

NCTE Monograph Series

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**Quality Concerns
in
Secondary Teacher Education**

DR. R. C. DAS

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NCTE

NATIONAL COUNCIL FOR TEACHER EDUCATION

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In-House Editor
Dr. D. N. Khosla

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Preface

I am happy to release the publication of the present monograph entitled 'Quality Concerns in Secondary Teacher Education' prepared by Dr. R. C. Das for the benefit of all individuals and institutions concerned with teacher education for secondary level. Knowing the importance of the teacher in the educational set up of the country, several attempts have been made for improving the standards of teacher preparation and training during the last two decades. With an ever-increasing demand for a large number of teachers, many new teacher education institutions as well as courses were established during the last few years, often without proper care regarding the requisite physical and educational infrastructure and the required number of qualified teacher educators. Similarly, in order to meet the demands of the school system, school teachers have often been recruited without proper professional courses of teacher education to their credit.

The NCTE has an important task of maintaining the quality of teacher education through a planned and co-ordinated development of teacher education system throughout the country and regulation and proper maintenance of norms and standards in the teacher education system. Accordingly, after a lot of deliberation and exercise, norms and standards for different levels of teacher education institutions have been published by the NCTE for use by the applicants for recognition. These norms have details of physical facilities, staff, etc. that should be provided by the institution to merit recognition by the NCTE. The present booklet restricts itself to the discussion on quality concerns in teacher education institutions based on the NCTE norms and standards for the same. It has significant sections about objectives of teacher education, curriculum and its transaction, norms for different aspects of teacher education including that of quality.

Hopefully this booklet will go a long way in clarifying many quality concerns in teacher education and the infrastructural facilities necessary for achieving a higher professional quality.

NCTE will be glad to receive suggestions for improvement from the professionals engaged in Secondary Teacher Education.

Shri S. K. Grover co-ordinated this project from the NCTE. Dr. D. N. Khosla has done the editing. Their contributions are gratefully acknowledged.

New Delhi
June 30, 1998

J.S.Rajput
Chairman
National Council for Teacher Education

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1.0 Introduction

The teacher is the most important element in any educational programme. It is the teacher who is mainly responsible for implementation of the educational process at any stage. No amount of investment in improving the physical and educational facilities can improve education unless there are adequate number of well qualified teachers who can and willingly implement the educational process in such a way that it brings about the desired educational development of the students. It is, therefore, important that the teacher is well prepared to do his/her work efficiently and effectively. The quality of a teacher depends, to a large extent, on the quality of teacher education received by him/her.

1.1 During the last few decades after independence, as there was a big increase in the number of schools and pupils enrolled, there was a great demand for a very large number of teachers. To meet this demand, many new teacher education institutions were established, often without the requisite physical and educational infrastructure and the required number of qualified teacher educators. School teachers were often recruited without professional teacher education, which created the problem of under-qualified and professionally untrained teachers in schools and adversely affected the quality of education in schools. Teacher education through correspondence/distant education mode was thought of and organised in some institutions/universities in order to provide professional teacher education to professionally untrained teachers working in schools. Many institutions of teacher education were organised on commercial lines solely for earning profit by the

management without imparting good quality teacher education.

1.2 Realising the importance of maintaining quality in teacher education, the Government of India through an Act of Parliament (in 1993) established the National Council for Teacher Education (NCTE). Its main purpose is to achieve planned and coordinated development of teacher education throughout the country and regulation and proper maintenance of norms and standards in the teacher education system. The National Council for Teacher Education, with the help of experts, developed norms and standards for teacher education institutions, and adopted them as part of its Regulations. To merit recognition by NCTE, a teacher education institution should fulfil these norms, and even after recognition, if an institution of teacher education is found to violate these norms at any time, the NCTE may withdraw its recognition. These norms are, therefore, very important and teacher education institutions should study them carefully and fulfil them.

1.3 The norms and standards for secondary, primary and pre-primary teacher education institutions have been published separately and a copy of norms is sent alongwith the application from for recognition to the institution when it writes to NCTE for recognition. The book of Norms and Standards for Secondary Teacher Education has separate sections for Costs (recurring and non-recurring); Space and Building; Equipment, Furniture and Books; Staff (teaching and non-teaching); Curriculum Transaction; Admission Criteria and Fees; and Management.

1.4 These norms and standards are prepared in consultation with experts and are based on previous studies about physical facilities and staff found in teacher education institutions as well as conditions for affiliation fixed by different universities and other examining authorities. While these norms give details of physical facilities, staff etc., which should be provided by the institution to merit recognition by NCTE, they do not say why these conditions

are considered necessary.

1.5 It was desired by the NCTE that a small booklet may be prepared explaining to the institution the nature of curriculum and its transaction that is desired to be carried out in teacher education and how the norms are based on quality concerns in teacher education. In this book-let, we shall restrict our discussions to quality concerns in secondary teacher education as basis for the NCTE norms and standards for teacher education at this level.



2.0 **Objectives of Secondary Teacher Education**

The curriculum and its transaction at any stage of education will depend on the objectives of teaching at that stage. The objectives of secondary teacher education stated in the "Teacher Education Curriculum - A Framework" (NCERT, 1978) are as follows.

"The secondary teacher-trainee should :

1. Possess competence to teach subjects of his specialization on the basis of accepted principles of learning and teaching in the context of the new school curriculum.
2. Develop skills, understandings, interests and attitudes which would enable him to foster all-round growth and development of the children under his care.
3. Possess sufficient theoretical and practical knowledge of health and physical education, games and recreational activities and work experience.
4. Develop skills in identifying, selecting, innovating and organizing learning experiences for teaching the above mentioned general and special subjects.
5. Develop understandings of psychological principles of growth and development, individual differences and similarities, and cognitive, phycho-motor and attitudinal learnings.
6. Develop skills in guiding and counselling the children in solving their personal as well as academic problems.

7. Understand the role of home, the peer group and the community in shaping the personality of the child and help develop an amicable home-school relationship for mutual benefit.
8. Understand the role of the school in changing the society.
9. Undertake investigatory projects and action research."

In a slightly different form, the specific objectives of secondary teacher education are stated in the Discussion Document of Curriculum Framework for Teacher Education (NCTE, 1996) as follows :

- "To develop among teachers a clear understanding of the psychology of their students.
- To enable them to understand the process of socialisation.
- To develop in them an understanding of the principles of pedagogy, curriculum development, its transaction and evaluation.
- To enable them to make pedagogical analysis of the subjects they are to teach at the secondary stage.
- To develop skills for guidance and counselling.
- To enable them to foster creative thinking among pupils for the reconstruction of knowledge.
- To acquaint them with the factors and forces (within the school and outside) affecting educational system and classroom situation.
- To acquaint them with educational needs of special groups of pupils.

- To develop communication skills and to use the modern information technology.
- To enable them to undertake action research and use innovative practices.
- To foster in them a desire for life-long learning"

It will be seen that there is a great deal of commonality in the two sets of objectives. While the first set of objectives states the expected teacher trainee behaviour in terms of knowledge, skills and attitudes that need be developed in the teacher trainee at the end of teacher education programme, the second set of objectives gives the objectives in terms of teacher educator behaviour during the course of teacher education. From the point of view of planning the curriculum and evaluation of learning, it is desirable to express learning objectives in terms of expected outcomes of the learner behaviour.

2.1 Looking at both the sets of objectives of secondary teacher education, we may classify them into three categories : cognitive, psycho-motor and affective.

Cognitive :

The teacher trainee should have knowledge and understanding, be able to apply, analyze, synthesize and evaluate knowledge in respect of the following ---

1. Knowledge of subjects he/she is expected to teach and methodology of teaching appropriate to them.
2. Principles of pedagogy, curriculum development and evaluation.
3. Psychological principles of learning, growth and development, individual differences, personality and creativity.

4. Principles of guidance and counselling.
5. Educational needs of special groups.
6. Role of school, home and community in education. Role of school in changing society.
7. Principles of health and physical education, games and recreational activities.
8. Methodology of research and action research.

Psycho-motor :

The teacher trainee should -

1. Acquire skills in identifying, selecting, innovating and organising learning experiences for teaching school subjects.
2. Acquire communication skills including use of educational technology.
3. Acquire skills in performing scientific experiments (for Science teachers).
4. Acquire general teaching skills as well as special teaching skills relevant to his/her special subjects.
5. Perform psychological experiments, administer psychological and educational tests, score tests and interpret test results, and acquire skills relevant to guidance and counselling.
6. Acquire skills of management of pupils in the class and outside.

Affective :-

The teacher trainee should -

1. Have favourable attitude towards teaching profession.
2. Be sympathetic towards children and take interest in their all round development.
3. Have good relationship with parents of his/her pupils and

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people of the community.

4. Cooperate with the head of the school and with other teachers.
5. Have socially approved values and professional ethics.



3.0 Curriculum and Its Transaction :

The curriculum should reflect the instructional objectives and its transaction should help in their achievement. "The Secondary Teacher Education Curriculum, Guidelines and Syllabi (NCERT, 1991)" recommends the curriculum framework as follows :

Curriculum Components	Weightage in terms of time
A. Foundation Courses	20%
(i) Education in Emerging India (Philosophical and Socio-cultural Perspectives)	10%
(ii) Educational Psychology	10%
B. Stage Relevant Specialisation	30%
(iii) Secondary Education and Teacher Functions	10%
Specialisation in Methodology of -	
(iv) A Secondary School Subject with prior Specialisation	10%
(v) A Second Secondary/Higher Secondary/ Primary School Education Subject	10%
C. Additional Specialization	10%
(vi) An elective from areas like Adult Education, Secondary Education, Population Education, Distance Education, Library Services, Tribal Education, Special Education, Health and Physical Education, Art Education, Educational Technology, Action Research, Computer Education, etc	10%
D. Practicum/Field Work	40%
(vii) Internship in teaching including field assignments	20%
(viii) Practical work including working with community, social service and work experience	20%

The Colleges of Secondary Teacher Education are affiliated to universities which prescribe their curriculum and conduct their examination. In our country almost all universities offer a B. Ed. degree course of one academic year duration after a basic Bachelor's degree in Arts, Science or Commerce. Although the courses of studies for the B. Ed. degree differs from university to university, most of the universities prescribe the following courses and examination pattern :

Subjects	Full Marks
A. Theory :	500
1. Philosophical and Sociological Foundations of Education	100
2. Psychological Foundations of Education	100
3. One Elective Pedagogic Subject (out of the many offered by college)	100
4. Contact-cum-Methodology of Teaching of two subjects (to be chosen from all subjects of Secondary/Higher Secondary level)	2 x 100
B. Practical	300
1. Practical teaching of two subjects	2x100
2. Other practical work (working with community and work-experience)	100
Total	800

3.1 Most of the universities give a weightage of 5 : 3 for the theory and practical respectively in the B. Ed. examination. However, in actual practice, practical work in a college of teacher education consumes about 50% of the total time, for apart from the examination subjects, practical work is also organised in such areas as

Audio-Visual Education and Educational Technology; Preparation of Teaching Aids; Performing Science experiments in Laboratory; Administration, Scoring Tests and Interpreting results; Case Studies of Pupils, Physical Education and Games; Art; Music and Dramatics and other socio-cultural activities; Field activities and Projects etc. Such practical work is organised in all good Colleges of Teacher Education and are often evaluated internally by the College.

3.2 Although the most common mode of teaching the theory courses in the College of Secondary Teacher Education is by lectures, effective teacher education cannot be given through lectures alone. There should be active participation by the teacher trainees in the teaching-learning process. The trainees should put questions, offer comments, enumerate their personal experiences on the points narrated by the lecturer. There should be a good discussion. Trainees should be given reading assignments and asked to prepare papers for reading and discussion. Sometimes, field work, case study, survey related to the topics of the theory course etc. are also conducted. One double period (one and half hours' duration) a week may be arranged in each subject to facilitate discussion, reading of papers by students etc.

3.3 Content-cum-Methodology of Teaching of school subjects has to be dealt with a little differently from other theory subjects. In the first place the deficiencies of the trainees in the knowledge and understanding of subject content which are required to explain the concepts of the school subject, have to be identified and explained through lecture-cum-discussion. Non-Biology trainees should be taught Biology and Biology trainees should be taught content in Physical Science to enable them to teach general science in the school. Similarly, Social Studies teachers should be taught content in Geography and Civics to make up their deficiencies. Wherever necessary, experiments and/or field trips should be conducted. Students should be asked to perform experiments and prepare teaching aids relevant to teaching the topics of the school subjects.

The practical work involved in the use of audio-visual aids and educational technology should be performed by trainees under supervision and integrated with content-cum-methodology. Methodology can be thought of as comprising two parts : general methods and specific methods of teaching. General methods of teaching are common to all school subjects such as skills relating to introducing a topic, narration, putting probing and/or thought provoking questions, generalising, summarising, illustrating with examples, writing on the black-board, using audio-visual aids, applying general principles in particular cases, closing a lesson etc.

Often these are broken down into skills of teaching and are explained and demonstrated by the teacher educator and thereafter they are practised by trainees in micro-lessons under supervision and trainees are given immediate feedback. Practising of these skills can be done in small groups of five or six trainees under simulated conditions when each trainee teaches a small topic for five to ten minutes to demonstrate a particular skill to other trainees (who act as students). Subject-specific methods or techniques are taught by the teacher educator by integrating methodology with subject content and indicating which methodology is appropriate for which content. The teacher educator explains the method indicating the steps or stages in the method. This is followed by a demonstration of the method by the teacher educator under simulation (i.e., the trainees acting as school students). Thereafter, the students practise the method in small groups under simulated conditions. Models of teaching may also be explained, demonstrated by the teacher and thereafter practised by students. Methods of teaching suitable for teaching different parts of the subject such as prose, poetry and grammar in English and arithmetic, geometry and algebra in Mathematics may be demonstrated and practised by the trainees. Thus, content-cum-methodology is an integration of theory and practical as well as an integration of content and methodology. The teacher educators and trainees should devote much time to this and

learn the methods of teaching well before proceeding for internship in teaching or practice teaching.

3.4 Internship in teaching or practice teaching is a very important part of teacher education programme, for it is during this exercise in actual teaching in real school situation that the trainees encounter several difficulties in putting into practice all they have learnt about teaching. Each trainee should teach some lessons in lower classes and some in higher classes of the school. Depending upon the number of schools (and number of classes in them) available and the time for which they are available for practice teaching, the trainees are sent to these schools in small groups for actual teaching for a block period. Each trainee is expected to teach twenty lessons in each of two chosen school subjects. Normally, the trainee completes this work in four weeks, that is, teaching about ten periods per week or two periods each working day. Depending on the number of classes available, between ten to fifteen trainees can be deputed to a school. So, if a college has sixty trainees, it would need four to six schools for practice teaching. If the college has 120 trainees, it would need ten to twelve schools for practice teaching for deputing all the trainees at the same time. Sometimes, when adequate number of practising schools are not available, the trainees are divided into two sections. While section A goes for internship/practice teaching, section B has theory classes in the college. After section A completes internship, they come to college for theory classes while section B goes for internship.

3.5 Internship in teaching is a better method of training teachers in practical skills than ordinary practice teaching in a school. In the latter case, the trainee does no other work in the school than teaching a required number of lessons in a subject in a given class whereas in internship in teaching the trainee is posted full-time for four to six weeks to work like a regular teacher of the school under the control of the headmaster. Besides planning and teaching lessons in his/her subject, the trainee also performs other tasks like regular teachers.

of the school such as organising co-curricular activities, preparing case study of at least one pupil, preparing test and evaluating pupils' achievement, diagnosing pupils' difficulties, doing remedial teaching etc. Under co-curricular activities he/she may undertake such activities as editing and exhibiting pupils' articles on the bulletin board/wall magazines, organising debates, essay competitions, school drama, cultural activities, games and sports. During internship, the trainee should remain in school for the full working hours of the school and be available for any work that may be assigned to him/her by the headmaster. While the college teacher will be coming to the school to supervise his/her teaching, the headmaster of the school shall also evaluate his/her work and send a confidential report to college at the end of internship, which shall be taken into consideration in the final evaluation of the trainee in practical teaching.

3.6 Ideally, all classes taught by the trainees should be supervised by the teacher educators. However, this will be possible only if one teacher educator is available for every three or four trainees. Normally teacher educator and trainee ratio being 1 : 10, a teacher educator is required to supervise ten trainees every day, each trainee teaching two periods per day. This is not practically feasible and so only about 50% of the teaching of the trainees is supervised by the teacher educators. The college expects the regular teachers of the school to help in supervising the remaining lessons of the trainees. The teacher educator should also check the lesson plan of the trainee before he/she teaches and provide feedback on the teaching to the trainee immediately after he/she finishes teaching the lesson. This also needs extra-time for the teacher educator.

3.7 In addition to practice teaching/internship in teaching, the college of teacher education has to organise practical work in the areas of psychology, educational technology and work experience. To facilitate this practical work, the students are divided into practical groups having 15 to 20 students in each group. Simultaneously, three groups of students can work at the same time in three separate

laboratories under the supervision of three teacher educators. Each group works for a double period (1-1/2 hours) per week in each laboratory. The groups rotate in the three laboratories on subsequent days of the week. In the psychology laboratory, the trainees will construct achievement tests, administer different kinds of tests such as achievement tests, intelligence tests, aptitude tests, attitude tests etc., score and interpret test results. They practise guidance and counselling of students. In the educational technology laboratory, the trainees practise operation of all types of audio-visual equipment such as filmstrip and slide projector, overview projector, film projector, audio tape recorder and video tape recorder. Practical work in taking photographs using still and movie camera and developing and printing films may also be given. In the work experience section, the trainee learns the use of hand tools used in working with wood, sheet metal and in electrical work. He/she prepares simple projects, preferably some teaching aids which can be used in practice teaching.

In addition to the practical work described in 3.7, science teacher trainees will also do practical work in the science laboratory in groups of 15 to 20 students for a double period every week. They should perform all experiments mentioned in secondary school science books. They may also prepare improvised apparatus for performing science experiments.

3.8 The college of teacher education has to organise another kind of practical work in addition to those described under 3.4 and 3.5, and this is, working with the community. The rationale for this is that the School and Community are inter-related and the trainee should, through practical experience, understand and foster this relationship. In the first place, the needs of the community have to be identified and then work has to be planned to meet a felt need. Again the trainees have to work in small groups under the guidance of teacher educators. The mode of collaboration between the trainees and people of the community has to be specified after discussion with

some people of the community being served. This work has to be performed beyond the usual college teaching time. It may be done on Saturday afternoon, or on some early morning or evening hours during working days. It can also be done during mid-term vacation. Each trainee should prepare a record of work done by him/her which shall be evaluated.

Some examples of activities which may be undertaken by the college under 'working with the community' are as follows :

- Imparting non-formal education to liquidate illiteracy.
- Imparting non-formal health education to adults.
- Improving cleanliness of the community.
- Educating people about safe drinking water.
- Improving community primary school, such as collecting books for library, providing teaching materials, improving school garden, improving school building, encouraging community participation in school improvement.
- Planting trees in the community and taking care of them.

In urban areas, similar work can be undertaken for improving slums and educating people living there. In industrial areas, work can be taken up for improving conditions in the workers' colonies.

3.9 Organisation of physical education and games constitutes another kind of practical, some of which is done in small groups during working hours of the college and some before or after the college teaching time in the mornings or late afternoons and evenings. Where there is a special teacher educator for Physical Education, he/she undertakes most of the work, though other teacher educators have also to share some work.

Organisation of various kinds of socio-cultural, literary and artistic activities as part of co-curricular activities is another kind of practical work in which every trainee should participate under the

supervision of teacher educators. Although some of these activities can be done during college hours, most of this practical work is done beyond college time. The trainee should participate therein for his/her own development and at the same time learn how he/she should himself/herself organise such activities in the school.



4.0 Norms and Standards

4.1 Space and Buildings :

Keeping in mind that the curriculum of secondary teacher education should be transacted in the manner outlined under 3.0 to 3.6, we may examine what should be the essential and minimum requirement in terms of physical facilities. It is assumed that the normal class in a college of teacher education should have 60 students. If it admits more students, it may take additional sections of 60 students each. If a college admits more than 120 students, it will be difficult to organise internship in teaching. As only 10 to 15 students can do internship in teaching in a school, so a large number of practice teaching schools will be needed which may not be available. For a college having 60 students, we need two classrooms each of 60 sq. mts. and one hall of 125 sq. metres (for multipurpose use). For practical work, space for various types of laboratories such as Psychology laboratory, work experience workshop, Educational Technology laboratory and Science laboratory has also to be provided for. Besides, there should be a library and a reading room. Each laboratory should have floor area of 60 sq. metres where 16 to 20 trainees can work. The reading room should have reading space for 60 students.

Besides the above mentioned instructional areas, the building should have administrative areas such as Principal's room, staff room(s), office room(s) and store room(s). There should also be adequate toilet facilities for gents and ladies separately. For 60 students, the minimum floor area of building required is estimated to be 750 sq. metres, and per student floor area is 12.5 sq. metres.

Besides, the college should have separate hostels for men and women students and quarters for the Principal and the teaching staff. There should be adequate land near the college for playground. Taking all these requirements, the minimum total land area for a college for 60 students has been estimated as 5000 sq metres (0.5 hectare). The building space and land area will have to be suitably increased if there are more students. In urban areas it may not be possible to provide the total land area in one campus. In such a case, the institutional building of 750 sq metres floor area may be provided in one place and staff quarters and hostels in another nearby place. Play grounds may be shared with other nearby institutions.

4.2 Equipment, Furniture and Books.

The laboratories have to be well-equipped with apparatus, instruments and tools necessary for a group of 15 to 20 trainees to work simultaneously. Science laboratory should have multiple sets of apparatus required to perform the experiments related to secondary and senior secondary science. Psychology laboratory should have various kinds of psychological and educational tests and other equipments for performing simple experiments in educational psychology. The educational technology laboratory should have filmstrips and slide projectors, 16 mm film projector, overhead projectors, audio filmstrip and slide projectors, audio cassette recorders, video cassette recorder, television, art materials and material for transparencies. Work experience laboratory should have hand tools for working with wood and sheet-metal, and tools and materials for electrical work. It may also have multiple sets of gardener's tools. The college should also possess adequate equipment for organising outdoor games. The library should have a minimum of 1500 books covering all the subjects of study at the college. This number is considered minimum necessary for 60 trainees. If the number of trainees is more, the number of books in the library should be proportionately increased. The college should subscribe to a minimum of five journals, of which three should be

professional/educational journals.

4.3 The college should have appropriate furniture in all its rooms and these should be adequate in number to meet the requirements of the number of trainees and staff of the college. The types of furniture to be provided have been described in the NCTE Norms for Secondary Teacher Education.



5.1 Teaching Staff :

The teaching staff requirement depends on the nature of specialisations required as well as on the total teaching load. In a secondary teacher education college, we need teachers with specialisation in pedagogic areas as well as in the methodology subjects. Since a college offers a minimum of six methodology subjects besides specialisations in Education, ideally the minimum teaching staff required should be two persons with pedagogic specialisations and one each in each methodology subject, or a total of 8 teachers. However, since we consider the general class size to consist of 60 trainees, a college having 60 students should have a minimum of one Principal and six Lecturers (one in each methodology subject)

5.2 The courses of study for a student for B.Ed. degree usually consists of

Theory

3 papers - Compulsory Education subjects

1 paper - Optional Education subject

(out of minimum of three subjects offered)

2 papers - Methodology subjects (out of six Methodology subjects)

Practical

2 Methodology subjects (out of six offered)

1 other practical work

(usually working with community + work experience)

Other practical areas which are taught but are only internally assessed are : Science Practical, Psychology Practical, Educational Technology Practical, Physical Education, Art, Music and Socio-Cultural activities

5.3 Teaching time given to each Education theory subject is 5 hours per week. Besides, in each theory subject, there is one hour tutorial per week for each tutorial group (of 15 or 16 trainees). In each Methodology subject, there are lectures for 3 hours per week and demonstration teaching followed by simulated micro-teaching in small groups of 6 to 8 trainees organised simultaneously for several groups at a time. Each trainee gives 10 micro-lessons which are supervised and feedback is given. Each micro-lesson (consisting of planning, teaching, feedback, replan and reteach and feedback) takes one hour. Micro-lessons are supervised by the teacher educator and feedback is given to the trainee.

5.4 Other practical work may be organised as follows : Working with community may be organised in small groups of 10 to 15 trainees, each trainee working individually or in group for about 20 to 30 hours in the year (may be 2 hours per week for 15 weeks). Science practical is taught 2 hours per week per group (of 15-16 students). Similarly, practical work is organised and supervised for 2 hours per group (15 or 16 students) in each of the following : Psychology practical, Educational Technology practical, Work experience and Physical Education and games.

5.5 Besides the practical work described above, all theory classes are suspended for about 4 to 5 weeks and all the trainees do practice teaching in schools for a total of 40 lessons (in usual school periods). Each of these lessons is supervised by the teacher educator.

5.6 Teaching work-load in a College of Teacher Education having 60 students may be worked out as follows :

Theory

Each Education Subject is taught for 5 hours per week and each Method Subject is taught for 3 hours per week theory and 2 hours per week practical.

3 compulsory Education subjects	$5 \times 3 = 15$ hrs/week
3 optional Education subjects	$5 \times 3 = 15$ hrs/week
6 methodology subjects	$3 \times 6 = 18$ hrs/week

There will be 4 tutorial groups in each of the six Education subjects and one group in each of the six Methodology subjects.

Total tutorial work comes out to be :

Each tutorial group meets for 1 hour per week.	$4 \times 6 + 1 \times 6 = 30$ hrs/week
	<u>Total Theory = 78 hrs/week</u>

Practical

Micro-teaching	$10 \text{ gr.} \times 1 \text{ hr/week} = 10$ hrs/week
Science Practical	$1 \text{ gr.} \times 2 \text{ hrs/week} = 2$ hrs/week
Psychology Practical	$4 \text{ gr.} \times 2 \text{ hrs/week} = 8$ hrs/week
Educational Technology	$4 \text{ gr.} \times 2 \text{ hrs/week} = 8$ hrs/week
Work Experience	$4 \text{ gr.} \times 2 \text{ hrs/week} = 8$ hrs/week
Physical Education and Games	$4 \text{ gr.} \times 6 \text{ hrs/week} = 24$ hrs/week (1 hrs per day)
Working with Community	$4 \text{ gr.} \times 2 \text{ hrs/week} = 8$ hrs/week
	<u>Total Practical = 68 hrs/week</u>
	<u>Grand Total = 146 hrs/week</u>

The above work takes place for about 30 weeks (out of total of 35 weeks for which the college is expected to work).

During the remaining 5 weeks, internship in teaching is organised. The work-load of internship in teaching may be worked out as :

Total number of lessons to be supervised

$$\begin{aligned}
 @ 40 \text{ lessons per student} &= 40 \times 60 \\
 &= 2400 \text{ periods} \\
 &\quad (\text{of 40 minutes each}) \\
 &= 1600 \text{ man hours.}
 \end{aligned}$$

1600 man hrs spread over 5 weeks

$$\text{or load per week} = 320 \text{ man hrs/week}$$

Thus, total teaching load is for 146 man hours per week for 30 weeks and 320 man hours/week for 5 weeks.

Taking 18 hours of work load per week for a college teacher, we need 8 teachers during term-time (30 weeks) and 18 teachers during internship. As against this requirement, the NCTE has prescribed 1 Principal and 6 teachers (Readers and/or Lecturers), as the minimum essential. It will be seen that even these teachers will be inadequate to supervise all lessons of the trainees during internship and the school teachers are required to do some supervision. Thus, considering both the subject specialisations required (Education subjects and six Methodology subjects) and the total teaching load for a college having 60 trainees the minimum essential staff required is one Principal and six teachers.

5.7 If the college takes 120 trainees, there will be two sections for compulsory educational subjects and one or two sections in optional subjects depending on the student strength in the optional subject. At least five optional subjects may be offered. Similarly, there may be one or two sections in each Methodology theory class. The number of tutorial groups will be proportionately increased. The number of practical groups will also increase. The number of micro-lessons and practice teaching lessons to be supervised will

also be increased proportionately with the number of trainees. The total teaching load will be as follows :

Theory

3 compulsory Education subjects

$$\text{(with 2 sections in each)} \quad 2 \times 3 \times 5 = 30 \text{ hrs/week}$$

$$5 \text{ optional Education subjects} \quad 5 \times 5 = 25 \text{ hrs/week}$$

$$6 \text{ Methodology subjects} \quad 6 \times 3 = 18 \text{ hrs/week}$$

Tutorials 8 groups in Education and

$$2 \text{ groups in each Methodology} \quad 8 \times 6 + 2 \times 6 = 60 \text{ hrs/week}$$

$$\text{Total Theory} \quad \underline{\underline{133 \text{ hrs/week}}}$$

Practical

$$\text{Micro-teaching} \quad 20 \text{ gr.} \times 1 \text{ hr/week} = 20 \text{ hrs/week}$$

$$\text{Science Practical} \quad 2 \text{ gr.} \times 2 \text{ hrs/week} = 4 \text{ hrs/week}$$

$$\text{Psychology Practical} \quad 8 \text{ gr.} \times 2 \text{ hrs/week} = 16 \text{ hrs/week}$$

$$\text{Education Technology} \quad 8 \text{ gr.} \times 2 \text{ hrs/week} = 16 \text{ hrs/week}$$

$$\text{Work Experience} \quad 8 \text{ gr.} \times 2 \text{ hrs/week} = 16 \text{ hrs/week}$$

$$\text{Physical Education and Games} \quad 8 \text{ gr.} \times 6 \text{ hrs/week} = 48 \text{ hrs/week}$$

$$\text{Working with Community} \quad 8 \text{ gr.} \times 2 \text{ hrs/week} = \underline{16 \text{ hrs/week}}$$

$$\text{Total Practical} \quad = \underline{136 \text{ hrs/week}}$$

$$\text{Grand Total} \quad = \underline{\underline{269 \text{ hrs/week}}}$$

Internship in Teaching

$$40 \text{ lessons} \times 120 \text{ trainees} = 4800 \text{ lessons (of 40 mins. each)}$$

$$\text{Total} \quad = \underline{3200 \text{ hours}}$$

3200 hours of teaching practice to be supervised in 5 weeks = 640 hrs/week will require 32 teachers. Thus, it is seen that for 120 teacher trainees, the total load of teaching requires $269 \div 18 = 15$ teachers during term time (30 weeks) and 32 teachers during internship (5 weeks).

The NCTE norms, therefore, set the minimum essential teaching staff as one Principal and 12 teachers (Readers and Lecturers). There should be at least one teacher with specialisation in each Methodology subject, preferably two in Science (one in Physical Science and one in Biology). There should also be one teacher with specialisation in each optional education subject offered. One Lecturer in Physical Education is also needed. Enrolment of more than 120 students is not recommended as it would require too many schools for practice teaching which may not be available.



6.0 Other Aspects of Quality

6.1 Secondary Teacher Education leading to B.Ed. degree in our country is at present of one academic year duration. Many educationists consider this duration inadequate for good quality teacher preparation. A two-year (or Four Semester) course would be preferable, but this change may not be immediately feasible as it would require more finances. So, the best use must be made of one academic year for initial teacher preparation and in-service teacher education may be provided for further professional development of the teacher.

NCTE norms, therefore, specify that admission to the college should be completed within ten days of opening of the college. The college should have 210 working days per year, (365 - 52 Sundays - 103 days for Summer and other holidays). Excluding 10 days for admission work, 10 days for examinations, remaining 190 days should be for teaching theory and practical, of which 160 days are for teaching at the institution and 30 days for practice teaching in schools. The college should work for 5-1/2 to 6 hours each working day. Periods should be of minimum 45 minutes duration. Double periods should be provided for practical work.

6.2 The quality of teacher education will depend on the quality of students admitted to the college. So, admission to the college should be on the basis of merit, subject to such reservations as fixed by the government. Merit may be determined by a selection test conducted by a State authority. If the State government does not conduct a common selection test, the institution may conduct its own selection test for admission of students.

6.3 The college should be financially sound. A privately managed college should have an endowment fund and a reserve fund, so that it can meet the teachers' salaries and other recurring expenses. Government college should have adequate budget provision for non-recurring and recurring expenses of the college. The college should maintain accounts properly which should be audited every year.

6.4 Conclusion

Various aspects of teacher education which affect its quality such as objectives of instruction, curriculum and its transaction, land area and buildings, equipment, furniture and books, teacher requirement, duration and teaching time, selection of students, financial status etc. have been examined. Beginning with objectives of instruction for secondary teacher education, the curriculum transaction necessary to achieve these objectives have been discussed in detail. Based on the desired curriculum transaction and teaching time, the teaching staff required has been calculated. The other physical facilities necessary for the recommended curriculum transaction have also been examined.

It is hoped that this booklet will help in clarifying the quality concerns in teacher education and minimum facilities necessary for maintaining the quality. The booklet will also be helpful to teacher educators and administrators of colleges of teacher education in organising various kinds of practical work and other aspects of curriculum transaction.



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