

**VOCATIONAL HIGHER SECONDARY
FIRST YEAR**

**CRECHE
AND PRE SCHOOL MANAGEMENT**
Teacher's Source Book



**Government of Kerala
Department of Education**

2005

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Director

Preface

Dear Teachers,

The Sourcebook on Creche and Pre-school Management developed by SCERT for class XI of Vocational Higher Secondary is specially designed to fulfil the requirements of the new activity-based, learner-centred, interactive curriculum. The Sourcebook deals with the different methods to be adopted for making the modern print production technics easily intelligible to the learners undergoing VHSE in Creche and Pre-School Management.

As far as the discipline Creche and Pre-school Management is concerned, its methodology of learning is generally activity based. The approach envisages the learner as manager of the classroom, the director of tasks and activities; and the teacher as facilitator and resource. Through interaction between learner and learner, between teacher and learner, between learner and materials will become a natural and enjoyable process. There will be total sharing of information among learners.

In this initiative, the role of the teacher is a multifaceted and important one. The teacher is a facilitator, democratic leader, co-learner, partner, friend, philosopher and guide. It is designed to empower the teacher to handle the learner-centred, activity-based classroom. Thus learning becomes a joyous and rewarding experience for the learners.

May I hope that our concerted efforts will make an upsurge in the field of education.

With regards,

Thiruvananthapuram
25-11-2005

Dr E. Valsala Kumar
Director
SCERT, Kerala

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Part I

1. General Approach

Introduction

The ultimate aim of education is human refinement. Education should enable the learner to formulate a positive outlook towards life and to accept a stand which suits the well being of the society and the individual as well.

The attitude and potential to 'to work' has determined the destiny, progress and cultural development of the human race. As we all are aware, the objective of education to form a society and individuals having a positive work culture. The educational process expected in and outside our formal schools should concentrate upon inculcating concepts, abilities, attitudes and values in tune with these 'work culture.' Hence vocationalised education cannot be isolated from the main stream of education. In another sense, every educational process should be vocationalised. However, due to our inability to utilise the resources wisely, scarcity of job

opportunities is a severe issue of the present society. For overcoming this deep crisis, emergent techniques have to be sorted out and appropriate researches have to be seriously carried out. It is in the sense that the content and methodology of vocational Higher Secondary Education have to be approached.

The Vocational Higher Secondary course was envisaged as a part of the National Policy on Education with the noble idea of securing a job along with education. The relevance of Vocational education is very great in this age of unemployment. This education system, which ensures a job along with higher education, stands aloof from other systems of education.

A learning environment which ensures vocational aptitude, vocational training, basic life skills, competencies related to different subjects, appropriate values and attitudes and existential readiness has to be provided here.

The curriculum should be one which recognises the specific personality of the learner and should develop it in a desirable way. It should provide opportunity to imbibe novel ideas to follow a critical approach and for learning through experiences.

The competency to transform one's own resources for the betterment of the society and the individual is to be ensured in each individual. Training in the sense of equality, democratic sense, environmental consciousness and devotion to the constitution is an inseparable factor of the curriculum.

The need of a systematic curriculum is prevailing in vocational subjects. A scientifically structured curriculum incorporating the unique features and peculiarity of Kerala ensuring the possibility of higher education and utilising the national and international possibilities of employment is required.

The new curriculum should be capable of assimilating the life skills, scientific temper, attitude of co-existence, leadership qualities and mental health to face the challenges of life. It should be capable of strengthening the competencies imbibed by the learners up to the tenth class.

A curriculum for selecting vocational areas according to the aptitude of the students, learning it in depth, acquire general awareness in the basic areas and to secure jobs has become the social need of the day. A learner centred, process

oriented, need based vocational curriculum is envisaged.

What is learning?

- Learning is construction of knowledge and so it is a live and continuous mental process.
- Learning is a process of advancement through adding and correcting in the light of comparing the new issue with the previously learned concepts.
- Learning takes place as a part of the effort to solve problems.
- Learning takes place by assimilating bits of knowledge into one's own cognitive structure.
- Learning is not a linear process. It is a spiral process growing deeper and wider.
- Learning is an intellectual process rather than the mere memorisation of facts. Learning is a conglomeration of a variety of activities like problem analysis, elucidation, critical thinking, rational thinking, finding out co-relations, prediction, arriving at conclusions, applications, grouping for other possibilities and extracting the crux. When opportunities are provided for intellectual processes learning will become effective and intellectual ability will get strengthened.

Theoretical foundations of learning

Education is the best device that can be adopted for creation of a new society. It should

be democratic in content and process and should acknowledge the rights of the learner. It should also provide opportunity for better citizenship training. The concept of equality at all areas should get recognition in theory and practice.

There should be conscious programme of action to develop nationality, humanness and love and against the encroachment of the sectarianism of caste and religion.

The learner should be able to take firm steps and deferred against the social crisis like privatisation, liberalisation, globalisation etc and against all kinds of dominations.

They should develop a discrimination to use the acquired learning as a **liberative** weapon.

They should be able to view education and life with the perspective of social well being.

They should get opportunity to recognise that co-operation is better than competition and that co-operation is the key to social life and culture.

A basic awareness of all the subjects needed for life essential for all students.

The remnants of perspectives formed in us during the colonial period still influence our educational philosophy. The solution to the present day perplexities of the society which approaches education on the basis of competitions and marketisation is only a comprehensive view of life.

It is high time that education was recognised on the basis of the philosophy of human education. The human approach to education has to reflect in its content, learning process and outlook. The perspective of 'learning to be' and learning to live together as expressed by the UNESCO and the concepts of existentialist intelligence intrapersonal and interpersonal intelligence.

The basis of new approaches on curriculum, teaching- learning process are derived from the developments place in the east and west of the world.

When we begin to see the learner at the centre of the learning process, the teaching process has to be changed timely. It is the result of the rapid growth and development of Science and Technology and Pedagogy. If we want to undergo the changing process, we have to imbibe the modern hypothesis regarding learner, they have;

- Great curiosity
- Good imagination
- Numerous other qualities and interests
- Independent individuality
- Interest in free thinking and working in a fearless atmosphere.
- Have interest in enquiring and questioning.
- Ability to reach conclusions after logical thinking.

- ability for manifest and establish freely the conclusions arrived at.
 - Interest for recognition in the society.
 - Determination to face the interference of society and make components which is a part of social life.
 -
- To experiment
 - To predict
 - To recognise and control the variables
 - To raise questions
 - To generalise
 - To form a hypothesis and check.

When we consider the learning system, the domains to be stressed in education according to the modern development becomes relevant.

The *knowledge* domain consists of

- Facts
- Ideas
- Laws
- The temporary conclusions and principles used presently by scientists.

The learning is a process. The continuous procedures we undergo to reach a particular goal is process. The skills which are parts of the process to analyse the collected ideas and proofs and come to a conclusion is called *process skills*. Some important *process skills* are,

the skills;

- To observe
 - To collect data and record
 - To classify
 - To measure and prepare charts
- To conclude
 - To communicate
 - To predict and infer
 - To use tools.
 - *Observation is the process of acquiring knowledge through the senses. It is purely objective oriented. Learning experiences which provide the opportunity to use all the senses may be used.*

*The process of grouping is known as **classifying**. Starting from simple groupings of data, it can extend to the level of classification into minute sub-groups.*

In addition to this, consider the skills related to *creative domain* also, they are skills:

- To visualize
- To connect facts and ideas in new ways
- To findout new and uncommon uses of objects
- To fantasize

- To dream
- To develop creative isolated thoughts
- **Creativity** is an essential component of process and activities. The element of creativity is involved in finding out problems, formation of hypothesis, finding ‘solutions’ to problems etc. Through activity oriented learning experiences, opportunities to express creativity can be created.
- choose a scientific life style
- connect the ideas acquired with other subjects.
- integrate the subjects with other subjects.

Some basic stands have to be taken on the new scientific knowledge about intelligence learning and teaching. When such basic concepts are accepted changes are required in the following factors.

Again, the following factors consisting in the **Attitudinal domain** are also important as;

- Self confidence
- Love for scientific knowledge
- Attitude to know and value history
- Respect human emotions
- Decide with reasonable present problems
- Take logical decisions regarding personal values
- The vision, approach, structure and content of the curriculum.
- The vision, approach, structure and content of the textbooks.
- Role of the teacher and the learner.
- Learner atmosphere, learning materials and learning techniques.

Some scientific perspectives accepted by modern world in educational psychology are given below.

Constructivism

This approach puts forward the concept that the learner constructs knowledge. New knowledge is constructed when ideas are examined and practiced in new situations relating them with the previously acquired knowledge and experience. That is assimilated into the cognitive structure of one’s knowledge. This method which gives priority to critical thinking and problem solving provides opportunity for self motivated learning.

As regards the **application domain** the important factors are the ability to:

- observe in daily life examples of ideas acquired.
- take the help of scientific process to solve the problems of daily life.

Social Constructivism

Social constructivism is a sub section of constructivism. Knowledge is formed, spread and imbibed and it becomes relevant in a social environment. Interactive learning, group learning, co-operative participatory learning, all these are concepts put forward by social constructivism.

The main propounders of constructivism are piaget, vygotsky and Bruner.

Discovery learning and interactive learning have prime importance. Learning takes place as a part of the attempt for problem solving. The activities of a learner who confronts cognitive disequilibrium in a learning situation when he tries to overcome it leads to the renewal of cognitive structure. It is through this process construction of new knowledge and the assimilation of them that learning take place. Observation and enquiry are unavoidable factors. The learner advances towards new areas of acquisition of knowledge where he tries to compare his new findings with the existing conceptions.

Learning is a live mental process. Rather than the ability for memorisation of facts cognitive process has to be given emphasis. The process of problem analysis, elucidation, critical thinking, rational thinking, finding out co-relation, prediction, hypothesis formation, application, probing for other possibilities, extracting the crux and other processes are of critical importance in learning.

Constructivism gives greater predominance to co-operative learning. Social and cultural factors influence learning. Sharing of knowledge and experience among learners, collective enquiry, assessment and improvement, group activity and collaborative learning, by sharing responsibilities with the objective of public activity, provide opportunity for effective learning.

In learning internal motivation is more important than external motivation. The learner should have interest and initiative in learning. Learning situation should be capable of forming a sense of ownership in of the learner regarding the learning process.

Learning is not a linear process. It progresses in a spiralled way advancing deeper and wider.

Learner-his nature and features

The learners in standard XI has undergone a learner centered and process oriented learning experience up to X standard. He is adequately competent to select vocational subjects according to his aptitude and interest and to acquire higher education and profession as he wishes. The aspirations about future life is framed in this particular age foreseeing national and international job oppurtunities. Some of the peculiarities of the learner at this stage are:

- Physical, intellectual an emotional planes are intensive changes during this age and their reflections can be observed.

- Ability to enquire, discover and establish cause-effect relationship between phenomena.
- Readiness to undertake challenges.
- Capacity to shoulder leadership roles.
- Attempt to interpret oneself.
- Susceptibility to different pressures.
- Doubts, anxieties and eagerness about sex.
- Longing for social recognition.

Needs of the learner

- To make acquaintance with a job through vocational education.
- To acquire more knowledge in the concerned area through higher education.
- To recognise and encourage the peculiar personality of the later adolescent period.
- To enable him to defend against the unfavourable circumstances without any help

Role of the Learner

- Active participant in the learning process.
- Acts as a researcher
- Sharer of information
- Sharer of responsibilities
- Collects information
- Takes leadership
- Involves in group work

- Acts as a co- participant
- Observes his environment
- Experiments and realises
- Makes interpretations and draws inferences.

Role of the Teacher

The teacher should;

- consider the 'Stress and strain' of the teenagers
- understand the socio- economic and cultural background of the students.
- promote and motivate the students to construct knowledge.
- arrange proper situations to interact in and outside of the classroom.
- guide the students by explanations, demonstrations etc.
- promote opportunity for co-operative learning and collaborative learning.
- facilitate interpersonal and intra-personal interactions.
- act as a democratic leader.
- act as a problem solver
- effectively guide the students for the selection and conduct of various continuous evaluation elements.
- continuously evaluate the progress of the learners.

- gives scaffolding/support wherever necessary.
- motivate for learning
- promote divergent thinking.
- act as a democratic group leader.
- act as a co-learner
- gives variety of learning experiences.
- be a constant student
- facilitate for reference/data collection
- have a clear understanding about the age, needs, peculiarities, abilities, nature, aptitude etc. of the learner.
- have the ability to motivate the learner in order to acquire and enrich their knowledge.
- be a guide to the learner in developing insights and creating responses on current affairs.
- be capable to lead the learner into a variety of learning methods and process based on curricular objectives.
- be a link between school and community.
- be a good organiser, guide, friend, philosopher and co-learner.
- have an inter disciplinary approach in learning activities.
- be able to guide the learner in his/her career prospects based on his interest aptitude and ability.
- be impartial and democratic.
- provide ample experiences to attain the basic values and objectives of the curriculum.

New Concepts of Learning

1. Discovery Learning-

The teacher has to create a motivating atmosphere for the learner to discover concepts and facts, instead of listening always. Creating occasion to progress towards discovery is preferred. Instead of telling everything before and compelling to initiate the models, situations are to be created to help the children act models as themselves.

2. Learning by discussion

That discussion leads to learning is Burner's theory. Here discussion is not opposing each other. It is a sharing on the plane of ideas. New ideas are arrived at by seeking explanations, by mutual giving and taking of ideas and by problem solving.

3. Problem solving and learning

Only when the learner feels that some thing is a problem to be solved that he takes the responsibility of learning it. It is an inborn tendency to act to solve a problem that causes cognitive disequilibrium in a particular area. It is also needed to have confidence that one is capable of doing it. The problems are to be presented in consideration of the ability and level of attainment of the learner.

4. Collaborative learning

This is the learning in which the responsibilities are distributed among the members of the group keeping common learning objectives. The common responsibility of the group will be successful only if each member discharges his duties. All the members will reach a stage of sharing the result of learning, equally through the activity with mutual understanding. The teachers who arrange collaborative learning will have to make clear the responsibilities to be discharged. This is possible through the discussion with the learners. Collaborative learning will help to avoid the situations of one person working for the whole group.

5. Co-operative learning

This is the learning in which the learners help one another. Those who have more knowledge, experience and competency, will help others. By this exchange of resources the learners develop a plane of social system in learning also. As there are no high ups and low ones according to status among the learners they can ask the fellow students doubts and for helps without any hesitation or in hesitation Care should be taken not to lead this seeking of help to mechanical copying. It should be on the basis of actual needs. So even while encouraging this exchange of ideas among the members of the group cautions acceptance is to be observed as a convention. There should be an understanding that

satisfactory responses should come from each member and that the achievement of the group will be assessed on the basis of the achievement of all the members

6 Zone of Proximal Development

Vygotsky observes that these is a stage of achievement where a learner can reach by himself and another higher zone where he can reach with the help of his teachers and peers and elders. Even though some can fulfil the learning activity by themselves there is the possibility of a higher excellence. If appropriate help is forth covering every learner can better himself.

7 Scaffolding

It is natural that the learner may not be able to complete his work if he does not get support at the proper time. The learner may require the help of the teacher in several learning activities. Here helping means to make the learner complete the activity taking responsibility by himself. The teacher has to keep in mind the objective of enabling the learner to take the responsibility and to make it successful.

8 Learning: a live mental process

Learning is a cognitive process, only a teacher who has an awareness as to what the cognitive process is alone can arrange learning situations to the learner to involve in it. Learning can be made effectively and intellectual sharpness can be improved by giving opportunity for the

cognitive processes like reminding, recognising, compromising, co-relating, comparing, guessing, summarising and so on. How is cognitive process considered in language learning? Take guessing and prediction for example.

- Guessing the meaning from the context.
- Guessing the content from the heading.
- Predicting the end of the story.
- Guessing the incident, story from the picture.
- Guessing the facts from indications.
- and other such activities can be given the following activities can be given for the cognitive process of summarisation.
- Preparation of blue print.
- Preparation of list.
- Preparation of flow chart.
- Epitomising in one word.
- Giving titles and so on.
- Symbols, performance of characters indications, lines of a poem, tables, pictures, concepts, actions, body language and such things can be given for interpretation. Process based language given for interpretation. Process based language learning has to give prime importance to the cognitive process.

9 Internal motivation

Internal motivation is given more importance than external motivation. The teacher has to arouse the internal motivation of the learner, A person internally motivated like this alone can immerse in learning and own its responsibility. How motivating is each of the activities is to be assessed.

10 Multiple intelligence

The Theory of Multiple Intelligence put forward by Howard Gardener has created a turning point in the field of education. The National curriculum document has recommended that the curriculum is to be designed taking into consideration of this theory.

Main factors of the intellect :

1. Verbal/linguistic Intelligence -

Ability to read and write, making linguistic creations, ability to lecture competence effective a communication, all these come under this. This can be developed by engaging in language games and by teaching others.

2. Logical /mathematical Intelligence

Thinking rationally with causes and effect relation and finding out patterns and relations come under this area, finding out relations and explaining things sequential and arithmetical calculations are capable of developing this area of intelligence.

3. Visual /spatial Intelligence

In those who are able to visualise models and bringing what is in the imagination into visual form and in philosophers, designers and sculptors this area of intelligence is developed. The activities like modelling using clay and pulp, making of art equipments, sculpture, and giving illustrations to stories can help the development of this ability.

4 Bodily Kinaesthetic Intelligence

The activities using body language come under this. This area of intelligence is more developed in dancers and actors who are able to express ideas through body movements and in experts in sports, gymnastics etc.

5 Musical Intelligence

This is an area of intelligence which is highly developed in those who are able to recognise the different elements of music in musicians and in those who can hear and enjoy songs. Playing musical instruments, initiating the songs of musicians, listening silently to the rhythms and activities like this are capable of developing this area of intelligence.

6 Interpersonal Intelligence

Those in whom this area of intelligence is developed show qualities of leadership and behave with others in a noble manner. They are capable of understanding the thought of others and carrying on activities like discussion successfully.

7 Intrapersonal Intelligence

This is the ability to understand oneself. These people can recognise their own abilities and disabilities. Writing diaries truthfully and in an analysing way and assessing the ideas and activities of others will help developing this areas of intelligence

8 Naturalistic Intelligence

A great interest in the flora and fauna of the nature, love towards fellow beings interest in spiritual and natural factors will be capable of developing this area.

9. Existential Intelligence

The ability to see and distinguish our own existence as a part of the universe, ability to distinguish the meaning and meaninglessness of life, the ability to realise the ultimate nature of mental and physical existences, all these are the peculiarities of this faculty of intelligence.

Emotional Intelligence

The concept of emotional intelligence put forward by **Daniel Golman** was used in framing the new curriculum. The fact that one's **Emotional Quotient (E.Q)** is the greatest factor affecting success in life is now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

i) Ability to take decisions

Rather than imposing decision on students while planning and executing activities, the students may be allowed to take part in the decision making process. Taking decisions through open discussion in the class, inviting students suggestions on common problems etc. are habits to be cultivated.

ii) Ability to reach consensus

- When different opinions, ideas and positions arise the students may be given the responsibility to reach a consensus.
- Imagining what would be the course of action in some situations, allowing to intervene in a healthy way in problems between individuals.

iii) Problem solving

- Developing the idea that there is reason and solution to any problem.
- Training in finding reasons for problems.
- Suggesting solutions through individual or group efforts.
- Discussing social problems.
- Analysing the shortcomings in methods to solve problems.

Whether plastic can be banned within school premises can be given as a problem. Group discussion will provide reasons and solutions. Problems which can influence classroom learning

and for which the learner can actively contribute solutions need to be posed.

- Self criticism, evaluation
- Ability to face problem-situation in life
- Thinking what one would do if placed in the situation of others, how one would respond to certain experiences of others - All these foster the growth of emotional intelligence.

iv) Life skills

Life skills need to be given a prominent place in education. W.H.O. has listed ten skills required for success in life.

- Self awareness
- Empathy
- Inter personal relations
- Communication
- Critical thinking
- Creative thinking
- Decision making
- Problem solving
- Coping with emotion
- Coping with stress

The new curriculum addresses these areas.

Knowing the characteristics of the learner, role of the teacher and how to use the teachers handbook help the teacher to plan and effectively

implement learning activities.

Objectives of the Vocational Higher Secondary Curriculum.

- To facilitate higher education while giving opportunity to enter in the field of employment.
- To develop environmental awareness, sense of national integration, tolerance and human values so as to ensure social and cultural improvement.
- To enable the learner to find on his own employment.
- To inculcate mental courage in the learner to face unfavourable situations.
- To make human resource development possible.
- To enable the learner to understand social problems and to react appropriately.
- To develop the learner to identify and develop his own competencies.
- To develop vocational aptitude, work culture and attitude in the learner so as to provide useful products and services to the society.
- To create an awareness about mental and physical health.
- To acquire awareness about different job areas and to provide backgrounds for acquiring higher level training in subjects of interest.

- To develop possibilities of higher education by creating awareness about common entrance examinations.
- To provide situation for the encouragement of creative thinking and organising training programmes in each area, creative abilities and to develop artistic talents.

Nature of Approach

The learning device is to be organised in the selected vocational subjects in such a way that adequate practical experience should be given, making use of the modern technology. The development in each area on the basis of information technology is to be brought to the learner. The work experience in the respective fields(OJT, Field trip, Production/Service training, Survey, Workshop, Exhibition, Youth festival, Physical fitness etc.) are to be adjusted suitable to the learning and evaluation process. The participation and leadership of the students in planning and execution is to be ensured through this kind of activities. Social service is to be made a part of the course.

Approach towards Vocational Higher Secondary Education

The learning methodology has to be organised so as the learning provide adequate practical thinking on the opted vocational subject utilising the new technology. The development of information technology should be made available

in each sector. Work experience, OJT, Field trip production, Service cum training centre, Survey, Workshops, Exhibitions, Youth festivals, Physical fitness etc should be systematised well appropriate to learning and evaluation. Learner participation should be ensured in the planning and implementation of these activities. Social service should be a part of the course. If a learner has to change his school, he should be provided an opportunity to continue his studies in the new school. While considering criteria for admission to higher courses, grades of vocational subjects should also be given due weightage. In tune with the changes in the Vocational Higher Secondary Education changes should be ensured in the field of higher education.

The teachers have to take special care in arranging learning activities for the development of all the faculties of intelligence.

Learning activities and learning atmosphere.

A proper learning atmosphere is essential for the betterment of learning activities.

They are:

- Proper physical environment
- Healthy mental atmosphere
- Suitable social atmosphere
- Active participation of PTA, Local bodies and SRG
- Reference materials and visual media equipments.
- Academic monitoring
- School Resource Group (SRG)

2.

Subject Approach

Introduction

As science is essentially an activity, learning of Home Science should also be through activities. The aims of education has two aspects, the individual and the collective. In Home Science, the basic theory of experience is learning by doing.

As a vocational subject CRECHE and Pre School Management, comes under Home Science it deals with the sequential development of the child through its life span. Besides the essential content of child development certain useful and interesting topics like Child Rearing practices, Child Welfare Programmes, and Nutrition have also been dealt with which students may find useful. Through the study of CRECHE and Pre-school management pupils should get knowledge, skills understanding and appreciation of cultural and spiritual values which will enable them to live more joyfully and effectively in their families and in society.

This source book is designed to provide a comprehensive text for teachers and students. It has been written with an emphasis on the scientific aspect of the subject to enable students to understand the value of 'CRECHE and Pre-school Management'.

The learner centered environment facilitates the exploration of meaning and content knowledge through personal and interpersonal discovery. The process implies active involvement by the student and the integration of academic with the students total development.

Examples of learner centered educational practices include, but are not limited to.

- Collaborative group learning, both inside and outside the classroom.
- Individual student research and discovery.
- Research and discovery by students and faculty together.

- Problem based enquiry learning.
- Service learning activities.
- Experimental learning activities.
- On site field experiences.
- Self employment opportunity.

The major aims of teaching (Home Science) creche and Pre-School Management at Vocational Higher Secondary Stage of education can be summarized as follows.

- i. To develop a sense of awareness for the art of daily living.
- ii) To provide opportunities for creative expression.
- iii) To develop good work habits.
- iv) To develop individual initiative and self confidence.
- v) To provide practical experiences in various fields of life.
- vi) To develop a feeling of belongingness to community and to nation.
- vii) To develop international understanding.
- viii) To prepare girls for their future life.
- ix) To develop in the pupil the proper scientific attitude.
- x) To enable pupil to create an environment and outlook to live richer and purposeful lives.

Domains of Home Science

The customary perspective that science education is the transfer of knowledge but science education should give emphasis to five domains.

- Knowledge domain
- Process domain
- Attitudinal domain
- Creativity domain
- Application domain

Knowledge Domain

Home science student should be familiar with the scientific information available from physical, biological and behavioral sciences. The knowledge domain includes facts, ideas, principles and theories. Acquisition of knowledge is an important aim of teaching science. The student need to be given instruction for doing activities for developing information and concepts about the surrounding world. The knowledge on humanities, psychology, neurology, civics and economics are also related to home science as they help in understanding nature and conduct.

Through the pupils Home Science helps familiar to establish values which are foundation for their health's appliances and well being.

Process Domain

This focuses on knowing new concepts and evidence and to reach valid inferences through an analysis of the same. Skill needed for solving real life problems are to be developed through

Home Science education. Process skills will enable the home science student to improvise thermal cooker fabrication of hay box, janatha refrigerator as well as solar cooker.

Some of the skill relating to the process domain of science are:

Observing : Observation is the process of acquiring knowledge through our senses.

Classifying : This consists of grouping of information gained through observation. The ability of classification will vary according to the age, maturity and cognitive level of the student.

Using space time relationships : An in-depth enquiry relating to shape, distance, movement, speed, accuracy, direction and time comes under this area.

Communicating and understanding communication : It is essential that knowledge developed is expressed in different ways – oral and written. The students need opportunities to communicate through tables, charts, pictures, models, short write-

ups and lectures and also to take part in debates and discussions.

Predicting : Students need to develop the skill of predicting by drawing on the knowledge gained through experiment and observations.

Inferring : Inferences based on them are however, crucial. A proper inference can be drawn only if the student has good skills of analysis. The defects in analysis of data will affect the quality of inference.

Formulating hypothesis : A hypothesis is a temporary conclusion drawn using insight. A problem can have a number of casual factors and solutions. Based on knowledge and experiences relating to the problem the causes and solutions can be guessed. Each such a guess in a hypothesis and need to be tested out and rejected if disapproved. Hypothesis which are proved right become conclusions.

Interpreting data: Interpretation of collected

data may led to new ideas and generalization. Opportunities may be provided for interpreting data and formation of new ideas.

Controlling variables

: Variables influence activities. Variables are to be controlled while doing experiments. For best results, variables are to be effectively controlled.

Experimenting: An experiment in a planned activity to test the validity to hypothesis drawn. Experimentation contains the process skills in an integrated way.

Attitudinal domain

Home science education will help the student to develop positive attitude to oneself as well as to explore human emotions. Through their experiences in living together pupils become aware of the importance and ways of establishing and maintaining good relationships in the new approach. Values and attitudes need to be emphasized in science education.

Very often in science learning, scientific facts and processes are given exclusive consideration. But under the current social situation, values and attitudes need to be emphasised in Home Science learning. Teaching that does not give adequate

emphasis on this domain cannot help to realize the aims of science learning. Some indicators relating to this domain are given below.

- Developing a positive approach to scientific knowledge, science education.
- Developing confidence in one's abilities.
- Taking appropriate decisions regarding social and environmental issues.
- Experimenting one's thoughts and emotions in a creative way.
- Taking logical decisions regarding personal values.

Application domain

Concepts, processes and values that the student has developed are meaningless when they have no practical value. Hence science education provides ample scope for the pupils to apply learned science concepts to every day life.

Using a problem-based approach relating to personal life and contemporary social technological problem, the learners will be able to understand the need to apply knowledge, skills and attitudes.

Eg.: Observing personal hygiene and undergoing immunization procedures.

Along with acquisition of concepts, process skills and attitudes, the learners need to develop the ability to apply these in new situations and to solve problems. This is the proof of comprehension.

Using a problem-based approach relating to science, technical science and personal life the learner will be able to understand the need to apply knowledge, skills and attitudes.

The components of this domain are given below.

- Using scientific process in solving problems that occur in daily life.
- Applying learnt science concepts and skills to everyday technological problems.
- Seeing instances of scientific concepts in everyday life experiences.
- Understanding scientific and technological principles involved in the household and other common technological devices.
- Decision making related to personal health, nutrition and lifestyle based on knowledge of scientific concepts.
- Understanding and evaluating mass media reports on scientific developments
- Integrating Home Science with other subjects.

Creativity Domain

Home science education will help the student to adopt work simplification with slight changes in the alignment of hanging conditions. For eg. Modification in the kitchen arrangements and dovetailing etc.

Creativity is an essential component of processes and activities in science. Through activity oriented learning experiences,

opportunities to express creativity can be created. Some of the abilities that come under this domain are

- a) Visualising – producing mental images.
- b) Divergent thinking
- c) Using open ended questions
- d) Generating usual ideas
- e) Combining objects and ideas in new ways.
- f) Solving problems and puzzles.
- g) Designing devices.
- h) Multiple modes of communication results.

Foundation of New Approach of Science Learning

Since science has been considered as a major vehicle for enhancing the quality of human life, the universalisation of science education needs to be more authentic and effective. So the basis of the new curriculum is derived from developments in philosophy, psychology, anthropology and sociology taking place in India and the European countries. These developments have helped to make teacher centered learning to student centred learning and to give the idea that learning takes place through social interactions.

The new curriculum has given adequate thrust to the following.

- Multiple intelligence
- Co-operative learning

- Constructivism and
- Emotional quotient

Multiple intelligence

Multiple intelligence of the students are strengthened and developed as they go through different learning activities. The different dimensions of multiple intelligences are seen in each student in different levels.

The modern studies on intelligence are especially relevant to science education. The traditional view is that intelligence is hereditary and does not change. Because of this some students are considered to be deficient in logical thinking, mathematical operations and analytical skills and it is believed that such students cannot perform well in science subjects.

Modern theories however consider that by giving suitable environments and through continued efforts such students can improve the intelligence relating to the specific area. According to the theory of Howard Gardner, human intelligence has different components and all these components are present in all individuals in different proportions. Some components may be more prominent in some individuals. All components of intelligence can be developed to a certain extent in each individual.

Components of Intelligence

1 Verbal/ linguistic intelligence

The ability for reading, writing, verbal production, speak and lecture and communicate effectively belong to this type. This type of

intelligence can be developed through activities such as report writing, presenting of reports etc.

2 Logical/ mathematical intelligence

Abilities like logical thinking and finding out patterns and relations belong to this component. This type of intelligence is developed through finding correspondences, ordered explanations and mathematical operations.

3 Visual/spatial intelligence

People with prominently visual/spatial intelligence will be able to design models and execute ideas they have in various forms. Architects, designers and sculptors will be strong in this type of intelligence. Model building, making of art materials, sculpting, painting and drawing will help this component to develop.

4 Bodily-Kinesthetic Intelligence

This related to the ability to move the body parts. Dancers, actors, sports people and gymnasts who can move the body aesthetically and express emotions through body movement belong to this category. Activities involving dance, aerobics, sports and games help the development of this type of intelligence.

5 Musical Intelligence

It is believed that this type of intelligence is highly developed in people with the ability to distinguish the different elements in music, performing musicians, people who can hum tunes and those who can appreciate music. Playing musical instruments, singing along with others, keeping rhythm etc. are activities that help the development of this component.

6 Interpersonal Intelligence

People who demonstrate leadership qualities and are able to interact in a positive way with others will have a better developed interpersonal intelligence. They can understand the thinking of others and can successfully involve in negotiation activities. Role play and group activities can be used to cultivate this intelligence.

7 Intra Personal Intelligence

This is essentially the ability to understand oneself. Such people will have the ability to understand their abilities and shortcomings. Analytical dairy writing, assessment of ideas and activities of others and assignments can help the growth of this factor.

8 Naturalistic Intelligence

This is characterised by deep interest in nature and the flora and fauna, love for fellow beings, interest in spiritual and naturalistic phenomena. This component can be strengthened through nature study and enjoying the beauty of nature.

Gardner speaks about another dimension of intelligence - existential intelligence. But this has not been elaborated sufficiently. The teachers may ensure that learning activities that cater to all the components of intelligence are provided to the student.

Multiple Intelligences in the Science Class Room

The multiple intelligences of the students are strengthened and developed as they go through

different learning activities. The different dimensions of multiple intelligences are seen in each student in different levels.

The teacher must organise learning activities that facilitate the growth of all the types of intelligences in all the students.

Co-operative learning

This is a mode of learning where the learners help each other to learn. Those who have better knowledge and experience help other students. It must be ensured that the help is not mere copying of other students work. It is a need based interaction providing support for learning at all stages. All the members of the group will be ready to answer the questions on the common task and the groups achievement will be evaluated on the basis of the performances of the group members.

Constructivism

Constructivism means learning by constructing. Psychologists point out that learning is the combination of knowledge. Learning takes place as part of problem solving. Learning takes place by incorporating new elements of knowledge in to cognitive structure of the learner.

Features of constructivism

Important ideas put forward by constructivism may be examined now;

1 Discovery learning

Teachers must create an atmosphere that enables the learner to discover ideas and facts.

Rather than leaving the student to discover for herself, providing opportunities that prompts the learner to discovery is important. Providing direct explanations and asking the student to imitate models are not what is expected from the teacher. Helping the student to develop a model on her own is more important.

2 Learning through debate

That debates lead to learning is an idea of Bruner. Here debate does not mean an argument. It is a sharing of ideas. New ideas can be developed by asking for explanations, contributing ideas, internalising ideas and analysing ideas in debate. It is an active method where all in the class can participate.

3 Learning and Problem solving

Learning takes place only when the student sees a problem that needs a solution in a particular learning situation. When an imbalance in knowledge is produced the natural tendency is to carry out some activity to correct this. The student needs to be confident that he/she will be able to find a solution. Problems framed need to consider the abilities, cognitive level and practicability.

4 Collaborative learning

This is a form of learning which shares the learning responsibility among members of a group which works towards a common objective.

The common aim can be achieved only when all the group members perform their duties satisfactorily. The outcome of learning can be

shared by all the members of the group. The teacher who facilitates learning need to clarify the responsibilities of each member. This can be done only through discussions with the members of the group. The situation where one person acts on behalf of the group can be avoided in this type of learning.

Collaborative learning method can be followed only by a teacher who is prepared to share knowledge and authority with the students.

5. Zone of proximal development (ZPD)

According to Vygotsky, there is a level of achievement that can be reached by all learners on their own, and another higher level which can be achieved through help from teachers or peers. While any learning activity can be successfully completed by many learners, with the help of competent elders all can reach a higher level. Those who complete the activity only in parts can complete it with the help of the teacher. If appropriate help is received, all learners proceed to better performance. The area between the level achieved by own efforts and that which can be achieved with the help of others is called as zone of proximal development by Vygotsky.

6 Scaffolding

It is only natural that many learners are unable to complete learning activities if help is not received in time. The student needs help from the teacher in many learning activities. Here, help does not mean taking over and completing the work for the student, but making the student herself complete it. Teacher may provide hints,

examples, evidences, or ask questions to direct the thought to specific path. In some situations the student may be asked to examine how others have approached the problem. What is important in providing this scaffolding is to bear in mind that the student must gradually be equipped to take up and complete the task. The concept of scaffolding highlights the important role of the teacher in learner centred education.

7 Learning as an active mental process

Learning being a cognitive process, the teacher needs to know cognitive processes to facilitate the creation of learning opportunities. Learning can be made effective and intellect sharpened by providing learning experiences involving processes like remembering, identifying, correlating, connecting, comparing, classifying, selecting analysing, ordering, logical thinking, summarizing, justifying, guessing, predicting, asking practical questions, explaining, correcting, recreating, imagining, appreciating, creating, concluding, codifying, integrating, thinking critically and calculating.

8 Internal motivation

Constructivism emphasises internal motivation over external motivation. Teachers must make all efforts to see that students have internal motivation. Only a student who is internally motivated can involve completely in learning and own up responsibility for all activities in learning. The teacher may frequently evaluate how far she has been able to motivate the students and develop adequate strategies.

Emotional Quotient

Then emotional quotient to is the greatest factor affecting success in life in now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

The concept of emotional intelligence put forward by Daniel Golman was used in framing the new curriculum. The fact that one's Emotional Quotient (E.Q) is the greatest factor affecting success in life is now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

i) Ability to take decisions

Rather than imposing decision on students while planning and executing activities, the students may be allowed to take part in the decision making process. Taking decisions through open discussion in the class, inviting students' suggestions on common problems etc. are habits to be cultivated.

ii) Ability to reach consensus

- When different opinions, ideas and positions arise, the students may be given the responsibility to reach a consensus.
- Imagining what would be the course of action in some situations, allowing to intervene in a healthy way in problems between individuals.

iii) Problem solving

- Developing the idea that there is reason and solution to any problem.
- Training in finding reasons for problems.
- Suggesting solutions through individual or group efforts.
- Discussing social problems.
- Analysing the shortcomings in methods to solve problems.

Group discussion will provide reasons and solutions. Problems which can influence classroom learning and for which the learner can actively contribute solutions need to be posed.

- Self criticism, self evaluation
- Ability to face problem-situation in life
- Thinking what one would do if placed in the situation of others, how one would respond to certain experiences of others - All these foster the growth of emotional intelligence.

iv) Life skills

Life skills need to be given a prominent place in education. W.H.O. has listed ten skills required for success in life.

- Self awareness
- Empathy
- Inter personal relations
- Communication
- Critical thinking

- Creative thinking
- Decision making
- Problem solving
- Coping with emotion
- Coping with stress

Changed roles in the New Approach of Home Science Curriculum

Knowing the characteristics of the learner, role of the teacher and ways to use the teachers source book help the teacher to plan and effectively implement learning activities in the new approach of Home Science curriculum.

The new approach to science learning was framed and sourcebooks were developed based on modern scientific principles. Knowing the characteristics of the learners role of the teacher and how to use the teacher's handbook help the teacher to plan and effectively implement learning activities.

I. Role of the Teacher

A real teacher is one who can come down to the level of children very easily. She should be able to link her soul to the soul of the child. She should be able to see through the eyes of the child and hear through her ears. Only such a teacher can motivate the learner and make learning effective.

The role of the teacher is central in transacting a child centred and activity oriented curriculum. What is the role of the teacher?

Democratic group leader

The teacher should be a democratic leader who can lead the group of students considering their characteristics. She can intervene in group activities in a suitable way and provide direction.

Motivator for learning

Finds out likes and dislikes and produces learning problems and provides help to develop interest in learning. Encourages activities for intellectual development and group work.

Fellow learner

A good teacher does not remain cut off from students during various activities. He functions as one among them.

A constant student

The teacher must internalize the visions of child psychology and new philosophies in education and endeavour to reform her teaching activities constantly. Carries out discussion and study to solve problems, reads a lot and is prepared to learn from students.

Problem solver

The teacher is able to identify problems in the class and solve them. Finds out learning problems in students and initiates measures for solving them.

Planner

The teacher plans the activities to take place in and out of school. Takes into consideration

the learning speed, learning styles & multi levels to plan daily activities.

Researcher

Conducts research in relevant aspects of education and attempts to incorporate the knowledge gained thus in classroom practice.

Organiser

Teacher organises school activities, celebrations, study tours and other social activities.

Evaluator

Evaluates the achievements of the students.

Self - evaluator

Evaluates her own activities and performance.

Evaluates practical aspects of curriculum transaction.

Evaluates the overall activities of the school.

Link to the community

Teacher strengthens the bond between school and the community through bodies like PTA and SSG. Uses local resources and functions as a social activist.

Creator

Makes learning aids and equipment. Attempts to develop teaching strategies and present them in an enjoyable way.

II. Role of the pupil

- active participant in the learning process.
- acts as a researcher
- sharer of information
- sharer of responsibilities
- collects information
- takes leadership
- involves in group work.
- acts as a co-participant
- observes his environment
- experiments and realises ideas
- makes interpretations and draws inferences.

III. Rights of the pupil

A curriculum which aims at comprehensive development of the student must take into consideration international perspective. Following are the main ideas about rights of children put forward by the UNO.

- Irrespective of sex, are children must be given opportunities to form and express their ideas and due importance should be given for their ideas.
- All children must be given freedom of expression. They should have unlimited freedom to know and search for ideas and to select writing, print or art medium to express their ideas.

- Parents and elders must discharge the duty to develop the abilities of children.
- Education must realize the total development of physical and mental faculties of children according to individual abilities and creative skills.
- The child should have the right to enjoy leisure time, involve in recreational activities and artistic and cultural life.
- The rights of children should not be violated in arbitrary and undemocratic ways. Democratic atmosphere must be ensured in class rooms. Children should be protected from torture, cruelty and inhuman behaviour. Insulting behaviour and punishment must be avoided.

Knowingly or unknowingly activities contrary to the spirit of the above rights take place often in our class rooms, schools and the society. This must change.

IV. Child friendly classroom atmosphere

Learning can be effective and enjoyable only when the class room atmosphere is according to the new conception of learning and the characteristics of the higher secondary student. The school and the class room should be made attractive for the student. What are the features of a student friendly classroom?

- Class and seating are arranged in an attractive way.

- Democratic nature is upheld.
- Always active
- Students interact with teachers without fear.
- Opportunity for a variety of activities
- Students are allowed to involve in interesting group activities.
- Learning speed, learning style and differing levels of abilities are considered. Help is extended whenever needed.
- Sufficient instructional materials are available.
- Learning aids and other material made from natural objects and low cost materials by teachers and children are available.
- There is freedom of expression, children share their ideas and experiences.
- Walls are decorated with pictures, photographs of scientists etc.
- Children are given acceptance and encouragement
- Healthy atmosphere
- Needs of each child is given consideration. Happy and energetic atmosphere.
- Teachers work considering the rights of the children.
- Problems handled in a patient way.
- Teachers look at all events from the child's viewpoint.

V. Difference in ability levels

There will be students of various ability levels in any class because learning style, learning speed, varying exposure to learning experiences, physical and psychological problems and varying socio-cultural background.

The learning experiences provided must help to bring the low achievers to an expected level and extend the breadth and depth of the skills of the high achievers.

By repeating learning experiences, introducing variations in a learning experience to suit different levels and if needed, formulating additional experiences, the problem of varying ability levels can be tackled. Peer tutoring, small group study techniques etc can also be adopted.

VI Teachers' Source book

The teachers sourcebook is aimed at helping the teacher in the transaction of the new approach of curriculum.

- Makes clear the curriculum objectives
- Contains the minimum package of suggested learning activities.

[Teachers are expected to find more suitable innovative activities rather than the activities suggested in the SB]

- Explains the points mentioned in the textbook.
- Provides guidelines for planning the activities.
- Provides hints for assessing activities.
- Stimulates teacher's thinking.

3. Strategies for Teaching Home Science (Creche and Pre-School Management)

Home Science offers a wide scope for the use of various teaching methods. Availability of appropriate methods and skill in their selection and use is crucial to successful teaching.

In the modern educational context, the concept of 'teaching' has changed. Today the concept of teaching is based on its social and psychological dimensions. The teaching methodology is considered as a social skill rather than a technique practiced by teachers.

Education should go beyond the acquisition of knowledge, to create the ability to analyse, synthesize, evaluate and apply information. This ability can be developed only through the use of creative methods of teaching such as

- a) Problem - Solving.
- b) Discussion.
- c) Role-play
- d) Demonstration.
- e) Laboratory.
- f) Library
- g) Homescience club

- h) Project
- i) Field trip
- j) Seminar
- k) Assignment
- l) Debate
- m) Audio visual aids

a) Problem Solving Method

Application of problem solving method in teaching, the problem selected must be clear, definite, understandable thought provoking, interesting and suited to the age and the knowledge they already possess.

Steps in problem solving

Problem solving is based on approaching the process of finding out the results by approaching the problem in a number of definite ways. They are:

- i. Recognizing the problem : This step involves sensing the presence of a problem and then identifying the problem.

- ii. Defining the problem : The problem is then defined very precisely and accurately.
 - iii. Collecting relevant data: This step involves collection and arrangement of all sorts of relevant data which can be helpful in solving the problem.
 - iv. Organising the data: The data is then organised in such a way that it can lead to the solution of the problem.
 - v. Formulating a tentative solution : On the basis of the organised data, the student formulates tentative solutions of the problem.
 - vi. Arriving at the correct solution: Out of the tentative solutions, a correct solution is found out by a process of reasoning.
 - vii. Verifying the results: The students are required to verify the conclusion by reversing the process of reasoning. Some situations in which problem solving method can be applied are:
 1. Finding better methods of simplifying work.
 2. Finding various sources of income and better utilization of money.
 3. Elimination of genetic disorders in coming generations.
 4. Finding ways of improving emotional control among students.
 5. Finding better methods of improving nutritive value of foods.
 6. Finding different types of anaemia and its causes.
 7. Finding the type of fabrics suitable for different seasons.
- Through solving developmental problems, students develop abilities to understand general principles learned in the class through lectures, illustrations, textbooks and homework and they put them to use. Through solving judgement problems students gain ability to judge and make decision weighing values, analysing carefully and evaluation facts and making conclusion with out bias. All these call for clear thinking which is developed in the process of making decisions. Through planning problems, students acquire managerial ability, students learn to plan their day, lessons, recreation and wages of fulfilling responsibilities.

b) Discussion

This method is found quite suitable for those topics in Home Science, which cannot be easily explained by demonstration or other techniques. In this method there is sufficient scope for free and natural participation of the pupils.

Discussion takes place whenever a plan or decision is to be made by a group or there is a difference of opinion concerning the situation.

Steps involved in using the discussion methods are:

- to locate and define problems of common interest and significance.

- to work together and to find ways of solving the problems.
- to allocate responsibilities for the solutions suggested and
- to evaluate the effectiveness of the suggested solutions and their implementation.

Advantages of this method are:

- It helps a lot to know about the academic background of the child.
- It allows a better participation of pupils.
- It helps to make classroom teaching more lively, active and interesting.
- It helps to develop qualities of leadership in the pupils.
- It stimulates mental activity.
- It develops fluency in speaking.
- It classifies ideas and helps in the process of thinking.

Types of discussion

Class discussion

2. Group discussion
3. Panel discussion
4. Discussion 66
5. Buzz session
6. Brain storming
7. Symposium

8. Colloquium

Class discussion

Class discussion can be on a general topic such as the need for home science education or it can be on a specific topic such as vocation in home science.

Panel discussion

Panel discussion is also known as round table discussion. It consists of a panel of three to six persons who express their opinion on a given problem. Suppose the topic is 'Is city is becoming overcrowded leading to insanitary living conditions. How can this be improved?' The members of the panel discussions will include specialists on housing, town planning and sanitation. The purpose of a panel discussion is to get important facts from different angles.

Procedure : The chairman starts by introducing the members of the panel to the audience giving their background and experience. She then states the problem to be discussed and explains how she has organised procedures. After opening the session, she proceeds informally, drawing the members into conversation among themselves, but loud enough for the audience to hear. The members present their views on various issues pertaining to

the topic, taking not more than two to three minutes at a time. When the discussion among the members of the panel has been carried on for 20-30 minutes, a free discussion follows between them and the audience. At the conclusion of the prescribed time limit, the chairman summarizes the panel discussion and brings out the important points emphasized.

Discussion 66

In this type of discussion six persons meet for six minutes to discuss a problem or plan a project. Each member is given a minute to express a point she considers most important. When the teacher feels that she must get the opinion of a majority of students in a minimum time, this method proves highly useful. For example, for discussing the stresses during adolescence, the teacher can resort to discussion 66 in order to get maximum suggestions from the students.

Buzz session

In this method the class breaks off into pairs to discuss an issue and changes partners at the buzz (ringing) of a bell. At the end of the session each pupil records the number of suggestions she has heard. A buzz session will give a large variety of ideas in minimum time.

Brain storming

As the name suggests, the brains of the participants are stimulated to create a storm of ideas and suggestions regarding the topic, without any deliberation to find whether or not they are meaningful and purposeful.

Symposium

In this method each member of the group is expected to give his view to the audience through speeches or paper reading about a particular aspect of a problem. At the end a mutual discussion is allowed.

Colloquium

This method consists of two groups: On one side experts or resource person and on the other side students group. The students group raises the questions on interesting subjects and rules announces from the panel.

In a student centred classroom, the following points must be borne in mind while conducting a discussion.

Discussion points may be provided to guide the progress of the discussion.

This will help the students to reach the proper conclusion. Discussion points may be in the form of questions or statements.

- During group discussion the teacher may observe each group and if needed help them to channel the discussion towards the common objective.

- All students may be given opportunity to take part and express their ideas.
- It must be ensured that time limits are observed.
- The conclusion reached may be entered by each students and a group representative must present these during consolidation.
- The teacher may correct or add to the conclusions and ensure that all the relevant ideas have been covered.
- Students may be instructed to enter the consolidated ideas.

c) Role playing

Role playing is spontaneous acting out of a situation by two or more persons to show the emotional reactions of the people in a given situation perceived by them. It is a unrehearsed drama emphasizing the role of a person. Role playing can be used effectively in Home Science class. Topic such as playing out a role of a working mother who is unable to cope with her dual roles or a role of a dietician trying to persuade a patient regarding the food restrictions are examples of topics for dramatisation.

d) Demonstration

Demonstration is a simple and effective teaching aid. Demonstration is used to provide information, create interest and develop standards of work by showing how a process is carried out.

Demonstration can be short and informal such as demonstrating how to thread the machine or it can be long and formal as in the case of a demonstration on flower arrangement for a larger audience.

Steps in the process demonstrated will be summarised at the end, preferably by the students themselves. Articles made or the products resulting during the demonstration will be left for inspecting the finished product. For example in a class on foods, pupils will have opportunity to taste the items prepared. Demonstration should be followed by practice under close supervision.

Repetitions of the practice in the class and through home experience will be needed to develop competence.

e) Laboratory

Since students learn by doing, experience in the laboratory is an important part of their total learning.

Laboratory experiences have three values:

- Productive
- Experimental and
- Observational

Carpentry, food preparation and clothes making are examples of experiences which yield productive values and develop manipulative abilities in managing resources. Experimental type of laboratory experience are needed to determine a principle or illustrate it. For example, removal of ink stain from the dress.

The observational type of experiences such as observation of child behaviour, study of fabrics and comparison of different fibre are used to develop ability to recognise characteristics and draw conclusion.

f) Home Science Library

Home Science books, journals, periodicals, CDs and cassettes may be purchased/subscribed for the Homescience library. Albums, atlas and other collection of students can also be kept as a part of the library. The library will be helpful to the students to develop reference skills and to improve the reading habits as well as to get a deep understanding of the different subjects included under Home Science.

g) Home Science Club

The activities of Home Science club plays an important role in promoting Home Science learning. The activities can be organised under the leadership of a club committee. Home Science teacher may be the science club sponsor, Principal will be the patron and Home Science students its members.

The club mainly aims at building up a positive attitude towards Home Science.

h) Project

This method lays more emphasis on learning by doing. A project as defined by Dr Kilpatric is 'a whole hearted and purposeful activity proceeding in a social environment.' Actually the term 'project' has got very wide connotation and

has been taken to include any activity like dramatics, pageants, making models, drawing maps and charts, collecting pictures, preparing soap, books, going on field trips or any other constructive and experimental understanding which enables the children to learn a significant skill or process. A project may be a brief task or it may be an inclusive undertaking.

The project is a kind of experience which is motivated by a strong desire to learn and teach. This method in reality is a method of living. Projects related to home, school and community are very useful in teaching many topics in Home Science. Successful completion of a project depends upon selection, planning, execution and evaluation.

Steps in a Project:

i.) Providing a situation:

To teach by this method, the teacher must provide a situation where in the pupils are eager to carry out a project according to their needs and interests. Generally various situations are discussed by the teacher so as to find out the interest of the pupils. In such discussion, students are motivated to that situation. Resources are taken into account and various alternatives are considered. After a careful consideration, a plan is selected and it is then written down in the project book by the students under the guidance of the teacher.

ii.) Choosing the project:

The choice of the project may be left to the

students and the role of the teacher be limited to guidance only. Dr Kilpatrick observes 'the part of the pupil and the part of the teacher in most of school work depend largely on who does the proposing'. The most important thing is that the pupils do the proposing. However the teacher should tactfully handle the situation and see that a project of greatest educational value is chosen.

iii.) Planning:

Even during this step the teacher's role is to guide and the actual planning has to be done by the pupils. During the planning maximum participation of students will have to be ensured. During consideration of various proposals the teacher should make clear the difficulties likely to be faced in execution of a proposal. Finally, the best possible plan can be approved.

iv.) Execution:

After a particular plan has been approved it is executed and the project is carried out in accordance with the plan. The teacher may assign definite duties to individual students for this purpose. Every child is expected to contribute something in the execution of the plan and successful completion of the project. The teacher should provide only the minimum help.

This is the longest procedure and the students are busy in different works assigned to them. They may be busy in collecting information, visiting various places and peoples, looking up maps, writing letters, reading reference books, calculating prices, enquiring rates etc. Guidance

for all these varied activities is to be provided by the teacher and so the task of the teacher is quite difficult.

A single project may provide a number of activities and a variety of knowledge from various sources. The students gain different types of experiences while executing a project and so they learn a good deal incidentally.

v.) Evaluation:

After its completion, the project is critically evaluated to assess whether the activities have been carried out in accordance with the plan charted out. Mistakes committed, if any, are noted down, things learnt are reviewed and useful experiences are recounted. The importance of this procedure is that it makes the pupils think about the work they have undertaken and also to evaluate it in the light of the experiences gained.

vi.) Recording

It is essential for any effective learning process that a complete record of all the things learnt should be kept. Such a record is generally kept in a project book. The record includes every thing about the project i.e., choice of the project, the discussion held, proposals accepted, duties assigned, books consulted, informations sought for work undertaken, difficulties faced, experiences gained etc. Such a record is found quite useful and so the teacher should see that a complete record of all the project undertaken is kept by the students in their project book.

i) Field Trip

This is a method of study which links learning activities with school surroundings with definite aims. If needed the services of local experts and parents may be sought. Proper planning is essential for the success of field trips as in the case of any other learning activity. As part of project activities, field trip or study tour may have to be carried out.

j) Seminar

Seminar is a comprehensive organised matter presented either orally or in written form in an interesting manner. It requires the pupils to read the related literature on the given topic from all the possible sources of information, organise it in a purposeful manner with proper logical sequence and then plan for an effective presentation. Seminars are useful in conveying the various messages of Home Science to the pupils with their own effort. The pupils are made familiar with different sources of information on a topic and also in the course of presenting the work they develop self confidence. Seminars can either be given as oral or written seminar paper, and can be given as individual or a group activity. Some of the topics that can be given by the Home Science teacher are:

1. Need for balanced diet
2. Importance of play in child development
3. Nutritional problems in adolescents
4. Energy conservation in the home.

5. Selection of fabrics for the family

Organisation of seminar

- Topic presentation
- Finding out sub topics or different areas
- Group formation
- Assigning sub topics to different groups
- Discussion by each group on the assigned area or sub-topic (books, magazines, institutions, place and person)
- Organising ideas
- Paper writing
- Seeking the opinion of the teacher.
- Presentation
- Discussion
- Summarising

The teacher may provide reference materials and give directions at all stages.

- Paper writing
- The paper may include new information gained through data collection, conclusions and findings.
- The information collected by all the members may be included.
- Tables, charts, books and other resource materials may be included.

Teacher may examine the paper at different

stages and provide guidelines. The activities and participation of each student in the group may be assessed.

Paper presentation

- Teacher may function as the moderator during the initial stages, but it is better to assign this role to students themselves.
- The paper to be presented must be written out completely.
- All the group members must be present in the dias during presentation and must actively participate in the discussion after presentation by the leader.
- Questions from the audience are to be answered by group members taking turns.
- Teacher may interfere when necessary to provide instructions and help.
- When sub topics are presented, after all the presentations are over general discussion may be held. Teacher may summarise the discussion.
- A summarised version of the report may be recorded.
- Seminar papers and reports may be kept in the information corner.

k) Assignments

Assignments are learning activities helping to

achieve the curriculum objectives and also lead the pupil from the present level to a higher level of learning.

Assignments may be of the types - writings, drawings, construction of models etc. In assignments involving construction of models, a note on methods used in construction may also be submitted.

The discussion and planning may be carried out in classroom to complete the assignments in time. Clarifications may be given about the sources. Teacher may provide the sources if needed.

l) Debate

Debate is an important method of learning science, social constructivist theories consider debate as an ideal method of learning.

After presenting a controversial topic, arguments in favour and against are put forward and a detailed analysis of facts is done by both sides in a debate.

Relevance of Debate

- To develop the skill of presenting ones views logically and argue convincingly
- To develop the ability to compare others views with ones own view and to understand relevant aspects of ideas of others.
- To develop leadership quality, democratic attitude, unity, and communication skills.

Conducting a debate

The selection of the debate topic must be done very carefully. A controversial topic (one which can be viewed from two different standpoints) is suitable for debate. Both viewpoints must help in cultivating certain positive attitudes in students.

The teacher must not take a stand favouring one group. An objective approach is to be maintained while presenting the topic.

Only then the students will prepare to debate both aspects. The processes in the debate are;

- Topic presentation
- Preliminary discussion - students are grouped into two.
- The two groups discuss the arguments they are going to present.
- Responsibilities assigned for presenting different viewpoints & arguments.
- Either the teacher or a student functions as the moderator.
- Each group presents their arguments.
- Moderator presents an analysis of the ideas and consolidate the points.
- Moderator presents an analysis of the ideas and consolidate the points. Moderator may present the consolidation in tune with the method of science. The consolidated information is recorded.

Responsibilities of the moderator

- Introductory presentation
- Guiding the discussion
- Ensuring that the discussions are on right track
- Ensuring the time limits
- Consolidation of arguments

A model for planning

Stage 1 - 1 period

- Introductory presentation of the topic
- Grouping of students
- Group discussion
- Collection of information within groups
- Assigning responsibilities
- Fixing date and time of debate.

Stage 2 - Debate

- Seating arrangements
- Introductory remarks
- Presentation of arguments from two sides
- Discussion
- Consolidation

The moderator's main responsibility is consolidation. It must be unbiased, analytical and efficient as the role of a judge in weighing the merits of a legal point.

Stage - 3

- Preparing report on the debate.
- Record the details of the debate.

m) Teaching with Audio-Visual Aids

In any subject, teaching aids will help the teacher to put forth his/her ideas in an interesting and effective manner. In Home Science, teaching aids comprising visual as well as audiovisual aids can be used effectively to transmit knowledge of the different areas of nutrition, family resources management, human development and textiles and clothing. Models, cutouts, exhibits, bulletin boards, puppets, film shows, slide shows, film strips, radio, television, video cassettes, pictures, charts, posters, photographs, flannel graph and flash cards can be effectively used by the Home Science teachers to promote the learner centred activity. If computer facility is available, CDs on various topics can be effectively used for teaching. The internet can be successfully used to promote learning.

Models are the representations of objects, which can serve as substitutes for the real objects. Models can be either still models or working models.

Eg. Models of different time and energy saving equipments like thermal cookers, smokeless chullah etc. Cutouts are simplified models designed to show the parts or work pattern of the whole. This is especially useful in the area of cloth making.

Exhibitions help to convey new ideas and findings of research can have immense educational value. Pupils participating in the exhibition prepare the exhibits, organise and arrange them in order and explain the matter to the public coming to see the exhibition, and thus learn new concepts and skills. The teacher can entrust the job of setting up an exhibition to the pupils by including all the projects, home assignments, collections if any at the end of the year.

Bulletin boards set up in the school enable the pupils to have an understanding of current events and programmes in relation to the subjects of study. The pupils can be encouraged to set up paper cuttings as notices regarding programmes to be implemented etc. every week in the bulletin board.

Puppetry also offers interesting educational experiences for pupils. Ideas can be presented efficiently as well as economically. Puppets can be made using paper pulp or clay or cloth. It can be used as glove puppets, string puppets, or rod puppets, and the pupils take responsibility for making the puppets, moving them and also speaking the dialogue for the puppet. Puppets can be effectively used for nutrition education, stories of family living, health and hygiene.

Film shows on various aspects of Home Science are available at the Field publicity offices which can be screened in the school. They arouse interest and serve an educational purpose also. Slide shows are also effective teaching aids and they are very useful in the teaching sessions.

Radio and television can also be effectively used by the teacher. Group listening and discussion on educational programmes on radio and television can be done as a part of home science club activities.

Charts, posters, photographs can help in arousing interest in the students. Picture albums on different aspects of child development, textile fibers etc can be prepared with the help of the pupils. Flannel graphs on various food groups, labour saving devices etc can be prepared to make the teaching session on these topics interesting. A flash card is usually used to illustrate the matter taught in a story form. Eg. Importance of good nutrition in the form of a story with

characters following good and poor nutrition practices with pictures in flash cards. The flash cards have to be arranged in a sequence, and held in front of the teacher so that all the pupils may see it well. As the story proceeds, the cards are flashed or shown and kept behind.

CDs can be viewed as a part of Home Science club activities, and also relevant matter from the internet can be saved by the teacher and viewed later by the students, whenever possible.

The teacher can choose any of these strategies according to her topics for students. Teacher can also try any other strategy suitable for the topic.

4. Planning

In the context of the changing scenario in the field of education, the role of the teacher is not simply to teach the syllabus. The emerging need of education calls for a facilitator's role from teachers. The learning process has been student centered and activity oriented. Learning activities must enable the student to develop process domain and multiple intelligence skill to their maximum extent. No matter whether those skills are attained inside or outside the classroom, but the teacher must bear in mind, the fact that they are to be accomplished within a time frame. In

order to achieve this end, the teacher may make necessary plans in terms of learning activities, the time required at various stages of learning, the time required for each unit and also the desired out come.

The teacher must prepare at least three planning documents.

1. Year plan
2. Unit plan
- 3 Daily plan

Year Plan

Unit	Chapter	Topic	Periods/ Theory (hrs.)	Practical (hrs.)	Month	Activities/ Strategies
I	1	Growth and Development of a Child Importance of study of developmental psychology with special reference to early childhood.	3	6	June	Discussion Observation
	2	Meaning of growth and development	6	3	June	Discussion Observation
	3	Maturation and learning	1	-	June	Discussion
	4	Role of Heredity and environmental factors on development	2	4	June - July	Discussion Observation
	5	Major aspects of development	14	6	July	Discussion Observation
	6	Play	8	3	July - August	Seminar Assignment
	7	Method of child study	6	28	August	Assignment
		Total	40 hrs.	50 hrs.		

Unit	Chapter	Topic	Periods/ Theory (hrs.)	Practical (hrs.)	Month	Activities/ Strategies
II	1	Organisation and Management Significance and importance of early child hood education.	2	20	September	Group Discussion Observation
	2	Needs and importance of creche and per-school is modern day life and methods of pre-school education.	6	20	September	Group Discussion Observation
	3	Different programmes in the field of early child hood education.	8	30	October	Discussion Observation
	4	Aims, objectives and different types of creche and pre-school.	6	50	October	Group Discussion
	5	Essential components of establishing a centre building.	10	40	November	Problem solving
	6	Qualities and responsibilities of pre-school personnel.	8	-	November	Assignment
		Total	40 hrs.	160 hrs.		

Unit	Chapter	Topic	Periods/ Theory (hrs.)	Practical (hrs.)	Month	Activities/ Strategies
III	1	Nutrition and Health Concepts of Nutrition and Health	4	-	December	Group Discussion
	2	Importance of Nutrition and Health during coolly child hood years.	4	-	December	Group Discussion
	3	Nutritional needs of children in various age groups.	4	40	December	Discussion with AV Aids
	4	Growth monitoring	4	-	January	Demonstration
	5	Nutritional deficiency diseases during pre-school years.	8	35	January	Project Work
	6	Meal Planning	4	-	February	Discussion
	7	Importance of breast feeding	2	5	February	Group Discussion
	8	Importance of Weaning	2	40	February	Seminar
	9	Nutrition Retention while cooking	8	40	February	Demonstration
		Total	40 hrs.	160 hrs.		

Unit	Chapter	Topic	Periods/ Theory (hrs.)	Practical (hrs.)	Month	Activities/ Strategies
IV	1	Parents and Community - Education and Involvement Agencies of education and their classification	6	-	February	Group Discussion
	2	Aim of home-school relationship and role of parents in the proper functioning of creche and pre-school.	4	10	March	Group Discussion Observation
	3	Need, ways and contents of educating parents.	6	30	March	Group Discussion Observation
	4	PTA organisations and functions	4	10	March	Group Discussion Observation
		Total	20 hrs.	50 hrs.		

Unit Plan

Subject : Parents and Community - Education and Involvement

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation
1.	To educate different agencies of education.	Group Discussion	Charts	Creative skills	Communication skill, Notes, Charts	Quiz, Mode of presentation
2.	To create an idea about better home school relationship and role of parents in proper functioning of school.	Group Discussion Project work	Notes, Book reference	Understanding idea formation	Notes, reports, assignments	Notes, performance in the class test, communication skill
3.	To develop an awareness about PTA.	Group Discussion Project work	Subject for observation, notes, reference books	Group activity, co-operation, understanding	Notes, reports, exhibits	Acquired concepts, assignments, report, presentation, role play

Daily Plan

Class XI

Subject : CRECHE and Pre-school
Management

Division:

Unit : Growth and Development

Date :

Time : 3 Periods

Curriculum Objectives

Understands the meaning of growth development, its differences and principles through observation, secondary data collection, analysis and discussion prepare notes and presents.

Learning Activities	Feed back
<ul style="list-style-type: none">• Pupils have some idea about the concepts growth, development and its differences.• Through discussion check the previous knowledge related to the topic.• What are the changes that we are undergoing in each stage of development?• Can we call all the changes as growth? • Now the teacher consolidates differences between growth and development.	<ul style="list-style-type: none">• Each group think and list the changes that are taking place in each stage of life cycle.• After discussion leader of the first group consolidates that among the different changes, increase in height, weight etc. can be learned as growth, growth and other mental and emotional capacities together can be called development.

4

Evaluation

Educational Evaluation is the estimation of growth and progress of students towards the objectives and values set in the curriculum.

The evaluation process also aims at helping teachers to adapt instruction to the differing needs of individual students. Evaluation helps in providing educational guidance which consists of both solving short range immediate, academic problems of students, and long range counselling regarding the selection of field of study according to students scholastic aptitude and abilities. Personal guidance which tries to identify a student's social, emotional, educational and vocational problems also depends upon evaluation.

Evaluation should be comprehensive

- Learning is an active mental process.
- Development of all the process skills are to be evaluated.

- Scientific knowledge, facts, concepts, attitudes and interests to be evaluated.

Evaluation should be a continuous process

- Child progresses through different learning experiences. Learning progress should be evaluated from time to time. Learner must develop a convincing understanding of new information developed through learning experience. They are to be given all help for this. The students may make use of the help of the teacher to solve difficulties in learning. Thus opportunities for continuous improvement is provided to the teacher and the student.

As the curriculum is based on a particular vocation, evaluation becomes an inevitable procedure. Evaluation is done along with learning process throughout the course of study. In order to make an evaluation, the teacher should be able

to understand the students, their scholastic and co-scholastic knowledge. Capacity building in the selected vocation is the most important part in vocational education and it should be evaluated accordingly. The technical skills, interest and devotion in the particular field, communication skills, analysis, organising and presentation skills etc. have to be evaluated. The personal and social qualities also have to be evaluated. Thus evaluation is an integral part of learning process which assesses the implementation of the curriculum.

Need and importance of Evaluation

Evaluation is to assess the scientific knowledge of students and to recognise to what extent they have achieved the specified capabilities. A written examination at the end of an year which is purely based on a textbook is not of much use. "Evaluation is a systematic process of collecting, analysing and interpreting evidence of students' progress and achievement both in cognitive and non-cognitive areas of learning for the purpose of taking a variety of discussions".

The teacher can properly assess the level of the learner and can identify his/her strength and weakness. This will help each student to evaluate themselves and to improve their level of learning by taking necessary assistance from the teacher (self evaluation) classmates can evaluate themselves through interaction (peer group evaluation) Evaluation even help the teacher to

analyse and improve their performance. Evaluation helps to integrate the teacher, learner and even the parents. Thus student who are socially useful and can perform productive work are created. This will improve the quality of our young generation.

Theories of constructivism and multiple intelligence are the basis of modern learning. So evaluation strategies have also to be changed. Evaluation must be;

- 1 Continuous and comprehensive
- 1 Scholastic and co-scholastic
- 1 Depending on grading system.
- 1 Depending on a vocational or trade proficiency.

Continuous and Comprehensive Evaluation

Most of our traditional evaluation methods are related only to the area of scientific knowledge or the memory of students. To eliminate the limitations of this method we are forced to evaluate the multi-dimensional competencies of the learner with respect to the practicability and nature of the subject.

Indicators for Continuous Evaluation can be

1. Assignment
2. Seminar

3. Class test
4. Project etc.

* For continuous evaluation class test (CT) is made compulsory taking any two of the above said indicators. CT can be a written test, oral test (viva), Practical test.

Grading for CE

Each item in CE is evaluated giving its required score and graded as shown. 5 point grading is given

13	→	20	→	A grade
13	→	16	→	B grade
9	→	12	→	C grade
5	→	8	→	D grade
below 4	→			E grade

1. Assignment

Assignment is an activity to achieve the curriculum objectives undertaken by the students, in continuation with activities carried out in the class. It is a self learning cum evaluation activity and it should ensure that the work is completed within a stipulated time according to the teacher's direction by utilising the maximum capabilities of the students and exploring maximum possibilities. If same topic is given to all the students, the involvement of the students in his/her work should assure using some tools like viva-voce. If different tasks are assigned, the level

of task should be uniform and evaluation indicators should be specified in advance. The activity begins in the classroom with proper planning and preliminary discussion and carried out completely outside the class. The document containing the activities should be submitted in time for the completion of evaluation. The document may be shared if it is relevant and there is demand if a student delivers more than one seminar the best is taken for CE reporting. Every student should be given a chance as it reflects his/her CE score.

Contents of Assignment

1. Title, Objective
2. Introduction, Collection of data
3. Analysis of the content
4. Conclusion
5. Report (Documentation)

2. Seminar

Seminar is a very effective selflearning activity which helps to go deeper into the different aspects of a particular topic in the syllabus. The information collected from various sources with the guidance of the teacher is systematically organised and presented in the class so that the information is shared among the students. The students from the audience can raise doubts and questions regarding the content and even contribute to the subject.

The topic and subtopics are to be emerged during discussion in the classroom as a need to know more about the topic. If there is sufficient content for the subtopics each of them can be assigned to each student, but they should work in a collaborative manner. A seminar paper or notes is prepared and submitted to the teacher for verification and authentication when the seminar is presented the other students record the points in their notebooks and each student prepare his/her own seminar paper of the same topic. At the same time the student who presents the paper also modifies his/her paper and reflect the points emerged during the discussion. All the papers are compared and evaluated to ensure the uniqueness of the efforts made by each student to acquire the information regarding the topic.

Contents of Seminar

Slection of topic

Collection of relevant information

Presentation of draft paper

Programe scheduling

Seminar paper presentation

Discussion- interaction

Finalisation of the document

Document submission

3. Class Test

A class test is done to evaluate the performance of students in the theory/practical classes. Those who are absent in a test may be given a chance on his/her request, if it is found genuine.

1. Class test may be oral test(viva) or written test, quiz, debate, practical test or any kind of testing the performance of the learner.
2. Class test is a tool to collect feed back from learners during learning process.
3. Class test can be conducted after the completion of a lesson or a unit.
4. It is a tool to find out and to slove the learning problems faced by the student.
5. Questions must be prepared by the teacher by following the guidelines from the authorities.
6. Self evaluation by the students or peer evaluation may be used apart from the evaluation by the teacher.

Project

A project can be used in testing the ability for designing and development. As in the case of any project, designing is a procesoriented activity, in which there are different stages to be evaluated and a product is evolved. It is group activity through which a work is developed using a package or any development tool.

The project begins with identifying the application area and the associated problems. The elements involved in designing are recognised and procedure or steps are derived. The students explore possibilities of co-operative and collaborative learning and apply their problem solving skill using development tool/package.

The students must be in touch with the teachers throughout the stages of project work. A project diary must be maintained. The teacher varify and guide to prepare the report. The project report should be evaluated and can be kept in the library for reference.

Project in first year MOBE from electronics or biomedical instrumentation.

Contents of a project

Title, preface
 Introduction, topic, Objectives
 Hypothesis, Collection
 Analysis, Procedure
 Conclusion
 Preparation of report
 Reference, Suggestion, Appendix
 Presentation of Project

Structure of Project Report

1. Cover Page (Project title, Name of Students, Course and Duration)

2. Certificate

3. Preface/ Abstract

4. Content

Introduction

Aims (Objectives)

Problem study/ Analysis

Development Tools and Facilities used

Source Code/ Procedure/Steps

Outputs

Conclusion

5. Annexure (Sample data, data sheet etc.)

3. Bibiliography

Project

Project in first year MOBE can be from electronics. Project can be given to a group of students consisting of 5-10 members each.

A Suggested Project

1. Eliminator (0-12v- Variable)

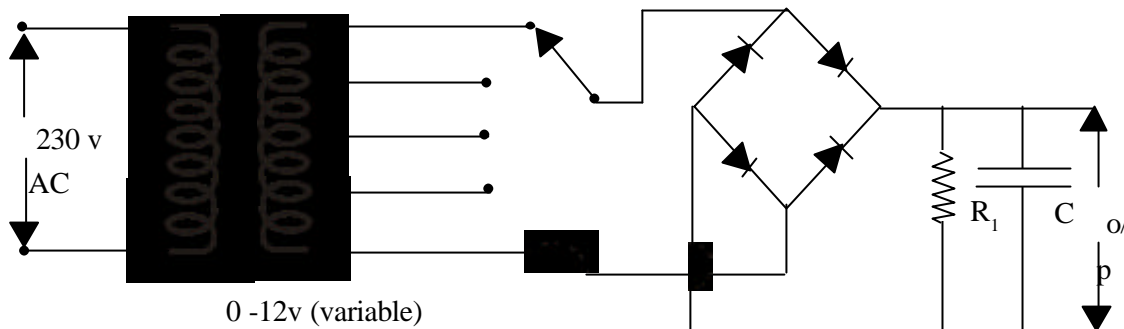
Material required

Transformer - Multiple tap (0,1.5,3, 4.5, 6, 7.5, 9, 12)
 Diode - IN 4007 (IA) - 4 numbers
 Resistor - 1K $\frac{1}{2}$ W - 1 number
 Capacitor - 1000 μ f, 25 v- 1 No.
 PCB - General

LED - Red- 1 No.

Rotating Switch

Connecting cables, wires.



Term Evaluation

- Application level questions
- Synthesis level questions
- Comparison of facts
- Challenging questions
- Scope for obtaining innovative ideas
- Giving creative thinking by the students
- Questions based on the objectives of learning activities
- Practical oriented questions
- Environment related questions

Divergent thinking level questions

PE

PE is the important part of vocational practicals. The practical skills must be evaluated after completing all practical experiments in each term and at the end of the academic year. PE must cover all required indicators to evaluate the technical skill and practical knowledge of the different topics covered.

Indicators for PE are given below;

Indicators	Score	Total
Identification of tools/items	20	20
Procedures (2experts) (Written)	5 x 2	10
Technique/fabrication	20 x 2	40
Observation, Tabulation Inference	20 x 2	40
Result	5 x 2	10
Record	1 x 10	10
Viva		20
	Total	150

CE item calculation

Subject		item: Assignment					Total Score (20)
Sl. No	Name	Evaluation Indicators					
		I (4)	II (4)	III (4)	IV (4)	V (4)	
1	Anand	2	3	4	4	4	17
2	Shibu	4	3	4	4	4	19

Total CE calculation

Sl. No	Name	CE Items			Total (60)	Total CE Out of 20
		1 Class Test (20)	2 Assignment (20)	3 Seminar/ Project (20)		
1	Anand	18	17	19	54	18
2	Shibu	20	19	18	57	19

Terminal Evaluation (TE)

Terminal Evaluation is in written form. The test should not be aimed to test the memory alone. The terminal evaluation questions give more emphasis on application level, analysis and

synthesis. The questions are framed so that the students are able to apply their different mental process. The maximum score is 80 and the minimum score of TE is 24 (30%).

Subject Consolidation

Sl. No	Name	CE (20)	TE (80)	Total CE+ TE (100)	Grade

The maximum score of CE + TE is 100 and the minimum score is 30(30%)

Vocational Competency Evaluation (VCE)

Being a vocational course, a system to judiciously evaluate the required value addition and consequent capacity building in the selected vocational subject is highly essential. As the other evaluation components like CE, PE and TE cannot assess the vocational competencies and professional skills acquired by the students, an internship evaluation (IE) component has been introduced to meet this requirement.

Internship evaluation should be done based on the following components.

I. Regularity and punctuality.

A regular presence and habit of time bound completion of task is a must for attaining maximum efficiency.

II. Value addition

Value addition can be evaluated through conducting field visits/survey. The experiences gained through field visit and survey increases the level of intrinsic motivation and positive attitude towards the vocational field and there by increase his value as a skilled semi-professional.

III. Capacity building

Capacity building can be evaluated through conducting the following activities.

1. OJT/Simulated experiment
2. Performance- Camp/ Exhibition/ Clinic.
3. Performance- Production/Service cum Training centre.

These components helps the students to practice the acquired skills in the real situation and there by increasing self confidence and promoting self reliance.

I. Regularity and Punctuality can be evaluated by 5 point grading system.

Rating scale

		1	2	3	4	5
1	Regularity	Never regular	Often regular	Usually regular	Most of the time regular	Always regular
2	Punctuality	Never Punctual	Often Punctual	Usually Punctual	Most of the time Punctual	Always Punctual

Regularity and punctuality can be assessed by using attendance of the student and time bound completion of tasks.

The aim of value addition is to measure the interest, devotion Group management, perseverance of the learner in specific areas Value addition can be evaluated from field visit, survey and simulated experiments.

Capacity building is aimed at measuring the skills of the learner from OJT/ production cum training centre/ research and development/graded area exposure.

The minimum score of VE should be 30. The VE score in the first year should be carried over to second year as vocational education is a continuous process.

CE Item	Evaluation Indicators	Weightage	Score
1. Assignment	1. Awareness of the content 2. Comprehensiveness of the content 3. Systematic and sequential arrangement 4. Observation/suggestions/Views Judgements/ Evaluation 5. Timely Submission	4/3/2/1 4/3/2/1 4/3/2/1 4/3/2/1 4/3/2/1	20
2. Seminar	1. Ability to plan and organise 2. Skills in the collection of data 3. Awareness of the content (presentation of the paper, participation in discussion, ability to substantiate the ideas and views) 4. Ability to prepare the report (sequence in the presentaionof the concepts, authenticity and clarity of ideas/views/concepts 5. Quality of Seminar Document	4/3/2/1 4/3/2/1 4/3/2/1 4/3/2/1 4/3/2/1	20
3. Project	1. Ability to plan (Selection of the method for solution of the problem identifying suitable tools, planning the various activities to be carried out in each stage) 2. Ability to collect data (sufficiency and Relevance of data. Classification and arrangement of data for analysis, reliability and authenticity of the Collected data.) 3. Ability to analyse the elements and procedure (Structuring of elements and developing logic. Efficiency in using the package/tool. Recognising design errors and correcting them)	4/3/2/1 4/3/2/1 4/3/2/1	

CE Item	Evaluation Indicators	Weightage	Score
	4. Ability to prepare the project report (Reflection of the process skills. Communicability and authenticity of the report in relation with the Project diary	4/3/2/1	
	5. Viva Voce(Knowledge of the content and Process)	4/3/2/1	20

VCE Item	Evaluation Indicators	Weightage	Score
	4. Innovation.	4/3/2/1	
	5. Involvement/Social commitment.	4/3/2/1	
	OR		
	Performace in production/ service cum training centre (PSCTC)		
	1. Mastery of vocational skills.	4/3/2/1	
	2. Managerial capacity.	4/3/2/1	
	3. Promoting self confidence.	4/3/2/1	
	4. Innovative approach.	4/3/2/1	
	5. Promoting self - reliance.	4/3/2/1	

Vocational Competency Evaluation(VCE) Items (Internship Evaluation)

Items	Score
Regularity & Punctuality	10
Field visit/survey(any one)	20
OJT/simulated experiment Performance- Camp/exhibition/ Clinic Performance- PSCTC (any one)	20
Total	50

A minimum of 80% attendance is required for promotion to the second year. Those who have shortage of attendance should repeat first year. Those who have 80% and above attendance but failed to achieve 30% of internship evaluation

(IE) will be promoted to the second year. He has to improve the component in which he performed poor. He has to attain the minimum by improving the particular component to get eligible for appearing second year public examination.

5. Curriculum Objectives

1. To understand the importance of early child hood years through discussion and observation.
2. To understand the meaning, definition, principles and difference between growth and development through discussion and observation.
3. To inspire the child to gain knowledge about the role of Maturation and learning in order to achieve proper development through discussion and observation.
4. To educate Heredity, environment and its influence on behaviour through discussion and observation.
5. To understand the meaning, aspects and importance of physical, motor, social, emotional, cognitive, moral, language and aesthetic development through discussion and observation.
6. To understand the meaning and significance of play during early child hood years through seminar and assignments.
7. To familiarize the different methods of child study through schedule preparation, data collection and analysis through assignment.
8. To give knowledge about importance of early child hood education through group discussion.
9. To understand the need, importance, aims and objectives of crèche and per-school, different programmes in the field of early child hood education through group discussion.
10. To acquire knowledge regarding essential components of establishing a centre building through problem solving method.
11. To develop desirables qualities and responsibilities of pre-school personal. (Pre-school teacher, assistance, helpers) through assignment.

12. To help the students to acquire an idea about definition and functions of food, nutrients, nutrition and health through group discussion.
13. To understand the importance of nutrition with special reference to early childhood years through group discussion.
14. To develop an understanding about RDA of 0.3 months, 3 – 6 months, 6 months. 1 year, 1- 3 year, 3 – 6 year and adolescent year through visual aids and discussion.
15. To create an awareness regarding the deficiency disease during the pre-school year through project work.
16. To give knowledge about growth monitoring, need, importance and how to monitor the growth through demonstration.
17. To create awareness about how to plan a balanced diet for a day how to make it attractive through laboratory work and discussion.
18. To help the students to acquire knowledge about importance of Breast feeding, proper way care and cleanliness of mother through discussion.
19. To develop an awareness about the nutrition Retention while cooking, how to enhance the nutritive value through demonstration.
20. To educate what is Weaning, types of Weaning foods and nutritional adequacy of Weaning foods through seminar.
21. To educate different agencies of education through group discussion.
22. To create an idea about better home school relationship and role of parents in proper functioning of school through group discussion.
23. To develop an awareness about PTA through group discussion.

7. Syllabus

Creche and Pre-School Management

First Year

Unit I

I Growth and Development of Child

Theory – 40 hrs.

Practical – 50 hrs.

1. Importance of study of developmental psychology with special reference to early child hood. (Significance to studying child development.)
2. Meaning of growth and development (Meaning, Principles, Difference between growth and development.)
3. Maturation and Learning (Definition and Role)
4. Role of Heredity and environmental factors on development.
5. Major aspects of development.
(Physical development, Motor development, Social development, Emotional development, Cognitive development, Moral development, language development, Aesthetic development – definitions.)

6. Play – Types of play, Significance of play during early child hood years, values of play, different types of play equipments (Indoor, Out door and Indigenous.) Factors to be considered while selecting play equipments.

7. Methods of child study. (Observation, Interview, Experimentations, Questionnaire, Checklist, Case study, Inventories, Tests and Records of various types (developmental, health, accidental records and progress reports.)

Unit II

Organisation and Management

Theory – 40 hrs.

Practical – 160 hrs.

1. Significance and importance of early child hood education.
2. Needs and importance of creche and pre-school in modern day life and methods of pre-school education. (Progressive and Montessori methods.)

- | | |
|---|--|
| <ol style="list-style-type: none"> 3. Different programmes in the field of any child hood education (CSWB, NIPCCD, NCERT, ICDS, Children’s film society, ICCW, SOS.) 4. Aims and Objectives of Creche and Pre-school and different types of Creche and Pre-school. 5. Essential components of establishing a Pre-school building. <ul style="list-style-type: none"> • Location of the school. • Planning. • Building. • Indoor and outdoor space. • Furniture Requirement • Cooking facilities. • Sanitary facilities. • Water facilities • Mobilisation of Human and Natural Resources. 8. Qualities and responsibilities of pre-school personal. | <ol style="list-style-type: none"> 2. Importance of Nutrition and Health during early child hood years. 3. Nutritional Needs of Children – RDA of following age groups. <ul style="list-style-type: none"> 0 – 3 months. 3 – 6 months. 6 months – 1 year 1 – 3 year 3 – 6 year Adolescent years. 4. Growth Monitoring – Need, Importance and how to monitor. 5. Nutritional deficiency disease during pre-school years. 6. Meal planning. 7. Importance of Breast feeding. <ul style="list-style-type: none"> - Proper way - Care and Cleanliness. 8. Importance of weaning. 9. Nutrition Retention while cooking. |
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Unit III

Nutrition and Health

Theory – 40 hrs
Practical – 160 hrs.

1. Concepts of Nutrition and Health.
(Definition, functions of food, Basic five food groups)

Unit IV

IV Parents and Community Education and Involvement

Theory – 20 hrs.
Practical – 50 hrs.

1. Agencies of education and their classification.

2. Aims of Home School relationship and role of parents in the proper functioning of Creche and Pre-school.
3. Need, ways and content of educating parents.
4. PTA organization and functions.
2. Observation and study the programme of the working of Creche/Pre-school.
3. Planning a model crèche building.
4. Planning a model pre-school building.

Practical

Growth and Development of Child

- 50 hrs.

1. Observation of following types of children:

- (a) Creche (Boy) (0 – 3 age)
- (b) Creche (Girl) (0 – 3 age)
- (c) Creche and Day care center (3 – 6 boy)
- (d) Creche and Day care center (3 – 6 girls)

Preparation of running records of different aspects of their development.

2. Preparing and implementing the different methods of child study:-

- a. Interview schedule, questionnaire, check list, inventories, Health records, developmental records, anecdotal records, progress reports.
- b. Visit to children's home for enquiring the development of child.

Organisation and Management 160 hrs.

1. To plan a budget for establishing a Creche and Pre-school.

5. Prepare a detailed list of equipments used in Creche with their uses.
6. Prepare a detailed list of equipments used in a Pre-school with their uses.
7. Preparation of simple toys out of indigenous materials for 0 – 3 age group and 3 – 6 age group.

Note : Make the record practical.

Nutrition and Health 160 hrs.

1. Prepare a model menu schedule according to the age of children.
2. Preparation of fresh milk, powdered milk, fruit juices, vegetable soups.
3. Case study of a nutritionally deficient child.
4. Cleanliness for breast feeding.
5. Storage of food. Preservation methods.
6. Nutritional intervention for the vulnerable group of children.
7. Hygienic food practice:-

Hygienic food practice for storage, cooking, serving/eating of food.

Cleanliness of the kitchen utensils, dining place and children.

8. Monitoring growth – Exercise in weighing and recording, identification nutritional deficiency diseases with medical help. Supplying nutritional supplements sources of protein, calcium, vitamin A & C, Iron.

Parent and Community – Education and Involvement **50 Hrs.**

1. Education the parents regarding the need and importance of child development.
2. Guiding mothers about their proper nutrition during prenatal and post natal period.
3. Conducting interview with the parents.

Note : Make the record of practical.

Part II

Unit 1

Growth and Development

Introduction

Child development is the scientific study of the pattern of changes that happen in an individual from the pre-natal period to the early years of adolescence. The study of child development help us to understand the significance of childhood. Child psychology is the both the qualitative and quantitative study of children's behaviour. It studies growth and development.

The sub-topics includes in growth and development are especially beneficial to pupils because it imports knowledge on the needs and stages of development of children, physically, mentally emotionally and spiritually. Through this chapter among the students towards the importance of early child hood years, growth and development, role of growth and environment, significance of play, major aspects of development different methods of child study and developmental tasks to be achieved in each stage.

Unit I

Curriculum Objective

1. To understand the importance of early child hood years through discussion and observation.
2. To understand the meaning, definition, principles and difference between growth and development through discussion and observation.
3. To inspire the child to gain knowledge about the role of maturation and learning in order to achieve proper development through discussion and observation.
4. To educate heredity and environment and its influence on behaviour through discussion and observation.
5. To understand the meaning, aspects and importance of physical, motor, social, emotional, cognitive, moral, language and

- aesthetic development through discussion and observation.
- To understand the meaning and significance of play during early childhood through seminar and assignments.
 - To familiarize the different methods of child study through schedule preparation, data collection and analysis through assignment.

Syllabus

Theory – 40 hrs.

Practical – 50 hrs

Unit I

Growth and Development of Child

- Importance of study of developmental psychology with special reference to early childhood (significance of studying child development.)
- Meaning of growth and development (meaning, principles, difference between growth and development.)
- Maturation and learning (definition and role.)
- Role of heredity and environment factors on development.
- Major aspects of development (Physical development, motor development, social development, emotional development, cognitive development, moral development, language development, aesthetic development) (Definitions)

- Play – types of play, significance of play during early childhood years, values of play, different types of play equipments (indoor, outdoor and indigenous). Factors to be considered while selecting play equipments.

- Method of child study.

Observation, interview, experimentation, questionnaire, checklist, case studies, inventory, tests and records of various type inventories (developmental, health, accidental and progress reports.)

Activities

Unit I

Growth and Development

I. Discussion

Teacher can ask the students to observe individuals of different age groups and find out the changes, attitudes and approaches of their behaviour, personality as the age increases. Children start discussion using the discussion points given by the teacher.

Discussion Points

- Meaning and significance of studying child development.
- Meaning of growth and development, principles of growth and development.
- Role of Maturation, learning, heredity and environmental factors on development.

4. Major aspects of development, Physical, motor, social, emotional, cognitive, moral, language and aesthetic development.

After that the teacher can consolidate the outcome of discussion within classroom. On that time we can make changes, if it is not sufficient. Ask the students to collect the additional information. The discussion should be helpful for them to acquire the concept of growth and development. Use of charts and reference books will also help to get the concept. Prepare notes and records.

Observation

As the above topic contain complex terms, it is better to conduct a observation instead of more classroom instructions.

Through discussion teacher and students decides the place (pre-school centres and creche) to be observed, data to be collected and how to record the observation.

During observation students gather information as per the plan with the help of teacher. After the observation, students discuss the collected data and consolidate it as a report before class room presentation.

Role Play

It is a simple and can be used effectively in class room. Teacher divides the students into groups and give some time for discussion on social behaviour and in emotional control in different stages of life. One student from each

group will present Role playing is an unrehearsed drama and spontaneous acting of the students are needed.

Role play a form of dramatisation. It provides a free situation in which a students spontaneously perform what she feels, thinks and imagines about a particular role under specific conditions.

Through Role play social behaviour and emotional in different stages of life - students can react with above topics. They come into close relationship with life situations, learn to adopt themselves to various situations. This method helps the teacher also in gaining insight into the students range of information, resourcefulness and ability to understand.

Field Trip

This method requires a visit to the community or places out side the class room which can provide rich sources for instruction in this course. Through field trip to different and creche, preschool, institute for mentally retarded, juvenile home and house visit, students can understand the various developmental tasks, different aspects of development like physical, motor, social, emotional, cognitive, moral, language and aesthetic development by observation.

Field trip provides first hand and direct experience of the existing situation to the student through observation. It motivates students to learn as they have opportunities to examine materials and obtain new ideas.

After field trip students should be asked to submit group or individual reports of the trip in light of the developmental tasks and different aspects of development.

A discussion on the experience of various students and how they profited out of the exercise should be carried out in the class. The teacher should consolidate it with proper guidance.

Demonstration

Demonstration is a simple and effective teaching aid. Demonstration is used to provide information, create interest and develop standards of work by showing how a process is carried out.

As it is a simple and effective teaching aid, the teacher selects this method to introduce this topic as it provides information, create in trust and develop standards of works by showing.

- Different indigenous materials to make play materials.
- How to play with them.

Conducting Method, Demonstration

1. Keep ready every thing needed for a demonstration in advance.
2. Have a semicircular seating arrangement, so that all the learners can see what is being done.
3. Remember to speak loudly and clearly.

4. Keep a proper pace in your demonstration, move slowly over different steps and repeat them.
5. Use teaching aids to emphasize important points. Such as specimens items needed etc.
6. Involve learners in demonstration by asking them to help in preparation.

Seminar

Teacher introduces the topic 'Play' students are aware of different types of play. The teacher divides the students in to groups and a primary discussion is conducted to decide the sub topics to be included in the seminar and each sub-topic is distributed to different groups.

Sub-topic are

1. Types of play
2. Significance and values of play
3. Different types of play equipments.
4. Factors to be considered while selecting play equipments.

The teacher must give reference books and guidance. After gathering information in details student should present the topic with audio visual aids. After presentation, the questioning section in there. The teacher can seen up and conclude the seminar with suitable enrichment.

Field trip

Survey

Students are divided into groups. The introduces the topic ‘Different types of play materials that are available in the market’. Each group should collect information about play equipments regarding.

Name of shop -

Name of play materiels -

For which age group -

Content of play box -

Cost -

Availability -

Group members opinion -

After field trip survey they should be asked to submit group reports. Consolidate the report

after presentation with teacher’s enrichment. Report should be kept it as market survey report.

Assignment

Teacher give an introduction about different methods of child study and how to formulate different schedules.

Teacher decides the students into groups. Each group discuss their schedules and present it in the class. Teacher suggests modification if necessary for its application doing field visits.

Field Trip

After preparing different schedule, the teacher divides the students in to groups and each group should collect data with prepared schedule. After collecting data through field visit, consolidate it, analysis it with proper guidances from teacher. This we can get an idea about different types data collection in the field of child study.

Unit Analysis
Subject : CRECHE and Pre-School Management Growth and Development

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
1.	To understand the importance of early childhood years.	Discussion Observation	Reading performance for data collection.	Understanding	Notes, Assignments Data analysis	Quiz Assignments Notes	
2.	To understand the meaning definition, principles and difference between growth and development.	Discussion Observation	Charts Reference books	Observation ability to differentiate.	Discussion Charts Comparative study	Quality of observation Clarity of presentation.	
3.	To inspire the child to gain knowledge about the role of maturation and learning in order to achieve proper development	Discussion Observation	Reference books	Knowledge of collecting information	Communication skills, presentation skills.	Notes, Interaction skills, presentation of ideas	
4.	To educate heredity, environment and its influence in behaviour.	Discussion Observation	Reference books	Understanding ability of differentiate	Discussion	Assignments, Interaction skills, Communication skills	
5.	Understands the meaning, aspects and importance of physical, motor, social emotional, cognitive, moral language and Aesthetic development.	Discussion Observation Role play Field trip	Reference books, Charts	Understanding, Charts, Comparative study	Comparative statements	Understanding capacity, class test	

Unit Analysis
Subject : CRECHE and Pre-School Management Growth and Development

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
6.	To understand the meaning and significance of play during early child hood.	Seminar, Assignment Demonstration (Survey) Field Visit	Reference books, Working models, Indigenous material	Identification, Awareness to make indigenous play material	Team work	Oral test survey analysis, Assignment note	
7.	To familiarize the different methods of child study through schedule preparation, data collection and analysis.	Assignment, Field trip	Reference books, Different types of schedules	Communication skill	Assignments Team work, Socialization	Result analysis communication skills, reporting skill	

Unit 2

Organisation and Management

Introduction

The learning experience that are provided to children of early child hood years are collectively called as early child hood education. The need of the child in the four areas of development namely, the physical, motor, social, emotional and intellectual areas increases during pre-school years. The home becomes inadequate to meet there growth needs. Outside home, pre-school is the only institution available for satisfying the child's growth needs. The pre-school, through its various programmes meets these needs.

Through this chapter to give knowledge about the importance of early child hood education and all aspects of creche and pre-school. Centre in order to run these institution.

Curriculum Objective

1. To give knowledge about importance of early child hood education through group discussion.

2. To understand the need, importance, aims and objectives of creche and pre-school, different programmes in the filed of early child hood education through group discussion.
3. To acquire knowledge regarding essential component of establishing a centre building through problem solving method.
4. To develop desirable qualities and responsibilities of pre-school personnel through assignment. (pre-school teacher, assistance, helper.)

Syllabus

1. Significance and importance of early childhood education.
2. Needs and importance of crèche and per-school in modern day life and methods of pre-school education (progressive and Montessori method.)

3. Different programmes in the field of early childhood education (CSWB, NIPCCD, NCERT, ICDS, Children's film society, ICCW, SOS, Different types of crèche and pre-school.)
4. Aims, objectives and different types of crèche and pre-school.
5. Essential components of establishing a centre building.
 - Location of the school.
 - Planning.
 - Building.
 - Indoor and outdoor space.
 - Furniture requirement.
 - Cooking facilities.
 - Sanitary facilities.
 - Water facilities.
 - Mobilisation of human and natural resources.
6. Qualities and responsibilities of pre-school personnel.

Activities

Peer-Group Discussion

Students are divided into groups to give an idea about the importance of early childhood education and different programmes in that field. Then the teacher starts the discussion with the following discussion points.

- Need and importance of crèche and pre-school.
- Methods of pre-school education.
- Different programmes in that field.
- Aims and objectives, different types of crèche and pre-school.

The teacher must give reference books and guidance and audio visual aids, based on this teacher directs the students to conduct discussion then consolidate with suitable changes.

Field Visit

To understand the different types of crèche and pre-school, field visit is the effective media to provide first hand information and direct experience to the students through observation.

A successful field visit involves the following stages.

1. Planning

The teacher should visit the places (different crèche and pre-school near by school) in advance and correspond with the agency about the purpose of visit and decide the convenient day. Teacher should prepare students by telling them the purpose of the trip and what information they should seek through enquiry and observation. Students and teacher should together prepare a list of questions items to be observed. Students should be involved fully in making arrangements for the trip. So that they

come to know about procedures, problems and hazards in organising a visit.

Field Procedure

Students can be divided into small groups, if the number is big, so that they can observe and more tangible and also give them responsibility recording the field visit.

Follow up

The follow-up of a field visit involves extend 'thanks' to the host and all others who helped in making it a success apart from the students.

Students should be asked to submit individual reports of the trip in light of the objectives of the field visit as set before.

After that the teacher should consolidate the report with experiences of various students and how they profited out of the exercise out of the class. Consolidated report should be present with the help of chart.

Problem Solving

Teacher divides students in to groups and starts the discussion by discussion points.

Problem : You want to construct a centre building. How to achieve your goal?

While going through different steps to solve the problems children understand the importance of managerial steps like planning, controlling and evaluating to achieve their goal.

Assignment

Teacher introduces the topic Qualities and Responsibilities of Pre-school personnel. Teacher divides the students in to groups, ask the students to write different qualities of pre-school personnel. Each group discuss their points and present it in the class. Teacher suggest modifications.

Unit Analysis

Subject : Organisation and Management

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
1.	To give knowledge about importance of early childhood education.	Group Discussion	Notes with discussion points, reference books	Communication skill, understanding	Observation, Communication, Creative thinking	Assignments, Notes, Reports	
2.	To understand the need, importance, aims and objectives of crèche and pre-school, different programmes in the field of early child hood education.	Group Discussion Field Visit	Posters, charts, CD's Reference books	Understanding, Observing skills	Charts Posters, Audio-visual aids	Notes, field visit, reports	
3.	To acquire knowledge regarding essential components of establishing a centre building.	Problem Solving	Charts, Notes	Listing, Creative thinking, Collection analysis	Assignments, Grouping Comparison, Notes	Attitude towards subject, Enthusiasm, Data analysis, Notes.	
4.	To develop desirable qualities and responsibilities of per-school personnel (pre-school teacher, assistance, helper.)	Assignment	Charts, Posters, Notes, Subject for observation	Presentation skill, creative thinking, writing skill	Charts, Notes, Assignments, Interaction	Reports, Notes, Attitude towards topic.	

Unit III

Nutrition and Health

Introduction

Life cannot be sustained without adequate nourishment. Man needs sufficient food for growth, development and to lead an active and healthy life. Knowledge of nutrition helps pupils improve their eating habits through wise selection of food at every meal. Good food habits result in abundant health, better appearance, capacity for study, stamina for sports and vitality for work.

Pupils have some knowledge from their day to day experiences from home and community regarding food and nutrition. The main aim of this chapter is to make clear ideas about foods, their functions and classification, dimensions of health, basic concepts of nutrients, diseases caused by lack of nutrient conservation and nutritional enhancement of foods. The units in food and nutrition help pupils learn daily nutritional needs for themselves and for family members and especially pre-school years. They can learn where

they get these nutrients from, what happens if they do not consume these adequately, how they can preserve the nutrients that may lose during cooking and how they can enhance the nutrients.

Curriculum Objective

1. To help the students to acquire an idea about definition and function of food, nutrients, health and nutrition through group discussion.
2. To understand the importance of nutrition with special reference to early childhood years through group discussion.
3. To develop an understanding about RDA of 0 – 3 months, 3 – 6 months, 6 months, 1 year, 1 – 3 year, 3 – 6 year and adolescent year through visual aids and discussion.
4. To create an awareness regarding the deficiency disease during the pre-school year through project work.

5. To give knowledge about growth monitoring, need, importance and how to monitor the growth through demonstration. 3 – 6 years
Adolescent years.
6. To create awareness about how to plan a balanced diet for a day how to make it attractive through laboratory work and discussion. 4. Growth monitoring need, importance and how to monitor.
7. To help the students to acquire knowledge about importance of breast feeding, proper way care and cleanliness of mother through discussion. 5. Nutritional Deficiency diseases during pre-school years.
8. To develop an awareness about the nutrition retention while cooking, how to enhance the nutritive value through demonstration. 6. Meal planning.
9. To educate what is weaning, types of weaning foods and nutritional adequacy of weaning through seminar. 7. Importance of breast feeding
 - proper way
 - care and cleanliness
8. Importance of weaning.
9. Nutritional retention while cooking.

Syllabus

1. Concepts of nutrition and health (definition, functions of food, basic five food groups.)
2. Importance of nutrition and health during early child hood years.
3. Nutritional needs of children – RDA of following age groups.
 - 0 – 3 months.
 - 3 – 6 months
 - 6 – 1 years
 - 1 – 3 years

Activitites

Group Discussion

Teacher make the students familiar with the key words.

Key words

Food
Nutrition
Health

Discussion points

- When we call a person healthy?
- Factors necessary for keeping a person physically healthy.
- Different dimensions of health.

After that the teacher can consolidate the outcome of discussion within classroom. Consolidating points are definition of food, importance of nutrition and health during early child hood years.

Group Discussion

Students are divided in to groups then the teacher give some points for discussions.

Discussion points

- Why did you take food daily?
- What are the different nutrients present in food?
- What is the role of these nutrients in our body?
- How can we classify foods according to these nutrients.

Consolidation

Food is classified in two ways based on its functions and nutrient content. On the basis of the functions food performs in the body it is classified in to energy giving foods, body building foods, protective foods. According to their nutrient content it is classified in to basic five.

Seminar

Teacher divides the students in to groups and a primary discussion is conducted to decide the sub-topics to be included in the seminar and each sub topic is distributed to different groups.

Sub-topics

- Carbohydrates - Classification functions, sources and RDA.
- Fat - Classification, functions, sources and RDA.
- Proteins - Classification, functions, sources and RDA.
- Vitamins - Classification, function, sources and RDA.
- Minerals - Classification, function sources and RDA.

Each group discusses internally and decides what all points are to be included in the paper and select a pupil for the presentation of the seminar. Teacher also participate each work while presenting the seminar the other students prepare notes and submit it in the class.

Teaching with visual aids

Teacher exhibits a chart containing RDA of different age groups.

Project

Teacher divides the students in to three groups. Through discussion, teacher make them aware about the different steps in doing a project.

Steps in project work.

- Each group select any of the following subtopics.
- Subtopics
- Protein - energy malnutrition.
- Vitamin A deficiency.
- Anaemia

Planning

Through discussion the students understands, the aims, objectives method of data collection, tools for data collection methods of analyzing data etc.

First of all it will be necessary for the students to collect data on the deficiency symptoms of vitamin A using reference books, journals, internet or any other method of data collection.

Then they have to select sample for the study practically it will be good to select students from any lower primary class in their own school. Then they have to select a tool for data collection considering the age of the sample group observation or interview schedule may be appropriate. The points to be included in the interview schedule and the factors to be observed are decided through discussion.

With the help of the teacher each group tabulate their collected data analyse and presents.

Demonstration

As it is a simple and effective teaching aid, at first teacher introduces the topic growth monitoring, its need and importance are discussed by teacher and students.

Then teacher demonstrate how to monitor the growth by using growth chart. Following steps are involved in the demonstration.

- Introduction of growth chart.
- How to take weight of a child.
- How to plot it in the growth chart.
- How to draw growth aware.
- How to analyse the growth chart. (Normal, I grade, II grade, III grade and IV grade level malnutrition.)

Steps in the process demonstrated will be summarized at the end, preferably by the students, themselves. Demonstration should be followed by practice under close supervision.

Discussion

The teacher introduces the topic 'Meal Planning'. Pupils are divided into groups. Following points are discussed by group.

Discussion Points

- Meal planning. Its importance.
- Balance Diet. Its important.

After the discussion the teacher consolidates the outcome. Necessary modifications can be possible through further discussion.

Group Discussion

All The children are familiar with the terms 'Breast feeding'. Now the teacher starts the discussion by giving some discussion points and children are divided into group.

Discussion Points

- Importance of Breast feeding.
- Core and cleanliness of mother during breast feeding.

Now each group consolidates the outcome of the discussion in note books and each group leader present it. Then the teacher consolidates it with suitable changes.

Seminar

Teacher divides the students in to groups and introduces the topic weaning foods.

Primary discussion is conducted to divide the subtopics to be included in the seminar and each sub topic is distributes to different groups.

Sub topics.

- Weaning – Meaning and importance.
- Types of weaning foods.
- How to prepare weaning foods.

The teacher should give proper guidance and reference books. After gathering information in details, students should present the topic with audio visual aids. After presentation, the questioning section is there. The teacher can sun up and conclude the seminar with suitable enrichment.

Demonstration

The teacher introduces the topic through discussion – Nutrition Retention while cooking, as it provides information, create interest and develop standards of work by showing.

- Different methods of cooking. (Merits and demerits.)
- Nutrition's re-tention before firing and after cooking.
- Method of enhancing nutritive value of foods. (Germination, fermentation, combination and fortification.)

Steps in the process demonstrated will be summarized at the end, preferably by the students, themselves. Demonstration should be followed by practice under close supervision.

Unit Analysis

Subject : Nutrition and Health

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
1.	To help the students to acquire an idea about definition and functions of food, nutrition's nutrition and health.	Group Discussion	Notes, Charts, Posters, Models	Idea formation, Interaction skills	Charts, posters, creative ideas, group activity	Notes, Ideas, Exhibits, Demonstration skill	
2.	To understand the importance of nutrition with special reference to early childhood years.	Group Discussion	Audio visual aids, Notes	Observation, presentation skill	Understanding comparison	Preparation of AV aids, acquired concepts notes.	
3.	To develop an understanding about recommended daily allowances of 0 – 3 months, 3 – 6 months 6 months – 1 year, 1 – 3 year 3 – 6 years and adolescent year.	Discussion and audio visual aids, Observation	AV Aids, Notes	Observation collection	Clarks, Exhibits, Notes	Mode of presentation acquired concepts	
4.	To create an awareness regarding the deficiency disease during the pre-school year.	Project work	Notes, AV Aids, Subject for observation	Observing skill, classification	AV Aids, Notes	Notes, tested symptoms, observation, results.	

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
5.	To give knowledge about growth monitoring. Need importance and how to monitor the growth through growth chart.	Demonstration	Growth charts, Plotting molouds, subjects for weightment	Observing, classificatio, comparison	Notes, Charts, understanding	Notes, Attitude, Work reference	
6.	To create awareness about how to plan a balanced diet for a day and how to make it attractive.	Discussion	Rerence books	Understanding, Awareness	Comparison, Presentation, Classification	Quiz, Mode of Presentation.	
7.	To help the students to acquire knowledge about importance of breast feeding, proper way, care and cleanliness of mother.	Group discussion.	Reference books, AV Aids	Knowledge of gathering information acquire proper way	Notes, Charts and posters	Notes, assignments, visual aids.	
8.	To educate what is weaning, types of weaning foods and nutritional adequacy of weaning food.	Seminar	Reference books, AV Aids	Understanding, Grouping	Notes, visual aids, classification	Notes, persentation, class test, performance.	
8.	To develop an awareness about the nutrition retention while cooking how to enhance the nutritional value.	Demonstration	Reference books, AV Aids	Understanding, classification, concept formation	Notes, Audio visual aids, grouping exhibits	Notes, grouping, acquired concepts, exhibits	

Unit IV

Parents and Community Education and Involvement

Introduction

Family is an important social network because the members of the family constitute the child's first environment and are the most significant people during the formation years.

Pre-school is said to be the extension of home and good understanding between the parents and teachers is very essential for the proper guidance of children. The teacher should know their child's behaviour at home and the parents should know their child's behaviour outside home. It is essential that parents and teacher come together as often as possible.

The main aim of this chapter is to make clear that the good understanding that exists between the parents and the teacher are said to be the characteristics of good home – school relationships. The sub units deals how to educate parents and proper functioning of parent teachers association.

Curriculum Objective

Parents and Community – Education and Involvement

1. To educate different agencies of education through group discussion.
2. To create an idea about better home – school relationship and role of parents in proper functioning of school through group discussion.
3. To develop an awareness about PTA through group discussion.

Syllabus

1. Agencies of education and their classification.
2. Aim of home-school relationship and role of parents in the proper functioning of crèche and pre-school.
3. Need, ways and content of educating parents.
4. PTA organizations and functions.

Group Discussion

Students are divided in to groups. Familiarise the student with the topic 'different agencies of education'. Then the teacher give some points for discussions.

Discussion Points

- Different agencies of education and their classification.
- Aim of home school relationship and role of parents in the proper functioning of crèche and pre-school.
- Needs, ways and content of educating parents.
- PTA organization and its functions.

After discussion student are asked to prepare a note with the help of a teacher and present it in the class for proper modification.

Project work

Project can be defined as an activity involving a clearly purposeful task. Which is of value to both teacher and students while doing which the students acquire knowledge about better home - school relationship and role of parents in proper functioning of school (PTA) through swinging.

Project work encourages the students to be creative students learn while planning and carrying out the project. It also helps students to learn co-operation.

Teacher divides the students in to three groups. Through discussion, teacher make them aware about the different steps in doing a project.

Steps : - Each group select any of the following sub topics.

1. Better home - school relationship.
2. Role of parents in proper functioning of pre-school.
3. PTA - its functions.

Planning

Through discussion the students understand the aim, objectives, method of data collection, tools for data collection, methods of analysing data etc.

First of all it will be necessary for the students to collect data on the better home school relationship PTA and role of parents.

Then they have to select sample for the study practically it will be good to select parents from near by pre-school. Then they have to select tool for data collection considering the sample, observation and interview schedule may be appropriate. The points to be included in the interview schedule and the factors to be observed are decided through discussion.

With the help of the teacher each group tabulate their collected data analyse and present it. In short, project method offers wide opportunity for initiative, spontaneity self-direction and exploration but it definitely does not mean letting students do as they please.

Unit Analysis
Subject : Parents and Community - Education and Involvement

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation
1.	To educate different agencies of education.	Group Discussion	Charts	Creative skills	Communication skill, Notes, Charts	Quiz, Mode of presentation
2.	To create an idea about better home school relationship and role of parents in proper functioning of school.	Group Discussion Project work	Notes, Book reference	Understanding idea formation	Notes, reports, assignments	Notes, performance in the class test, communication skill
3.	To develop an awareness about PTA.	Group Discussion Project work	Subject for observation, notes, reference books	Group activity, co-operation, understanding	Notes, reports, exhibits	Acquired concepts, assignments, report, presentation, role play

Part III

Model Questions

1. 'Development involves changes'. Evaluate this statement?
2. Play behaviour is an important part of social development command on it.
3. Elucidate the role of Heredity and environmental factors on development.
4. Discuss the major aspects of development.
5. Fill in the blanks using the relationship.
 - a.) Face to face communication
 - b.) Develop involves
 - c.) Green, yellow and orange fruits are rich in?
 - d.) Play mates are very for children.
 - e.) Chapathi, poori are giving foods.
6. Make odd one in the series.
 - a) Physical development
 - Mental development
 - Play behaviour
 - Cognitive development

- b) Vitamin A
 - Vitamin B
 - Vitamin D
 - Vitamin K
 - c) Steaming
 - Frying
 - Fermentation
 - Roasting
7. Fill in the blanks using the relationship between the words.
- a.) Social behaviour – : Anti Social behaviour – Cruelty
 - b) Positive emotion – Joy : Negative emotion -
 - c) Pre-school - 3 – 6 years: Crèche -
 - d) Vitamin C – Scurvy : Vitamin A -
 - e) Indoor play – Toy Cornor : Outdoor play equipments -
8. The role of body building foods.
9. Vitamins are protective foods. Comment it.
10. How external factors influence the language development.
11. The emotional expressions of children differ from those of adults. Explain.
12. Social development takes in the form of different social behaviour. Comment on it.
13. Play behaviour is an index of social development Explain.
14. There are different types of observation. Explain.
15. There are two methods of pre-school education. Discuss.

16. A child shows following symptoms.

- a. Oedema
- b. Apathy
- c. Moon face
- d. Scaly skin
- e. Swollen feet

Identify the disease and how to overcome it?

17. Breast feeding is best for the child comment.

18. There are different programmes for child care and Early child hood education in the community. Explain.

19. Sprouted green gram is better than Raw Green gram. If yes, Justify the answer.

20. Pre-schools have become a social necessity comment on it.

21. The early child hood education of children aims at the total development of children. Explain.

22. List below consists of food names, mention their nutritional importance.

1. Jaggery
2. Pulses
3. Carrot
4. Rice
5. Ghee

23. It is difficult to plan a meal without knowing balanced diet. Why?

24. Can you suggest the method how to educate mothers about their proper nutrition during pre-natal and post natal period.

25. The close relationship between Home-School is necessary. For proper development of the child. Explain.

26. What happens if there is no PTA in your school.

27. 'Home is an important agency of education' comment.
28. Can you suggest the method. For monitor the growth of pre-school child.
29. Suggest some weaning foods for eighth month older baby.
30. Suggest some remedies to avoid food spoilage.
31. Iddle and sambhar is best for break fast, poori and potato curry is not so why?
32. There are some suggestions before and after cooking. Justify.
 1. Cut vegetables after washing.
 2. Cut vegetables in to larger pieces.
 3. Cook vegetables with sufficient water.
 4. Put vegetables in to boiling water.
 5. Keep the cooking pot carried with lid.
33. Nutritive values of food stuffs can be enhanced at no cost at house hold level. Explain?
34. You want to construct a pre-school building how to achieve your goal.
35. Find out the environmental factors which we can modify to improve the development of children.