2.1 A Brief History of teacher education in India

2.1.1 Early days

In olden days India was famous as the seat of learning. But very little is known about the pattern of teacher training imparted in those days. Priests were the first teachers who enjoyed the monopoly of teaching and the highest status in the society. The members of this community - Brahmans were required to gain special knowledge, skills and lead a strictly disciplined life. Although there was no formal training course for the teachers he was subjected to the constant test in certain competencies such as ability to explain, expand, reinterpret in the light of own experiences in open 'parishads'. The recruitment of teachers was done through the 'monitorial system'. The senior students were required to take charge of the younger pupils. These student teachers were appointed teachers in their own right after the attainment of proven ability and adequate maturity. Such teachers enjoyed great reputation for their scholarship and integrated knowledge with the total personality, high moral qualities and spiritual experience. Later on there
was deterioration in the standards of the teaching profession. During the medieval times the teachers were considered a respectable class (Pandits and Ulamas) and they devoted their entire life for teaching and learning.

2.1.2 Modern system of Teacher Education

The teacher had a respectable place in the society up to the advent of the British rule in India. During the early days of the East India Company rule in India, the missionaries played a very important role in the training of teachers. The first normal school was set up in Bengal in 1793. In Madras Dr. Andrew Bell started the experiment of monitorial system which formed the basis of teacher training programme for the time being. As early as 1819 the Calcutta School Society started the training of teachers for indigenous schools. In Bombay Elphinstone recognised the importance of teacher training. By 1826, twenty four teachers were trained by the Native Education Society, Bombay. Training included knowledge of contents, methods of teaching and the practice teaching. In the same year arrangements for the establishment of a training school for the superior teachers was made in Madras and the selection of teachers was made on the communal basis - Hindu and Muslim. They were paid stipend of Rs.15/- per month. The candidate's age was approximately 18 years.
A normal school was started under the government management. It catered to the training of district-level teachers. In Calcutta, Mrs. Wilson founded a central school under the auspices of Ladies Society for Native female education which was meant for the training of women teachers, who were paid stipends and assured employment in future. In 1935, W. Adam converted the vernacular departments of English schools into normal schools for the training of teachers of indigenous schools and also proposed a scheme of inservice training of teachers for the first time in the history of teacher education. In 1836, a committee was set up to study measures for improving native education. In 1847, Bombay had its first normal school and two years later in Calcutta by A. Duff, with a model school attached. By the middle of the 19th century all the three Presidency towns had established normal schools for the training of teachers and their courses mainly confined to the content course as the methodology.

2.1.3 The Later half of the 19th century

During the second half of the 19th century some significant changes were made in the educational pattern in India due to the recommendations made by Wood's Despatch and the Hunter Commission Report. In 1851, the New Poona College started Normal Department for the training of teachers.
In 1852, Agra and Surat also started training Departments. Woods, Despatch emphasised the importance of training of teachers and suggested that the promising pupil teachers be selected and be given stipends when sent to the normal schools and at the completion of the course of teacher training they were given a certificate and appointments as school master. As a result of this recommendation the normal schools were started all over the country and in Bengal, inservice education was started. In 1856, some schools were established to train vernacular teacher in Hoogly, Dacca, Gauhati, Vellore and Calcutta.

In 1882, the Indian Education Commission emphasised the secondary education. The training of teachers was classified under two heads - training of teachers for English teaching schools and the teachers for the vernacular schools and both courses were run concurrently in the same institution. In 1882, there were only two training colleges at Madras and Lahore and 106 normal schools. The Hunter Commission emphasised the importance of adequate teacher training facilities and laid the introduction of principles and practices of teaching, examination and permanent employment in a school. In 1886, the Madras Normal School was recognised as a Teachers College affiliated to Madras University for Diploma in Licentiate
in Teaching (D.L.T.). This became a revolutionary change in the field of teacher education in India. In Central Provinces 87% of the teachers were trained in 1885. Between 1887 and 1892 training institutions for teachers of middle, primary and high schools began to be started. By 1892 there were 116 teacher training institutions and out of this 3 were of collegiate level at Lahore, Madras and Nagapur. Bombay instituted S.T.C. (Secondary Teacher Certificate) examination in 1899 which consists of theory papers (a) History of Education and General Methods, (b) Special methods, school organisation and Hygiene. By the end of the 19th century there was a visible tendency to have a separate training institutions for the primary and secondary schools.

2.1.4 The Early part of the 20th century

At the beginning of the 20th century there were six training colleges in India at Madras, Rajahmundry, Kurseong, Allahabad, Lahore and Jabalpur. There were 50 secondary teacher training schools and 54 primary teachers schools. All these training institutions had residential facilities and also had practising or experimental schools attached to them. The curriculum was of wider variety. The aim was to give the trainee an allround preparation for his future work of teaching - his knowledge of subjects,
teaching art, skills required and the actual classroom experience. Retraining arrangement were also made for making the old trained teachers acquainted with the latest developments.

Government of India resolution (1913) pointed out the inadequacy of the teaching staff and the training facilities and emphasised that the teacher training both at the primary and the secondary levels needed improvement. The Calcutta University Commission (1917-19) pointed out the inadequacy of teacher training institutions and the quality of teachers they produce, and suggested that the aim of higher teacher training should make teachers to understand the principles of teaching, school organisation, physical education and the management of educational machinery in the modern age. This Commission recommended for the establishment of the Departments of education in the Universities and each Department should have a Professor and a number of assistants. This has suggested the three requirements of teacher education - subject matter, practical training and theoretical knowledge.

After 1921, education was transferred to the provinces by the Centre. Mysore instituted the faculty of education in 1925. At Maga in Panjab project method for the training
of teachers was introduced manual work like wood work, weaving, bamboo work and textile printing were also introduced. During 1930, thirteen out of eighteen Universities established the Faculty of Education. The New degree of B.Ed. was instituted by Andhra University in 1932. Bombay was the first to start P.G. course in Education (M.Ed.) in 1936. The Wood Report (1939) suggested to examine the conditions of teacher education, and the programme of teacher training should concern itself with the special 'way' of education as well as the technical 'knowhow' of teaching. The report proposed for the establishment of a vocational teachers colleges to prepare teachers for vocational courses. Mahatma Gandhi suggested Basic education. In 1941, Tilak College of Education and Vidya Bhavan Teacher's college at Udaipur were started. In the same year Bombay instituted a doctorate degree in Education.

In 1944 Sargent Committee planned a phased programme of teacher education for the next 40 years. The University Commission (1948-49) emphasised that the theory work should not be divorced from practice. In 1950, the first conference of teacher training college was held in Bombay and it created a platform for the exchange of views, sharing of problems and seek solutions through joint efforts. 1951, the second conference of training colleges held in Mysore replaced the
term 'Education' for training. The secondary education commission (1952-53) pointed out the poor quality of teaching and recommended the adoption of new technology of evaluation, re-orientation courses and suggested that were capable intelligent and creative individuals should be attracted to the teaching profession. In the second five year plan Rs.17 crores were earmarked for the training of teachers.

The Indian Education Commission (1964-66) realised the importance of professional preparation of teachers for qualitative improvement of education. It recommended that adequate financial provision should be made for teacher education both at State and national level. No fees had to be charged and trainees to be given adequate scholarship to attract first and second class students. The course of the teacher training have to be revised in the light of the fundamental objectives of preparing teachers for their varied responsibilities in an evolving system of education. The quality of training institutions should also be improved and inservice and teacher education facilities should be increased.

The establishment of four Regional colleges at Ajmeer, Bhubaneswar, Bhopal and Mysore was another major event in the history of teacher education in India. These colleges were meant to integrate the general and professional courses
in education leading to the B.Sc., B.Ed. or B.A.B.Ed. degrees. These colleges were started to meet the demands of teachers of multipurpose schools in the subjects like Agriculture, Science and Commerce. Kurukshetra University started 4 year integrated course. The N.C.E.R.T. established a Centre for Advanced Studies in Education which was set up at M.S.University, Baroda and a Centre for Advanced Research was also set up by the U.G.C. During 1970 the N.C.E.R.T. and the U.G.C. joined hands to improve the quality and standard of teacher education. The "Teacher Education Curriculum - A Framework" was published by N.C.E.R.T. in 1978. 1980's indicated the need for complete overhaul of teacher education. The programme of Action (POA) of the National Policy on Education (NPE), 1986 has called for a complete overhaul of the system of teacher education. Teachers must be prepared and well equipped to impart man-making education to students, children and youth.

2.1.5 Correspondence Course

The teacher education through correspondence started only a few years ago, as the need was felt to clear a large number of untrained but experienced teachers. The minimum number of years of service required for admission into such courses required from 3 to 5 years. The theory part is expected to be covered through intensive self study, reading
correspondence lessons and answering questions through correspondence. Since they are the teachers already in-service, regular class teaching in two subject areas are thoroughly checked and supervised and suggestions for improvement given. The heads of such schools or any senior teacher are deputed to do the job of supervision in accordance with the guidelines provided by the training college. For local trainees the training college staff are in the field to supervise and guide. The lesson planning is expected to be very thorough, criticism lessons conducted more carefully. The assessment procedure is strictly the same as in the regular course. The content programmes in summer vacation covers up part of the theory through lectures, discussions, tutorials and assignments and through extensive practical work.

2.1.6 In-service Education of Teachers

The introduction of in-service education of teachers is a notable feature in teacher education. The secondary education commission observed that "However, excellent the programme of teacher training may be, it does not by itself produces an excellent teacher. It can only engender the knowledge, skills and attitudes which will enable the teacher to begin his task with a reasonable degree of confidence and with minimum amount of experience. Increased
efficiency will come through experience critically analysed
through individual and group effort at improvement. The
teacher training institutions should accept its responsi­
bility for assisting in this in-service stage of teacher
training."

As a result of the above recommendation, the Indian
Ministry of Education has set up a new Department of exten­
sion service in a number of training colleges during the
second plan period. The activities of the extension
departments can be grouped as (i) week-end, short-term and
long-term courses, (ii) workshops, seminars and group
discussions, (iii) educational weeks and exhibitions,
(iv) advisory and guidance seminars, (v) library service,
(vi) audio-visual aids service and (vii) publications.

2.2 A brief history of teacher education in Karnataka
State

The new Mysore State came into existence on 1st
November 1956, which comprised the five integrated areas
as follows:

2.2.1 Ex-Mysore State consisting of nine districts
2.2.2 Bombay-Karnatak area consisting of four
districts
2.2.3 Madras-Karnatak area consisting of one district
2.2.4 Hyderabad Karnatak area consisting of three districts

2.2.5 Coorg area consisting of one district.

2.2.1 Ex-Mysore State

Above stated five integrated areas had their own rules, regulations and particulars related to the teacher education. The new State thought of evolving common procedure of education and uniform rules for administrative convenience. The new government brought uniformity in some respect through appointing committee called "the State Education Integration Advisory Committee" which consisted experts and educationists.

Prior to 1914 there was no provision in the state for training graduates. It was the usual practice to depute two selected graduates to the Teacher College Saidapet, Madras for the L.T. course. State government had established a graduate training class in normal school at Mysore. The University of Mysore established B.T. course degree in the year 1925. This graduate training became a part of the Maharaja College, Mysore, till 1947, when government established a separate teachers' college with a practising school attached to it. The establishment of the faculty of education in the year 1952, Mysore University has become another important event in the history
of teacher education. In the year 1957 the Teachers' College of Mysore started the Evening B.Ed.course. The M.Ed. course by thesis was also started one year earlier. Both government and private managements started many B.Ed. colleges after that.

2.2.2 Bombay-Karnatak area

Prior to 1881-82 newly appointed teachers expected to receive training under the supervision of experienced headmasters. The first grade high schools discharged the function of training colleges. A secondary school teachers certificate examination was started in the year 1891-92. Every new master in government high school was required to pass the examination before he was confirmed. Secondary school Teachers Training College started in Bombay in the year 1906, graduates were selected for training and stipends were given to them. This was the only college to cater to the needs of Bombay State. As the needs for the trained teachers for secondary schools increased, new training colleges were started at Kolhapur, Poona and Ahmedabad. However, there was no training college in Ex-Bombay State to meet the needs of Kannada teachers. So the first government college was started at Belgaum in 1939 and it was affiliated to Bombay University till Karnatak University was started at Dharwar, in 1949. Karnatak University
started its own constituent college of education in 1962. In 1965, another government college was started at Jamkhandi and affiliated to Karnatak University, Dharwar. Later on many private managements have started the colleges of education.

2.2.3 Madras-Karnatak area

The Madras government organised normal schools in each district. St. Anne's Training College of Mangalore started under the management of Apostolic Carmel in 1943, and trained both undergraduate and graduate women teachers. In the beginning it was affiliated to Madras University, and later on to the Mysore University and at present to the Mangalore University. The government of Madras started a government training college at Mangalore in 1950 for Kannada speaking graduates and it was affiliated to Madras University in the beginning, later on to the Mysore University and at present to the Mangalore University. Afterwards private managements had come forward to start secondary teacher education colleges in this area.

2.2.4 Hyderabad-Karnatak area

Gulbarga, Raichur and Bidar were a part of Hyderabad State and this area was neglected in respect of education. It began to improve after the Police Action in 1951. There
was only one secondary teacher basic training institution at Gulbarga and in 1956 three more institutions were started in each district. The government B.Ed. training college was started at Gulbarga in 1955, to train graduates for high schools and it was affiliated to Osmania University, Hyderabad, in the beginning, later on to the Karnatak University and at present to the Gulbarga University. Afterwards private managements started their own teachers colleges.

2.2.5 Coorg Area

Coorg was an independent state since long. When the new Mysore State was formed, it was merged with the Mysore division as a district. A normal class was maintained at Mercera as far back as 1881, for the training of Canarese teachers. The educational system of Canara was influenced by the Madras system and after the integration it was brought in line with the other districts of Mysore.

2.3 System of Secondary Teacher Education

It is well said, "As is the school, so is the nation." As is the teacher, so is the school. Teaching profession is the mother of all professions. A teacher may be of any level, prepares the future citizen, professionals, technicians, skilled workers, medical professionals, engineers, artists
and so on. He is everywhere in the educational process. His philosophy, his methods, his knowledge, integrity and above all, his character are the backbone of the future progress of society and nation. His inefficiency can result in the downfall of the nation, more and more the elevated his knowledge would be, more and more the nation and society will attain the achievements and success in every field of national life and that is why the teacher is vital to any nation and its educational system.

From this point of view, the teacher education programme assumes greater emphasis. Teacher education is a complex activity. The success of any educational system depends upon teachers, and the quality of teachers depends upon the teacher education programme. Shukla (1978) has very aptly remarked that the destiny of classrooms is being shaped in the departments of education and teacher education institutions. As the Kothari education commission started its report with the popular lines that 'Destiny of India is being shaped in her classrooms', the same holds good in case of teacher education. The programme of pre-service teacher education serves as an induction of a person in the teaching profession. It is learning for teaching. The colleges of education through their varied programmes which move around the pre-determined syllabus of the
University to which they are affiliated, prepare the teachers for secondary schools. Competency based teacher education gives emphasis on pragmatism in determining the content of teacher education programme. Its potential for improvement through research and its systematic approach to preparing teachers is significant. C.A.B.E. consider what teachers should know, be able to do and to accomplish, with graduation requirements based on such outcomes. Requirements are described as what the student must demonstrate for successful completion of the programme. There are five classes of competencies - first, cognitive based competencies defines knowledge and intellectual skills and abilities that are expected by the learner. Second are the performance based competencies. The learner demonstrates that he or she can do something rather than simply know something. Thirdly, it refers to consequencies based competencies. For example this is assessed by examining the achievements of pupils being taught. Fourth it is effective. This defines expected attitudes and values tend to resist the specificity and are more difficult to assess than the first three types. Fifth, it is exploratory. The characteristics of C.A.B.E. is (i) instruction is individualised and personalised, (ii) the learning experience of student is guided by feedback, (iii) the programme as a whole is systematic, (iv) the emphasis on
exit not on entrance requirements and (v) instruction is modularised.

Teacher education generally comprise general education, specific subject mastery, strong psychological background (including educational psychology) and good command of instructional methods and techniques in the broad sense of these terms (Dehandshure, G. 1987).

Thus the components of teacher education can be categorised under the headings of general education, specific subject mastery for secondary school teachers, psychological and educational theory and practice, practice teaching and co-curricular activities.

2.3.1 General Education

The required general education courses of prospective teachers closely resembles that of their classmates with the vocational goals. It is also referred to as academic foundations, core courses or liberal arts which includes introductory courses from the humanities, social sciences, natural sciences and mathematics with the common requirements that students take representative courses from several fields and several courses from a selected field. This is understood as the set of knowledge, skills and effective
and psychomotor behaviour learned to contribute to a harmonious development of an individual in a given environment. It is acquisition of meaningful knowledge, principles and methods in the domains of health science, literature, aesthetic, philosophical, politics and ethics. It includes the development of higher cognitive skills of ability to communicate to obtain information to work independently and in groups to socialise and so on. It is also understanding of ways of life of others. Its level should be high for all.

2.3.2 Specific subject mastery

The secondary school teachers should have mastery in two of the school subjects. It consists of a set number of practice teaching lessons in two subjects usually totalling to 30 lessons. Other practical aspects consists of peer groups practice lessons, preparing teaching aids, charts and models which can be used in the classroom situation. The practice teaching lessons are taken in practice teaching, in secondary schools selected by the college of education for the purpose.

Psychology and Education studies: Knowledge of the laws of behaviours of learning, processes of development and of the way of guiding it is a prerequisite of education.
Further an active introduction to experimental psychology should help understanding of learning processes and prepare teachers to be critical consumers of psychological research data. Cultural anthropology will help in interpreting socially bound behaviour. Introduction to group dynamics should also be a part of the teacher training. It must be emphasised that the study of psychology will influence and enlighten teaching behaviour only if it is grouped in personal experience and in participation in situations in which the individual is involved and in which he/she feels concerned. The foundation of education can be structured in three domains: (i) foundations of education integrating philosophy, history, sociology and comparative education, (ii) empirical research and development research methods, measurement evaluation, (iii) applied education—teaching methods, technology and internship.

As other practices work, the pupil teachers are required to take part or organise the various co-curricular activities in the college and out of the college and these activities are generally classified—(i) Academic activities such as debates, discussions, lectures by eminent persons, symposia, seminars, group discussions, workshops, college magazines etc, (ii) cultural activities such as cultural activities such as cultural programmes like music, dance,
drama, songs, group singing, group dance etc., (iii) physical activities such as physical exercises, yogasanas, games and sports etc., (iv) social activities such as social science camps, visits to village or slums, scouts and guides, adult education programme, annual social gathering, excursions, visits to school etc. All such activities which have one or many educational values and meant for.

1) upholding the talents and capacities in a student which would be useful to him in future;

2) making one to realise the potential he/she possesses required for a job;

3) providing an opportunity to participate, organise, arrange and manage the activities, which they would be required to do when they will join any school;

4) Removing the feeling of hesitation, shyness in taking lead or exhibiting his abilities and interests in various activities, making him/her hold enough to manifest his/her talents to the benefit of the children.

Competency based teacher education is a reaction against the vague programmes, specifies the competencies to be demonstrated by the student and make explicit the criteria to be applied in assessing the students' competencies. The word competency is taken in the broad sense of knowledge, attitudes, skills and behaviours that facilitate intellectual, social, emotional and physical growth in children.
2.3.3 Practice teaching or student teaching

It is one of the important programmes of teacher education. It is one of a variety of terms applied to that part of a student teachers' professional training that involves the student in trying to teach pupils. Practice teaching normally takes place in schools and although arrangements are sometimes made for the students to teach pupils in colleges. In other terms it is used as school experience, field experience and practices. Practice teaching forms a major component in the course of training. The other components are taught courses in a variety of theoretical studies. Student teachers engaged in practice teaching spend several weeks in schools practising to teach pupils. They are guided by tutors in the training institutions and by co-operating teachers. The purpose of student teaching is not to 'tell' students what to do but rather help them learn what their problems are, to isolate and analyse these, and find the best solution only when student teachers comprehend their problems and are they able to start work toward solving them. The objectives of student teaching are:

i) the development in student teachers of the general ability to translate theory into practice, specially in the area of teaching methodology.

ii) objectives relating to the development of a fuller and better understanding by student teachers of the psychology of school children.
iii) objectives relating to the development in student teachers of a complete as possible understanding of the varied roles that they will be called upon to assume when they become regular teachers by providing them with a variety of experiences related to such roles.

iv) objectives relating to the development in student teachers of the necessary degree of self-confidence, initiative and resourcefulness to do a creative job of teaching.

v) objectives relating to the development in student teachers of a more realistic view of their tasks as teachers by familiarising them with the actual conditions and problems in the field.

At the teachers' college Columbia University, U.S.A., the student teachers as a result of laboratory experiences in relation to the Internship-in-Teaching are expected to show growth in (i) ability to assume a teacher's role in relation to others - a) with children, b) with adults, (ii) ability to perform as a teacher in classroom - a) background, b) guiding learning, c) classroom management and (iii) ability to assume a professional role - a) professional responsibilities, b) the professional growth. Demonstration for the trainees in the beginning will have to be done by the teacher educators and school teachers. The general practice in most of the colleges in India about the kinds of lessons demonstrated is that one or two lessons
in each subject are demonstrated in the beginning of the year. This is obviously very inadequate. A minimum six lessons is necessary from the point of view of the division of subject and the age range. The teacher educators should make use of film-strips or films during this programme. It is essential that the trainees be involved or they co-operate in the demonstration lessons from the beginning to the end.

The quality of student teaching experience depends heavily on the professional abilities and attitudes of the supervising teacher who has a day to day working relationship with student teachers. For many years co-operating teachers have been said by some to be key figures in teacher education programme and this has been borne out by a growing body of research indicating the strength of their influence for good and bad on student teachers attitudes and teaching. A number of investigators have indicated that the attitude of student teachers tend to move during in the direction of those held by their co-operating teachers. They alert teacher education programme to the need to select only those co-operating teachers who have positive attitudes towards children, enlightened educational ideas and a commitment to teaching. Switzer (1976) survey of student teachers perception of supervising
teachers level of helpfulness in sixty specific behaviours which could be grouped into six areas—supervisory technique, professional attitudes, pedagogical skills, planning skills, knowledge of children and human relation skills. He found that student teachers felt they had received more help from their supervisory teachers in the area of knowledge of children.

Clinical supervision: It has been defined as that approach practicum supervision which draws its data from first hand observation of actual teaching events and involved face to face interaction between the supervisor and teacher in the analysis of teaching behaviour and activity for instructional movement. The term clinical refers to close supervision in a one to one relationship and denotes that the supervisor will be involved in face to face encounters with student teachers as they discuss classroom events in which they have both participated, one as an observer, other as a teacher. In this system, the supervisor has to get to know a lot about an individual students' attitude teaching strengths, weakness and anxieties. So that an individual programme of supervision suited to the needs of the student may be devised. In the clinical supervision process at least five stages can be identified.
1) The supervisor and the student teacher discuss teaching plans, delineate areas to be focused on during observation and ways in which observation will be recorded.

2) The classroom observation phase, the supervisor carries out observation in the classroom and records data ready to discuss teaching issues with student.

3) The analysis and strategy phase, the supervisor and student separately reflect upon what has happened during teaching and decide what issues could profitably be raised in discussions, particularly the strength upon which the student should build. This analysis phase is the heart of the clinical supervision process.

4) Post observation conference during which data are feedback to the student and discussions are made about future teaching.

5) In the post conference analysis, both the supervisor and the student reflect upon their professional behaviour and especially the supervision process itself. It is important that both realise the need to develop self analysis skills and to consider how successful each in being contributing to a productive supervisor-student relationship. Once the sequence has been worked through the cycle of supervision recommences with renewal discussions to plan teaching by the student and observation by the supervisor.
Supervision of criticism lesson: The teacher training institutions may require the student teacher to deliver a criticism lesson in each of his teaching subjects. These criticism lessons may be arranged after the student teacher has taught about twenty lessons in each of his and is thus near finishing/completing the practical teaching requirement of the teacher education programme. The purpose of arranging the criticism lesson is three-fold.

1) To provide an opportunity to student teacher to plan and execute his lessons in the class without any guidance from the supervisor of the practice teaching and thus to show potentialities as a skilled and effective teacher of his subject.

2) To provide an opportunity for clinical supervision of the student teacher's teaching by a group of teachers and/or students, and

3) To assess the attainment of various teaching skills and abilities by the student teacher.

The programme of student teaching has developed the closer co-operative relationship between teacher education institutions and schools.
The practice teaching programme is conducted in the practice teaching secondary schools selected by the colleges of education for the purpose. Regarding the organisation of practice teaching there are two patterns - one the block practice teaching and the other the practice of conducting lessons, spread throughout the session in a stray manner. In certain Universities, there is a provision of internship, instead of practice teaching, where the pupil teacher is expected not only to take a few lessons, but also has to participate in school activities, maintaining records, do library services, participate in community work etc. The duration of such internship programme differs from University to University from five weeks to eight weeks.

2.3.4 Methods of teaching

The other important aspect of the college of education is the method of teaching in the colleges. Usually the lecture method is adopted by the lecturers. Even the modern methods such as project method, problem solving method, socialised and group procedures, micro-teaching, simulations, team teaching, brain storming, laboratory and practical methods, assignment methods, programmed learning, individualised instruction etc. are taught by lecturers.
2.3.5 Evaluation of teacher education

The important aspect of teacher education programme is the evaluation of pupil teachers. In most of the Universities the pupil teachers are evaluated in two ways – one external evaluation comprising examination in theory papers and final practical lessons each in one or two school subjects offered by the candidate. The other, internal assessment comprising routine practice lessons, practical assignments related to theory papers, psychological experiments, school study, case study, essays on certain educational topics, preparation of teaching aids, participation in various co-curricular activities, preparing scrap books etc. It has been observed that weightage to external examination is more than to internal assessment and weightage to theoretical aspect is more than to practical aspects.

2.4 Innovations in Teacher Education

The development of teacher education in India has not shown significant improvement except in number of teacher training institutions. There has been a growing concern among educational administrators and planners for reshaping teacher education programme to make it more effective and meaningful. Qualitative improvements are required both in theoretical and practical aspects of the programme. The teacher training institutions will have to turn out effective
teachers in order to improve the quality of teaching in schools. According to Allen (1970, in Singh, L.C.1979), teaching consists of acts or behaviour. It is conceded that attitudes, personality, intelligence and many other factors effect the success of a teacher. Buch (1974, in Singh, L.C. 1979) has suggested that serious concerted attempts will have to be made in research on teaching in general and teacher behaviour in particular, if the desired objectives of teaching are to be realised. He has further emphasized the need to conduct studies in modification of classroom behaviour of teachers. Thus experimental studies are to be carried out in order to examine the hypothesis generated in the attempt to study the potentiality of different techniques, like classroom interaction analysis, individualising instruction, simulated teaching, competency/performance based teacher education, systems approach, programmed instruction, micro-teaching, teaching modules etc., on various characteristics and classroom behaviour of teachers. Rather it has become imperative for the teacher educators to introduce the necessary changes in objectives, contents, methodology, organizational set up and evolutionary process in teacher education with a view to prepare the prospective teachers fully competent and professionally equipped to face the new challenges.
Innovations in teacher education can be categorised into five categories.

1. To help teacher trainees to improve their teaching skills. This category includes some of the innovations, such as - (a) classroom interaction analysis, (b) micro-teaching, (c) simulations (Cruickshank Teaching Problem Laboratory) - (i) role play, (ii) socio-drama and (iii) In basket technique; (d) team learning etc.

2. To help teacher trainees to use different techniques to achieve different objectives.

This category includes some of the innovations, such as (a) Brain storming, (b) Gaming and simulation.

3. To help teacher trainees to provide individualised instruction.

This category includes some of the innovations such as (a) circle of knowledge, (b) contract plan and (c) programmed instruction.

4. To help teacher trainees to design instructional system.

This category includes systems approach.
5. Competency/performance based teacher education.

Investigator has discussed each innovation as follows:

1. To help teacher trainees to improve their teaching skills.

(a) Classroom interaction analysis:

Interaction analysis refers to any technique which is adopted for studying the chain of classroom events in such a way that each event is taken into consideration. It refers not only to one system but too many systems for coding spontaneous verbal communication, arranging data into a useful display and analysing the results in order to study patterns of teaching and learning. It is closely associated with the name of Flanders (1961) who originally designed the system. His system mainly is concerned with verbal behaviour in the classroom and is based on the assumption that the verbal behaviour is an adequate sample of the teachers total behaviour. Flanders system is category system consisting of ten categories. The technique of interaction analysis tends itself to general use in the preparation of student teacher or inservice teachers who can have the record of their lessons as coded of an audio-tape and then analyse them in terms of interaction metrics. Flanders system has
classified all the verbal behaviour in the classroom into two main categories - Teachers' talk and the Students' talk. The teachers' talk has further been classified under two heads - direct and indirect talk. Indirect talk has further been classified under various categories - accepting, feeling, praising or encouraging and questioning. Similarly direct talk has further been classified under three categories - lecturing, directing and criticising. The student talk is divided into two classes - responding and initiatory talk. Apart from these categories we have confusion silence.

Table No.3.1 Flanders' Interaction Analysis Categories (FIAC)

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<th>Teacher talk</th>
<th>Response</th>
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<td>1. <strong>Accepts feeling:</strong> Accepts and clarifies an aptitude or the feeling tone of a pupil in a non-threatening manner. Feeling may be positive or negative. Predicting and recalling feelings are included.</td>
<td></td>
</tr>
<tr>
<td>2. <strong>Praises or encourages:</strong> Praises or encourages pupils action or behaviour. Jokes that release tension, but not at the expense of another individual, nodding head or saying &quot;go on&quot; are including.</td>
<td></td>
</tr>
<tr>
<td>3. <strong>Accept or uses ideas of pupils:</strong> Clarifying, building or developing ideas suggested by a pupil. Teacher extensions of pupil ideas are included but as the teacher brings more of his own ideas into play shift to category five.</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Ask questions:</strong> Asking questions about content or procedures, expressing his own ideas, giving his own explanations, or citing an authority other than a pupil.</td>
<td></td>
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</tbody>
</table>
Learning: Giving facts or opinions about content or procedures, expressing his own ideas, giving his own explanation or citing an authority other than a pupil.

Giving directions: Directions, commands or orders to which pupil is expected to comply.

Criticizing or justifying authority: Statements intended to change pupil behaviour from non-acceptable to acceptable pattern, bawling some one out, stating what the teacher is doing, extreme self-reference.

Pupil talk response: Talk by pupil in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited.

Pupil talk initiation: Talk by pupils which they initiate, expressing own ideas, initiating a new topic, freedom to develop opinions and a line of thought, like asking thoughtful questions, going beyond the existing structure.

Silence or confusion: Pauses, short periods of silence and periods of confusions in which communication cannot be introduced by the observer.

There is in fact, evidence that students trained in the use of interaction analysis differ from those not trained in that they are mere accepting, less critical and less directive (Amidon 1966). The same research also found that student-
teachers trained in interaction analysis tended to have more pupil initiated talk, more extended pupil initiated talk and less silence or confusion. Bondi or Ober (1969) found that students trained in interaction analysis differed from others such as, they used more praise, accepted and classified pupils' ideas more, used more indirect teacher talk as opposed to direct talk, used more extended praise, made more extended use of pupils' ideas, used more positive affective talk, accepted pupils' ideas more after teacher initiated pupil talk, used less corrective feedback, asked more questions, used less lecturing and gave fewer directions. Teachers do acquire and improve skills by learning about interaction analysis of the orthodox variety.

(b) Micro teaching

Micro teaching is one of the most important developments in the field of teaching practice. It originated in Stanford University in 1963, since then there has been an explosion in the use of these techniques in the U.S.A. and a very rapidly developing interest in Great Britain. The basic principles of micro teaching are simple. A student teacher teaches a short lesson of about five minutes' duration to a small number of pupils. At the end of the lesson the pupil learns and discusses the lesson with his supervisor. After a short break the student repeats the lesson with a
different group of pupils making use of the feedback from
the supervisor to attempt to improve on his previous lesson.
Micro teaching aimed at teaching the pupils genuine subject
content, focuses upon a specific teaching skills decided
upon before hand. The micro lessons are usually video-taped,
although other recording methods have been used. The teacher
trainee immediately views the recording, evaluates it
perhaps with the aid of a supervisor, alters it if necessary;
later reteaches the lesson, views a playback of the reteach
and then evaluates that.

Micro teaching starts from the position that teaching
is a complex set of capabilities which students in training
and perhaps teachers in service have not perfected. Hence,
the development of these skills is more effectively carried
out if each one is identified and practiced on its own and
later combined with others when he has been mastered.
The teach and reteach cycle seems to be the basic structure,
but the lining of elements of this cycle varies in different establishments. In addition to other basic cycle, two other schemes were operated at Stanford University - one entails the use of a longer session which might be planned and taught by a group of students, the other is called a research clinical session. The purpose of research clinical session is to extend knowledge of teaching skills and the training techniques needed to impart and practice the skills. However, the basic Stanford model was five minute teach, ten minutes assessment, fifteen minute break, five minute reteach, ten minutes assessment. The student teacher can focus his attention on clearly specified aspects of his behaviour and that provision is made for much fuller and objective feedback to the trainee than in other teacher training procedure. Micro teaching goes a fair way to solving some of the problems involved in student teaching practice. One of the important features of micro-teaching is that the conflict between the student teacher's view of the supervisor as guide and mentor and his view of him as assessor is reduced.

Supervisors play an important role in micro-teaching particularly in pre-service training programme. It is their responsibility to help student teachers, relate component skills of teaching to both the theory underlying
the skills and to the practical conditions of the classroom. He can help the trainee transfer the skills learned in a micro-teaching setting to the actual classroom. He has to provide information about trainees' performance which will help them to acquire appropriate teaching skills.

(c) Simulation technique (Cruickshank teaching problem Laboratory)

Simulation is by definition 'artificial' and some people are inclined to dismiss it because of that and prefer instead the 'real' situation of the student teacher in the classroom. Simulation techniques, for all their artificiality, can often be preferable to putting students into the classroom to learn on their own or to lecturing to them about the classroom. Simulation provides greater control over the teaching variables and enhances the degree of feedback. These techniques are increasingly used in developed as well as in developing countries. They also bid a good promise for the future programme of teacher education. These techniques include Role-playing, Sociodrama, In-basket etc.

(i) Role-playing: Role playing before classes of fellow students takes the participant into the classroom situation. Providing the type of structuring that Cruickshank
suggests gives the exercise more rigour than the instructed socio-drama. Kersh (1962) simulated classroom situation by the use of films and printed materials. These students respond to the simulated classroom problems presented on film by deploying certain teaching skills. The object is to help the students to acquire the ability to detect, diagnose and learn how to deal with such problems as confusion, inattention and distraction in the children. As in all approaches to simulation the supervising tutor is in the position of being able to give the student immediate feedback related to the action he takes. It is a structured situation in which the student teacher tries to enact the role of a good teacher.

(ii) Socio-drama: It is another technique much similar to the role play. The accent is upon the spontaneous interaction of the group, it is the unstructured simulation situation par excellence; it might, in fact, be denied the title of simulation (Tansey and Unwin 1969). When a degree of structure is introduced we get the situation more typical of student teacher role playing. Students in this situation are usually given some indication as to subject, method, level of pupil competence and so on. Sometimes the group of students that normally constitutes the class is briefed as to the type of pupil behaviours to manifest.
(iii) **In-Basket technique:** This technique provides the student with a great many more data and increase the degree structure. Cruickshank (1968) has developed a teacher training system which can present the student with up to thirty-one different simulated problems related to teaching. The aim of his "Teaching Problems Laboratory", is for the participants to assume the role of the teacher and to practice solving the critical teaching problems he has identified. He is provided with information and opportunities to solve the problems of a beginning teacher by exposure to a variety of potential solutions to particular problems and given the opportunity of observing the results of his chosen line of action. He is also given the materials that a teacher going to the school would actually receive, such things as the school rules and regulations, curriculum handbook and record cards on thirty-one children, together with socio-grams and samples of children's work. The student is then presented with thirty-one problems, ten on film and others in role playing situations, written incidents or combinations. After the presentation of each problem the student responds to an Incident Response Sheet which demands that he identify the problem, identify the factors influencing the problem, locate the relevant information, suggest appropriate alternative course of action, communicate and implement a decision. Small group of discussion will be held to consider
The analysis and action taken and this is followed by larger group discussion. The objective of discussions is not to come up with the right answer but to push the analysis of the teaching problem and attempted solution as far as possible. Cruickshank considers that his scheme provides the student with simulated laboratory experiences. Among these experiences are such things as the preparation and teaching of meaningful lessons, the construction of a classroom test, the holding of parent conferences, locating instructional materials, developing reading programme, learning to use records, considering motivational techniques, preparing behavioural objectives for learning and providing for individual differences in learning. Cruickshank found as a result of his tests that student teachers were very favourably disposed to his system and considered it much more helpful than lectures.

(d) Team Learning:

It is a novel technique of teaching in which students form small groups (five to eight) and try to teach in a co-operating manner themselves, the information which is common to teach members prescription. The team is given in writing the subject matter to be learned which is read by the members individually or collectively. A set of questions to be answered by the team is taken up. Few
answers are based on the information supplied while others require group interaction and discussion. A member of the group acts as a recorder and writes the correct answers given by the group.

2. To help the teacher trainees to use different techniques to achieve different objectives.

(a) Brainstorming session:

It can be conducted in simple or sophisticated manner, depending on the skills and abilities of teachers and students. The teacher or the group of teachers (a student) is not expected to interrupt the process of brainstorming except in the role of a facilitator. He records the ideas on the blackboard or on a large sheet of paper with a marker. To start with the teacher or the group leader asks the participants to sit in a semi-circle fashion facing several brainstorming charts fixed to the wall of a room. He then introduces the techniques by asking participants to spell out the synonyms for a noun such as 'teacher'. The time limit is fixed as 2 minutes and even 20 to 30 words can be spelled out in such a short time. The teacher may ask individual participants to write down these words in 2 minutes time in a separate room. This technique is very useful for youngsters.
(b) Gaming and Simulation:

In simulation, students learn from the consequences of their action. Game simulation depends on software i.e. the game has paraphernalia of various kinds. Monopoly has a game board, pieces that represent the players, houses, hotels, cards that insert chance events into the situation and paper money. Without these the games cannot be played. Similarly, driver simulators, games involving cabinets in crises, human-relations games such as star power, and many other simulations all require material to represent the real world to the students in a simulated form. Much of the model of teaching involve learning to use this software effectively. Many people do not realise the critical role a teacher can play in enhancing learning from a simulation activity, and believed that a model of teaching that describes these activities is especially useful. The game itself is essential but the teacher's ability to make the activities truely meaningful is critical.

The simulation model did not originate within the field of education. Rather it is an application of the principles of cybernetics, a branch of psychology. Cybernetic psychologists, making an analogy between humans and machines conceptualize the learner as a self-regulating feedback system. A feedback control system incorporates
three primary functions. It generates movements of the system toward a target or defined path, it compares the effects of this action with the true path and defects, errors and it utilizes this error signal to redirect the system. (Smith and Smith, 1969, p.203 in Joyse Weil, 1990). The cybernetic psychologists interpret the human being as a control system that generates a course of action and this redirects or corrects the action by means of feedback.

The application of cybernetic principles to educational procedure is seen most dramatically and clearly in the development of simulaters. A simulator is a training device that represents reality very closely, but in which the complexity of events can be controlled. The simulator can present the student with learning tasks to which he or she can respond but the responses to not have the same consequences that would have in a real life situation, the simulated automobile does not crash into anything although it may look like it is crashing from the driver's point of view.

The advantages of a simulator are several. The learning tasks can be made much less complex than they are in the real world, so that the students may have the opportunity to master tasks that would be extremely
difficult when all the factors of real-world operations impinge upon them. Secondly, they permit students to learn from self-generated feedback.

The teacher's role: In gaming and simulation students are able to obtain the skills through well-designed games. It is easy to assume that the learning activity has been designed and packed by experts, the teacher has a minimal role to play in the learning situation. People believe that a well designed game will teach itself. But this is only partly true. Due to intense involvement students may not always be aware of what they are learning and experiencing. Thus, the teacher has an important role to play in rating students consciousness about the concepts and principles underpinning the simulations and their own actions. In addition, the teacher has important managerial functions with more complex games and issues, the teacher's activities are even more critical if learning is to occur. Teacher has to play four roles in the simulated model, explaining, refereeing, coaching and discussing.

3. To help teacher trainees to provide individualised instruction.
(a) Circles of Knowledge:

Under this system, students are grouped in terms of similarities of their prescription 5 to 8 in number. The teacher writes a problem on the blackboard or distributes it in the written form. The problem or question should evoke multiple probable answers. Each circle of knowledge will respond to the same question simultaneously. Answer in a circle are provided clockwise and no member is allowed to skip his turn. The recorder records the suggestions put forth by each member as the circle of knowledge grows. At the end of pre-decided time period the teacher stops them. Then the teacher repeats the question that was put to the entire group and a representative from each circle speaks out the answer suggested by that group. Every recorder presents now checks the list developed his group. If that answer is in the list of that circle he crosses it. The procedure continues till all the circles be exhausted their enlisted answers. Points can also be awarded to respective team in order to introduce healthy competition among them.

(b) Contract:

It is a prescription containing topic, course of study and unit written for a student. It provides opportunity to the students to learn according to his own talent,
need and interest using a variety of learning resources through which he may collect necessary information. The resource may be in the shape of books, tapes, slides, games, films etc. A contract should also include statement of objectives and a series of alternatives, providing a choice for a student in determining the ways and means of application of knowledge so collected. A contract is called Contract Activity Package (C.A.P.). It allows an individual student to work it at his own pace and according to his own choice and also to learn to work with individuals as the need be.

(c) Programmed Instruction:

It is a strategy of teaching and learning and self instructional texts or auto-tutors. It may be termed as a software approach or instructional technology, materials was described in 1912 by Edward L. Thorndike (in K. Sampath and others, 1981) in these words. "If by a miracle of mechanical ingenuity, a book could be so arranged that only to him who had done what was directed on page one, would page two become visible and so on, much that now requires personal instruction could be managed by print."

Programmed instruction is a technique, if self instruction in which all of the instructional load is carried by teaching machines or programmed texts. It is a new path towards automation and individualised instruction.
In this method subject matter is broken down into small steps called frames. Frequent response is required of the student. There is an immediate confirmation of right answers or correction of wrong answers given out by the student. The content and sequence of the frames are subjected to actual tryout with students and are revised on the basis of data gathered by the programmer. Each student progresses at his own pace without any threat of being exposed to any humiliation in a heterogeneous class.

Programmed learning is an application of principles of behavioural sciences and technology in the field of education. It emerged from the efforts of American psychologists and significant contribution made by Sidney, L.Pressey, Robert M. Gagne and B.F.Skinner. Programme is usually presented by a book or machine. Teaching machines present programmed material to pupil in such a way that one problem depends the answer to the proceeding problem and where therefore, the most efficient progress to an eventually complex repertoire can be made. The mere manipulation of the teaching machines is reinforcing and can keep the pupil working for a long time. There is always active learning programmed materials are based on definitely planned criteria of entering behaviour and
terminal behaviour. There are three types of programming – Linear, Branching and Mathematical. Programmed learning enables the teacher to play the role of guide, counsellor, motivator, organiser, integrator, critical questioner and intellectual.

4. To help teacher trainees to design instructional system.

System Approach and Teacher Education:

Since the late 1950's the 'system approach' variously described as systems engineering, systems synthesis and system analysis has received considerable attention as an effective strategy for resolving increasingly complex, social, cultural, economic and technological problems. Beratanffy in his article on 'General Systems Theory' (1940 in Vandana Mehra, 1991) described it as a theory of organization, an analytical integrative, problem solving strategy. The systems approach is combining purposeful activity and rigorous analysis, with creative in goal setting flexibility in problem solving and human individuality as underlying themes. Most authors accept it in the meaning of problem solving.
Beratanffy (1951) defines system as 'any arrangement or combination as of parts or elements in a whole. Ackoff (1971) defined it as 'a system is set of inter-related elements'. Robb (1973) defined it as 'a system is an orderly arrangement of elements which works in a particular way can be a living organism or a cosmic phenomenon.' In general it is said as a system is an assemblage of objects united by some form of regular interaction or interdependence, which collectively contribute toward important and complex function.

The application of the system approach to training entails a definition of training goals and objectives, consideration of alternative means for accomplishing the objectives and use of feedback to writer progress and make adjustment in the system. The training system is conceptualised as being comprised of three major functions—(a) planning, (b) implementation and (c) evaluation.

The model depicting these functions is shown in figure. These three functions are interrelated. Feedback from evaluation affects both planning and implementation.
Each of the components of the training system is a complex involving a number of relevant activities. The primary concern is planning with the determination of ends to be achieved and the selection of the means for doing so. Implementation is concerned with putting these means into action and evaluation deals with checking the progress towards desired ends. With the context of a system approach to training, the three functions are overlapping rather than sequential.

Student teachers should be made aware regarding the meaning and importance of systems approach to an instructional system, management of school etc. during training programme. Skills should be developed among them regarding
how it can be made use for instruction and finding solutions to the problems of school. In respect of instruction the principle components of an instructional system are students, teachers and instructional materials (Howe, 1967). All the components of the instructional system are designed to the competable with each other in terms of objectives, methods and evaluation of learners performance. Systems approach to instruction creates a learning environment via arrangement of the components of an instructional system to facilitate student learning through interaction between the learner and teacher. The teaching-learning process is thus systematically planned, designed, carried out and evaluated. Application of systems approach to instructional design will produce a learning system which arranges human and non-human resources in an efficient manner for effective student learning, directing at achieving specific objectives... A systems approach in education may be defined as an attitude of conviction that such educational process - instruction, administration, counselling, scheduling, curriculum designing, academic government should be viewed as a systems. They are the assemblage of components and each has an objective purpose. The educational processes have measurable products and its components called sub-systems, function programme - can be described and that the resources necessary for the functional means to attain the measurable ends can be
specifically known.

The most important fact in a systems approach is viewing the system on a definition of effectiveness. Educational courses and systems can be evaluated in terms of how effective they are in enabling students to attain specific educational objectives. From the specification of these objectives the tests can be developed or achieved the objectives and who have not. These tests may assess effectiveness of different systems of teaching can be ascertained.

5. Competency/Performance Based Teacher Education:
This may be considered as the most significant innovation in the field of teacher education during the 1970's. Some teacher education programmes are entirely competency based and many others have incorporated some competency features. Traditional teacher education programmes are experienced based in so far as they are based on the assumption that by taking in sequence of courses the student teacher gains certain types of knowledge and experience that will enable him to become an effective teacher. In contrast to this the competency/performance based teacher education has specific goals in advance and the student teachers are held accountable for bringing about desired learning outcomes or
exhibiting behaviours that are likely to prompt such outcomes. Competencies in the form of skills, behaviours and knowledge, applications are made known in advance, so that the assessment may be made in terms of competencies. The criteria for determining competencies would state the level of mastery to be attained under specified conditions. Evaluation would be based on objective measures and the exhibition of desired competencies in the appropriate situation and this would constitute the evidence of teaching effectiveness. Thus the teacher education programme is based upon the various levels of performance mastery. This programme has certain advantages. i) It is convenient to certify teachers to show that they demonstrate sound teaching abilities. 11) Greater attention can be given to individual student teachers as they proceed at their own pace in acquiring requisite competencies. iii) It is systematic and provides feedback performance and assures the teacher's competency.

Competency Based Instruction: It may be defined as adequacy for a test or possession of knowledge, skills or abilities for accomplishing a task. The mode of instruction aims for competency implies the developments of well qualified individuals (teacher) who possess required knowledge and skills. This word is generally used to emphasise ability
to do rather than demonstration of knowledge. Competency based instruction denotes an educational approach which has specific features. The first is precise learning objectives — defined in behavioural and assessable terms, must be known to the learner and which are stated in behavioural terms. From a variety of alternatives, the specific objectives are selected and pursued. The second essential feature is accountability. The learner should know that he is expected to demonstrate the specified competencies to the required level and in the agreed manner. He accepts responsibilities and expect to be held accountable for meeting the established criteria. The third characteristic is that of personalization. It is associated universally with competency instruction which is individualised and made self paced. Each student has some choice in the selection of objectives and of learning activities. Its focus on evaluation and accountability is an important factor. The learners achievement is compared with the stated objectives and specified criteria, the achievement of other students are relevant to the evaluation. Another consequence is that the emphasis has shifted from the teaching to the learning and it also emphasises the needs and accomplishment of the students. The competency based instruction has the following characteristics:
- Specification of learner objectives in behavioural terms.

- Specification of the means for determining whether performance needs the indicated criteria level.

- Provision for one or more modes of instruction pertinent to the objectives through which the learning activities may be take place.

- Public sharing of objectives, criteria means of assessment and alternative activities.

- Assessment of the learning experience in terms of competency criteria.

- Placement on the learner of the accountability for meeting the criteria.

Other procedures, such as modularised packaging, the systems approach, educational technology and guidance and management support are employed as means in implementing the competency based instruction.