following steps:

1. Orientation programme
  2. Demonstration/observation
  3. Discussion
  4. Planning
  5. Teach - discussion
  6. Reteach-discussion
  7. Integration of the skills through the process of decision-making in real classroom.
- } 2 cycles

Model 2 : This model consists of

1. Oral discussion and explanation.
2. Showing tape-slide programme.
3. Observation of a model lesson.
4. Use of observation schedule.
5. Discussion for feedback.
6. Training in simulation.

Model 3 : This model has the following steps:

1. Trainees are given observational experience of models of teaching.
2. Post observation discussions.
3. Peer group planning of micro lessons-teach-discussion under simulated conditions.
4. Regular macro-teaching.

Model 4 : This model consists of the following components:

Micro-teaching : 1. Practice of individual skills (in simulation)  
2. Integration of two or three skills (in simulation)

Macro-teaching : Integration of more than three skills in the actual classroom teaching.

Considering the fact that higher secondary students will be in adolescent stage, the teacher educators were requested to suggest some innovative methods of teaching suitable for higher secondary teaching. (item 8). Majority of the teacher educators have suggested the following methods of teaching as suitable for higher secondary teaching:



- Group discussion
- Seminar
- Work shop
- Role play
- Project method
- Problem solving
- Assignment method
- Self study approaches

These methods are occasionally used in teacher training colleges and higher secondary schools. Recognising the potential of these methods of teaching teacher educators have to use these methods more and more. The higher secondary teachers also have to use these methods frequently to increase the effectiveness of teaching.

Another related question that arises in this context is whether the teacher trainees are introduced to these methods. (item 9a), for instance, nearly half of the total number of teacher educators in the study have reported that the higher secondary teacher trainees do not give any seminar. However, thirtyfour per cent of the teacher educators in the study report that the teacher trainees do give seminar. This clearly indicates that in some of the teacher education institutions teacher trainees are required to give seminar but, in most of the teacher training colleges, teacher trainees do not give seminar. It may be observed here that the teacher trainees should be made familiar with the innovative methods of teaching so that they will be in a position to follow these methods in teaching regular higher secondary classes.

The few institutions where the seminars are regularly organised were asked about the purpose of organising seminar (item 9b), and they have reported the following purposes:

1. It develops self confidence in teacher trainees.
2. It provides interactive climate.
3. It helps the teacher trainee to develop the ability to think and talk logically in group situations.

With regard to involving the teacher trainees in teaching activities (item 10a), it has been reported that higher secondary trainees are involved in minimum number of activities. However, teacher trainees are involved more in presenting some papers on certain topics (37%) and in giving demonstration lessons (28%). Some teacher educators have encouraged individuals giving lecture on a particular topic and also small group of higher secondary teacher trainees presenting a paper and discuss the issues.

Majority of the teacher educators in the study have listed the following advantages in involving higher secondary teacher trainees in teaching activities (item 10b).

1. There will be total involvement of trainees (47%).
2. The higher secondary teacher trainees develop self-confidence (52%).
3. The higher secondary teacher trainees will get an opportunity for facing a learned group (56%).

Although majority of the teacher educators are aware of the advantages of involving the teacher trainees in the teaching activities, the actual involvement of teacher trainees are found to be less. This gap between the awareness and actual practice could be due to the organisational difficulties, and inertia in the educational administration.

b. Use of instructional aids :

Majority of the teacher educators (81%) find the scope for using simple gadgets and audio-visual aids in training

higher secondary teacher trainees (item 14a), and they also think that there is need to provide some training to higher secondary teacher trainees in proper use of the simple gadgets and audio-visual aids, for example tape recorder, over head projector, slides, film projector etc. (item 14b).

In order to train teacher trainees with regard to audio-visual aids, teacher educators have recommended course outlines: (item 14C).

Majority of the teacher educators have recommended a course on Educational Technology covering the following topics:

- various techniques of teaching
- use of audio-visual aids like tape recorder, over head projector, slide projector, video, etc.
- Developing skill for minor repairs of these gadgets.
- handling of audio-visual aids at higher secondary level.
- preparation of improvised apparatus.
- Tape scripts, radio lessons may be developed.
- Development of software should be emphasized.
- Demonstrations may be provided for learning proper procedures.
- The practical activities and self exercises should be well integrated into the course.

Another course recommended by teacher educators are Audio-visual Education. In this course many aspects covered in educational technology finds place but, in Audio-visual education more focus is given for learning general principles governing the use of audio-visual aids and more emphasis is placed on the practical activities.

Course Outline : Audio-Visual Education

- Importance of audio-visual aids in learning process and psychological basis of learning through audio-visual instructional material.
  - Audio-visual aids, concept, scope.
  - Classification of aids.
  - General principles governing the use of audio-visual aids.
  - Graphic aids, Audio aids, Projected aids, aids through activity.
  - Construction of some graphic aids.
  - Learning of some of the common repairs of audio-visual equipment.
  - Developing software for example, tape lessons, developing over head transparencies, radio lessons, T.V. lessons, developing film strips and other instructional materials.
  - Training in handling and use of projections and recording equipment.
- c. Problems of higher secondary teacher trainees

The problems (personal as well as academic) of higher secondary teacher trainees may reflect to some extent the training needs. In view of this, the teacher educators were requested to provide the list of problems of teacher trainees they have come across in recent times (item 13a). The following are the problems of teacher trainees as reported by teacher educators:

1. The trainees have difficulty in content and their limited knowledge of content leads to lack of confidence.
2. Some teacher trainees have problem of classroom control.
3. Some of the teacher trainees find difficulty in submitting assignment in time.
4. Some teacher trainees complain about their family problems.
5. Some teacher trainees find that the methods and techniques of teaching learnt in B.Ed. is not very helpful in actual teaching higher secondary classes.
6. Some of the instructional problems faced by trainees are:
  - i) using of skill of questioning.
  - ii) doing content analysis and their sequencing.
  - iii) selecting the suitable audio-visual aid
  - iv) problems of indiscipline among students.

The problems listed clearly indicate that there is an urgent need to restructure the present B.Ed. programme. These problems are to some extent solved by the following strategies adopted by teacher educators (item 13b).

1. Discussion with teacher trainees.
2. Motivate them to prepare their plans and increase their knowledge and understanding of the subject.
3. Providing micro-teaching programme.
4. Giving demonstrations on teaching higher secondary topics.
5. Discussing the higher content illustrations occasionally.
6. Taking the help of regular classroom teacher in maintaining discipline in the class.
7. Discuss the various techniques of classroom control.

Further, majority of the teacher educators (75%) in the study do provide scope for informal discussion after the teaching session (item 12a) and they find that the following advantages are in the informal discussion (item 12b).

- i) It provides feedback.
- ii) It helps in understanding the trainees problems.
- iii) It helps in reorganization of the plan of teaching.

However, it may be observed here that there is an urgent need to reorganize the present B.Ed. programme in order to cater to the needs of higher secondary teachers.

#### d. Classroom management

Majority of the teacher educators think that there is need for training in classroom management techniques for higher secondary teacher trainees (89%). Considering the fact that these days higher secondary classrooms have large strength these techniques become very necessary. (item 19a). The teacher educators have recommended the following techniques of classroom management (item 19b):

- i) The technique of giving instructions (using microphone or other amplifiers). 58%
- ii) The technique of sequencing the delivery of instructional matter. 70%
- iii) Highly structured communication. 73%
- iv) The type of delivery technique chosen like lecture, assignment, group discussion etc. 78%
- v) Cyclostyled material could be provided along with the lecture. 70%
- vi) Seminar could be organized 72%

Majority of the teacher educators have recommended various delivery techniques such as seminar, discussion, lecture, assignment etc. to manage effectively a large classroom. They have also laid more emphasis on highly structured communication and proper sequencing of the instructional matter. When there is a need to give instructions to a large group one may use microphone or other amplifiers.

However, the teachers have to be flexible while using these techniques of management and further, the needs of the classroom has to be properly assessed before deciding upon a particular technique or a combination of techniques. A perusal of the problems faced by higher secondary teachers would give an idea about the nature of the problems. For example, many teacher educators have reported that higher secondary teachers complain about handling the students at +2 stage. Some of the significant observations made are (item 20a);

- Mostly young teacher trainees especially the lady teacher trainees look at their adolescent students rather suspiciously.
- The teacher trainees usually do not treat the students at +2 stage as individuals with adult characteristics.
- Students suffer from identity crisis therefore individual attention is needed.
- Student trainees complain that they are unable to keep discipline in classroom and they also complain that students do not respond to their questions.
- The lack of understanding of problems of adolescent students.

A perusal of the types of problems listed in the previous paragraph clearly shows that teacher trainees need different types of orientation for dealing with adolescent students. They have to be provided with adequate knowledge about adolescent characteristics and problems so that they will be able to understand the learners better and establish rapport with them easily.

The teacher educators have taken some measures to help the teacher trainees to solve the problems (item 20b). For example, (i) prolonged feedback is provided after the lessons during practice teaching, (ii) encourage higher secondary teachers to make friends and develop good rapport with the higher secondary students. Consider them as more adult-like, and help them to develop their own individuality. (iii) Train the trainees to deal with such problem students by orienting them through case studies, (iv) contents regarding mental health should be included for higher secondary teacher trainees, (v) The trainee has to prepare well in his subject matter and provide more opportunity for student participation (like discussion, group activity etc.).

#### e. Guidance and counselling

Majority of the teacher educators (80%) in the study think that there is need for training in techniques of guidance and counselling to higher secondary teacher trainees. (item 20c) and they have recommended the following strategies to orient higher secondary teacher trainees (item 20d).

- i) Providing case studies, tutorials and counselling once a week.
- ii) Include certain units on guidance and counselling in psychology theory paper. They should be actually exposed to certain problems in higher secondary schools. (item 20d).



iii) Special courses on guidance and counseling should be started (for example, Educational Vocational Guidance). Teaching of psychological testing, measurement and evaluation, aptitude tests, interest inventory, cumulative record card etc., should be included.

iv) A short term course may be provided after training which may involve activities such as workshop, discussions, seminar, personal interviews.

#### f. Methods of Teaching Special Subject

Recognising the fact that for the first time specialization begins at the higher secondary stage in the educational ladder, the teacher educators were asked whether they give any special training to higher secondary teacher trainees in their respective specializations (item 11a) and most of the teacher educators have reported that there is no special training given to higher secondary teacher trainees in their respective specializations. This clearly shows that there is a need to develop certain courses in various specializations at higher secondary stage. Some teacher educators have provided some suggestions to develop specific training programmes:

- i) The trainees should be made aware of the "structure of their discipline". For example, the science postgraduate trainee should be given a course on the history of science, epistemological character of science, psychology of science learning etc.
- ii) Content-cum-methodology course could be provided.
- iii) In method classes, approaches and techniques appropriate for the content of the higher secondary subjects and the nature of students are to be discussed.

### Science methods

Majority of the teacher educators in the study have reported that there is no special training given to higher secondary science teacher trainees (item 15a). However, some teacher education institutions have been able to draw upon the human and material resources from science college and give some enriched experience for higher secondary science trainees. At the individual level, some teacher educators have developed unit plans for eleventh and twelfth standards and prepared unit tests. Efforts have also been done to develop specific methodology. But, these attempts are not well organized and further, it is not integrated into the curriculum on a regular basis. This clearly indicates that there is need to develop methodology course for science teacher trainees.

The teacher educators in the study were requested to list the practical skills required for a higher secondary science teacher (item 15b). The following are the practical skills listed by majority of the teacher educators as essential for higher secondary teachers:

The skill of

- Setting apparatus
- giving instructions
- conducting experiments
- drawing
- preparing slides
- preparing indicators and stains
- preparing solutions
- doing dissection
- giving assignment/s
- selection of apparatus

The skill of  
 preparation of hand made apparatus  
 (improvised apparatus).  
 asking questions when the  
 experiment is going on.  
 cleaning the apparatus  
 recording observation  
 asking questions to draw inferences  
 conducting laboratory based discussion  
 laboratory management  
 evaluating responses  
 focussing  
 displaying dissection  
 guiding students in practicals.

It may be observed here that as the higher secondary teacher trainees are already post-graduates in their respective specialisation, they would have already mastered many of the skills listed in the previous paragraph. These skills have to be practised in the teacher education institutions so as to provide continuity of experience. Further, the teacher trainee practises these skills in teacher education institution with an instructional perspective. However, the experts in the respective field may reflect on the very essential skills needed by science teacher trainees and packages for developing skills may be evolved.

In order to develop the practical skills (listed on p185) the teacher educators have proposed the following strategies (item 15c):

- i) A short term intensive course may be organized. It should consist of a number of demonstrations followed by discussions and practice. During the training period teacher trainees should be allowed to perform experiments and the trainees have to give lessons based on practicals.

- ii) Extensive use of laboratory be given to teachers.  
Some practical work should be given to trainees in handling apparatus, preparing solutions, etc. They may perform the practicals twice a week.
- iii) The teacher trainee should be apprenticed with a laboratory co-ordinator in a higher secondary school for a period of atleast two months.

Considering the gap existing between the theory and practice in teacher education, the practical training in skills seems to act like an interface.

#### Methods of teaching languages and/or humanities

Most of the teacher education institutions do not have a language laboratory (95%) perhaps, this is one of the main reasons for the slow development of language education in India. Further, majority of the teacher educators in the study have reported that there is no special training programme for higher secondary teacher trainees offering humanities and/or languages as special methods. (item 16c). However, a few teacher education institutions (5%) do provide some training in language teaching. For example, in the H.M. Patel Institute of English Teaching and Research, Vallabh Vidyanagar, the teacher educators have reported that for improvement of the oral expression and listening comprehension training is provided. In this institute a fully equipped language laboratory is present and it is used to train language teachers (item 16a). The laboratory is meant to develop speaking. They emphasize the aspects of stress and intonation in connected speech. The programme is structured in such a way that pupils listen to the presentation and in between they practise the required words and sentences (item 16b). Some teacher education institutions have language

learning records, cassettes and books. However, it has been reported by the teacher educators that these are not being put to use.

This state of affairs, throws light on the problems faced in learning language. An effort should be made to establish a language laboratory in each teacher education institution and measures should be taken to see that the language learning materials already present in several teacher education institutions are properly utilized.

Many teacher educators have felt the need of language laboratory and designing of special courses for humanities. They have recommended that for languages, special courses may be developed on the lines of courses offered at H.M.Patel Institute of Teaching English and Research, Vallabh Vidyanagar (item 16d).

Some teacher educators have recommended that a higher secondary teacher trainee may select one method course which is of one year duration. The course consists of preparation tools as projects. It also consist of an intensive practice of the method in practising school for eight weeks. The orientation should be on practical applications of the theory. The integration of the theory with the practice has to be emphasized. The methods of teaching like seminar, discussion, and library reading programme should be integrated into the course.

#### Commerce methods

There is no special training given for higher secondary teacher trainees in commerce methods. More over, majority of the teacher educators have reported that they do not give any practical assignments (applied problems or exercises with field bias). (item 17a). However, a few teacher educators have

reported that they ask higher secondary teacher trainees to collect some information from the bank, L.I.C., Market Yard, Dairy etc.

This implies that the special methods does not have practical bias and it is highly theoretical. There is an urgent need to make this special method (commerce) more practical oriented.

Many of the teacher educators have suggested certain changes needed in the methods of teaching commerce. They are:

1. The field work in commerce methods should be made compulsory. The trainees should visit organisations such as L.I.C., Bank, Dairy, Market Yard, Post Office, Central Offices etc. Trainees should be directed to get maximum information about the current commercial environment and its linkage with the real life. They should be directed to give seminars and participate in paper reading.
2. The teacher trainees should be given some projects.
3. The commerce methods should be taught through problem solving and inquiry approach (item 17b).

Majority of the teacher educators in the study think that the training in special methods in general given in B.Ed. programme is not meeting the needs of higher secondary teacher trainees (52%) and sixteen per cent of the teacher educators think that the B.Ed. programme partially caters to the needs of higher secondary teacher trainees. However, thirtytwo per cent of teacher educators think that B.Ed. programme is catering to the needs of higher secondary teacher trainees.

Majority of the teacher educators think that the following changes are needed in special methods (item 18b).

- i) The change in the methodology of teaching should be in accordance with the structure of the content to be taught. Further, the level of content should also be elevated to a higher level.
- ii) The methods of teaching also needs drastic changes. More emphasis has to be laid on group work, field work, seminar, discussion, assignment etc.
- iii) The duration of practice teaching has to be increased and use of audio-visual materials should be encouraged.
- iv) In evaluation the needed changes are:

The emphasis should be on preparation of higher level of questions (for example, Application, Analysis and Synthesis). Evaluation has to be more comprehensive such that the specific needs of the +2 stage are fulfilled. Various tools of evaluation have to be adopted like rating scale, check list, interview, observation etc.

#### 3.4.5.4 Section 4 : Evaluation

The specific changes needed to be made can be assessed with the adequate knowledge about the problems encountered by higher secondary teacher trainees. In order to understand the problems of teacher trainees with regard to evaluation, the teacher educators were requested to report two or three problems they have faced in the recent past (item 21a). The common problems in evaluation faced by higher secondary teacher trainees as reported by teacher educators are:

- i) planning of question paper
- ii) developing items of higher level (for example, application, analysis, synthesis).
- iii) developing objective type items.

Many of the teacher educators have reported that they do not receive any complaint from higher secondary teacher trainees about evaluation problems. This implies that either the higher secondary teacher trainees do not have any problems or they are reluctant to report the problems to their teacher educators. As other teacher educators have reported some problems, it may be well assumed that the higher secondary teacher trainees are reluctant to report the problems to their teacher educators.

The teacher educators have attempted to solve the evaluation problems of the trainees through the following measures (item 21b):

- i) By providing individual guidance.
- ii) Providing theory about test construction and give some practical activities.
- iii) Conduct workshop to develop skills in
  - Construction of tests of various types
  - Administration of tests
  - Scoring and interpretation of results.

Majority of the teacher educators in the study (72%) think that there is need for suitable training in evaluation theory and techniques for higher secondary teacher trainees. However, some teacher educators (28%) think that the present B.Ed. course is able to satisfy the evaluation needs of the trainees. As majority of the teacher educators think that there is need for some training in evaluation (item 21c), the evaluation needs of trainees has to be assessed.



Majority of the teacher educators recognising the evaluation needs of the trainees have recommended the following components to be included in the training (item 21d(i)):

- The history of examination system.
- The need for examination reform
- The concept of evaluation, the different techniques and tools of evaluation and its relevance to evaluation at +2 stage.
- Writing instructional objectives.
- Constructing objective, short answer and essay type of items, developing scoring keys.
- Editing of items.
- Try out and item analysis.
- Theory regarding written, oral, practical and observational assessment.
- Setting of question paper, preparing blue print.
- The field experience, practical work should be emphasized.

With regard to the organisation of the course 'Evaluation', some teacher educators are of the opinion that it should be a regular theory paper along with a intensive practical work or field work. However, some teacher educators think that a short term course with a workshop would serve the purpose (item 21d ii).

Perhaps, a look at the current practices of evaluation in the B.Ed. programme will demonstrate the need for change. Majority of the teacher educators have opined that no qualitative differences are made in evaluating secondary and higher secondary trainees. However, some variation is noticed in fixing the criteria for evaluation (item 22b).

The following are the techniques/methods of evaluation used for testing the competence of higher secondary teacher trainees:

	Percentage of responses
i) Essay type test	45%
ii) Objective test	45%
iii) Both essay and objective type tests	75%
iv) Viva-voce	67%
v) Teaching skills evaluation with	
- Check-list	39%
- Observation Schedule	45%
- Rating Scale	48%
vi) Assignment	48%
vii) Group discussion	30%

It may be observed that most of the teacher educators use both essay type and objective type tests for evaluation. Viva-voce is also a common evaluation method adopted in many teacher education institutions. The observation schedule and rating scale are widely used for evaluating practice teaching and a few institutions use check-list as evaluation tool. Some of the other methods of evaluation followed are giving assignment and conducting group discussion. This clearly reflects that evaluation in the B.Ed. programme has remained largely traditional and it points out that there is need for devising new evaluation techniques (item 22a).

#### 3.4.5.5 Section 5 : Practice Teaching

Practice teaching is an important component in the teacher training programme. Majority of the teacher education institutions (93%) have made practice teaching compulsory for

secondary as well as higher secondary teacher trainees (item 23a). In some institutions such as H.M. Patel Institute of English Teaching and Research has mini teaching instead of micro-teaching (item 23b).

The duration of the practice teaching varies from 20 days to 60 days and number of lessons to be given varies from 25 to 30. Many of the teacher education institutions have 25 lessons (item 23c i). The practice teaching generally begins in the month of July or August and Block practice teaching (in the second semester) starts in the month of December or January of every year, (item 23c ii).

This general pattern is found in most of the teacher education institutions. Majority of the teacher education institutions have reported that they do not have any special practice teaching programme for higher secondary teacher trainees. However, some institutions provide two weeks' internship in a higher secondary school. This clearly shows that no specific training is given to higher secondary teachers in practising the theoretical elements which they have already learnt in the theory courses (item 23d).

Generally, at which level the higher secondary teachers are sent for practice teaching may indicate the importance being given to the training of higher secondary teacher trainees. The following data shows at what level the higher secondary teacher trainees are sent for practice teaching:

i)	One method of secondary level and another at the higher secondary	59%
ii)	Both the methods at the secondary level only	17%
iii)	Both the methods at the higher secondary level only.	40%

Majority of the teacher educators in the study (i.e.59%) have recommended one method of secondary level and another at the higher secondary. Another strategy which finds majority of teacher educators approval is both the methods at the higher secondary level only (40%). Very less number of teacher educators (17%) have recommended both the methods at the secondary level only. The first strategy i.e., one method of secondary level and another at the higher secondary has relatively more advantages than the other two strategies. It equips the higher secondary teacher for both the levels viz., secondary as well as higher secondary (item 23e).

Some of the problems of higher secondary teacher trainees as reported by teacher educators reflect the needs of higher secondary teachers. Some of the problems are organizational in nature for example, as the twelfth standard students have to give board examination, generally eleventh standard is provided for practice teaching. Therefore, the shortage of classes puts lot of pressure on the teacher trainees. Another problem faced by teacher trainees are maintaining discipline in the class. The other significant problems relating to the substantive matter are:

- i) The teacher trainees think that they lack content knowledge and hence do not have confidence in teaching.
- ii) Some of the skills taught in B.Ed. course are not suitable for classroom teaching at higher secondary level (item 24a). These problems point out at the lacunae in the B.Ed. programme. The teacher educators have tried to solve these problems taking the following measures (item 24b);
  - i) Suggesting the teacher trainees to use methods like discussion method, demonstration method etc.

- ii) Discuss the content matter
- iii) Better preparation and confidence on the part of the teacher trainees helps solving many of the disciplinary problems.

It may be observed that the strategies suggested above help the teacher trainees to solve the problem to some extent, however, the answer for these problems at a deeper level would be changes in the curriculum structure.

(a) Problems associated with organising practice teaching :

Majority of the teacher educators are not incharge of organising practice teaching (73%). This may be due to the fact that the senior teacher educators are mostly made in-charge of organising the practice teaching. Further, many teacher educators may be reluctant to take up this responsibility for the problems associated with practice teaching are crucial and demanding. However, 27 per cent of the teacher educators have the experience of organising the practice teaching (item 25a). Some teacher educators report that there is no problem in organising practice teaching. However, many teacher educators have listed the following problems (item 25b):

1. Availability of schools appropriate to new methods.
2. Number of supervising teachers are less in number.
3. Number of teacher trainees are too many in comparison to the availability of classes.
4. School complain that the routine teaching suffer due to practice teaching.

The perusal of the problems clearly indicate there is need for more co-ordination between the school and the teacher education institution. The organisational personnel of the practice teaching schools should be actively involved right from the planning of the practice teaching programme.

(b) Supervisory problems :

Majority of the teacher educators are involved in supervision of practice lessons (80%). They have reported the following problems of supervision (Item 26a & b):

- i) Due to less number of supervisors available some teacher educators have to observe a lesson in subject in which the teacher educator is not specialised.
- ii) Observing large number of trainees is difficult and organising lessons also becomes difficult. Some times, the teacher educator has to observe three or four lessons in a single period.
- iii) In a place where higher secondary classes are less in number, it becomes difficult to arrange the lessons in a particular subject e.g. Economics, Commerce.

These problems could be solved to some extent by the following measures:

- 1) the number of lessons to be observed could be reduced.
- 2) As far as possible, effort should be made to provide classes to supervisor where he has sufficient background of the subject.

(c) Problems associated with assessment :

Majority of the teacher educators do not find any problem in assessing the practice teaching (71%). However, some teacher educators (29%) do have problems in assessing the practice teaching, (item 26c). Some of the problems of assessing the practice teaching programme are (item 26d):

- i) Specialization of the teacher educator is different (46%).

- ii) The teacher has not studied the subject which he has to supervise (46%).
- iii) The criteria of evaluation are not clear (41%).

Although the number of teacher educators having problems of specialization or the lack of knowledge of the subject matter are less, the problems are quite significant in terms of gravity of consequence. The criteria of evaluation is not clear for many teacher educators who have problems in assessment. This shows that the lack of clarity in the criteria of evaluation and lack of proper communication to the teacher educators contribute more to the ineffectiveness of practice teaching programme.

Some of the steps taken by teacher educators to solve the above problems are (item 26e):

- i) Discussing with colleagues.
- ii) Discussing with students and evolving personal criteria for evaluation.
- iii) Discussing with the concerned method master.

It may be observed that the measures taken by teacher educators does not adequately solve the problems. These problems could be to some extent solved through proper planning of the practice teaching programme, and efforts should be made to develop standard method of evaluation based on adequate criteria.

- (d) The teacher educators have suggested some strategies to improve the practice teaching (item 25c). They are:
  - i) Ten students are to be attached to a school three times a year and involve them in school activities.

- ii) Extending the practice teaching and theory courses should be based on the concrete experience of classroom teaching.
- iii) By allotting manageable group to one supervisor (5 to 6) every lesson should be thoroughly supervised and discussed. Co-operating teachers should also be involved in discussions and supervision work.
- iv) Trainees to be given teaching experience in a school for about eight weeks i.e. Internship.
- v) The trainees should master the content thoroughly and he should undergo the following steps:
  - (a) Exposure to natural good lessons by actual practicing teachers in schools.
  - (b) Micro-teaching covering major skills in simulation and live condition.
  - (c) Trainees are attached to some co-operating teacher and in his guidance the trainee starts teaching practice.
  - (d) Block practice teaching - Internship.

#### 3.4.5.6 Section 6 : Administration and Organisation

Many institutions do not provide any special administrative training activities for higher secondary teacher trainees (76%). However, some institutions provide orientation to higher secondary teacher trainees and some institutions give professional diploma in educational administration (item 27b).

The teacher educators have suggested the following steps to improve the programme (item 27c).



- i) Practice teaching programme may be strengthened.
- ii) A higher level course on educational administration may be provided.

### 3.4.5.7 Section 7 : Co-curricular Activities

Co-curricular activities is an important component in the teacher education programme. But, more than half of the total number of teacher educators (52%) in the study have not been in-charge of any co-curricular activities. This indicates that many teacher educators are not involved in Co-curricular activities. However, 29 per cent of the teacher educators have been in-charge of some Co-curricular activities. This implies that there is need to encourage teacher educators to involve more in Co-curricular activities also (item 28a). Some of the activities organized by various teacher education institutions are as follows: Debates, drama, musical evening, prayer and assembly, tours and excursions, monoacting, Garba Ras (dance), essay writing, elocution, sports, lecture by experts, exhibitions, quiz, skits etc. This shows that there is variety in the co-curricular activities being organized (item 28b).

#### Training in Co-curricular activities

Majority of the teacher educators in the study (76%) opine that it is necessary to train higher secondary teacher trainees in organising co-curricular activities. However, some teacher educators (24%) think that there is no need to train higher secondary teacher trainees in organising co-curricular activities (item 28c). Perhaps, they may be thinking that organising co-curricular activities is a general skill which could be developed through experience. Although the experience contributes to the effective organisation of co-curricular activities, training in specific skills of organisation helps the teacher trainee in carrying out the activities effectively.

Recognising the importance of co-curricular activities, teacher educators have suggested the following training strategies (item 28d i):

- i) A special field 'Co-curricular Activities' theory and practice may be provided in the pre-service teacher education.
- ii) The following co-curricular activities should be included in training of higher secondary teachers: Exhibition, music, play, drawing, sports, cultural activities, extension services, seminars, debate etc.
- iii) The co-curricular activities should be planned for the entire year. The teacher trainees should be involved in the conduct of the activities by assigning different duties such as announcement of the activity, collecting the names of participants, conducting the activities and evaluating the co-curricular activities. The teacher trainees should also be involved in these activities in the practicing schools while undergoing internship.
- iv) Specific skills required for organising co-curricular activities for +2 stage should be listed. A calender of activities should be prepared. Training sessions for each should be

organized, in simulated as well as actual field conditions and conferencing be done to provide feedback.

The teacher educators have recommended the following components for training programme in co-curricular activities (item 28d ii):

Importance of Co-curricular activities, principles of organising co-curricular activities, planning co-curricular activities, preparing list of activities, scheduling the activities, conducting the activities, evaluation of the activities, survey of cultural activities in higher secondary schools.

Considering the various resources available in a particular institution in terms of trained personnel, finance and materials the other specific components of co-curricular activities may be designed.

#### 3.4.5.8 Section 8 : In-service Programmes

The in-service programmes act as complementary to the pre-service programme. However, majority of the teacher educators (63%) have not been involved in in-service training of higher secondary teachers. Thirtyseven per cent of teacher educators are involved in in-service programmes. This indicates that majority of the teacher educators give less importance to in-service programmes. It also points out that there is urgent need to strengthen the in-service training

programmes for higher secondary teachers.

The nature of involvement of teacher educators in in-service programmes would point out at the needed changes in the in-service programmes. The following data indicates the nature of involvement of teacher educators:

Activity	Total frequencies	Percentage
i) Giving lecture/s	18	25
ii) Conducting seminar	19	27
iii) Conducting workshop	19	27
iv) Giving demonstration lessons	10	14
v) Organising short term course	5	7

The data clearly shows that teacher educators in in-service programmes have either given lectures or organized seminars or workshops. A few teacher educators have organised short term courses and demonstration lessons (item 29a and b).

These results show that there is an urgent need to strengthen the in-service programmes.

a) The need for orientation in content area :

Majority of the teacher educators (77%) in the study think that there is need for giving orientation course/ programme in content area/s for higher secondary teachers (item 30a). However, a few teacher educators (23%) think that there is no need to have such programmes. Perhaps, they may be believing that the content knowledge of the post-graduate level already acquired by higher secondary teacher

trainees would suffice for teaching at the higher secondary level. It may be observed here that the higher secondary teacher trainees have reported that inspite of their knowledge of master degree level, they do face problems in understanding the content. Considering these circumstances, it would be proper to lay more emphasis on organising orientation programme on content areas for higher secondary teachers.

The teacher educators have recommended the following programmes for higher secondary teachers (item 30 b & c).

- i) Organize seminar, workshop, demonstration.
- ii) Provide enrichment courses, short term courses.
- iii) Conduct Summer institute.
- iv) Organize teachers by experts on different topics followed by group work.
- v) Orienting the teacher trainees in the new techniques of teaching such as programmed learning, assignment, new evaluation techniques.
- vi) Orientation programme on techniques of classroom management, use of reference material.

Majority of the teacher educators have reported that higher secondary teachers do not come to them with academic problems (item 32). However, a few teacher educators have reported that higher secondary teachers come to them with problems related to their work such as understanding the behaviour of +2 students, methods of handling students with problems and providing guidance for -2 students. These problems further emphasize the need to provide more attention to behavioural and managerial aspects of higher secondary teaching.

b) Resource materials developed by teacher educators :

Many teacher educators have not developed any resource material for higher secondary teachers. However, a few teacher educators have developed some materials for higher secondary teachers. For example, A teacher educator from H.M. Patel Institute of English Teaching and Research, Vallabh Vidyanagar has developed a kit for teaching English. These kits have been distributed to teachers in Junagadh district, Gujarat. A teacher educator from Faculty of Education & Psychology, M.S. University has developed a teachers handbook in secondary school social studies. Another teacher educator from the same institution has developed a syllabus for teacher education for higher secondary teachers teaching biology. Gujarat Granth Nirman Board has started a scheme for preparing resource material for higher secondary school teachers.

These attempts indicate that there is need for concerted effort to be made to produce more relevant literature and instructional material for higher secondary teachers (item 31).

c) Follow-up programme of the B.Ed. course :

Majority of the teacher educators (79%) have reported that they do not have any follow-up programme of the B.Ed. Course. However, a few teacher education institutions have been making certain attempts to follow-up the B.Ed. programme through the following strategies (item 33a):

- i) With the help of old Students' Association, lectures, workshops, exhibition and demonstrations are held for old students once a year to reorient them in various pedagogical aspects.

- ii) In-service programmes are provided through extension services department.
- iii) A distance-cum-consultancy programme has been started to reorient teachers on specific pedagogical issues.

This clearly shows that there is need to have more follow-up activities. One of the main reason for the rigidity in the B.Ed. programme may be due to the lack of follow-up programmes.

d) The needed in-service programmes :

The following are the in-service programmes suggested by teacher educators for higher secondary teachers:

- i) Organize seminar, workshop, symposium.
- ii) Encourage the use of audic-visual aids in teaching.
- iii) Organize orientation courses, refresher courses and content enrichment programme.
- iv) Organize programmes where in teacher educators and senior teachers develop relevant instructional material.
- v) Organize seminars on current psychological and sociological problems of adolescents.

The teacher educators in the study have made the following comprehensive recommendations to improve the quality of the training programme with reference to the needs of higher secondary teachers (item 35):

- 1) The curriculum should be situation and problem oriented.

- 2) Extensive course may be provided on philosophy of education, sociology of education and psychology of education. The training in audio-visual education should be emphasized.
- 3) In the training of higher secondary teachers emphasis should be laid on the following methods: Seminar, workshop, symposium, assignment, group discussion, lecture-cum-demonstration etc. The various teaching models could be effectively utilized for training higher secondary teachers. The content-cum-methodology approach has to be given emphasis.
- 4) Internal evaluation may consist of submission work like projects, instructional material, etc. The written, oral, practical, unitwise tests should be developed and administered with a definite plan.
- 5) The practice teaching should be given more importance in higher secondary teacher training. The trainees should be sent to higher secondary schools for teaching practice. There should be atleast 50 lessons excluding micro-teaching sessions. The clinical experiences should be provided which should be diagnostic in nature. Long duration teacher supervised internship sessions are to be organized in this programme.
- 6) Teacher trainees should be given opportunity to organize seminar or workshop. The school should provide administrative work to trainees such as taking attendance, filling progress cards, maintaining registers, to solve situation problems, in-basket training. involved
- 7) The teacher trainees should be bein planning of annual work, school meetings.
- 8) The teacher trainees should be given opportunity to handle big class.



- 9) The higher secondary teacher trainees should be involved in co-curricular activities in higher secondary school and they should also be given opportunity to organize certain activities during internship.
  - 10) In-service training programmes should be organized on a regular basis. More refresher courses should be organized.
- 3.5 In order to realize the objective No.1 (please refer objectives on p 31 ), the investigator prepared a questionnaire for higher secondary teachers.

#### 3.5.1 Questionnaire for higher secondary teachers

This was specially developed to collect information regarding training needs (pre-service and in-service) of higher secondary teachers. This questionnaire has been designed in two parts. Part I and Part II. The part I of the questionnaire is for the untrained teachers at the higher secondary school and the trained teachers are required to answer all the questions in both the Part I and II. The questions in this questionnaire call for higher secondary teachers to identify their training needs under the prevailing school conditions. Further, in Part II of the questionnaire, the trained higher secondary teachers are requested to examine the present B.Ed. programme with reference to their training needs and suggest the needed changes to reorganize or restructure the teacher training course.

#### 3.5.2 Structure of the questionnaire

This questionnaire has been specially developed for higher secondary teachers in order to collect information regarding their training needs. The questionnaire consists of

an introductory letter by the investigator which explains the purpose of the questionnaire and provides appropriate context and further requests the higher secondary teachers to respond freely.

The beginning page consists of general information regarding the higher secondary teacher. This information is collected in order to understand the background of higher secondary teachers and interpret the data in the light of the background information regarding the higher secondary teacher. The general information comprises the following details: The name of the teacher, the address of the institution, age, sex, designation, qualification/s, specialization, experience in teaching at school and college level, experience in conducting research and the subjects taught by the teacher.

Instructions are provided in the beginning of the each part of the questionnaire which helps the higher secondary teacher to respond appropriately to the questions.

The Part I of the questionnaire consists of seventeen questions. These questions can be classified as follows:

<u>Question Number</u>	<u>Area covered</u>
1	Objectives of higher secondary teaching.
2 a, b	Alternative models of teacher training.
3, 4 a,b, c	Curriculum (Foundation course)
5 a,b,c	Instructional problems of higher secondary teachers.
6 a,b	
7	Skills of teaching required for higher secondary level.
8 (applicable only for science teachers)	The needed laboratory skills at higher secondary level.

<u>Question Number</u>	<u>Area covered</u>
9,10a, b	Teaching aids, assignments and investigatory projects required for higher secondary teachers.
11	Methods/Techniques required for teaching higher secondary level
12	Evaluation techniques required for higher secondary teaching
13,14,15,16,17	In-service education of higher secondary teachers.

The Part II of the questionnaire consists of three questions. The first question concerns the functionality of foundation courses. The second question concerns the inadequacies found in various aspects like curriculum, methods of teaching, practice teaching, foundation course and content subjects. The third question is concerned with the suggestions of higher secondary teachers for restructuring the B.Ed. programme (for further structural details please refer appendix III D).

### 3.5.3 Sample

The investigator selected through random sampling technique a minimum of two higher secondary schools from each district of Gujarat and the total number of schools covered in the study constitute fifty four in number. While selecting the schools, it has been observed that the school selected has both science stream as well as general stream and the medium of instruction of the schools selected are English.

In Vadodara district more higher secondary schools are covered in comparison to other districts. This has been done with two points in view. The investigator being in

Baroda could personally collect data in Vadodara district. Moreover, full representation to one district gives clear picture of the existing conditions. The reason for selecting only minimum of two schools from each district was that it was more feasible and the sample to be covered was entire state. Further, the cost involved for collecting data from more schools from each district was prohibitive for an individual researcher. Therefore, the investigator with a view to giving regional representation covered a minimum of two schools from each district. The details regarding the number of schools covered and the number of teachers from each school have been shown in Appendix III E. The investigator has sent a set of six questionnaires to each higher secondary school selected in the sample (please refer Appendix III E). The questionnaires were mailed to the principals of the schools requesting them to get it filled by their teachers and return (totally 324 questionnaires were mailed). The investigator once visited most of the institutions and collected data personally. Further, the investigator could conduct some interviews with principals and higher secondary teachers. After sending two reminders, the investigator got finally the response from one hundred and eightysix teachers. Out of these one hundred and fortyfive are male teachers and forty one are female teachers. The following are the background information regarding the teachers in the sample: There are 58 teachers holding master degree in Science, 30 teachers are having master's degree in commerce and 57 teachers are having master's degree in arts and other teachers are having basic degree in science/arts/commerce and a degree in education along with a minimum of six years of service in secondary school. In the sample the age of the teachers range from 22 years to 58 years i.e. almost all the age groups are covered. The range of teaching experience of teachers are found to be one year to twentynine

years and research experience range was found to be between two to six years. Out of the total one hundred and eighty six teachers in the sample, it was found that one hundred and fifty two teachers are already having bachelor's degree in education (i.e. they are already trained). This clearly indicates that the sample covers teachers of varied background to provide information regarding needed training experiences for higher secondary teachers.

#### 3.5.4 Data Collection

The data regarding training needs was collected through personally contacting the teachers and mailing the questionnaires to higher secondary teachers (Please see the previous section also).

#### 3.5.5 Data Analysis

The questionnaire for higher secondary teachers consists of two parts (I and II). The answers received for the questions in the questionnaire was qualitative in nature. Considering the nature of the data, the investigator content analysed the data and the significant observations, comments and suggestions have been presented sequentially with proper explanations. The analysis has been presented in the sequence provided in the classification on P.156. The data have been analysed and presented under relevant captions for the sake of convenience of presentation.

### Part I

#### 3.5.5.1 Objectives of higher secondary teaching

Most of the higher secondary teachers (more than 60%) have approved the following objectives as relevant for higher secondary teaching (item 1):

i)	To develop in students useful knowledge and skill, proper work habits, attitudes and character which contribute to productivity.	88%
ii)	To develop the total personality of the individual to become a functional citizen.	72%
iii)	To develop competence to apply his knowledge to the solution of the problems around him.	72%
iv)	To develop an understanding of the principles of democracy, secularism, and social justice.	65%
v)	To develop the scientific temper and make him aware of the psycho-socio-emotional problems.	69%
vi)	To develop desirable social attitudes and values like those of kindness, co-operation, the team spirit, fellow-feeling, leadership, courage, truthfulness, honesty and sincerity.	83%
vii)	To develop self discipline	70%

### 3.5.5.2 Alternative models of teacher training

There are separate teacher training programmes for primary and secondary teachers. But, there is no separate training programme for higher secondary teachers. In view of the fact that the higher secondary stage has emerged as a distinct stage, a few alternative models were presented for higher secondary teachers approval and comments. The following data clearly shows that majority of the teachers in the study

(72%) have approved and recommended a separate teacher training programme for higher secondary teachers. However, the other two models also are supported by more than fifty per cent of teachers in the study. The third model, i.e. giving special orientation to teachers have found more favour from higher secondary teachers (in comparison to the second model) because of its' practical appeal (item 2a and b).

- i) A separate teacher training programme for higher secondary teachers should be organized. 72%
- ii) In the present B.Ed. training programme two streams could be made i.e. stream
  - (A) for secondary teachers
  - (B) for higher secondary teachers 51%
- iii) In the present B.Ed. programme a special orientation could be given to higher secondary teachers. 57%

As majority of the teachers have recommended a separate teacher training (Model i), it would be pertinent to study the observations and comments made by them in connection with their recommendations. The following are some of the significant observations made by higher secondary teachers with regard to the model (i) i.e. separate teacher training programme:

- In the special training programme for higher secondary teachers, the higher secondary teacher trainees will be able to learn how to teach in the higher secondary classes. They have to be provided specialised subjects like Biology, Mathematics, Chemistry, Physics etc.
- As the way of teaching differs in secondary and higher secondary, it is better to have separate training

programme for higher secondary teachers. In the practice teaching, the trainee should be encouraged to teach the subject of his specialization at higher secondary level.

- Day by day new and difficult topics are added to the higher secondary syllabi. Hence, the higher secondary teacher should be more subject oriented. For this purpose, a separate teacher training programme is very essential.
- The higher secondary institutions must be separately established (building, finance, facilities separate from secondary school). The salary to teachers also must be rationalised. Specially trained staff should be recruited. The practical course must be made compulsory.
- Training may be provided in-service in two or four vacations (two summer and two winter vacations).

Considering the fact that no attempt has been made all these years to assess the higher secondary teachers training needs, it may be observed that a separate teacher training programme for higher secondary teachers may be more feasible and fulfil the needs of teachers. An alternative model (i.e. model ii) suggesting two streams in the present B.Ed. programme seems to be more practical and could be implemented with less structural changes in the present system. Further, it needs less resources in comparison to the previous model (model (i)). A significant number of teachers have recommended this model (51%). The observations made by them with regard to the model may point out the qualitative changes needed in the B.Ed. programme with reference to the needs of higher secondary teachers. The following comments and observations are also significant from the point of view of comparative study of the alternative models of teacher education programmes:



- The subjects like psychology, philosophy, educational administration, educational statistics can be taught to all the students in a combined class but for content and methods of teaching separate classes has to be conducted for secondary and higher secondary teachers.
- As the teacher needs to have a post-graduate qualification (M.A/M.Sc/M.Com) for teaching the higher secondary section and the specialization in the subject becomes prominent, the higher secondary teachers have to be trained in a different way in comparison to the secondary teachers. Further, the higher secondary teachers have to teach students in the age group of 14 to 16 years. As the higher secondary teachers have to face mature students, they need to be better prepared.
- The higher secondary teachers may be provided short term course relevant to higher secondary syllabus. This may be provided in the summer vacation period.
- Most of the teachers in higher secondary section come from secondary section and are already having training upto B.Ed. level. For teaching at the higher secondary level, the teachers have to be oriented to method of college teaching. For this purpose, lectures should be organized by renowned college teachers.

Another model which seems to have popular support (57% of teachers have recommended this model) is in the present B.Ed. programme a special orientation could be organized for higher secondary teachers. Some of the significant observations made in support of this model by teachers are:

- Refresher courses in different subjects should be conducted for higher secondary teachers at specified intervals of time (say once in three years).

- Special orientation programme should be organized in different specializations during vacation.
- The basic principles and theory of teaching learning process must be known to all teachers. Higher secondary teachers should be exposed to B.Ed. course and in the present circumstances arranging a special orientation to higher secondary teachers will be the best alternative as other alternatives will take a longer time to be implemented.
- Special in-service training programmes should be organised.

With regard to the components to be included (i.e. areas of study and training) the higher secondary teachers have given their reactions as follows:

- Emphasis should be laid on providing advanced courses with practical training in specific subjects. The content course offered by the trainee should be related to his specialization at post-graduate level.
- The trainee should be exposed to the following areas: Philosophy of education, psychological theory, sociological bases of education, contemporary experiments in education.
- Appropriate use of Audio-visual aids should be taught.
- The training offered should have a practical bias so that the theoretical concepts find application in the classroom teaching. For example, the instruction can be made activity based. The student teacher can be exposed to some of the problems of teaching and administration in schools.
- The science should be taught by use of certain models, by demonstration of certain experiments.

- Experts in different fields have to be invited to address the teachers on various topics.
- The programme should be such that the teacher is able to acquire a special skill to meet with the unique requirements of the students due to change in their stream of studies and their growth and development of personality. Hence, all the subjects that one has to do for B.Ed. secondary stream should be included in detail and in addition the internship should be provided at the higher secondary level (item 2b).

The investigator has considered all these reactions while designing the programme for higher secondary teachers.

### 3.5.5.3 Curriculum

The higher secondary stage is characterised by the introduction of specialization subjects like physics, Chemistry, History etc., for the first time in the educational ladder and therefore, the higher secondary teachers were asked about the emphasis to be given to content area (item 3). The higher secondary teachers were requested to give their approval for the following alternative strategies: (item 3).

- i) The general components of the specific subject areas like Physics, Chemistry, History etc., should be reviewed so as to keep the teacher trainee in touch with the content. 51%
- ii) An advance course in the specific subject area like Physics, Chemistry, History etc. should be given wherein recent developments in the content area is covered. 65%

- iii) As the teacher trainee is already a master degree holder in the subject, there is no need to give any orientation in the components in the content area of his specialisation.

30%

It may be observed from the above data that majority of the higher secondary teachers (65%) opine that an advance course in the specific subject area like Physics, Chemistry, History etc. should be given wherein recent developments in the content area is covered and fiftyone per cent of the higher secondary teachers in the study have opined that the general components of the specific subject areas like Physics, Chemistry, History etc., should be reviewed so as to keep the teacher trainee in touch with the content. Some teachers do not think that there is need for giving any orientation in the specialization (30%). As the majority of the higher secondary teachers have expressed the need for some orientation, in content area of the specialization, it is pertinent that the orientation should be provided in different content area of specialization. Further, majority of the higher secondary teachers (69%) have opined that some orientation in the foundation courses like Philosophy of education, Psychology of education, Curriculum development, Sociology of education etc. has to be provided for higher secondary teacher trainees for

- the teachers have to be acquainted with the new developments in the subject.
- to understand the psycho-social needs and problems of students.
- to broaden the outlook of the teacher.

Further, it helps the teacher trainee in understanding the professional demands and responsibilities. It may be

Pointed out here, that the higher secondary teacher trainees during their master's degree course are not provided with any foundation course and therefore, it becomes very essential to provide foundation course to higher secondary teachers (item 4a and b). However, some teachers (28%) are of the opinion that there is no need for foundation course for higher secondary teachers. The reasons for this opinion are:

- the foundation course in the present B.Ed. curriculum will be able to cater to higher secondary teacher trainees also.
- the trained and experienced teachers do not require any orientation in foundation course.
- The foundation course/s are less practicable (item 4c).

A careful examination of the reasons for not recommending the foundation courses will reveal that the foundation courses have to be modified in a form suitable for higher secondary teachers, or the present B.Ed. programme to a large extent caters to the needs of the foundation course for higher secondary teachers. Perhaps, this points out that there is need to examine the foundation course offered at B.Ed. programme for its relevance for higher secondary teachers.

#### 3.5.5.4 Instructional problems of higher secondary teachers

Majority of the higher secondary teachers have (79%) opined that there is no problem in planning the lessons. This may be due to the fact that majority of the higher secondary teachers in the study are already trained and they have adequate knowledge regarding planning of lessons. A few higher secondary teachers (16%) however, have reported that they do face problems such as communication technique (72%), identifying learners' needs (62%), writing instructional

objectives (55%), sequencing and organising the content matter (55%), finding suitable illustrations (48%) (item 5a and b). The higher secondary teachers at the individual level adopted some of the following strategies to solve the problem (item 5c): (i) Read journals and magazines, (ii) study the behaviour of pupils, (iii) change the method of instruction, (iv) put questions to students, (v) more illustrations are provided from daily life, (vi) using appropriate audio-visual aids, (vii) discuss with senior colleagues.

In order to identify the class-room instructional problems, the following list of activities were provided to the higher secondary teachers and requested to indicate whether they do face such problems (item 6a).

	In Percentages	
	<u>Yes</u>	<u>No</u>
1) Introducing the lessons	6 %	71 %
ii) Asking questions	14	64
iii) Framing questions	6	70
iv) Giving illustrations	5	70
v) Organising group discussions	29	50
vi) designing learning activities	12	65
vii) summarising the content covered	6	70
viii) giving assignment	12	65
ix) controlling (managing) the class	9	68
x) communication	13	63
xi) constructing tests	7	68

The data clearly indicates that majority of the higher secondary teachers do not find any difficulty in carrying out the above teaching activities. However, a few teachers have expressed difficulties in carrying out certain teaching

activities such as organising group discussions, asking questions, designing learning activities, giving assignment and communication problems. Some of the strategies adopted by higher secondary teachers to solve the problems are:

- discussing the problem
- By referring the standard books, journals, magazines.
- provide simple assignments to students
- audio-visual aids are used for discussion.

#### 3.5.5.5 Skills of teaching required for higher secondary level.

The higher secondary teachers in the study have considered the following teaching skills as very essential for teaching subjects such as Science, Social Science Subjects (e.g. History, Economics, Psychology, Commerce, Geography) and languages:

The skill of •

introducing  
questioning  
illustrating with examples  
using of audio-visual aids  
stimulus variation  
explaining  
lecturing  
demonstration  
organising group discussion  
black board work  
giving assignment  
classroom management  
probing questioning  
designing learning activities  
reinforcement  
designing test  
summarising

The skills listed are illustrative and it needs further addition of skills considering the nature of discipline, the teaching context and the resources.

The emphasis on skills differ from subject to subject. For example, the science subjects require the skill of drawing, manipulation, etc. The language subjects give more emphasis to the skills of reading, writing, speaking, listening in addition to the list of skills provided on P222 (item 7).

Most of the higher secondary teachers have recognised the need for giving training in laboratory skills to higher secondary science teachers and other subject teachers where practicals are an indispensable part of the course (for example, psychology). The following are the practical skills recommended by the higher secondary teachers (item 8):

**Skill of -**

- planning the experiment
- conducting the practicals
- selection of appropriate tools and equipment
- setting up experiments
- giving illustrations
- adjusting the instrument
- giving demonstration
- taking readings
- preparing reagents and solutions
- drawing
- taking safety precautions
- tabulating results
- maintaining the instruments
- correcting minor defects in the instruments
- evaluating the practicals (experiments)
- maintaining the various registers in the laboratory such as breakage register, stock register etc.



The skills listed are illustrative and hence the list is not comprehensive. Therefore, the regular higher secondary teachers and teacher educators have to up date the list considering the nature of the discipline and the resources at their disposal. Further, it may be pointed out here that the higher secondary teachers are already post-graduates in their respective disciplines (i.e., they would have already got the mastery in the skills of laboratory in their post-graduation course studies) and thus, the skills suggested helps the teacher trainees to further practice the skills and learn the skills with an instructional point of view. The higher secondary teachers have also recommended that the teacher trainees be apprenticed for a fortnight with a laboratory co-ordinator to learn about the maintenance of laboratory.

#### 3.5.5.6 Teaching aids, assignments and investigatory projects for higher secondary teachers

Majority of the higher secondary teachers (70%) have recommended that suitable training may be provided to teacher trainees with regard to preparation and use of aids like slides, charts, models and preparation of software (item 9). Majority of the higher secondary teachers in the study (70%) have also recommended that higher secondary teacher trainee should be exposed to the designing of investigatory projects/ assignments/ experiments and they should be encouraged to improve the existing materials. (item 10a). The higher secondary teachers have recommended the following strategies to train the teacher trainees in designing the investigatory project/assignment/experiment (item 10b):

- the teacher trainee should design a simple project as a part of the course work.
- the teacher trainees can prepare inexpensive models.
- a workshop may be organized wherein experts in different fields could guide higher secondary teacher trainees in developing assignment, project or learning material.

Methods and Techniques of teaching higher secondary classes.

Most of the higher secondary teachers have recommended the following methods/techniques of teaching:

Lecture method, demonstration method, questioning, discussion, problem solving, inductive-deductive method, experimental method, self-study method, assignment method, project method, supervised study method, seminar, role play, case study method (item 11).

The methods listed are general methods which find use in most of the subjects (science/social sciences/languages). The methods listed are illustrative and further addition of methods and techniques may be needed while considering teaching of a specialized subject. In languages direct method, bilingual method, translation method and phonic method are used in addition to the general methods of teaching. It may be observed here that these methods may be used individually or in combination. In a particular subject area a particular method may be more emphasized (for example, inductive-deductive method in teaching of mathematics and other methods may be used less frequently).

### 3.5.5.7 Evaluation at higher secondary level

Majority of the higher secondary teachers think that providing training in the following activities would help the teacher trainees to carry out evaluation effectively (item 12):

Preparing question paper	69%
Designing of test	62%
Types of scoring/scoring procedures	36%
Sampling of items	33%
Training in item analysis	31%

It may be observed in the data that the higher secondary teachers have rightly given more emphasis to preparing question paper and designing of test. Some higher secondary teachers have indicated that sampling of items, training in item analysis, types of scoring/scoring procedures are less needed in comparison to the designing of test and preparing question paper. This may be due to the assumption that while designing the test/s and question papers systematically all the other activities become inclusive.

### 3.5.5.8 Co-curricular Activities

Majority of the higher secondary teachers (71%) think that some training is needed in organising co-curricular activities such as debates, guiding the excursion, leadership in games, organising sports, etc. for higher secondary teacher trainees. However, some higher secondary teachers (22%) opine that there is no need for any formal training in organising co-curricular activities (item 13).

### 3.5.5.9 In-service programmes

Most of the higher secondary teachers in the study have attended seminar (43%) and lectures (27%). Some teachers have attended workshop (19%) and very few teachers (6%) have attended symposium. This clearly shows that many teachers do not get opportunity to attend the in-service programmes (item 14). This implies that more in-service training programmes should be organized. It may be observed here that majority of the teachers (82%) think that in-service programmes will help them in improving teaching (item 15). This points out clearly the lacunae in the organisational personnel. The institutions should take more interest in the in-service activities and depute more people for in-service programmes and take interest in staff development.

The higher secondary teachers have clearly given their opinion in the following data with regard to the specific changes needed in in-service programmes (item 16):

- |   |     |
|---|-----|
| i) Subject experts should be called upon to give lectures frequently on difficult topics. | 86% |
| ii) In-service programmes should be organised at regular intervals                        | 77% |
| iii) Teachers should be consulted while organising the programme/s.                       | 84% |
| iv) In-service programme should be need based.  | 70% |
| v) The extension centre has to follow up the in-service programmes                        | 65% |

Majority of the higher secondary teachers opine that subject experts should be called upon to give lectures frequently on difficult topics and they think that the regular teachers should be consulted while organising the programmes. They agree that the in-service programmes should be need based and organised at regular intervals. They have also recommended that the extension centre has to follow-up the in-service programmes (item 16).

The higher secondary teachers have clearly indicated the areas in different subjects which need special orientation (item 17). They are:

Subject	Topics/areas to be covered
Physics	Thermodynamics, Electronics-tube and Transister (I.C.also), Dual Property of matter, Nuclear Physics, Computers.
Chemistry	Laboratory training, In-organic reactions and equations.
Biology	Bio-chemistry, Genetics, Embryology
Mathematics	Statistics and Probobility, Calculus, Sets, Parabola, Hyperbola, Quadratic Curves etc. in Co-ordinate Geometry
Statistics	Probability, Interpolation and Extrapolation, Regression.
Commercial Arithmetic	Practical applications of the topic derivatives.
Accountancy	Practical training in Banking and Writing of books of accounts. Ledger and Posting, Bank and its functions.
Geography	Physical geography
Sanskrit	Grammar, Essay, Poems, etc.
English	Teaching of linguistic skills, translation, practical drills, reading and Phonetics, Composition Writing, Preparation of question paper.

## Part II

3.6 This part of the questionnaire was meant only for trained teachers. The higher secondary teachers, in this part, was requested to reflect on the benefits accrued to them due to training and considering working conditions in the schools the changes to be brought in the course.

Majority of the higher secondary teachers have opined that the training in pedagogy was useful to them (70%). However, some higher secondary teachers think that pedagogical training was not useful for them (item 1). The following are the benefits listed by higher secondary teachers accrued through training in Pedagogy:

- Planning of lectures help teaching.
- Training helped the teachers in understanding the student's needs.
- Setting question paper and classroom teaching.
- Planning of assignment.
- Planning the lesson and content analysis.
- Techniques of controlling the class, techniques of teaching, proper use of aids skills of teaching.
- It has helped in developing self confidence.

The higher-secondary teachers have clearly pointed out the inadequacies in the pedagogical course. They are (item 2):

Curriculum : The higher secondary teachers have opined that the curriculum in B.Ed. programme for higher secondary teacher trainees are inadequate.

Methods of teaching : The higher secondary teachers have observed that the methods of teaching have become stereotyped and rigid. They are of the opinion that methods of teaching should be identified which would be relevant to the +2 stage students.

Foundation course : Considering the characteristics of higher secondary students, the foundation course has to be suitably modified.

Content subjects : The higher secondary teachers are of the opinion that the content knowledge of students are inadequate and therefore, the content course has to be updated.

Practice teaching : The practice teaching should be extended and the higher secondary teacher trainees must be allowed to teach in higher secondary classes.

In the light of the inadequacies listed, the higher secondary teachers have given the following specific suggestions for restructuring the B.Ed. programme (item 3):

- The higher secondary teachers trainees should be informed about the recent developments in Pedagogy and specialized subjects.
- The B.Ed. programme has to be modified with reference to the needs of higher secondary teachers.
- Special teaching methods must be developed considering the content area and need of pupils at this stage.
- The B.Ed. course must be made practical oriented i.e. functional in nature.
- Refresher courses should be organised periodically and regularly.

- The teacher training of graduates and post-graduates have to be bifurcated atleast with respect to the content and method of teaching.
- 3.7 Training needs (pre-service and in-service) identified and their relation with the emerging training components of higher secondary teacher training programme

As there are many training needs of higher secondary teachers, here an attempt has been made to present the important training needs under eight different sections and further, the relationship between the training needs identified and the resultant training components formulated are clearly shown in what follows:

#### 3.7.1 Section 1 : Objectives of Teacher Training

Majority of the teacher educators and higher secondary teachers have opined that the present B.Ed. programme is not able to cater to all the needs of higher secondary teachers. The following are the objectives approved by the teacher-educators for higher secondary teacher training:

- i) To develop competence to teach the subject of his specialization on the basis of accepted principles of learning and teaching and knowledge of the subject by striving to keep in touch with the latest developments in both the subject and the methodology of teaching.
- ii) To develop an understanding of the aims and objectives of education in general and of school education in the Indian background to promote awareness of the role of education and of the teacher in building up a democratic, secular and socialist society.



- iii) To develop cognitive, affective and psychomotor skills for teaching academic subjects by providing appropriate learning experiences.
- iv) To develop skills in making use of educational technology in teaching academic subject.
- v) To provide knowledge about the bio-psycho-social needs of the adolescent and the problems arising out of their non-fulfilment.
- vi) To develop skills in guiding and counselling the adolescent in solving his personal and academic problems.
- vii) To develop innovative attitude towards teaching.

These objectives constitute the objectives of the proposed teacher education programme.

### 3.7.2 Section 2 : Curriculum

Majority of the teacher educators and higher secondary teachers have opined that the present B.Ed. programme is inadequate in fulfilling all the needs of higher secondary teachers. They have criticized the B.Ed. curriculum as rigid, and content is not emphasized.

Teacher educators have recommended the following elements to be incorporated into the programme for higher secondary teachers:

- Historical approach should be adopted in teaching special subjects.
- Skills of discovery and research has to be introduced as a part of teacher training.
- Trainees should be involved in practical work.

- Various teaching methods should be used.
- Demonstration lessons should be given, in higher secondary classes and illustrations should be according to the higher secondary level.
- Teaching at the +2 stage should be encouraged.
- The duration of teacher training for higher secondary teachers should be made two years.

The new elements suggested by teacher educators have been given due weightage while designing the teacher education programme for higher secondary teachers. The higher secondary teacher training programme is of two years duration with adequate programme components for teachers' continuous growth. The special feature of the teacher education programme has been providing one specialized course in methods (special subject) and adequate emphasis has been laid on the content course. The interaction between content and methods has been facilitated. The project work has been introduced with a purpose to equip higher secondary teacher with skills of discovery and research. Adequate emphasis has been laid on the practical activities and field based teacher education components.

### 3.7.3 Section 3 : Methods of Teaching.

Majority of the teacher educators and higher secondary teachers have suggested the following methods of teaching as relevant for higher secondary teaching:

Group discussion, seminar, role play, project methods, problem solving, assignment method, demonstration method, self study method, and lecture method etc.

These methods have been incorporated into the teacher training programme. The teacher educators and higher secondary teachers have emphasized the use of audio-visual aids by

higher secondary teachers. For this purpose, in the programme, audio-visual instructional aspects have been integrated into the foundation course and in special subjects. Further, in the practical activities the actual use and repair (minor) of audio-visual materials has been emphasized.

#### Special methods

The teacher educators and higher secondary teachers have indicated clearly that the special methods in the B.Ed. course is not meeting the needs of higher secondary teachers. The need for emphasis on content, the depth of understanding of the structure of the subject of specialization and integration of appropriate facilitative methods with the content to suit the higher secondary level teaching have been the essential needs that should be considered while designing the programme for higher secondary teachers.

Majority of the teacher educators and higher secondary teachers have found that there is need for some training in guidance and counselling for higher secondary teachers and they have suggested various strategies that could be incorporated into the teacher training programme for higher secondary teachers.

Considering these opinions appropriate course elements have been incorporated in the training programme. Moreover, the clinical activities and internship programme provide adequate opportunities for higher secondary teachers to learn some fundamental skills in guidance and counselling.

#### 3.7.4 Section 4 : Evaluation

Majority of the teacher educators and higher secondary teachers in the study think that there is need for providing suitable training in evaluation theory and techniques for higher

secondary teacher trainees. Specifically, the teacher trainees need to be trained in the activities such as designing the question paper, sampling of items, item analysis, types of scoring and scoring procedures, designing of tests etc.. It may be pointed out here that the higher secondary teacher trainees have indicated that they have difficulties in carrying out the above activities. Recognising the need for sound training in evaluation, in the teacher preparation programme a theory course on evaluation has been incorporated with adequate practical activities.

### 3.7.5 Section 5 : Practice Teaching

The practice teaching is a very important component of teacher training. The practice teaching programme in different institutions, as it is run, varies in type, duration, content and evaluation. However, majority of the teacher educators and higher secondary teachers have recommended that the practice teaching programme has to be changed in its form, structure and evaluation so as to suit the needs of higher secondary teachers. The major change needed has been the lengthening of the duration. The belief that the more the trainee teacher practices skills and teaches content, the more confident he becomes with further strengthening of his repertoire of skills of teaching has been found true in teacher training courses. The practice teaching programme has been strengthened by including clinical programmes and integrating the practice teaching programme with the other school activities.

The practicum forms one of the major component of the programme. Adequate care has been taken to integrate theory courses with the practicum to ensure integrated growth of the higher secondary teacher. The practicum covers nearly half of the instructional time in all the semesters. This weightage

perhaps helps the teacher to understand the significance of the practicum component of the programme. Some of the special features are:

- the specialisation has been given importance, the trainee teachers the subject of his specialisation and tries to acquire special knowledge and skills in teaching of the specialisation.
- the different general methods such as Science methods/ Humanities/Commerce/Language etc. provide a broader framework for the teacher trainee to understand the substance and methodology of different related subjects in an interdisciplinary perspective.
- Extended practicum provides more opportunity for teacher trainee to understand the teaching process, and build his repertoire of skills for effective teaching.

### 3.7.6 Section 6 : Administration and Organisation

Majority of the teacher educators and higher secondary teachers have recommended that higher secondary teacher trainee should be given some training in administrative activities such as keeping records, maintaining attendance register, involving in institutional planning, preparing time-table etc. It may be observed that in the present training programme (B.Ed.) this aspect is not given much importance. Recognising the importance of these activities, the teacher trainees have been provided with a theory course in educational administration and management and practical activities to equip student teacher to be better prepared to take up the teaching and administrative posts with confidence. Further, clinical activities and internship training also provide some additional opportunity for the teacher trainee to understand the administrative activities and understand the administrative roles to be carried out in the school.

### 3.7.7 Section 7 : Co-curricular Activities

Majority of the teacher educators and higher secondary teachers have opined that there is need to train higher secondary teachers in organising co-curricular activities. Recognising the importance of co-curricular activities "Co-curricular Activities" is offered as a special subject. The student teacher is encouraged to take part in co-curricular activities in the teacher education institution. The co-curricular activities have been provided in clinical activities and further, in the internship also the student teacher has to take up an active part in the organisation of Co-curricular activities in the school.

### 3.7.8 Section 8 : In-service programmes

Majority of the teacher educators are not involved in in-service training programme (63%). This indicates that there is need to involve more teacher educators in the in-service programmes. Majority of the higher secondary teachers have indicated that their involvement in in-service training programme has helped them in improving their teaching (82%). This clearly indicates that in-service training programmes are useful. Majority of the teacher educators have recommended that there is need to give orientation course/ programmes in content area (disciplines like Physics, Chemistry etc.) for higher secondary teachers (77%) and they have recommended the following strategies to provide in-service programmes for higher secondary teachers:

- organize seminar, workshop, demonstration.
- provide enrichment courses, short term courses.
- conduct summer institute.
- organize lectures by experts on different topics followed by group work.

Majority of the higher secondary teachers also have suggested the above strategies for organising in-service programmes.

The in-service training component has been designed taking into consideration the training needs listed in this section.

Thus, it can be observed that there is close relationship between the training needs (pre-service and in-service) identified and the emerging training components of higher secondary teacher training programme.

#### REFERENCES

1. Education Commission (1964-66) Report, Ministry of Education, Government of India, 1966.