CHAPTER - II

BACKGROUND OF THE STUDY

The idea of introduction of Four Year Integrated Teacher Education Programme came into its existence in the early decades of twentieth Century in the United States of America. Subsequently, it was borrowed and practiced in many Europian and Asian countries. In sixties a few experiments were made on the integrated teacher education programme in our country. One would be interested to know the background of such a programme - its need implimentation and development. Thus, the present investigator was prompted to throw some light on some aspects of this programme in order to answer some of the questions automatically raised in the mind of the reader.

1. Integration - Its nature, its concept and its relationship with education as a whole and teacher education as particular.

2. Integrated Teacher education programme in U.S.A. - its conception and practice.

3. Adoption of Integrated Programme in India
   a. Kurukshetra Experiment
   b. Experience in Rural Institute at Vidyanagar.
   c. Regional Colleges of Education.

4. Four Years course in Teacher Education.

INTEGRATION:

Integration is truely the central problem of education. One has however to see this problem a little differently. The task is not that of communicating to the individual an integrated view of all knowledge, it is rather that of developing individuals who will seek do this for themselves. The idea is not new and we do not delude ourselves that we have the answer as to how it can be accomplished. Before presenting the idea of integration one would wish to lay some ground work on the thinking about integration and its relationship with education.

The isolated fact is of no importance. Yet one of the more common criticisms of education has been that it involves too much passive learning of inert ideas. Whitehead (1929), comments on University education . "I have been much struck by the paralysis of thought induced in pupils by the aimless accumulation of precise knowledge, inert and unutilised". There should be some opportunity to organise interrelate or integrate factual learning and experience. Besides, education, we are generally coming across the word "Integration" more frequently in our life situation. "Call for national integration", "Cultural integration", "Emotional integration", etc. are more common in them.

Concept of Integration:

Integration and disintegration are so intimately enmeshed with life processes, with social processes and with the expansion of knowledge that education cannot avoid affecting the integrative

forces employed by a society in one way or other. Education is an integrative process designed by society to help the individual understand, fit into, contribute to or change that society. Dressel (1958) observed "it (Education) is a process which requires integration both within itself and with other social institutions and processes". By this process one would try to produce individuals who continue to organise their own experiences and thereby, derive more meaning from them.

The word integration is used to refer both a state and a process. As a state it implies the attainment of perfection, completion or wholeness. Integration in this sense is a goal towards which every individual and social group presumably should arrive. As a process, Dressel (1959) write, "integration refers to the means to achieve this state of perfection. Integration as a process may also refer to the maintainance of dynamic equilibrium in a changing environment". Integration can also refer to the manner in which interdependent parts of a larger whole relate or are brought into harmonious relation with each other.

The term integration is used in various disciplines and in many fields. The social sciences find the term useful in reference to the state of organisation of society, of an industry or of an individual. In natural sciences the term has been used in reference to the physiological balance whereby the activities and functions of an organism are articulated to form an unified individual. In mathematics, integration refers to a process of

summation of infinitesimals. With this wide spread usage, accompanied by the tendency of the specialists in any field to feel that his use is the really correct one, the educationists have some difficulty in arriving at a meaningful and acceptable use of the term. In educational writings the term integration comprises all the above discussed previous meanings and in addition the adjective in connection with a variety of instructional administration patterns and organisation.

There are some essential elements of integration. Integration assumes the existence of parts which can be so related as to make a whole. Part and whole are here relative, terms. Thus, a set of related facts may yield a generalisation or principle. Relating these principles to other facts or principles may yield a still more general principle or possibility of a theory. Integration involves the adjustment, i.e. the proper relationship of part to part into a complex whole.

Education as Experience and as Integration:

An educational programme is an attempt by the mature individuals of a society to influence the development of its youth. This is done by selecting and organising experiences to develop desired qualities in the individuals. As our culture has become more complicated, the formal period of education has also become longer and more diversified. Much of the responsibility for selection, planning and supervising the educational experiences is assigned to a corps of especially trained individuals, the educators.

Thereby two problems arise:

1. The teachers and the programme planned by them may become more remote from many of those life situations where the education is put to use.

2. The increasing length and diversification of the programme tends towards -

   a. longitudinal segmentation into grades and grade groupings based on age and administrative convenience;

   b. a horizontal segmentation into subjects and courses based on scholarly distinctions among the bodies of knowledge and disciplines.

The phrase "Educational Experience" requires some clarification and perhaps some justification. Inevitably, we elarn new things through and in terms of what are already known. Life is a succession of experiences to each of which we bring the result of past experiences, and from which we learn something that effects our future behaviour. Not all of those experiences however, are to be regarded as educational experiences as we define them here. An educational experience is one which is selected and planned with one or more definite purposes or objectives in view. The selection and planning include a consideration of the relationship which proceed, accompany or follow it.

Integrated and Integrative Educational Experiences:

Educational Experiences may be planned with the hope that

the basis for organisation (Integration) will be grasped by the students or educational experiences may be planned so that the individuals are encouraged to make their own organisation. In the first case, an integrated experience is provided. If grasped, this serves a double purpose

a. it acquaints the individual with meaningful integration achieved by others;
b. it provides him with a model which may become the take off point for achievement of his own integration. In the second case, an integrative experience is provided. If successful, this alao serves a double purpose:-
   1. it provides the individual with his own integration of the immediate experiences;
   2. it develops in the individual some ability and satisfaction in seeking for meaningful organisations and relation of his latter experiences.

EDUCATIONAL VENTURES IN INTEGRATION

Various Concepts of Integration:

Over the years since Herbart proposed correlation of subject matter, there have been many approaches or suggestions to increase the integrative effect of the school. The idea of correlation usually applies to the finding of threads connecting separately taught subjects, but the word "correlation" has been used in a number of different ways. In 1985 a committee of the National Education Association of U.S.A. viewed correlation as involving a

proper sequence suited to the development of child, as involving all divisions of human learning, and as involving a correlation with the world in which the child lives.

Contrasted some what with the concept of correlation of independent subjects is that of fusion which involves actual joining together of what were previously separate. For example, a course in Social sciences, bringing together various subjects previously taught separately, is a fusion course. Other attempts of integration have functioned through setting up activity units around a central, non-subject theme involving perhaps the act of thought itself, general concepts or principles, great ideas or values. Still others have attempted to organise the curriculum around some central core of subject matter or experience. Experience here used, usually refers to problems growing out of the life of the students or of society in which the student lives. In general, then the various attempts at integration have been of three types:

a. Those developing inter relationships among existing courses
b. Those involving reorganisation of content into more general courses and those involving or centering of content about vital problems of the society or of the student. It is possible to develop a curriculum using all three types.

Integration in Curriculum Planning:

In order to achieve integration in curriculum organisation there are four aspects:

a. there must be an agreement on objectives;

b. there must be selection of a set of experiences likely to achieve these objectives;

c. there must be organisation of the experiences to achieve the greatest progress in regard to the objectives;

d. there must be evaluation to determine the extent to which the previous decisions are well-advised. Each of these aspects of curriculum construction has been used as the basis for promoting integration.

Other Attempts at Integration:

At a more advanced level there has been much interest in interdisciplinary studies. For example, the development of the behavioural sciences recognises that the attempts to study the behaviour of a man by looking at the various parts of his highly inter-related physical and mental organisation through the largely artificial fences separating existing subject-compartments causes difficulties in understanding his actual behaviour. The inter-disciplinary approach contributes to the integration of knowledge by selecting and organising the facts and principles from several disciplines. It also attempts to develop new and integrative theories which provide a single point of view for asking questions and planning future researches. Thus, the existing stereotype and sterile ways of viewing issues and problems could be broken through more insightful approaches. According to Dressel (1958), "ultimately these inter-disciplinary approaches will affect education at all levels by suggesting new synthesis and different patterns of experience than we are now able to see".

Psychological bases for Integration:

Educational Integration is an organising experience that takes place in the mind of the learner. According to Krathwohl (1958), "This organising activity is displayed rather consistently in the situations the learner encounters, thus giving evidence that he has a mind set or attitude which causes him to seek to organise material". To a teacher, integration means inter-relationship of course. Such inter-relationship are important, but their primary importance lies in helping the students engage in integrative behaviour. The focus of concern is the thinking of the student. Accordingly, the teacher's role is two fold -

a. developing classroom situations which cause the students work at pulling his experiences together into a satisfying unified picture, and
b. instilling in the student the desire to consistently treat experiences this way.

Krathwohl (1958) summerised some principles based on behavioural dynamics which would help the teachers to facilitate integration.

1. The teacher should strengthen the student's background so that the concepts to be grasped are well understood before integration is attempted. Since, contiguity in time aids in seeing similarities, it may be well to review concepts important to the integrative structure which have not been covered. He may wish to build

background in such a way as to take advantage of the natural integrative phenomenon of closure.

2. He should guide the student's attention to the points of similarity which form the basis of the integrative frame work.

3. He would make sure that the integrative frame work is at a conceptual level appropriate to his student's ability and maturity.

4. If the exercise is likely to be threatening either because of the context or the setting in which it takes place, efforts should be made to minimise the threat by establishing as positive atmosphere as possible.

5. Students are more likely to do what is required if they know what is expected of them. The students should understand from the outset that integration of material, under consideration is goal of the learning experiences.

6. The teacher should take the advantage of the student's various backgrounds to involve them in his presentations.

7. Since the teacher ultimately seeks to have the students display integrating behaviour on their own, he must present the frame-work in such a way that the students can accept it and make it their own but not feel bound by it or not feel that their own capacity for independent thinking is being curbed.

8. The teacher should "model" integrative behaviour for the students.

Methods of Inquiry of Integration:

Bloom (1958) said, "the building up of any complex whole proceeds best when integrating principles, intrinsic to that whole can be identified and used to relate the parts" Educational Experience is related to an ultimate objective, it takes place within a limited period of time and separate existence of its own. Some means must be found out to relate these educational experiences which are taking place in close proximity to each other. Some means must also be found to relate educational experiences which take place at different times. There is in effect a weaving of educational experiences into a fabric or organisation which will have dual affect. The organisation will give added meaning and significance to each educational experience and each educational experience will in turn build and give significance to the organisation. Bloom called this inter-relationship between experiences as Integrative Thread.

Integrative Thread:

An integrative thread is any idea, problem, method or device by which two or more separate learning experiences are related. Such integrative threads are carefully planned by the educator. The learning experiences provided for the students are usually selected on some rational basis. They are selected with a view towards helping the student develop some type of competence, a particular type of interest or attitude or some other goals involving the development of the students into a more mature and

capable persons, ideally, the planner of the learning experiences will use this knowledge (assumptions) about the previous learning of the student, his initial level of attainment and his abilities and motivation for a particular kind of learning. He will also take into consideration the limits and opportunities provided by the particular subject area or subject matter with which he is primarily dealing. Finally, the planner (teacher) has some idea about how learning takes place and how particular learning experiences are best developed in view of learning theory, motivational principles and the learning characteristics of the particular group of students with whom he is working.

Criteria for Integrative Thread:

Bloom (1958) postulated the following major criteria for selection, development and use of integrative threads -

a. The integrative threads must have continuing usefulness in relation to a great variety of problems and euqestions. They must open up possibilities rather than narrow them down. They must be relevent not only to the problems as formulated by teachers and scholars but also to problems formulated by students and citizens.

b. The integrative threads should be so chosen and organised that they can be altered, improved and extended in meaning with time and future experiences.

c. A most valuable function for the thread is to add meaning to experience, to permit one to compare and contrast

experiences which would otherwise be unrelated, and to permit one to relate past experiences to those which are taking place at the present. Further, more they may serve to relate and gain insight into the experiences of others as well as one's own.

d. Integrative threads should be sufficiently comprehensive to extend over the entire range of subject matter or experience in some area of human behaviour.

e. Since integration takes place in the students, only as the integrative threads are meaningful to the student and are used by him and they likely to have any value for him.

INTEGRATED TEACHER EDUCATION PROGRAMME IN U.S.A.

The integrated or concurrent approach for both academic and professional preparation of teachers for elementary and secondary schools grew up by an evolutionary process in U.S.A., In the beginning neither a need was perceived nor there was any facilities for teacher education. The teacher education was practiced in Normal Schools as was done in India. But gradually they were changed to degree awarding teacher colleges. These colleges running Integrated or concurrent courses with collegiate status and degree granting powers, were comparatively new institutions. Later the idea of integrated approach to teacher education spreaded to different countries of the world. The approach was also borrowed to India from the west to organise the first experiement at Kurukshetra and later at the Regional Colleges of Education at

Ajmer, Bhopal, Bhubaneshwar and Mysore by NCERT. It had some experiences also at Rural Institute, S.P.University, Vallabh Vidya Nagar, Gujarat. At this particular study relates the integrated teacher education programme it seems worthwhile to give some details of this system as it evolved in USA.

By the end of 19th Century and the beginning of 20th Century and normal schools had become an important feature in American education for training of teachers for both the elementary and secondary schools, with of course, varying period of training. By and large the training for elementary teachers was of two years after high school and of four years for secondary school teachers. During the period of training both the academic and professional courses were covered concurrently.

As the courses in some of these normal schools were of four years after high school which was also the situation for the graduation in ordinary arts or science colleges, the normal schools insisted on being called as colleges and not schools. They began to demand the right and status to confer degrees. The first degree conferring normal school having a full four years of college work was the normal school at Albany which changed its name tothe New York State Normal College in 1890 and normal school at Ypsilanti in Michigan. Teachers Colleges in USA thus, were rather an evolution from normal schools than revolution. They expanded their curricula and time of preparation of teachers. By 1902 there were atleast four such schools which began to be called full fledged teachers'

Colleges and by 1930 there were about 150 recognised degree conferring teachers colleges, some of which offering masters or even doctorate degree in professional subjects.

Some of the earlier teachers college after this conversion stopped the preparation of teachers and concentrated only on academic and professional subjects of four years teacher preparation programme for high school teachers with one or more year of post-graduate work. The trend since then got a momentum in direction of converting two or three years normal schools into four years teachers colleges and by 1920, there were 46 such teachers colleges in USA. In third decade of twentieth century teachers colleges in America emerged as independent, strong and vigorous institutions with its degree conferring rights. By 1940, all but four states had adopted a minimum requirement of four years of college education while half a dozen to say nothing of a good many cities, had begun to insist on a five year of pre-service preparation.

The education that a prospective teacher in USA may be thought of as existing in three parts;

a. a general liberal arts education;
b. major and minor fields or areas of specialisation; and
c. a professional education, including field experiences.

The figure 1 and figure 2 represent the percentage of different areas in the programme in elementary and secondary teacher education programme in U.S.A. respectively.

GRAPHIC REPRESENTATION OF INTEGRATED COLLEGE PROGRAMME FOR ELEMENTARY TEACHERS IN U.S.A.

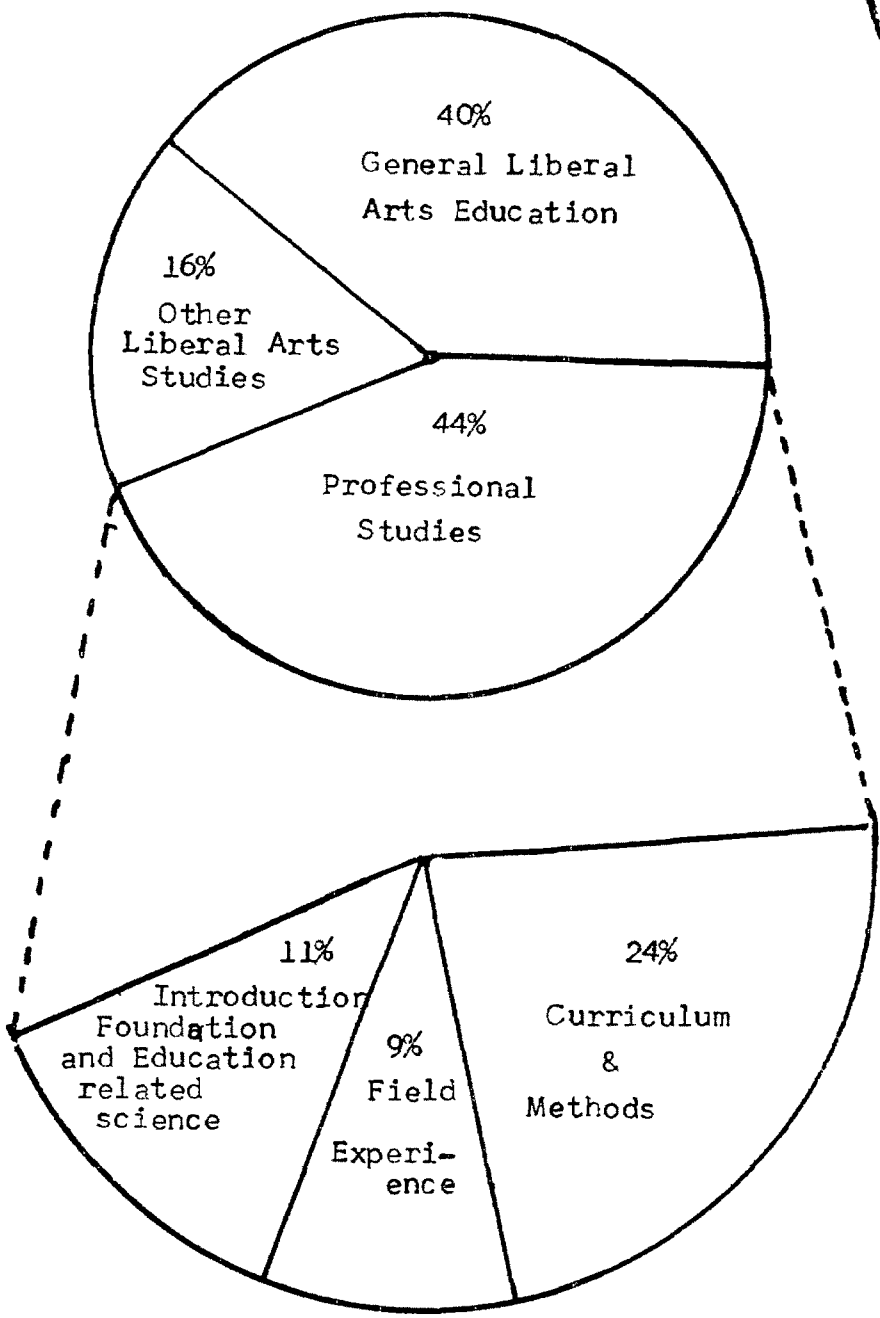

Fig.1

GRAPHIC REPRESENTATION OF INTEGRATED COLLEGE PROGRAMME FOR SECONDARY TEACHERS IN U.S.A.

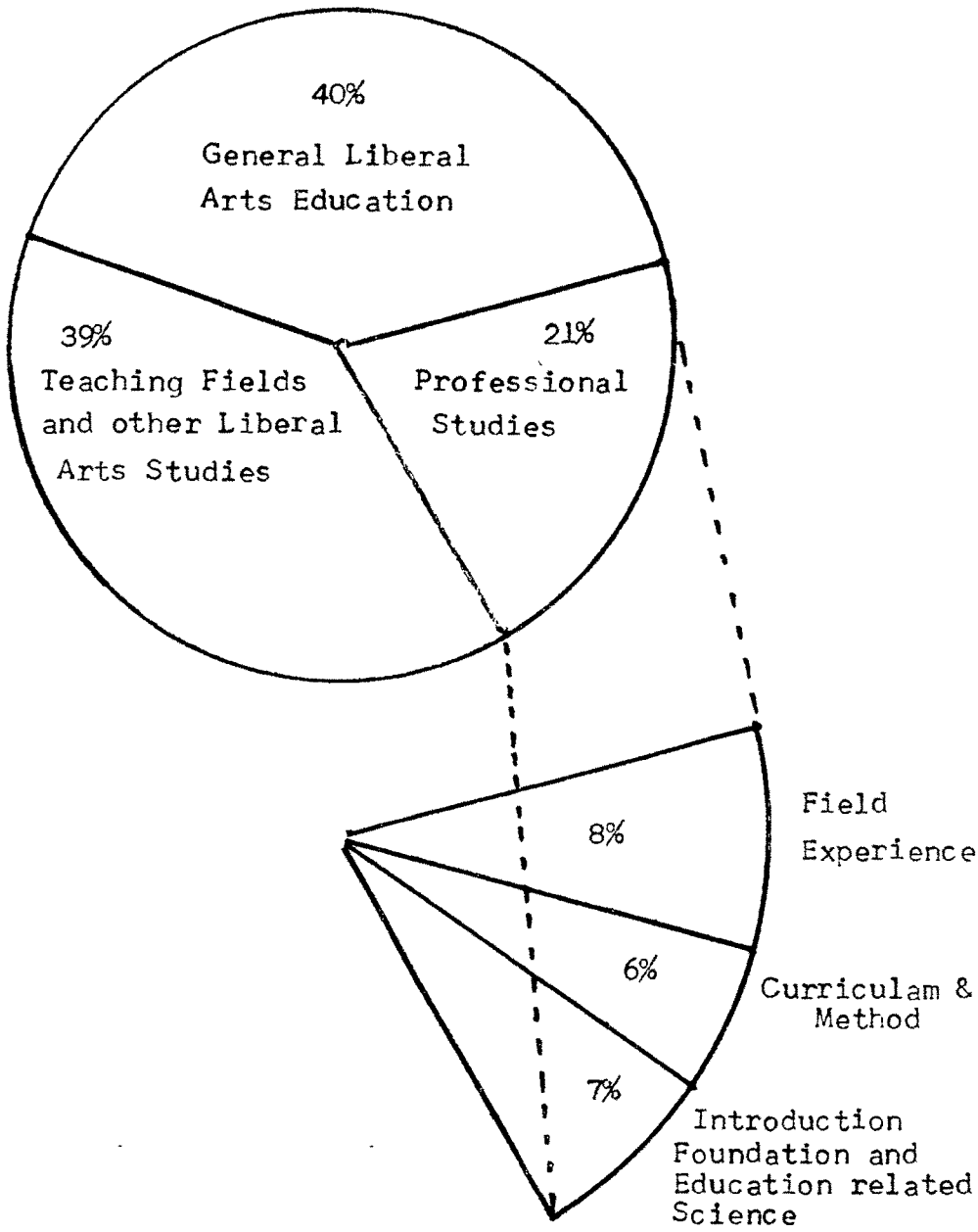

Fig.2

From studying the college and University bulletins and programme description of stratified sample of 40 institutions preparing teachers in America, Kluender and Egbert (1983), found that the general liberal arts portion of the programme (Mathematics and Natural Science, Social Science, Humanities and Fine Arts, composition and speech communications and physical education) which is as similar to that taken by other students at the colleges or university typically constitutes about 40% of the total elementary or secondary teacher education programme.

Although the liberal arts requirements is usually almost identical of elementary and secondary students, the remainder of the programme is quite different because the work of the secondary teacher is viewed as being different from that of the elementary teacher. According to Egbert (1985), "Secondary teacher is considered to be a subject matter specialist as well as a teacher whereas the elementary teacher is usually a subject matter generalist as well as teacher", because the preparation of secondary teachers is built on the assumption of specialisation, the course work of a prospective secondary teachers, in addition to general arts education, includes an academic major in the subject matter that will be taught as well as a professional education components. The teaching subject specialisation is usually somewhat greater than the professional education requirement but may range from as little as 25% to as much as 60% of the entire programme, depending on the teaching field and the state or college or University certification or programme requirements.

Professional education studies, sometimes referred to as "Teacher Education" may be subdivided into three parts:

a. foundations and education related sciences;

b. curriculum and methods; and

c. field experiences including student teaching.

Foundations and education related sciences include such courses as educational philosophy, educational psychology and human development. For typical elementary education students, Kluender and Egbert found that this component constitutes about 11% of the college programme, for typical secondary student, about 7% curriculum and methods include general and special courses, in curriculum and methods. In their sample Kluender and Egbert also counted in this type of courses taught in liberal arts departments but required for education majors (e.g. Mathematics for elementary teachers), unless such courses were part of the general education requirements. For elementary students this component is about one fourth of the total programme, for secondary students about 6% Field experiences consist of student teaching plus other activities for which the students receive separate credit. This component is just under one tenth of the total programme for both elementary and secondary students.

Constant and continuous researches in the field of teacher education and criticisms from outside and inside the programme gave rise to the development of some newer models of teacher education in USA. Two of such programmes that have built upon ideas formulated

got their places in the report of Bicentennial Commission of America, i.e. Programmes at the University of New Hampshire and the University of Kansas.

A. University of New Hampshire Programme

Following a four year planning effort that included students, teachers, administrators, SDE representatives and college-based educators, the University of New Hampshire in 1974 introduced a 5 year teacher education programme that begins in the undergraduate years and continues through a year of graduate study. The programme has three central objectives to develop. Commenting on the New Hampshire Programme Andrew (1983) wrote "[illegible] Programme is expensive for both the students and the university. Classes are kept very small, the average size being about 15. The internship, too, is labour intensive. It is also note-worthy that the number of teacher education graduates has dropped rearly 60%, thus lowering the demand for faculty".

B. University of Kansas Programme

The University of Kansas faculty and administration began talking about an extended programme of teacher education in late 1970s; by July 1980, the programme was sufficiently well developed for adoptation by the faculty. The first batch of students were admitted in 1981 and graduated in the spring 1986.

To develop its new programme Kansas identified a nucleus

of faculty members interested in being involved in the process. They worked to build general faculty support, to access placement and salary opportunities for graduates, to gain support from off-campus collegues and university administration; and to assess the reaction of the state wide bodies having control over teacher education. By the time first students were admitted, much of the necessary support had been engendered.

Early in the development process, the planning committee began focusing on the scope and sequence of the field experiences suggested by the programme objectives. This decision permitted the group to separate itself easily from traditional programmes. The committee identified specific field experiences for each year or stage of the programme. Once the scope and sequence of the field experiences had been described, the group decided on the content and activities of the on-campus component as determined by the field experiences. (Scannel and Guenther, 1981).

As adopted, the Kansas Programme consists of 60 semester hours of general education, 40 hours in subject matter speciality and 62 hours of professional education. Students qualify for certificate at two of the three levels granted in Kansas - elementary, middle and secondary education.

C. Other Programmes

American teacher education intensed two other models of programme at Grambling State University (Mills, 1984) and Doane

College (Dudly, 1983). Each of these programmes was developed at considerable cost both to their institutions and to the individual faculty members who developed them. But each programme offered substantial promise not only for its institution but for other categories of institutions as well.

INTEGRATED TEACHER EDUCATION PROGRAMME IN INDIA

As discussed earlier the integrated approach to teacher education was borrowed from U.S.A. and a few experiments were conducted in our country during sixties. The first experiment was conducted in the college of Education at Kurukshetra University and later at the Regional Colleges of Education at Ajmer, Bhopal, Bhubaneshwar and Mysore by NCERT. It had some experience at Rural Institute, S.P.University, Vidyanagar also.

KURUKSHETRA EXPERIMENT:

Adoption of four years integrated teacher education programme on the lines of teachers' college in U.S.A. in which academic and professional courses were taught simulteneously started in July, 1960 in the college of Education at Kurukshetra. This was on the forceful suggestion of Late Dr.A.C.Joshi, the then Vice-Chancellor of Punjab and Kurukshetra Universities who having been impressed by the programme of teacher education in the U.S.A. after his visit there. He convinced the then Punjab Government which later studied the detailed programme and approved it for implementation. Thus, the college of Education came into existence.

The courses of the scheme were so devided as to prepare teachers of subject matter specialists with thorough background in their subject areas in high schools. The pre-service teachers were to read an advance course in subject matter specialisation alongwith minor courses in other subjects. They were awareded the degree of B.Sc. (Education), B.A. (Education) depending on the subject areas.

The courses were revised in 1966 and brought at par with B.Sc./B.A. courses of the University in order to facilitate these graduates to take admission into post graduate classes. Over and above the courses for B.A./B.Sc. they were having additional professional courses equal to the B.Ed. course. The degree was revised to be B.A. B.Ed; B.Sc. B.Ed; instead of B.A.(Education) / B.Sc. (Education).

It may be mentioned here that the initial purpose of starting this four-year integrated course was to attract some bright students who after training could be sent to selected high schools, to tone up the process of education by teaching, as it were, in the multitude of ordinary teachers, a handful of what could be called "Quality Teachers".

For this purpose only first class matriculates were to be admitted in the first year and to attract good talents, the Government made provisions for:

a. No tution fee to be charged;

b. Stipend of Rs.25.00 p.m. to be given to 50% of the students; &

c. Jobs were reserved for those who passed out the course successfully.

EXPERIENCE AT RURAL INSTITUTE AT VIDYANAGAR:

A similar experimentation in integrated approach to teacher education was carried out in Rural Institute, Vidyanagar under Sardar Patel University during sixties. It was very popularly accepted by the students and educationists. But due to certain reasons the integrated courses at the Rural Institute and College of Education, Kurukshetra were discontinued which will be discussed in Chapter - IV of this Study.

REGIONAL COLLEGES OF EDUCATION:

The Government of India decided to establish four Regional Training Colleges to train teachers for the various streams of the higher secondary and multipurpose schools. Each Regional College would be providing courses in basic sciences, technology, agriculture, commerce home science/fine arts and craft education. The teacher training programme in science was intended to meet the shortage of trained and qualified teachers in various branches of science, and to improve the subject and professional competence of existing science teachers in the secondary schools in the country. It had, therefore, been proposed to provide a variety of science programmes, in each of the colleges - a one year teacher training programme for untrained graduate science teachers, an integrated programme of content-cum-pedagogy for secondary school leavers to

give them the competence of a trained science graduate, one year content courses, summer courses and other in-service programmes. The colleges were expected to come into function in July, 1963.

The different features of these colleges were :

1. The student passing out of the science programme of the Regional Colleges should have subject competence in the major subjects equal to the present B.Sc., course. He should also receive pedagogic training equal to the present B.Ed. course. The content and pedagogy courses should be so integrated as to produce maximum beneficial results.

2. Considering the fact that a science teacher in a higher secondary school has generally to teach two major subjects, as well as general science, it is necessary that the science course in the Regional College should include a suitable proportion of majors and supporting minor and ancillary subjects.

3. The integrated knowledge required of the science teacher to teach general science should be presented to him in the form of unified physical and biological science courses in the first two years of the four-year programme so that a good foundation is laid in the fundamental principles for subsequent specialisation in individual subjects. General science being more an approach than content, should be introduced in the methodology of teaching science to complete his teacher training programme.

4. A suitable programme of liberal arts is necessary to give the science teacher a balanced education. This programme should include languages, social sciences, history of science and arts and crafts.

5. A formal course in the mother tongue of the candidate may be difficult to provide in a Regional College which draws students from states having different languages. However, considering that the teacher has to impart instruction in the mother tongue, his competence in the language assumes special importance. It is therefore desirable that students in the Regional College are enabled to improve the knowledge of their mother tongue acquired in the higher secondary school. Thus, there should be adequate provision in the college programme for a study of the Regional Languages with special reference to scientific terminology. This work would be evaluated and the award taken into account in the final result.

6. It is desirable in the interest of the student's academic and intellectual growth to provide sufficient leisure in the college time-table to enable him to pursue individual study and devote time to private discussions. The scheme of studies should, therefore, be flexible enough to provide for such study hours.

7. With a view to enable science teachers to handle ordinary workshop tools and to provide in them full competence in assembling and improving demonstration and laboratory

apparatus, the scheme of courses should afford adequate workshop practice.

8. The load of subjects indicated in the above paragraphs and the standard of attainment which the student is expected to reach, require that the duration of the course should be four years.

9. The scheme of courses should provide for a variety of combinations among the various science subjects, namely physics, chemistry, mathematics, botany and zoology.

10. In addition to the four year integrated programme the colleges should also provide one year content courses (generally referred to as condensed M.Sc; course) in physics, chemistry and biological sciences, and one year teacher training programme equivalent to the B.Ed.degree The one year condensed course could also be offered as four composite summer courses for those teachers who are unable to take the one year course.

11. Priority should, however, be given to the four year integrated programme. The one year teacher training programme which is introduced only as an interim measure, would come to an end when the four year integrated programmes gets into full swing. Scholarships should be available for both the courses. The introduction of the one year condensed content course and the summer courses may if necessary be taken up subsequently.

THE FOUR YEAR COURSE

The four year programme for prospective teachers of science and of technology teachers is based on careful study of the needs of secondary schools in India and of the recommendations of several study committees. It differs from the traditional course in the following ways:

1. It is a coordinated four year course as opposed to a three year degree course plus a one year professional course. The total programme is @nvisaged as a professional programme with the main object of preparing teachers of science and Technical subjects for the secondary schools;

2. General education, professional education, and content are integrated in the four year sequence, professional education starts with psychology in the second year and terminates with "internship" in teaching in the fourth year. Care has been taken to maintain a balance between the time devoted to general education, professional education, and content.

3. Theory and practice are viewed as a single continuing process and not as two separate activities.

Curricular Scheme and Time Allotments:

1. The Curriculum is presented in terms of courses and sequences. The purposes and delimitations of the courses

and sequences are meant to be followed closely while suggestions concerning methods, content, and evaluation are meant to be only suggestive.

2. General education is included in the four year programme to introduce the student to the national heritage, man's creative expression and thought and also to world of recreation. General education however, is viewed as part of the total curriculum and a deeper study of selected subjects if properly handled in as much a liberalising influence, leading to insights into the relationship and unity of knowledge.

3. The curricular schemes and time allotments are presented in four different ways as follows:

   a. Table-3 - Curriculum and Time Allotments for Integrated programmes in Science and in Technology.

   b. Table-4 - Curriculum and Time Allotments for General Education and Professional Education.

   c. Table-5 - Curriculum and Time Allotments for science (Physical Sciences and Biological Science).

   d. Table-10 - Curriculum and time allotments for Technology (Engineering Sciences and engineering Trades).

TABLE - 3

Curriculum and Time Allotments for Integrated Programme In Science and In Technology.

Four Year Integrated Course In Science

COURSE/YEAR	Period per week (Combined Theory and Practice)				TOTAL
	I	II	III	IV	
Content (Major Science)	9	9	12	18	48
(Minor & Ancillary)	16	15(16)*	00	00	31(32)
General Education	18	15	15	10	61
Professional Education	00	03	14	15	32
TOTAL.....	43	45(16)*	41	43	172(32)

* Biological Science Group.

Four Year Integrated Course In Technology

COURSE/YEAR	Period per week (Combined Theory and Practice)				TOTAL
	I	II	III	IV	
Content (Technology)	11	10	14	18	53
Unified Physical Science and Mathematics.	14	13	00	00	27
General Education	18	18	15	10	61
Professional Education	00	03	14	15	32
TOTAL.....	43	44	43	43	173

TABLE - 4

Curriculum and Time Allotments for
General Education and Professional Education.

General Education Programme

COURSE/YEAR	Periods per week (Combined Theory and Practices)				TOTAL
	I	II	III	IV	
English	6	3	3	0	12
Regional Language	2	2	0	0	4
Social Sciences	0	3	2	0	5
Health, Physical Education and Recreation.	10	10	10	10	40
TOTAL.....	18	18	15	10	61

Professional Education Programme

COURSE/YEAR	Periods per week (Combined Theory and Practice).				TOTAL
	I	II	III	IV	
General and Educational Psychology	0	3	3	0	6
Workshop in Teaching	0	0	5	0	5
Foundation and problem of Education	0	0	2	2	4
Special Methods and Student Teaching	0	0	4	2	6
Internship in Teaching	0	0	0	11	11
TOTAL.....	0	3	14	15	32

TABLE - 5

Curriculum and Time Allotment for Science
(Physical Science and Biological Sciences)

Physical Science Group

COURSE/YEAR	Periods per week (Combined Theory and Practice)				TOTAL
	I	II	III	IV	
MAJOR					
Physical Science (Physics & Chemistry) OR (Physics & Mathematics)	9	9	12	18	48
MINOR					
Mathematics	5	4	0	0	9
ANCILLARY					
Biological Science	9	9	0	0	18
Workshop Practice	2	2	0	0	4
TOTAL.....	25	24	12	18	79

Biological Science Group

COURSE/YEAR	Periods per week (Combined Theory and Practice				TOTAL
	I	II	III	IV	
MAJOR					
Biological Sciences	9	9	12	18	48
MINOR					
Physical Sciences (Physics & Chemistry)	9	9	0	0	18
ANCILLARY					
Mathematics	5	3	0	0	8
Physiology & Hygiene	0	2	0	0	2
Workshop Practice	2	2	0	0	4
TOTAL.....	25	25	12	18	80

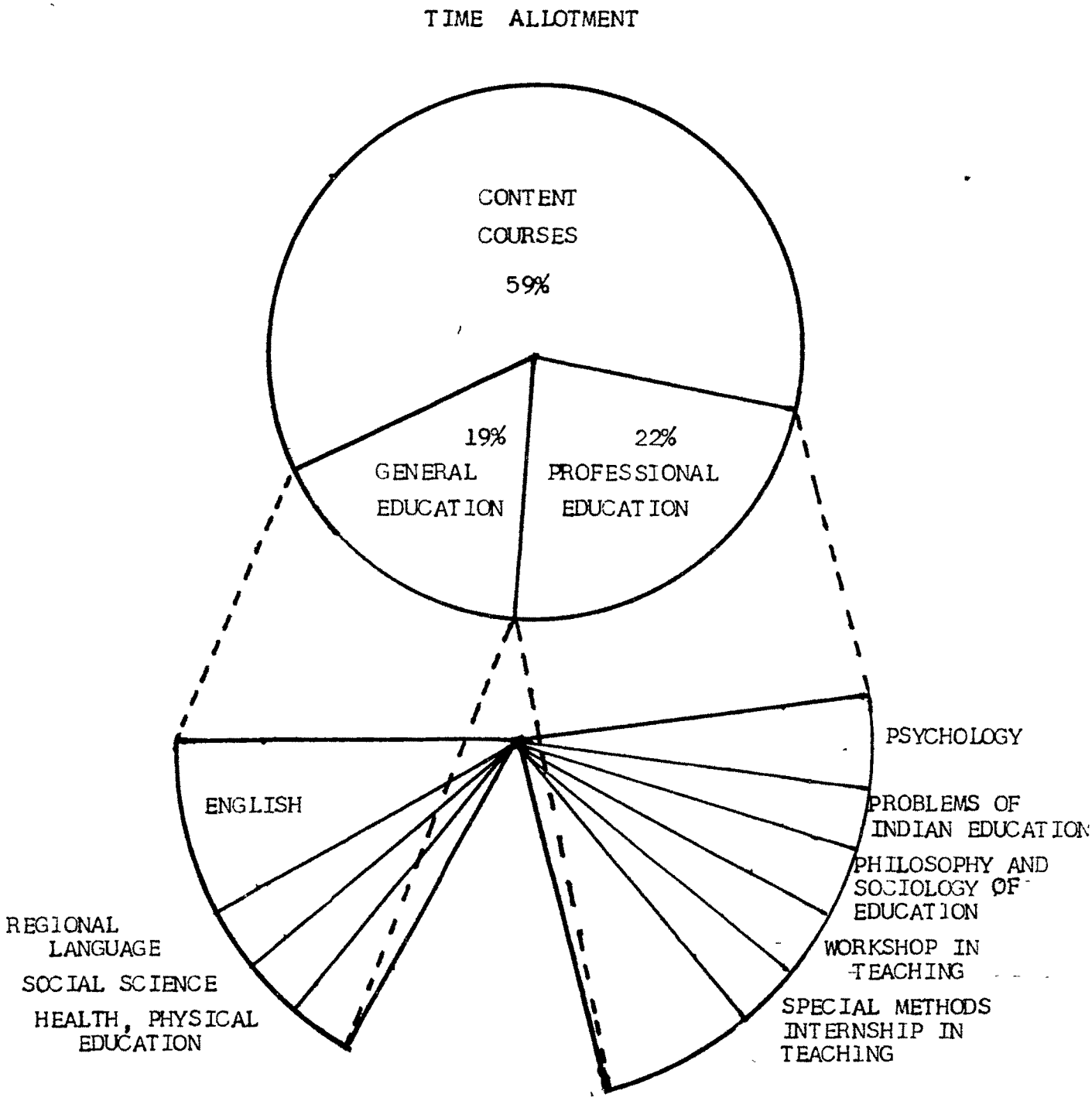

Fig.6

GRAPHICAL REPRESENTATION OF TIME ALLOTMENT FOR CONTENT GENERAL EDUCATION AND PROFESSIONAL EDUCATION IN FOUR YEAR INTEGRATED TEACHER EDUCATION PROGRAMME.

RATIONALE OF THE STUDY

Education for entry into the profession in our modern complex society has involved into an important function for higher education and it is likely to remain so. Today the colleges of education and university deparment of education have bcome the exclusive gateways to the teaching profession. They perform several significant functions of which the most obvious are:

1. To train students (Teacher - Trainees) for professional training.
2. To develop those trainees to an approved competency.

Rehman (1951) says, "The professional preparation of teachers is one of the most important social problems a country is called upon to solve. If schools are to produce youngmen women who possess clear-cut ideals and who have acquired certain desirable abilities and attitudes, the teachers must possess the vision and faith in the possibilities of their work and must be equipped not only with scholarship but with the act of educating their pupils". Kabir (1959) remarked that "The future of a nation depends on the quality of younger generation and this quality depends on the quality of teachers. Unless special measures are adopted to ensure the supply of sufficient number of teachers of requisite quality of teacher will be threatened, not only the standards of education,but in ultimate analysis, the progress, prosperity and welfare of the nation".

It is quite apparent from the opinions above that there has always been a quest for quality in education which inturn warrants a quality in teacher education. Only a careful man-power planning in education and a quality based teacher education programme can meet the challenges of unprecedented fnflux in the school going population in India during the recent years. Only better pre-service and in-service teacher education programme is a solution to this problem. Most of the teacher education programme are of one year duration leading to B.Ed./B.T. degree. The course curricula consists of theory paper, compulsory or elective, practice teaching, field work by the way of work experience (S.U.P.W.) and community living (Community Work), extra-curricular activities or games. The teacher-trainees are trained in the methodologies of one or two subjects.

The sixties proved to be a stage of flux and experimentation in teacher education. Some attempts of collaboration and integration were made. In 1961 Ministry of Education established NCERT with an aim to devise improved techniques of training and building competent professional leadership. A new thinking developed in the field of teacher education to make B.Ed.course an integral part of the graduate degree programme. Instead of B.A., B.Sc., or B.Com. degree and B.Ed. degree, taken separately, it was proposed to have a four year degree course programme at the end of which a student will be B.A., B.Ed.; B.Sc., B.Ed.; B.Com., B.Ed.; degree depending on his subject matter specialisation.

This degree is taken in four years after 12 year of Higher Secondary Education (Now of Course after +2 level). NCERT established Regional Colleges of Education at Ajmer, Bhubaneshwar, Mysore in 1963-64 and at Bhopal in 1964-65. Concurrent and integrated programmes of content-cum-methodology were instituted in those colleges for proper orientation and fuller preparation of teachers. This experimentation aimed at producing better and more logical model of teacher education than the prevailing one year pedagogical training after graduation in a degree college. Similar experiments were also made in Kurukshetra University and Sardar Patel University in Vidyanagar. Before the experiment could take its roots and schools could feel the new training programme in full, review committees (viz.Nag Chowdhury Committee, Kappor Committee (1974), Mathur Committee (1978 etc.) were set up in regular intervals. As a result of the recommendation of one of such committees the four year integrated courses in Regional Colleges of Education were discontinued. Similar were the cases with Kurukshetra University and S.P.University. But after a few years the four year integrated courses in the Regional College of Education have been restarted and continuing till today.

There are certain normal expectation from the teachers in India. They have to translate the national goals into educational actions. They have to communicate to their pupils the importance of and the feeling for national integration or committment to the excellence in standards of work and action and concern for society. The National Commission of Teachers (1985) expects from such

'Teachers' that "He cannot do so unless he is committed to these values. At a global level he has to have an understanding and appreciation of human predicament, population explosion, environmental pollution, the threat of a nuclear holocaust and the quest for world peace. Nothing is more important in educating teachers than to imbibe the right attitude and values, besides being proficient in the skills related to teaching".

This training of teachers demands our urgent attention. The Commission observes that "What obtains now in the majority of our training colleges and training institutions are woefully inadequate in the context of changing needs of India today". Different Commission on education in India have criticised the present system of professional training of teachers from following stand points:

- Inadequacy of time in teaching practice.
- Too little weightage given to practice in assessing the student's performance.
- Programme is short and crowded with professional subjects studies that a precious little is done to brush up the knowledge of subject matter.
- Inadequacy and ineffectiveness of the present 9 months B.Ed. course to develop in the pupil teachers whole some interest in and attitude to children, to instruction and to teaching profession.

Chaurasia (1967), Desai (1971), Mukerjee (1977), Adaval (1984), and Shankar (1984) have confirmed these lacunae in the prevailing B.Ed. programme. National Commission on teachers (1985) observes that, "At this stage we only wish to invite attention to the fact that the unsatisfactory teacher preparation is a problem of long standing".

Though an alternative model of teacher education i.e.the four year integrated teacher education programme is preferred by most educationists in our country, it has stood several times the serious acid tests during last twenty five years. While Baroda study group (1964) recommended that a four year degree programme in teacher education may set up in phased manner which may include the study of subject matter as well as professional preparation, the Education Commission (1966) advocated for a total closure of such programme. All India Association of Training Colleges in June, 1964 recommended for integrated course, Nag Chowdhury Committee was in favour of immediate discontinuation of the course. Mathur Committee (1970) suggested for four year course in language. Kappor Committee (1974) observed that the RCE products are superior in all four aspects by (1) class teaching (2) knowledge of content (3) co-curricular activities and (4) professional attitude and recommended for the improvement of the course. The National Commission on Teachers (1985) suggests that "To begin with we may have an integrated four year programme which should be developed carefully taking into account the experience of the four year integrated courses now available in the Regional Colleges of Education of the NCERT at one or two other centres".

Singh (1988) reported "Eversince the begining of the integrated teacher training programme in the country, a kind of controversy prevailed everywhere about the suitability, validity and superiority of these courses over the traditional one".

Certain questions in connection with the four year integrated course yet remain to be answered.

- What were the original objectives behind the starting of the four year integrated teacher education programme in Regional Colleges of Education and at other places ?
- Were these objectives sacrificed, modified or diluted with the passage of time ?
- Was the integration of content with pedagogy which was the corner stone for these courses achieved and what were the techniques contemplated for achieving this integration ? To what extent did they prove to be useful ?
- Has this integration been reflected in the curriculum of four year integrated courses as distinct from the traditional preparation of teachers in other programmes ?
- Are these four year integrated course expensive compared to other systems of preparing teachers ?
- How were the products of these courses received outside on completion of their study ? Were they treated at par in qualification and in matter of employment and in further studies.

There are few studies in this area. Most of these studies are in the form of reports of different committees and Commissions, set up from time to time by the Government or the NCERT.

Research studies which shall establish empirically the superior otherwise of the products, cost involved and indepth analysis of the state of flux are lacking.

Das and Jangira (1987) while writing the trend report for third Survey of Educational Research observed "There is no single study available on the evaluation of the alternate model of teacher education as a whole in the terms of effectiveness reflected in teacher effectiveness in the institution where they secure teaching position after completion of their training without this, an organic model of teacher education has to remain a dream of reality. For example, two models of teacher education, one comprising of academic courses followed by a professional course and the other envisaging integrated academic and professional courses have been used. There is no research available about the effectiveness of the teachers emerging from the two models".

They further remarked "The approach to the transaction of the teacher education curriculum (Competence based teacher education, performance based teacher education, modular approach, etc; needs to be researched. This whole area has remained untouched by the researchers in teacher education".

The present study "A study of Four Year Integrated Teacher Education Programme in India" will attempt to find some answers to question raised above. That is the precise reason which has prompted the researcher to undertake the study.

STATEMENT OF THE PROBLEM

" A STUDY OF FOUR YEAR INTEGRATED TEACHER EDUCATION PROGRAMME IN INDIA "