

**CURRICULAR MATERIAL
FOR
DIPLOMA IN ELEMENTARY EDUCATION (D.El.Ed) COURSE
IN DIETs OF
ARUNACHAL PRADESH**

Course Code: 04

**PEDAGOGY
OF
ENVIRONMENTAL STUDIES**



**STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
GOVT. OF ARUNACHAL PRADESH
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The curricular material has been developed keeping in view the learning needs of the D.El.Ed Course trainees as per the current PSTE curriculum. While developing the material authentic textual/reference materials from various sources have been referred. As far as possible the content of the materials have been presented in an objective manner. The ideas and opinions as presented in the content of the materials are entirely of the developer of the material.

FOREWORD

The Diploma in Elementary Education (D.El.Ed.) curriculum for 2 year PSTE course of the DIETs in Arunachal Pradesh was revised and updated as an exercise deemed necessary in the context of National Curriculum framework-2005 and enforcement of Right to Education (RTE) Act-2009. The curriculum was revised on the basis of recommendations of the National Council for Teacher Education, National Curriculum Framework for Teacher Education (NCFTE) and the guidelines of Bordia Committee Report entitled “Implementation of RTE, Act and Resultant Revamp of SSA” (2010). Since 2013-14 the revised D.El.Ed Curriculum is being implemented in all the eleven DIETs of the state. However, in view of change in the structure and content of the revised curriculum, there has arisen a pressing need for content specific and contextualized curricular materials which could be handy for both teacher educators and student teachers of the DIETs in the state. Further Justice Verma Commission Report on Teacher Education-2012, constituted by the Hon’ble Supreme Court of India observed, “our prospective teachers are educated through substandard readymade materials available in the form of ‘guides’ which are conceptually confusing and regressive in perspectives”. Hence, the commission strongly recommended for development of learner friendly curricular materials for different types of teacher education courses.

The D.El.Ed curricular material has been developed in workshop situation with participation of Resource Persons from Department of Education, Rajiv Gandhi University, Itanagar and faculty members of SCERT and DIETs of the state.

I am immensely grateful to the Joint Director, SCERT, Mr. Gania Leij for his guidance, Professor Jaydev Sahu, Dept. Of Education, Rajiv Gandhi University, Itanagar for his academic support, members of SCERT Academic Team, Assistant Directors, Shri G.C.Baral, Sri S.Pradhan and Sri V.R.Sharma for supervision and finalisation of curricular materials. I am specifically thankful to the author on **Pedagogy of Environmental Studies Course Code-04, Sri Biswanath Bhattacharya, Lecturer, DIET, Roing** for his efforts in writing the texts of the course materials as per the need of the syllabus.

Lastly, it is hoped that the curricular materials will be highly useful as reference materials for the teacher educators and student teachers of the DIETs of the Arunachal Pradesh.

Moto Nyori,
Joint Director SCERT, Itanagar

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Unit-1: Concept of Environmental Studies

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Introduction

Environmental Studies is one of the important subjects taught at primary classes in Arunachal Pradesh. The NCF; 2005, says, “For the primary grades, the natural and the social environment will be explained as integral parts of language and mathematics. Children should be engaged in activities to understand the environment through illustration from the physical, biological, social and cultural spheres. The language used should be gender sensitive. Teaching methods should be in a participative and discussion – orientation mode.

For classes III to V, the subject environmental studies (EVS) will be introduced. In the study of Natural environment, emphasis will be on its preservation and urgency of saving it from degradation. Children will also begin to be sensitized to social issues like poverty, child labor, illiteracy, caste and class in- equalities in rural and urban areas. The content should reflect the day – to- day experiences of children and their life worlds.”

EVS means studies about environment. What is environment? The word environment is originated from the French word, “environner” which means “to surround.”

According to Douglass and Holland, “Environment is the aggregate of all the external forces, influences and condition which affect the life, nature, behaviour and the growth, development and maturation of living organism.”

W.B Sawyer says, “Environment refers all the surrounding but could be differentiated – the natural environment and artificial environment.”

According to P.N Arora, “Environment is the physical, chemical and biotic conditions surrounding an organism.”

According to Webster dictionary of the English language, “The aggregate of all conditions affecting the existence, growth and welfare of an organism or group of organism is called environment.”

Wordsworth says, "The environment is everything that affects the individual except the genes. It covers all the outside factors that have acted on the individual since he began life."

C.C. Park thinks, "Environment refers to the sum total of conditions which surrounds man at a given point in space and time."

The above mentioned definitions indicate the following characteristics of environment:

- a. Whatever surrounds human beings is called environment.
- b. It affects human life.
- c. It includes both natural environment and artificial environment.
- d. Welfare of human beings is dependent on its environment.

There is relationship between animal's kingdom and nature. They are interconnected and interrelated. They are influenced by each other. For our survival we require food, water, breath, good health, fuel etc. From where do we get these? We get food from fertile soil, breath from air and good health from pollution free environment, water from clean and germ-free water sources. But if the land loses its fertility due to use of chemical fertilizer and pesticides, if the water is contaminated due to presence of chemical substances, if there is no tree and air become polluted due to presence of harmful gases in air then the survival of animal kingdom will be at stake.

Besides animal kingdom there are other things e.g. microorganisms, sun light, plants etc. which have effects on animal kingdom. There are many microorganisms which are used for making medicines. Microorganism also helps for making soil fertile. Plants make food with the help of sunlight.

Again there is ecosystem e.g. a pond. There are different types of fishes, insects, tortoise, frogs, small plants etc. People catch fish, big fishes survive on eating small fishes, small fishes feed on insects, tortoise gets food, man gets water for different purposes. Terrestrial animals like Hawk eat fish.

All these indicate that there is close relationship among the things in our planet earth be it natural environment or social environment. Nature created useful things for us but for our selfish need and ignorance we have been using these indiscriminately causing thereby survival threat to animal kingdom. Therefore, there should be balance between nature and the works of human beings. Nature cannot modify human beings but human beings can modify themselves. They have to understand the importance of maintaining relationship with nature. We have to change our attitudes to nature. We have to give emphasis on this that we require development be it urbanization or industrialization but not at the cost of nature. According to Daniel Quinn, "If the world is saved, it will be saved by people with

changed minds, people with a new vision. It will not be by people with old minds and new programmes. It will not be saved by people with old vision but a new programme.”Therefore, we have to develop a sense of responsibility and positive attitude to solve environmental problems. The NPE, (1986) states, “there is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environment consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire educational process.”

Nature and Importance of EVS:

By its nature EVS is different from other subjects. Some of the characteristic features of EVS are mentioned below:

--It is vast and limitless. It includes everything of the world because whatever surrounds us is our environment.

--Though the content of EVS is drawn mainly from Social Science, Science and Environmental Education subjects but EVS is not overburdened by any particular subject. It appears a new subject. It appears not as a mixture but as a compound just like lollipop or icecream.

--The study of environment at primary level takes place through the actual environment. While studying the subject she/he uses some processes eg. Observation, recording, explaining etc. which become the base for learning any subject

When we look around we see some changes have occurred on our planet Earth since its existence.

In olden days when people were ‘Food Gatherers’ then their demands were very limited. They collected fruits, hunted animals and lived in caves to survive. Nature provided whatever they required. There was less population coupled with less demand. There was a balance in nature. But as the time passed and population increased people started using nature indiscriminately causing thereby imbalance in nature.

As a result many changes have occurred in our planet Earth. Some of these are:-

- a. Global warming.
- b. Depletion of forest resources.
- c. Air pollution.
- d. Exploitation of natural resources.
- e. Change in ecology etc.

In the name of the growth of modern civilization people had forgotten the importance

or relationship and interconnectedness between animal kingdom and nature. But the situation became so grave that towards the middle of the twentieth century particularly after Stockholm conference (1972) people started taking interest in creating awareness among human beings towards conservation and preservation of environment through education.

The Kothari commission (1964-1966) recommended that “the aim of teaching Science in the primary school should be to develop proper understanding of the main facts, concepts, principles and processes in the physical and biological environment.” The NPE [1986] stated that “protection of the environment is a value which along with certain other values must form an integral part of curriculum at all stages of education.” The policy statement also says “there is a paramount need to create a consciousness of the environment. It must permeate all ages and all section of society, beginning with the child. Environment consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire education process.” The National Conservation strategy and the policy statement on environment and development (1992) give emphasis on building of environmental awareness and education among the population. The NCFSE – 2000 speaks about the understanding of the environment in its totality, both natural and social and their interactive processes, the environment problem and the ways and means to preserve environment. In 1991, The Supreme Court of India gave verdict that through the medium of education, awareness of the environment and its problems related to pollution should be as a compulsory subject.

In 2003, the Honourable Supreme Court of India instructed NCERT, New Delhi, to prepare and circulate a model syllabus in environmental education for all states to adopt in school curriculum. Accordingly, NCF – 2005 has prepared detailed outlines for environmental studies (E.V.S) at primary level.

People having scientific attitude and scientific temper are required to save our planet Earth from extinction. Therefore study about environment is very important. Some of the reasons for the importance of the study about environment are mention below:-

- Population is increasing at an alarming speed. Problem of shelter is imminent.
- Natural resources are limited.
- Lack of planning to accommodate industrialization and urbanization.
- Effect of population and degraded environment on plant and animal kingdom.
- Lack of human beings with scientific attitude.
- Most of the people are ignorant about their role in creating environment pollution.

- Development of knowledge, skills, values and proper attitude towards environment are essential to take environmental problem.

Scope of EVS as a Curricular Area at the Primary Level

E.V.S has multiple scopes. Some are mentioned below:-

- a. The study helps children to become aware of environmental issues like over population, deforestation, pollution etc. and the effects of these on plant and animal kingdom.
- b. It provides the knowledge about environment.
- c. Children become aware of the role of human beings in creating environmental problems.
- d. It creates awareness about conservation and protection of environment.
- e. It develops scientific temper and scientific attitude.
- f. It makes educated citizenry.
- g. It develops skill to tackle environmental problem.
- h. It develops problem - solving capacity.
- i. It acquaints with the different scientific processes like observation, classification, categorization, measuring, predicting, inferring conclusion etc. which become the base to think rationally.
- j. It helps development of proper attitude to understand the relationship between human beings and nature.
- k. It makes concern in human being about future outcome of environmental problems etc.

Curriculum organization:

The basic education movement started by Mahatma Gandhi emphasised on the need of including of basic craft in the school curriculum which should be selected according to local needs and education should be provided to the children through local environment so that a close relationship would be established between the school and the community. The Kothari Commission (1964-1966) also suggested that the curriculum at the primary level should include social, biological and physical environment of children. The first National Policy on education was announced in 1968. It emphasized that education system should be transformed so that it should be related to life; needs and aspiration of the people and education should be an instrument of social change. As a result of the recommendation

made by NEP, the NCERT, New Delhi prepared “Curriculum for the ten year school- a framework” in 1975. The curriculum included environmental studies (social and general science) for classes I and II and for classes III to V, environment studies I (social studies) and environment studies II (General science). The 2nd National Policy was announced in 1986. It includes “protection of the environment” as core curriculum. The NPE states, “There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environment consciousness should inform teachings in schools and colleges. This aspect will be integrated in the entire educational process. on the basis of the recommendation of NPE,1986 the NCERT prepared curriculum framework for school education. It includes “understanding of the environment in its totality, both natural and social, and their interactive processes, the environmental problem and the ways and means to preserve the environment.” The curriculum includes three subjects in classes I and II viz. language, mathematics and the AHPL. It was emphasized that children should be aware of their immediate environment through all the three subjects in an integrated way. For the classes III to V, it suggested for the inclusion of environmental studies as compulsory subject. In 2002, the curriculum was again reconstructed by NCERT. Same curriculum was included for classes I to V. it was re – emphasized that teaching and learning of mathematics and language would be centered around the environment of children in class I and II and integrated approach would be followed throughout the course up to class V.

Curriculum organization-two perspectives:

[A] EVS as an integrated area of study

[B] EVS as EVS [Science] and EVS [Social Science]

EVS as an integrated area of study:

The subject EVS is different from other subjects. The main difference is the nature of its content. The contents have been drawn mainly from social science and Science disciplines but the specialty of Environmental studies is that it is not overburdened by any particular subject. Because, the main aim of the teaching of environmental studies is to let the student know and understand about the environment. There are different things in our environment, e.g. human society, plant kingdom, natural elements etc and N.C.F, 2005 Says that at the primary level a child should interact with environment in an integrated way because a child at this age likes to learn in a holistic way. Let him/her know the environment without making it compartmentalized in social science and science. When a child will proceed through the interaction with environment, he/she may naturally will be matured enough to differentiate between the subjects. That is why “Thematic approach” has been followed while writing environmental studies text book from class III to class V.

The present syllabus for 'Environmental Studies' subject has been woven around six common themes.

They are:-

1. Family and relationship.

Sub – themes:

- a) Relationship
- b) Work and play
- c) Animals
- d) Plants

2. Food
3. Shelter
4. Water
5. Travel
6. Things we make and do

All the lessons in EVS text book are based on these six themes. The syllabus web proceeds outward over the three years beginning from class III to class v. The Themes have been framed keeping in mind the integrated nature of the subject and nature of child learning because a child views everything in a holistic way. There is an interrelated understanding of each theme. Life incidents, everyday challenges and contemporary issues have been included in the text books to sensitize the child about their role in the conservation and protection of environment.

- **EVS as EVS (Science) and EVS (Social Science):**

At present four subjects are taught at primary level, an environmental study is one of them. The contents are "Theme" based. But earlier in classes from III to V E.V.S. was taught through EVS – 1 (social studies) and EVS – 2 (Science). Though the approach of teaching was same EVS – 1 (Social Studies) aimed to develop in children awareness and understanding of their social environment. Through this subject, various social institutions were explored systematically. Children were motivated to participate in different social activities through which they developed good habits, attitude and values. Opportunities were provided to children for self-learning. 'Child – centered' and 'Activity based' teaching learning approach was provided. Learning was provided through direct experiences and immediate environment.

Through E.V.S – II (Science), children were given experiences to discuss and

understand about the various natural phenomena around them. Skills like questioning, observing, classifying, recording, exploring, collecting information, drawing conclusion, finding causes and effect relationship etc were developed in them.

Various abilities were developed in them to adjust with the natural environment. Children learnt through environment.

Environmental Studies and Environmental Science:

Sometime it appears that 'Environmental science', 'Environmental studies' and 'Environmental education' are synonyms but the meanings and objectives are different. Environmental science is purely a science discipline. One studies the subject following scientific methods. It deals with natural environment. The object is to acquire the competencies to understand the importance of conservation and protection of natural environment. As it requires a bit maturity to understand the subject through scientific process, therefore, the subject is taught to the students at higher level beginning from class XI. The content is drawn from science disciplines. But environmental studies are not a subject, rather, it is considered as an approach to understand the relationship between nature and human beings in a holistic way. Environmental degradation has reached to such extent that the survival of animals including human being on this earth is at stake. Therefore, the curriculum framers have felt the necessity to introduce environmental studies at primary classes so that children from the beginning of school life take care of environment. At the primary level children are persuaded to interact with the environment in totality. Knowledge is not provided in a bifurcated way, it creates awareness among the children about the role of environment in the peaceful living of human beings.

Environment education means education about the environment. The concept of environment education arose when people started feeling the impact of human action on environment through various studies from the middle of the twentieth century. Due to industrialization, poisonous gases were released. As a result of urbanization, waste product and garbage's were thrown into rivers. People started using forest product indiscriminately resulting deforestation. All these destroyed the balance in nature causing thereby a threat to the survival of mankind. World leader throughout the world started taking steps and formulated policies to educate the people through the education of people for the preservation and protection of environment. In India also, after the verdict of Supreme Court, the policy makers made environmental education compulsory in school curriculum. Accordingly, curriculum framers have introduced teaching of environmental studies at primary level.

Unit -2: Class Room Transaction and Evaluation

1. Objectives of Teaching EVS
2. Approaches to Teaching EVS

Environment Approaches

-Interdisciplinary Approaches-

-Participatory Approach

Constructivist Approach

3. Methods of Teaching EVS

-Play way Methods

-Discussion Methods

-Small Group

-Field Visit

-Survey

-Observation

Experimentation

4. Evaluation

-CCE

-Scholastic & Co-Scholastic Evaluation

-Tools & Techniques of Evaluation

-Setting of objective based Questions and a good Question paper

(1) Objectives of teaching EVS:

According to the position paper of the national focus group on habitat and learning NCERT, New Delhi, 2006. The objectives of teaching learning of EVS are given below:

“a) To train children to locate and comprehend relationship between the natural, social and cultural environment.

b) To develop an understanding based on observation and illustration, drawn from lived experiences and physical, biological, social and cultural aspect of life, rather than abstraction.

c) To create cognitive capacity and resourcefulness to make the child curious about social phenomena, starting with the family and moving on to wider spaces.

d) To nurture the curiosity and creativity of the child particularly in relation to the natural environment (including artifacts and people).

e) To develop awareness about environmental issues.

f) To engage the child in exploratory and hands-on activities to acquire basic cognitive and psychomotor skills through observation, classification, inference etc.

g) To emphasize design and fabrication, estimation and measurement as a prelude to the development of technological and quantitative skills at later stages.

h) Able to critically address gender concerns and issues of marginalization and oppression with values of equality and justice and respect of human dignity and rights.”

II. Approaches to Teaching EVS

Approach means a way to deal with while teaching a child an EVS teacher devises various ways through which she/he helps the child to attain the objectives of teaching EVS. Modern researches have revealed a number of ways or approaches to deal with the teaching-learning of EVS. These ways or approaches are scientific and based on child psychology. Some of these approaches are:

-Environmental approach

-Interdisciplinary approach

-Participatory approach

-Constructivist approach

Environmental Approach:

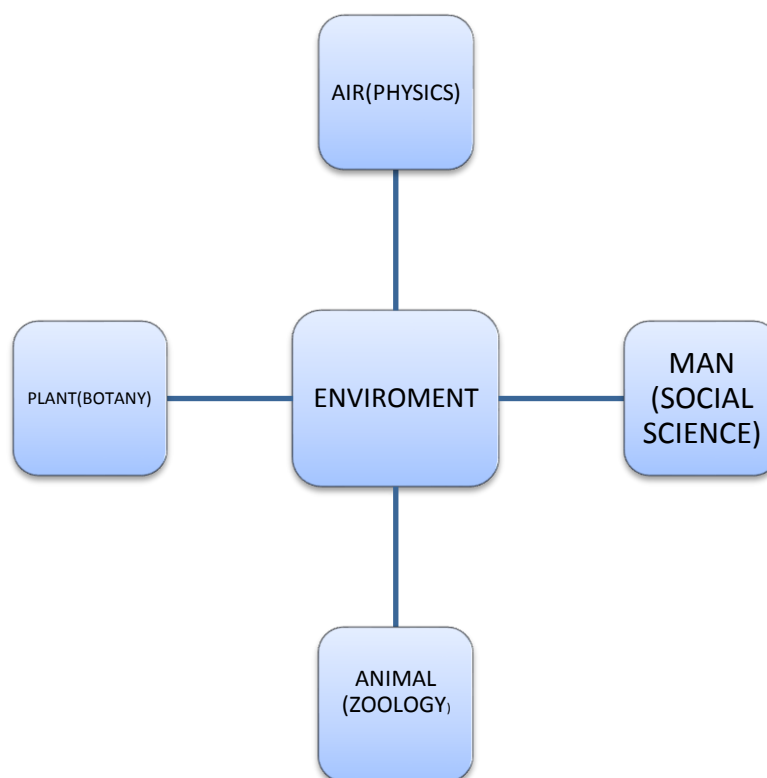
As EVS is the studies about environment, therefore, there should be regular interaction between the child on the one hand and the natural and social environment on the other. This interaction develops in him/her a value system. He/she feels the importance of preservation and protection of environment. NCF, 2005 says “Learning takes place through interaction with the environment around, nature, things and people both through actions and language. The physical activity of moving, exploring and doing things, on one’s own, with one’s peers or in the company of adults, and using language-to read, to express or ask, to listen and to interact-are the key processes through which learning occurs. The context in which learning takes place is thus of direct cognitive significance.” Thus, a child learns about the environment through the environment. Through his/her investigation and exploration he/she develops awareness, care and concern for the environment. While interacting with the environment the child develops scientific processes viz. observation, recording, classification, ordering of data, collection, communication, prediction etc. He/she also develops the ability to make proper judgment. Thus, environment becomes the vehicle

of learning. One example from class III EVS text book 'looking around, 'Lesson- 'Poonam's day out,' may be cited here. The nature of the subject EVS demands that the teaching-learning should be held not only in class-room but in the local environment also. A teacher may take the children to a nearby park or safe forest area where children may be engaged to observe birds and animals, be empathized with the birds and animals, collect dry leaves, classify animals on the basis of how they move from one place to another place, draw pictures etc. As the children learn about environment through different processes, therefore, they learn about different skills to acquire knowledge.

Interdisciplinary Approach:

The main objectives of teaching environmental studies are to create an awareness and understanding of environment in a child. A child constantly interacts with her/his social and natural environment. In the process she/he influences or changes the environment thereby giving the birth of a new environment which may be good or bad for the inhabitants on the earth.

There are many things in the environment e.g. social and natural events, phenomena, various objects, occurrences etc. These things are related to different disciplines like social science, Science disciplines and environmental education. For example, a student wants to study about her/his environment.. In the environment so many things are there---Man, animal, air, plants etc. Here, knowledge about man comes under the domain of social science and plants come under science discipline.



Therefore, interdisciplinary approach is most suited for the teaching of EVS as the concepts of EVS are not confined to any particular subject. Concepts are inter-related and have been drawn from various disciplines.

PARTICIPATORY APPROACH:

In a traditional teacher centered classroom, students are not given enough scope to participate freely. It is one-man show. Teacher uses to run the class according to his/her pre-determined objectives. The impacts of interest, likes, and needs of students on the achievement of objectives are never considered seriously by the teachers as a whole. They failed to understand the relationship between joyful learning and achievement of objectives. Joyful learning is possible when the students take part in the process of achievement of objectives. That is why, modern researchers emphasizes on the child-centered 'approach. In this approach, students are encouraged to participate in the learning process. They take the active role in knowledge construction. Therefore, students should be encouraged to express their views. They come to class with different experiences about environment. Their views should be honored in the classroom. Then the students will not feel boring. They should be given the options how they will learn because students learn in different ways. In the classroom the voice of learners must be heard. Our common experience reveals that when we remain engaged in a work, we get satisfaction, we never feel boring and the work is done satisfactorily. Therefore, learners should be persuaded to participate in the teaching-learning process. A teacher has to devise the ways for the participation of children in this process. Some of the ways are given below:

- In the beginning the objectives of teaching-learning should be clearly explained to the students.
- Students should be involved in the process.
- Roles of students should be communicated properly to the students.
- Activity should be organized in such a way so that all the students can participate. Activities should be planned keeping in mind the unique natures of students. Children, who need special education, should not be neglected.
- Child-friendly environment should be created while dealing with teaching-learning strategy.
- Teacher's attitude is the most important factor in the success of participatory approach. she should plan the activities in such a way so that students get interested to participate spontaneously. She should welcome all the answers during class or group discussions.
- Varieties of activities like discussion, role play, songs, games, field visits etc and such other activities, where scope of participation is more, should be organized.

CONSTRUCTIVIST APPROACH:

Constructivist approach means that each and every child can construct knowledge on his/her own provided he/she is provided ample opportunities. When a child comes to school he/she comes with already acquired experiences. He/she receives information from teachers and then with the help of already acquired knowledge he/she creates new knowledge. This can be explained through an example. Sometime, it happens that a child who is born in the house of a particular religious follower, becomes habituated listening that his/her religion is the best in the world and all other religions are inferior to his/her religion. But when he/she starts attending the religious festivals of other religions or he/she makes close friendship with the followers of other religions he/she discovers that all religions are basically same and good. In this way she creates new knowledge. In this, generation of knowledge is social and active in character. So, children should be engaged in more and more activities so that they get opportunities to generate knowledge, in this knowledge construction process the teacher acts just as a facilitator. Students are engaged in activities and the teacher supervises the activities and helps the children whenever they require her/his intervention. She/he may follow '5 Es' while facilitating the process.

5 Es: (Source: Training package for primary teachers of North-Eastern Region, p-14, prepared by Dept. of teacher education and extension, NCERT, New Delhi)

"1) Engage:

- a) children encounter and identify instructional task.
- b) Bring past experiences into an active state to receive new information.
- c) Opportunity for teacher to assess understanding or lack of it.

2) Explore:

- a) Children have the opportunity to get involved in the learning task.
- b) Children share their perspectives and understandings.

3) Explain:

- a) Children analyse their exploration.
- b) Children's understanding is clarified and modified.
- c) Children put their experiences in a communicable form
- d) Teacher introduces formal terms and explain concepts, etc.

4) Expand:

- a) Children extend their conceptual understanding.
- b) Teacher evaluates children's understanding of concept through various means."

5) Evaluate:

- a) Reflect upon their learning and assess their understanding
- b) Teacher evaluates children's understanding of concept through various means."

III. Methods of Teaching EVS

Play Way Method:

The life of children is intimately connected with play. Play is the natural urge of child, whether it is new born baby or a nine year old child---everybody likes to play. A three or four months baby kicks his/her legs and tries to waive his/her hands. In this way the child satisfies his/her play urge. A child of little older tries to play with everything whatever she gets on her way. It is observed how the students wait for the final bell just to get chance to play.

It is observed that during play a child is engrossed in that particular activity, she does not think about the consequences. She plays as she gets amused. That is why some educationists contemplated over the consideration of play as the method of learning. Educational systems like kindergarten system, Dalton plan etc. started giving emphasis on play way education. In play way education emphasis is given on play, not in work but the objectives of the work gets fulfilled in an effective way.

What is play? According to Ryburn, "play is a way, a means, which is used by the self when the different instinctive urges are trying to express themselves,"

Crow and crow defines play as an "impulse to carry out certain instinctive action."

Some of the important features of play are given below:

- Children enjoy play.
- During play, children become involved in the process of play.
- During play children remain out of anxiety.
- Though they have to obey different rules and regulations but they master these for the sake of play.
- There is scope to be creative during play.

When a work or task or activity is assigned to students, they take it seriously and this seriousness is associated with tension. They feel the urge to complete the task within stipulated period. As a result, the task appears burden to them. So, educationists emphasize on the concept that the activities should be planned in such a way so that the children take the task playfully, so, education should be provided through play.

That is why; the EVS text books at primary level has been written and planned keeping in view the usefulness of play way education. Let us take an example from class-III EVS text book; looking around. In lesson-2 'The plant fairy', the activities have been planned to achieve the objectives through play. The lesson has been planned in such a way that the children will never feel boring. Lots of spaces are there for enjoyment. Both the objectives- enjoyment and the achievement of objectives i.e. developing concern for the environment—are possible through the lesson without any burden.

Discussion Method:

Discussion method is one of the important methods which have immense value in achieving objectives in the teaching of EVS. In this method teacher and students or students themselves exchange their views for understanding concepts, for further learning etc. It enhances knowledge and understanding level and helps in the development of skill, attitudes and values towards better environment.

There is enough scope of discussion method in EVS. When students are taken to a nearby park or safe forest area to get first hand idea about natural environment a teacher has to play certain role. Before taking the students to the area he/she has to discuss with students about the planning of the trip including what activities they will do there. During and after the visit he/she again tries to concretize their knowledge and assesses their learning. Here discussion method produces effective result..But the success of this method depends upon the teacher's way of conducting discussion. If the discussion process is not well-planned then the cherished goal may not be fruitful. Some of the ways of conducting discussions are given below:

- Modern researchers emphasize on students participation in learning for knowledge construction but for that proper environment should be created whether in the classroom or during visit to a place. Teacher should play the role of 'friend; philosopher and guide'. She should lead the discussion in such a way that the students get interested spontaneously to express and exchange their views. Expression of views is very important in discussion method.

- Pre-class preparation is very important to a teacher .She must be well acquainted with the content and the process of conducting discussion. If the discussion is held in a haphazard way then the result may not be fruitful. Before going to teaching place the teacher has to identify important concepts of the topic for discussion

- Pre-class preparation includes the framing of probable questions for leading the discussion. A teacher has to keep in mind that the questions should be asked not for getting answers but only for discussion .Because then the average students, whose knowledge domains is not so developed, may perceive that if they give wrong answers then they will be insulted. They may be reluctant to express their views.

- Blackboard or substitute must be used to organize the discussion. Important views should be outlined on the blackboard so that discussion topic should not go out of the track.

- While conducting discussion; a teacher has to keep in mind about the uniqueness of children. There are differences in many respects-Ways of learning, way of responding, way

of thinking etc. They are from different backgrounds. Some are introverts, some are extroverts. There are so many differences in them.

-It will be better if children are provided the topic and concepts of the discussions on topic beforehand. Then they may take some preparation.

- While asking questions, sufficient time should be given to the child to respond.

-During discussion, a teacher has also to be vigilant whether all children are taking part in discussion. If required, groups may be formed for discussions.

-The teacher is to be careful about time. Within Stipulated time, he should conduct the discussion and at the end he should summarize the result of the discussion and that should be known to the students.

Small Group Work

Small group work is one of the teaching-learning techniques which are used in EVS to generate knowledge. 'Small group work 'method is a student-student interaction. It involves a group of 4-5 students. It has much usefulness. Some of them are given below:

-In small group work, students get chances to practice the higher order thinking skills.

-They learn more and retain their knowledge longer comparison to individual work.

-As they learn together, therefore, social skills are developed in them.

-It happens that individually a child may face some problems in clearing concept of any topic but in the group she/he gets chances to clear her/his problem.

-As students are involved in the activities actively so learning becomes permanent.

-In small group work, every member of the group is assigned some responsibility. It enhances their ability to do responsible job in future life.

-Small group work is good for shy students. As every member has to contribute his/her views, a shy student becomes compelled to express his/her views. This enhances his/herself confidence.

-As every child is unique, therefore, every member may express his/her views while doing small group work but at the end they have to come to conclusion. In the process their views are discussed jointly and reasonable views are accepted. It provides the platform to form views rationally.

However, 'small group work 'method demands the active role of teacher. While assigning small group work, she/he has to keep the following points in her/his mind:

-The objectives of group work should be clearly conveyed.

- For successful group work, a group leader must be selected with consultation with the members of the group.
- A child- friendly atmosphere must be created.
- Every member of the group should be assigned a particular role to accomplish .It will create self confidence in them.
- The teacher should intervene if the group discussion is going out of track.
- The teacher should provide necessary help whenever required.
- There should be provision for exchange of views among different groups.
- Findings of activities should be discussed in general after the group activity is over.
- Group work is a 'child centered strategy'. Children get rid of monotony of traditional classroom teaching.

FIELD VISITS:

The nature of the subject environmental studies demands that the objectives of teaching should be achieved through different activities and these activities should be organized in its environments. For example, if the children are taught about nature observation then they may be taken to a nearby park or forest area where activities should be planned to enable the children get firsthand knowledge about nature. Therefore, field visit is regarded as one of the important teaching methods in EVS.

Field visit is a planned and purposeful visit to a place outside of school campus, organized by institutions, to enable the students to get knowledge about some pre decided topics.

Field visit occupies an important place in the teaching learning of EVS. Some importances are mentioned below:

- Children get firsthand knowledge about the environment.
- Children get study enjoyable and interesting.
- They learn about environment through some processes. e.g. observation, comparing, discussions among the group, drawing inferences etc. As a result some abilities are developed in them.
- As children get chances to study about environment in its own place, therefore, positive attitudes are developed in them to take care of environment.
- Aesthetic sense is developed in them through field visit

-Children become acquainted with their neighborhood.

Proper planning is needed for successful field visit. Some of the measures helpful for organizing field visit are given below:

-Before the visit a meeting should be arranged between the teachers and the students where the whole programme should be chalked out.

-The purpose of the visit should be clear to the students

-Students should be asked to take note book and other materials which may be required to get knowledge about pre-decided topics.

-Group leader should be selected from the students through the discussion with children.

-Parents should be informed beforehand about the place and purpose of visit.

-Medical kits should be taken.

-Arrangement should be made for refreshment.

-Safety measures should be adopted.

-Proper teaching –learning strategy should be planned beforehand e.g. group formation, objects to observe, taking field notes, discussion on the spot etc. Proper care should be taken so that the objectives of field visit do not go wasteful.

-Details about the place of visit should be collected

-Disciplines should be ensured.

SURVEY:

Survey method is very useful in achieving some of the objectives of EVS. The word 'survey' is derived from two words-'Sur'or 'sor' which means 'over' and 'view' or 'vieor' which means 'see'. According to oxford advanced learner's dictionary, 'survey' means 'examine the general condition of'

Survey method has occupied an important place in the teaching of EVS due to various reasons. Some of them are given below:

-Children come to know about the actual condition

-Modern education believes in the participation of children for knowledge construction. This method provides opportunities to students' participation in knowledge generation directly.

-Learning becomes effective because children take part in the activity actively .It believes in 'Learning by doing'.

-There is the scope of co-relating the knowledge which the children learn in classroom with the knowledge generated in outside; in actual environment.

-EVS teaching-learning gives emphasis on process learning. Through the activities children develop some skills like observing, interpreting, data collecting, presenting data etc for which surveys method provides ample opportunities.

-EVS teaching-learning emphasizes on the maintenance of human relationships. During survey, children get chances to talk to people in different situations. They come to know about their living condition, source of livelihood, expectation from other people etc. Through these, they develop positive attitude towards other human beings. These create the quality like empathy in them.

-Through survey, some abilities e.g. taking initiatives, leadership quality, ability to communicate with other people, ability of questioning etc. are developed in children which make them future effective citizens.

-Children take part in problem-solving situation.

-It creates a desire in the children for further study.

OBSERVATION:

There are varieties of techniques and strategies for effective teaching-learning in EVS. Observation method is one of them. In observation method learning takes place through watching. This method extensively used in progressive education. The method has tremendous effect on learning because a child learns through direct seeing.

There are two types of observation-structured and unstructured, structured observation is focused .what and how a thing should be observed is pre-decided. A format for observation is prepared which may include questionnaire. Through questionnaire a child tries to elicit information about the object or phenomena. In unstructured observation process, a child is free to observe whatever she/he wants to observe. However in our school education system generally the structure observation process is followed to elicit certain predetermined objectives.

The observation method is very effective in achieving teaching –learning objectives. However, the success of observation method depends upon the innovation approach taken by teachers. He has to devise plans to engage children to observe their environment be it natural or social.NCF, 2005,says that active participation of children is very important in constructing knowledge .Activities in the book (looking around) that demand that children be taken for observation to the parks, fields, water-bodies, into the community, etc. Lots of activities have been provided in the EVS text book ‘looking around’ to gain knowledge through observation.

EXPERIMENTATION:

There are many methods of teaching. Learning by experimentation is one of them. In experiment method some orderly procedures are carried out. This method is carried out either to test a hypothesis or to answer this type of question 'what will happen if something is done?' For example, experiment may be carried out to test the hypothesis 'living things grow'. Accordingly, some procedures are followed to prove that living things grow. Again, experiment may also be carried out to find out 'what will happen if lemon juice is added to milk?'

Experiments should be organized by a teacher at primary classes to enhance learning. It is very helpful in achieving learning competencies. Some of the advantages of it are given below:

- It develops learning skills in children.
- Children learn by doing.
- The method creates situation which embolden a child to ask questions.
- A child becomes engrossed in activity.
- A child learns how to draw conclusion.
- The students understand cause and effect relationship.
- It develops scientific attitude.
- It develops reasoning power in students.

In the EVS text book, 'Looking Around', lots of activities have been provided for experiment. One example is given below (source: page-64 Looking Around' Class-V, NCERT, 2008).

"Observe what happens and note in the table.

Things	Did it dissolve or not	What happened after keeping for two minutes
1,Salt 2,Soil 3.chalk powder 4,spoon milk 5,oil		

Tell:

- Could you see the salt after it dissolved in water? If no, why?

-Does that mean that now the water does not have salt? It has, then where is the salt?

-What difference did you see—in the water with salt, and the water with chalk powder-after keeping for sometimes?

-Which of the two would you be able to separate from the water by straining with a cloth-salt or chalk powder.”

-An EVS teacher should plan more activities like the abovementioned example to develop learning skills in children.

IV. EVALUATION:

Continuous, Comprehensive and Evaluation (CCE)

The national policy on education,1986, emphasized on the need of CCE at school level to achieve quality education and it was reaffirmed in the NCF,2005.Accordingly, CCE has been introduced in the schools of Arunachal Pradesh.

CCE consists of three words-continuous, comprehensive and evaluation CCE means evaluation should be continuous and it should be comprehensive. What is evaluation? “Evaluation is the process that deals with the collection of evidence regarding the changes which occur in the pupils’ behaviour during instruction. On the basis of these evidences, interpretations and judgments regarding the progress of the child are made and decisions are taken. Thus, evaluation involves four main sub-processes, i.e. gathering information, interpretation of information, making judgment and taking decisions.”(source- CCE, teacher’s ,handbook for primary stage, NCERT).

FUNCTION OF CCE:

-It helps a teacher to judge the effectiveness of her/his teaching - learning strategies.

-It promotes better learning of children.

-It helps the curriculum framers.

-Children get chances to rectify their defects through time to time feedback.

-It motivates children for further improvement.

The aim of education is the all round development of children. For teaching any subject, e.g. EVS; at first; objectives of teaching are identified and then the learning experiences are provided to achieve these objectives. But there must be some system to ensure that the learning experiences which have been provided to children have been achieved and this is

ensured by evaluation. All these three processes i.e. learning objective, learning experience and evaluation are inter-connected and inter-related. Learning experiences are provided to achieve learning objectives and, here, evaluation system guides learning experiences to be effective in its purpose.

Evaluation should be continuous; it should be continuous along with the teaching-learning activities. It should be continuous because the growth and development of children do not occur in one day only. Learning occurs in a hierarchical process. Whenever any learning experience is provided, then and there, assessment should take place to assess the effectiveness of that experience on children. Through these students get feedback on their learning. At the same time, teachers also get chances to modify changes in teaching-learning strategy, whenever required. Parents also come to know about the progress of their children.

The objective of teaching-learning is the all-round development of children. It indicates that both cognitive and non-cognitive areas should be developed in children. It means that evaluation system should be comprehensive. Evaluation should take place in both these areas.

SCHOLASTIC AND CO-SCHOLASTIC ASSESSMENT

Assessment includes both scholastic and co-scholastic abilities of students. Generally, the co-scholastic areas are neglected. It is mainly due to the fact that students as well as communities are career oriented. Though, for successful and peaceful living, development of balanced personality is must. Balance personality includes physical, mental, social and moral development. That is why importance is being given for both scholastic and co-scholastic assessment. Scholastic assessment is the assessment of cognitive domain of learning. Cognitive domain includes knowledge, understanding, application, analysis, synthesis and evaluation.

The cognitive domain of learning is developed through different content areas. Both formative assessment and summative assessment are organized in school to assess child's learning. Formative assessment is done along with teaching-learning process. Different techniques and tools are used for this purpose. At present, in an academic year four Formative Assessments with a weighting of 10% each and two summative Assessments with a weighting of 30% each are held.

First term: $FA-1(10\%) + FA-2(10\%) + SA-1(30\%) = 50\%$. (April to September)

Second term: $FA-3(10\%) + FA-4(10\%) + SA-2(30\%) = 50\%$. (October to March)

Formative Assessment is helpful for the following reasons:

- Learning progress of students is monitored.

-Whether the learnings objectives have been achieved or not.

-Teachers get feedback on teachings-learning strategies.

Summative assessment is organized at the end of a term e.g.in Arunachal Pradesh summative assessment is held for two times-First time at the end of six month and another at the end of twelve months i.e. when the session is over.

Scholastic assessment takes care of the development of cognitive domain and co-scholastic assessment takes care of desirable behavior related to learner's abilities in different fields .It includes enthusiasm; discipline ; team spirit in games and sport; interest; creativity and skill in arts/craft; interest; rhythm and melody in music/dance. Co-scholastic assessments assess different personality traits e.g. courteousness, care of belongings, initiative, self control etc. It also assesses development of health.

TOOLS AND TECHNIQUES OF EVALUATION:

A teacher provides learning experiences to children to achieve the objectives of teaching EVS. But how will it be ensured that the objectives have been met? This is done through the assessment through different means. These means are referred as tools and techniques. These tools and techniques should be used judiciously because every tool/technique has its own capability to assess child's learning. As learning objectives are different and children are also of different nature, therefore, no single tool and technique should be reliable for assessment. Different tools and techniques have to be used to assess totality of leaning of child.

A list of suggestive tools and techniques are given below:

TOOLS	TECHNIQUES
1. Question paper/test paper	1.examination
2. Assignment	2.Observation
3. Observation schedule	3.Debates
4. Checklists	4.Group discussions
5. Anecdotal record	
6. Portfolio	

Questions:

Questions are extensively used in summative and formative assessments. Questions assesses whether the learning objectives have been met and to what extent. However

framing good questions is a challenging task. (Perspectives of framing a good question paper is dealt with in the next topic.)

Checklist:

Children are engaged in activities to develop some learning abilities in them. These learning objectives are listed in a paper and teachers give a 'tick mark' against the indicator whenever the objectives are met.

It provides exact information about an objective; however, it has some limitation. It is used mainly to assess the presence of skill.

Assignment:

Assignments are given to children as a part of teaching learning strategy. students get opportunity to enhance their knowledge. At the same time, a teacher can assess his/her students through assignment. Assignment reveals the quality of children. However, keepings in view the maturity level of students the assignment should be given from class iv onwards.

Anecdotal Records:

It indicates the records of any special incident of a child which take place during school life. Records should be kept over a period of time. Emphasis should be given on the accuracy of incident and on the time and date of the incident. Information should be recorded during the occurrence of the incident or just after the incident. Otherwise it may not produce authentic judgment about children.

Observations Schedule:

Observation means seeing with a purpose. Information can be gathered regarding children in real world context i.e. in natural settings. The best way to judge a child when she/he is engaged in activities. There is enough scope for a teacher to assess the learning abilities and development of children. It provides scope to a teacher to assess development of children both in the scholastic and co-scholastic areas. While students are engaged in classroom activities a teacher can observe the effect of education in their behavior, attitude and feeling to others and their interest in the topic. These provide feedback to the teacher about his/her teaching strategies. Children can be assessed in the outdoor activities also. For example, while taking them to a nearby park, a teacher can assess whether they are learning through different processes like observing, collecting, measuring, drawing inference etc.

However, observations should be based on objectives. Decisions about the effectiveness on the development in a child should not be taken hastily i.e. after one or two observation. Involvement of children in different types of activities, the duration period of observation etc. should be considered during taking decisions. Details of activities on the spot should be recorded.

SETTING OF OBJECTIVES BASED QUESTIONS

During formative and summative assessment of children examination is held questions are put to students to assess their learning in achieving instructional objectives. Questions are set in such a way so that it can assess the development of children in knowledge, understanding, application and skill areas.

SETTING OF A GOOD QUESTION PAPER:

A question paper is required to evaluate the achievement of students. A question paper setter has to take care about some important points while preparing the question paper. Some of them are:

- Every subject has instructional objectives. The question Paper setter should be well aware of these objectives.
- The content should be thoroughly analyzed. Main concepts and sub-concepts should be identified. Questions should be set on the instructional objectives of the concepts and sub-concepts.
- Questions should be set to assess pupil's achievement in all domains viz. knowledge, understanding, application and skills.
- The language of the questions paper should be clear, precise and unambiguous.
- Different types of questions should be asked keeping in mind the unique nature of child.
- Time limit for answering should be clearly mentioned.

A good questions paper emphasizes on the following qualities:

- 1) Validity.
- 2) Reliability
- 3) Objectivity
- 4) Usability

Validity:

A questions paper is valid when it measures what it is intended to measure. According to Gates," A test is valid when it measures truly and accurately the ability or quality one wants to appraise".

Reliability:

It indicates the consistency of the test. If a question paper is checked by different persons

and it produces the same result then it is said that the questions paper is reliable. Freeman thinks, "The term reliability refers to the extents to which it gives consistent result on testing and retesting".

Objectivity:

It means that the questions paper should be objective based. A text is called objectives when the judgment of different questions paper checkers on the same test does not affect the scoring. It always provides the same answer. That is why, now a-days, emphasis is being given on objectives-based question.

Usability or Practicability:

A question paper is usable when it is practically sound to administer. It means that using the question paper should be free from the problems connected with administration, scoring and economy.

DEVELOPMENT OF DESIGN OF A QUESTION PAPER:

Before setting a question paper, a question setter should prepare design of the question paper. It includes everything e.g. weightage to objectives, weightage to different content areas, weightage to different types of questions etc.

a) Weightage to Objectives:

Every subject has educational objectives. A child should not only acquire knowledge of the content but she should also understand it, develop the ability to apply the knowledge already acquired and also learn the different skills connected with the content. Therefore, proper weightage i.e. marks should be allotted to different objectives according to their relative importance.

b) Weightage to Content:

While setting the questions paper it should be ensured that marks are allotted to all the content areas.

c) Weightage to Different Forms of Questions:

Keeping in mind that there are different sources to assess children, different types or questions should be asked. It should include not only short answer, very short answer type but objectives type questions also. Accordingly, weightage should be provided.

Specimen of design of Question paper is given below:

DESIGN:

Subject:-----

Class:-----

Time:-----

Marks:-----

Weightage to objectives:

Objectives	:	K	U	A	S	Total
Percentage of marks	:	-	-	-	-	---
Marks	:	-	-	-	-	--

Weightage to Form of Questions:

Forms of Questions	:	LA	SA	VSA	O	Total
No. of questions	:	-	-	-	-	--
Marks allotted	:	-	-	-	-	--
Estimated Time	:	-	-	-	-	--

Weightage to Content:

Themes/Lesson	Marks
1.----- -	-----
2.----- -	-----
3.-----	-----
4.-----	-----
5.-----	-----
6.-----	-----
7.-----	-----
8.-----	-----
9.-----	-----
10.-----	-----

TOTAL MARKS:

Difficulty Level:

Difficult :-----% Marks

Average :-----% Marks

Easy :-----%Marks

- **K(Knowledge), U(Understanding), A(Application), S(Skill).

*LA(Long Answer), SA(Short Answer), VSA(Very short answer), O(Objective type).

Specimen of Blueprint of a question paper is given below:

Subject-----

Class-----

Total Marks-----

Time-----

		K				U				A				S					
SL.NO.	Themes/Lesson	La	Sa	Vsa	O	La	Sa	Vsa	O	La	Sa	Vsa	O	La	Sa	Vsa	O	Total	
1	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10.	-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Sub Total																		Total	

Characteristics of A Good Question:

1. **Based on instructional objectives**-A good question should be objectives based. Learning experiences are provided to children for their effective in desired areas. Questions must assess whether these objectives have been achieved or not.
2. **Selection of content**- Particular contents should be selected on which questions should be framed.
3. **Instructions**-Appropriate direction should be provided during setting of a question paper.
4. **Language**-The language used in the preparation of questions should be clear and precise. The language should not be ambiguous.
5. **Different level**-A question should be framed keeping in view the level of students.
6. **Scope**-A questions should consider the length of the answer according to time and marks allotted to it.
7. **Assessing power**-A good question should have the quality to assess the difference between intelligent students and average students.
8. **Value points**-Marks of a particular question and its sub-part should be clearly mentioned.

Types of Questions

Different types of questions should be framed for both summative and formative assessments. It includes:

- 1) **Long answer type (LA)** :In long answer type questions a student is free to express his/her views in his/her own way. He/she is free how he/she will organize the answer.
- 2) **Short answer (SA):**
- 3) **Very short answer (VSA):**
- 4) **Objectives type questions (O)** As the name implies the questions are framed on the basis of objectives. In this type of questions, a student should choose only correct answer out of alternative choices. These questions are also known as selection type questions, the correct answer can be assessed mechanically, therefore, objective type questions are being set in different competitive examinations. There are different types of objectives type questions. Some of them are given below:

Matching test:

It consists of two columns. Statements/ words etc. are given in the left hand column and the responses are given in the right hand column haphazardly .Students are asked to match the words /statements given in the left column with the responses given in the right hand column e.g.

Direction: Match the words given in the left hand column-A with the words given in the right hand column-B to make a correct pair:

A

- a) Badminton
- b) Ludo
- c) Cricket
- d) Playing card
- e) Chess

B

- i) 52 nos.
- ii) king
- iii) Shuttle-cock
- iv) Dice
- v) Bat

Multiple Choice Test:

Answers are provided against each question. Students are asked to choose the correct answers .e.g.

Classification Test:

Direction

In the line, one word does not fit the same group or class. Underline the word.

- a) Lemon, arrange, Garlic, mango.
- b) Honey, meat, egg, banana
- c) Pea, gram, rajma, cauliflower
- d) Potato, corn, turnip, onion.

True/ False Test:

Few statements are given below . 'TRUE'/'FALSE' is mentioned against each statement. Underline the correct one.

- a) The colour of the body of a letter-box is red and its top is black. (True/false)
- b) Water is precious, we should not waste it. (True/false)
- c) The postman delivers letters at our home. (True/false)
- d) Letters are shorted out in the police station. (True/false)
- e) We get sugar from plants/animals. (True/false)

Simple Recall Test:

Direction:

a) Name two animals that can-

(i) Bite us (ii) harm us (iii) Kill us.

b) Name the state flower of Arunachal Pradesh.

Completion Test:

Fill in the blank by the appropriate word(s) given below (speeding, Bholi, field, veterinary Surgeon)

a) Meenu called her cow as _____

b) Meenu took her cow to the _____ to graze daily.

c) One day a _____ scooter hit Meenu's cow.

d) People in Meenu's family took Bholi to a _____.

Unit -3: Use of Learning Resources

1. Importance of Teaching aids
2. Development of low cost teaching aids
3. Use of Local/Community Resources

Meaning of Teaching Aids.

Teaching aids are the aids which make teaching - Learning effective. Through the various aids a teacher tries to clear the concept of anything or topics. Teaching aids are also known as audio-visual aids. It includes projected aids, non-projected aids and activity aids.

Some projected aids are:

- Film
- Opaque projector
- micro projector
- OHP Transparencies.

Non-projected aids includes; audio aids, visual aids, audio-visual aids.etc.

Example of audio aids are:

- Radio
- tape recorder

Example of visual aids are:

- Picture
- Cartoon
- Charts
- Diagram
- posters
- maps
- chalk/ white board
- bulletin board
- models
- specimen

Examples of audio-visual aids are:

- Television
- Computer
- Cinema

Some of the activity aids are:

- Role play
- Dramatization
- Survey

Importance of Teaching Aids:

Chinese proverb says, "One seeing is worth a hundred Telling". Senses are the

gateways of learning. That is why students should be provided ample opportunities to use the five senses in the teaching learning activities. Some of the importances of teaching aids are given below:-

Provision of direct experience- At the primary level children do not like lecture. As they feel boring, therefore, they lose interest in studies. There are many words or topics which the children may not understand through lecture method only. They require direct experiences.

Retention of learning –Teaching aids help in retaining the learning for longer period

Provision of variety - Oral teaching without aid is monotonous. Students feel boring. If different varieties of teaching aids are used then children will lose monotony and will be interested in studies.

Acts as motivation -It motivates the children to study. Sometime, for different reasons, students do not get interest to study but attractive teaching aids may make them motivated to learn.

Provision for hands-on-experiences- It provides scope to children handle and manipulate different types of aids. They learn by doing. They feel enthusiastic to learn.

Provision of creativity - Through the use of teaching aids children may be persuaded to be creative. When children are provided opportunities to see and handle different types of teaching aids, children may also feel the urge to make new teaching aids.

It saves teaching time- For making concept clear a teacher needs lots of time if she does not use teaching aids but with the help of teaching aids she can easily explain any topics with shortest time.

It is helpful in multigrade situation-In multigrade situation a teacher has to tackle more than one classes at the same time. He gets very little time to spend in a particular class. Teaching aids helps her to make the concepts clear in a very short time. Sometimes she may provide a teaching aid and asks the students to work or write something in it.

Helpful in inclusive situation-In Inclusive situation there may be hearing impaired or visual inclusive situation these may be hearing impaired or visual impaired learners. For them proper teaching aids are very helpful.

Helps in mass education- Teaching aids play important role in providing mass education through projected aids/video pictures. It is possible to provide education to a large numbers of people at the same time. The use of telecommunication/video conferencing is being increased day by day in the field of education sector.

Edgar Bruce wesely says, “Audio-visual aids furnish experiences. They facilitate the

association of objects and words. They save pupils' time and they provide simple and authentic information. They enrich and extend one's appreciation and furnish pleasant entertainment. They provide a simplified view of complicated data. They stimulate the imagination and develop the pupil's power of observation. These aids may need explanation but they do not need translators. They speak a universal language of form, colour, position and motion. They constitute one of the royal roads to learning".

Development of Low-Cost Teaching Aids.

Meaning of low cost teaching aids.

Low cost teaching aids mean aids prepared with low cost/no cost materials available in the locality. Teaching and students become involved in the process of constructing the aids.

Advantage of Low- Cost Teaching Aids.

- Teaching aids help the children to get more knowledge.
- Children learn by doing.
- Children can retain the knowledge for longer period.
- It provides hands-on-experience to children.
- It develops process skills in children as they follow steps while preparing the aids.
- Children show interest in study as they themselves have prepared aids.
- Children feel the need of co-operation as they exchange their views while preparing aids.
- It increases self-confidence in children as they construct meaningful aids with the help of teachers.
- Children identify local resources as low cost-teaching aids are basically prepared with the locally available materials.
- It can be prepared at very short period whenever it is required.

Use of Local/Community Resources

Local/community resources mean the resources that community possesses. As the contents of Environmental studies are related to social and natural environment, therefore, community resources, from the point of view of the teaching of EVS, are abundant in our locality. The theme of EVS at primary level has been woven around the six common themes –Family and relationship, food, shelter, water, travel and things we make and do. All of these are connected with our day-to-day life. All of these exist in our community; therefore,

there is enough scope to a teacher of EVS to connect the local/community resources to the achievement of objectives of teaching EVS.

Examples of local/communicate resources are given below:

- Aged and experienced people
- Buildings, dwelling places
- Water bodies
- Rivers
- Hills
- Park
- Agriculture farms, dairy farm etc.
- Sources of water
- Mode of travels e.g. bus, bullock carts, cycle etc.
- Professional people e.g. snake charmer, doctor, nurse, blacksmith, sweeper, milkman etc.
- markets
- Religious places like temple, mosque, church, gurudwara etc.
- Festivals
- Animals
- Trees
- Medicinal plants.

How can we use community resources?

Some of the important ways of utilizing local/community resources are given below:

Field trips

The nature of EVS demands that sometimes children should be taken outside of the school campus to get practical knowledge about the environment. They may be taken to a park where they may learn many natural aspects of our environment. There is the scope to observe trees, animals, birds, classify the objects, identify the different trees and flowers and to learn many more things in natural settings.

Invitation of aged and experiences people to school

These people are having lots of experiences about the action of human beings on earth the effects of which may be good or worse. They may share their experiences about the ill-effects of excessive use of natural resources. In this way children may be motivated to maintain ecological balance in nature.

There may be professionals in the nearby areas. They may be invited to school to share their experience about their nature of works. They may be persuaded to share their expertise with the children whenever required.

Survey:

Survey is an excellent platform to engage children in using community resources. For example a local market may be surveyed by the students. There are many things in a market like the vegetable seller, gent sellers, women sellers, tea-stalls etc. Through the discussion with the shopkeepers they may come to know about the places where vegetables are grown, about the vegetables growers, about the living style of the lawalas, etc. Through survey children learn in natural settings.

Unit-4: Planning For Teaching

I. Content Planning

- Analysis of contents
- Identification of concepts
- writing Behavioural Objectives.

II. Activity Planning

- Selection of activities
- Selection of Teaching-Learning Materials

III. Lesson Planning.

1. Content Planning

Before the execution of any kind of work, planning is must. It may be cooking or building construction or going to trip etc. Unplanned work will yield unsatisfactory result. This is more true in case of teaching where the future of mankind rests. A teacher has to plan meticulously how she will teach the content. Teaching consists of a complex process. A teacher has to proceed step by step to achieve the objectives of her teaching. Some of the processes are given below:

- 1) Analysis of content
- 2) Identification of learning objectives
- 3) Identification of concepts and sub –concepts.
- 4) Organization of teaching learning materials
- 5) Assessment tasks.

Analysis of content

A teacher teaches with pre-determined content which has been written by some writer. Therefore, she should thoroughly analyse the content before entering into classroom. Unless she herself masters the content her teachings may not yield to desired result. There are sufficient rationales behind the analysis of content. Some of them are mentioned below:

Content is written by some writer according to the guidelines provided by curriculum frames. There may be some words in the book the meanings of which may not be known to the teacher. During analysis, she gets the chances to clear the meanings of these words from different sources.

Sometimes a teacher may fail to understand the significance of a topic if she starts teaching being unprepared. As a result of it, there may be possibility of providing wrong information to her students.

Every content has learning objectives which will be developed in children through teaching. Learning should occur mainly in three areas/domains. A teacher has to analysis the content thoroughly how she will develop these abilities in children.

Analysis of content helps a teacher to identify teaching learning strategy. She gets sufficient time to think over the process of selection of proper method e.g. whether to choose story telling method or any other method.

It helps her to choose different types of tools and techniques to assess whether the learning objectives have been achieved.

It helps her to identify the strategy of teaching in inclusive situation.

There may be some weak students. They face problem while reading the content. So, a teacher has to devise ways how to help them. During analysis, she gets chances to take care of this aspect.

Identification of Concepts:

Through analysis a teacher has to identify the concepts and sub-concepts of the concerned content. An example is provided below:

Lesson- The story of food.

Class- III (Text book-‘Looking Around’)

Concept-1:-There are different patterns of eating.

sub-concepts:

- In some families all the members eat together
- In some families male members eat and food is served by female members
- Identification of family members who eat last.

Concept-2: Roles of family members in household works.

Sub-concepts:-Somebody cooks food.

- Somebody buys things from market.
- Somebody sweeps
- some body cleans utensils

-Somebody fills water

-Identification of member who works more.

Concept-3: We get food from different sources.

Sub-concepts:- Identification of food items which we get from plants.

-Identification of food items which we get from animals.

Concept-4: Some plants are used as medicines.

Sub-concepts:-Identification of plants which we use as medicines when we get hurt.

-Identification of plants which we use as medicines when we have a stomachache.

-Identification of plants which we use as medicines when we have cough and cold.

-Identification of plants which we use as medicines when we have a toothache.

-Identification of locally available plants which are used as medicine.

Concept-5: Parts of plants are eaten as food.

Sub-concepts:-Flowers of some plants are eaten as food.

-leaves of some plants are eaten as food.

-Fruits of some plants are eaten as food.

-Identification of food items besides the above mentioned food items which we get from plants.

Writing Behavioral Objectives

After analysis of the content the next step is to identify the learning objectives of the contents. Every content has been written with a view to bring about some desirable changes in the behaviour of students. At the completion of content a student achieves some learning objectives. Learning occurs in three domains areas-cognitive domain, affective domain and psychomotor domain. Development of knowledge, proper attitudes and skills are essential for successful social life. That is why specific behavioural objectives should be identified. This is very useful for different reasons. Some of them are given below:

-It helps a teacher to be focused on the teaching point only. She knows what she has to develop in students.

-It helps the teacher to organize teaching-learning materials around the development of specific objectives.

-As the objectives are written beforehand, therefore, the teacher can give proper weight on the development of the learning areas -- knowing, doing and feelings

-It helps the question paper setter to identify the specific topic for preparing questions The object of assessment is to assess whether the learning objectives have been achieved or not and the learning objectives are specifically mentioned in the lesson plan.

However, precise action verbs are required for writing behavioral objectives. Examples are given below:

For cognitive domains:

Development of knowledge:-

-Recalls

-Knows

-Recognizes

Development of understanding:-

-Understands

-Identifies

-classifies

-Realizes

-Expresses

Development of application power:-

-Analyses

-calculates

-draws conclusions

-explains

For affective domains:-

-Feels proud of

-Feels empathetic

-Appreciates

-Actively participates

-Respects

For development of skills:-

-Reports effectively

-observes

-draws

-selects

-handles

Example of writing behavioral objectives is given below:

Class-III.

Book-Looking Around.

Lesson-The Story of Food (page-92)

Specific objectives:

Students will be able to:

-observe patterns of eating in different families.

-identify gender roles

- question about different treatment in different families in relation to women.
- prepare the list of people according to their nature of works.
- identify the sources of food items.
- realizes the usefulness of plants in human life.
- learn how to make grouping
- draw pictures of food items
- be sensitive towards women.

2. Activity Planning

Selection of activities

Once the concepts and sub – concepts of content have been identified the next step of a teacher is to provide the ‘activity based’ learning experiences. In activities, children are actively involved; therefore, the learning becomes effective and permanent. They learn different skills while doing activities which help them face the problem of life in later times. Therefore, a teacher has to select activities keeping in view the concepts and sub – concepts to provide the learning experiences. However she should give emphasis on few areas before selecting activities, e.g.

- She has to consider the maturity level and uniqueness of each child.
- She has to think about the allotted time for the development of a particular concept.
- She has to select mainly those activities which can be done with the help of locally available materials.
- She has to think over the practicability of organizing activities.
- Children’s should be persuaded to collect the resources on their own in consultation with the teachers.
- She has to arrange the seating arrangement in the classroom according to the nature of activities.
- She has to consider whether the successful implementation of any activity demands individual work, small group or large group work.
- She has to contemplate over the selection of place of activities whether indoor or outdoor.
- It may be better if she involves the students in activity planning. It ensures students participation and whole hearted involvement.
- She has to create a non-threatening, friendly and joyful atmosphere during activities.

-Activities should not be so simple or so difficult.

Example of an activity in connection with the development of the concept 'some plants are used as medicines' is given below:

1. The teacher asks the students to locate medicinal plants in their locality.
2. Each child asks guardians and neighbours about the location of medicinal plants, names of plants and their importance.
3. The teacher organizes discussion on the medicinal plants. Students share their findings.
4. The teacher helps them to document the findings in their notebooks.

Selection of Teaching-Learning Materials

Teaching-learning materials are also known as instructional teaching aids. Once an activity has been planned, the teacher has to select the teaching aids which will be required during activity. A teacher has to keep in mind few things before selection of teaching-learning materials. She should select these having the following characteristics:

-Teaching –learning materials must be able to capture the attention of children. These should be attractive and interesting enough to motivate the children to learn.

-Teaching- learning materials should be realistic .It should present the accurate picture of the topic .This should represent the real things.

-TLMs should complement the theoretical aspects of teaching.

-There should be novelty in teaching aids.

-Teaching-learning materials in connection with the development of the concept 'some plants are used as medicines' (page-94, Looking Around, Class-III) are given below:

-Pictures of medicinal plants.

-Some original food items like ajwain, lemon, turmeric, saunf etc.

III. Lesson Planning

Meaning of lesson planning

After getting the content a teacher has to plan how he will transfer the content to the students. Therefore, she prepares carefully a framework of her teaching activities in a particular class in a piece of paper but what should be included in a lesson planning?

According to Binning and Binning “All lesson planning involves defining the objectives, selecting and arranging the subject matter and determining the method and procedure.”

According to L.B. Sands: “A lesson plan is actually a plan of action, it includes the working philosophy of the teacher, his knowledge of philosophy, his information about his understanding of his pupil, his comprehension of the objectives of education, his knowledge of the material to be taught and his ability to utilize effective method”.

Bossing thinks, “Lesson planning is essentially an experience in anticipatory teaching. It is living through in advance, mentally and emotionally, the classroom experience as the teacher visualizes it. The eager faces, the questions that will arise, the difficulties the pupils will encounter, the way these difficulties are to be met - all these the teacher will experience in imagination .This is the first essential of good planning. It is here that the teacher can bring into play the subtle power of well-developed imagination .The more vivid, the better, so long as it is fully tinged with realism.”

The above mentioned definition says that a lesson plan is a plan of action which will take place in a class in future to develop pre-determined objectives of the teaching of a subject like environmental studies in children. A lesson plan includes the following components:

- General objectives
- Specific objectives of the lesson
- Teaching aids
- Introductory part
- Presentation of lesson, it includes teaching points, specific behavioural objectives, teacher’s activities, students’ activities and questions for assessment.
- Recapitulation
- Black-Board summary.
- Home assignment.

Importance of Lesson Planning:-

- 1) It helps a teacher to prepare her lesson systematically.
- 2) It makes a teacher confident about her teaching. She does not feel nervous in classroom.
- 3) While preparing lesson plan a teacher anticipates about the problems she may face in the classroom and it provides her the opportunity to get prepared for that.
- 4) Continuity of teaching is ensured.
- 5) Syllabus is covered within time according to plan.
- 6) It provides opportunity to a teacher to use teaching aids whenever and wherever it is required.

- 7) It helps the teacher to select the proper methods of teaching.
- 8) A teacher gets time to think about the place of teaching whether indoor or outdoor where the objectives of teaching will be achieved.
- 9) It delimits the teaching learning activities.
- 10) Students are provided opportunities to ask questions

EXAMPLE OF A LESSON PLAN:-

Name of student:

ROLL NO:

Class : III.

Subject: Environmental studies.

Topic: The story of foods.

Duration: 35 minutes

Date:

General objectives:

Students will be able to:

- Understand the importance of eating together.
- Be sensitive towards gender issue
- Realise that family members should share the household works among themselves.
- Identify the relationship between human beings and plants.
- Take care of plants as they are useful to us.

Specific objectives:

- Students understand the necessity for eating together in families.
- Realizes that every members of a family should take part in doing household works.
- Identify the relationship between human beings, plants and animals.
- Locate medicinal plants in nearby areas.
- Acquaint with the sources for getting information.

-Draw pictures of food items.

Methods:

-Discussion

-Brainstorming

-Demonstration

Teaching Aids:

Chalk, duster, blackboard, chart etc

Introduction

Q. Which foods have you eaten today?

Q. Do you know the sources of these foods?

Q, who eats last in your family?

Announcement of Topic

Well, today we will discuss about all these things.

Presentation

Teaching points	Specific objectives in behavioural terms.	Teacher's activities	Pupils' activities	Evaluation
1.Different patterns of eating	-Learning about different patterns of eating -understand that we all should eat together -feel empathy for women.	The teacher instructs the students to look at the picture given in the book(looking around)and asks: -Do you eat together in your families? -Who serves the food? -Who eats last? -Do you help your mother in household works?	Students answers accordingly. -students contemplate over the questions	Q. Why should we eat together?

Role of family members in household works	<ul style="list-style-type: none"> -Classify family members on the basis of household works done by them. -Prepare list of household works done by family members in their own house and in their friends' houses. 	<ul style="list-style-type: none"> -The teacher develops the concept through question-answer. -She engages the students to discuss about the topic among themselves 	Students discuss with their friends and write in their note books in tabular form.	<p>Q. Mention the different types of household works.</p> <p>Q. Why should you perform some household works?</p>
Different sources of food.	<ul style="list-style-type: none"> -Learn about the different sources of food. -Identify food items found from plants and animals -Draw pictures of food items 	<ul style="list-style-type: none"> The teacher displays a chart showing pictures of different food items and asks? -Can you tell about the sources from where we get these food items? 	Students answer	<p>Q. Name food items which we get from plants.</p> <p>-Name food items which we get from animal sources.</p>
Some plants have medicinal usefulness	<ul style="list-style-type: none"> -identify plants having medicinal values -enquire about plants having medicinal values available in the locality from family members and neighbours -learn about medicinal plants 	<ul style="list-style-type: none"> The teacher displays a chart containing pictures of plants having medicinal values and discusses -She instructs the students to write the medicinal values of locally available plants in their note books 	Students discuss and answer	Q. Write the names of plants having medicinal values available in your locality.

Recapitulation:

Q. Mention the importance of eating together.

Q. Explain why should the family members do the household works co-operatively.

Q. Name two sources of food.

Home Assignment

- (1) Collect information about the locally available medicinal plants from your parents and neighbours.

Blackboard Summary-----

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