DIPLOMA IN ELEMENTARY EDUCATION (D.El.Ed.)

Learning Environmental Studies at Primary Level

Block -2
Curriculum and Pedagogy of EVS

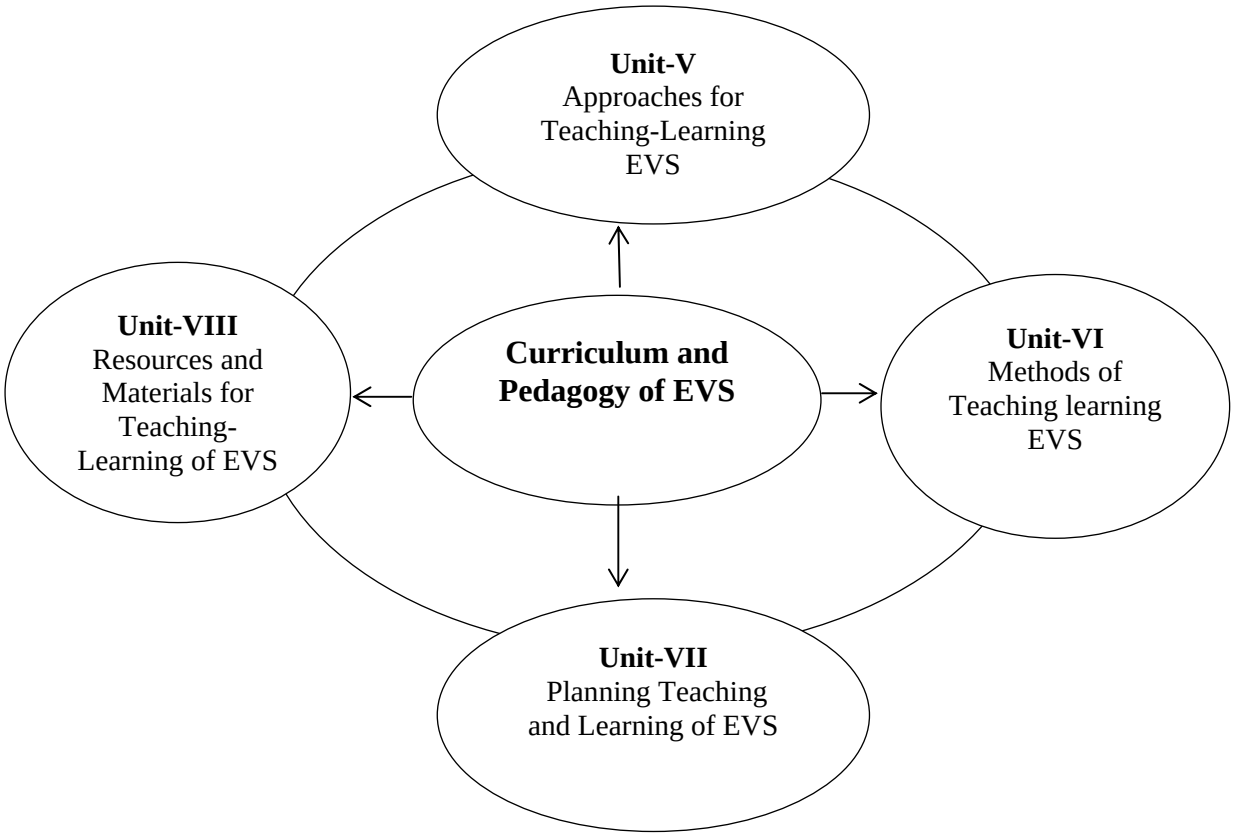
NATIONAL INSTITUTE OF OPEN SCHOOLING
A - 24/25, Institutional Area, Sector – 62,NOIDA
Gautam Buddha Nagar, UP – 201309
Website: www.nios.ac.in

Block 2
Curriculum and Pedagogy of EVS

Block Units

BLOCK INTRODUCTION

Block-2 :Curriculum and Pedagogy of EVS



This block will empower you to

- explain teaching-learning approaches like activity based and cooperative learning
- use different methods of teaching learning EVS in classroom and in school plant
- plan lesson for teaching-learning of EVS
- identify different resource materials for teaching learning of EVS

In making yourself as an effective facilitator in the field of Environmental Studies you have to develop expertise in different approaches of teaching-learning process.

Different approaches involve various methods of creating learning situations. There is a need of planning the learning materials starting from the year plan to daily classroom plans which need different resources and materials. The sources need to be identified selected and used effectively in the classroom for which an attempt was made to empower you in this block.

Unit-5 will familiarise you with two types of very useful approaches which are widely used in creating learning situation in EVS at primary stage. It will empower you to select the better suited approach as per the need of the content and learners at different stages of primary

classes. The activities and small grouping of learners need be the central theme of learning situation at primary level and as a teacher you will develop the mastery in the processes.

Unit-6 will empower you with different methods, steps involved in each method, challenges to be faced while using individual method. This exercise will help you to develop expertise so that you will be able to select appropriate method for a particular content area with different learner groups.

Unit-7 will empower you to plan different topics starting from classroom situations to yearlong basis so as to make yourself ready to execute the teaching appropriately at different points of time in the school years.

Unit-8 will help you to identify different sources of resources and materials for using those in creating effective learning situations. The use of right materials in right situations with right learners in appropriate time makes learning more effective and joyful. This will help you to realise through this unit.

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UNIT 5 APPROACHES FOR TEACHING-LEARNING EVS

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STRUCTURE

5.0 INTRODUCTION

In Block 1 you have learnt about objectives and scope of teaching-learning EVS in the primary stage. The Block also discussed key features of curriculum and

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pedagogical considerations for EVS. By now you have realized that learning experiences in EVS must encompass a wide range of activities to help enhance children's understanding and skills.

In this unit you will learn about a variety of approaches suitable for the teaching-learning of EVS. You know that NCF 2005 emphasises 'constructivist, student-centered, learning-centered and experiential' philosophies of education and learning. The present Unit will help you to realise and apply these theories in your classroom, with focus on Activity-Based Learning and Cooperative Learning approaches.

5.1 LEARNING OBJECTIVES

On completion of this unit, in the context of EVS, you will be able to

- explain the need to engage every student in learning.
- explain the need, stages, merits and challenges of activity-based learning in EVS.
- practise activity-based teaching-learning in EVS effectively.
- describe the need, merits and challenges of cooperative learning in EVS.
- practise cooperative learning in EVS classroom effectively.

5.2 ENGAGING EVERY CHILD IN LEARNING

5.2.1 Meeta teaches EVS

Meeta teaches EVS to the children of class III. Children feel free to ask her questions and clarify their doubts. They like the EVS class. You will never find Meeta talking for the entire period and the children remaining quiet. You will often hear students chirping and hustle and bustle in her class. It is because Meeta feels it important to reach out to every student.

Today, as the EVS class began, Meeta provided a worksheet to each child, asking them to observe insect life in the school garden and note down their observations on the worksheet, which Meeta prepared last week after undertaking an observation session in the school garden herself.

Do you agree with Meeta's thinking and approach? Is it important that every child is engaged in learning? What do you think about the benefits to the child and to the teacher if each child is engaged in learning? List some benefits.

Benefits to the students: ……

Benefits to the teacher: …….

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5.2.2 Amrut, an EVS teacher

Amrut, an EVS teacher sits with the students and they learn to make things from clay. Soma cannot sit down on the floor along with other students; she sits on a chair and learns from Amrut and her classmates to make different things from clay. During this activity Amrut talks to the children and encourages creativity. Then he asks the students to sit in small groups. He asks the students to use clay, to create a scene of their choice. Each group comes out with a different idea and a different scene. One group creates a home scene, another group makes a shop and one more group designs a tree with birds and insects to name a few. Amrut is astonished to see the way children created objects from clay, with their imagination running wild to create wonderful scenes. The objects are crude and sometimes need a lot of explanation from the child to know what it is, but Amrut appreciates everyone's work with genuine interest.

Amrut used this exercise with his class III children to initiate the EVS chapter on 'Making Pots'. Amrut provided opportunity so that every student can display talent and improve her competence. His class atmosphere is generally comfortable and lively.

5.2.3 Read and Reflect

You will identify that Amrut's clay in the activity is linked to the theme "Things we Make and Do" in the EVS syllabus. Which according to you are important things about Amrut's approach to teaching? What are your own favourite techniques to involve every student in the teaching-learning process? Name at least two such techniques.

5.3 ACTIVITY-BASED LEARNING

As learnt in Block 1, Unit 2, EVS at the primary level is intended to foster a reasoned and sensitive concern for the quality of the environment and for the management of natural resources. Teachers thus need to provide many opportunities to children to interact with the surroundings. Thus as discussed in Unit 3 real-life activity-based teaching strategies are effective for EVS.

You will recall, the objectives of EVS, as stated in the NCF 2005, focus on developing in children curiosity and awareness about their surroundings; knowledge and understanding of their environment and their relationships or connections; developing affect attributes (appreciation, values and attitudes) and skills of observation and measurement; collection of information and its processing; creative expressions, etc. Activity-based approach helps to achieve these objectives effectively. Activity-based learning as the name suggests, actively involves learners in the construction and re-construction of knowledge based on his or her individual experiences.

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5.3.1 What Kind of Activities for EVS?

An educational activity should:

- Be linked clearly to at least one of the learning objective of EVS
- Be real-life based and enjoyable for the students
- Be safe for the students
- Not take very long time to complete. A longer activity can be divided into small parts with intervals.
- Be appropriate for the age group of students
- Be such that these awaken interest, curiosity, provide meaningful information and create a self-directed learning process for the child.
- Focus on experiences of the child
- Involve all students

As a teacher of EVS, you may already be using a variety of activities for transacting concepts; Based on your experiences, you may have more points to add to the above list.

5.3.2 Some Sample Activities

- **Encouraging children to bring in and share their personal context and experience.**

Class III, Lesson 14, The Story of Food:
Table of who does what work in their house

Class IV, Lesson 1, Going to School
Can you ride a bicycle? If yes, who taught you to ride?
Have you ever been in a thick jungle?

Class V, Lesson 21, Like Father Like Daughter
Is your hair like that of anyone else in your family? If yes, then name the person.

- **Encourage children to talk to parents, and elders and community members to find out and collect information.**

Class III, Lesson 16, Games We Play
Find out from elders what games did they play when they were children.

Class IV, Lesson 5, Changing Times
Talk to grandparents and find out when he/she was 8/9 years old where did he/she live? Did they have a toilet in their house?

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Class V, Lesson 12, What If It Finishes?
Find out from elders, when they were young what used to the cooked as food at home?

- **Encouraging children to go to different sites in the neighbourhood to observe, record, interview and investigate and submitting a report.**

Class III, Lesson 8, Flying High
Bird watching and recording observations for submission.

Class IV, Lesson 12, Changing Times
Visit to construction site and interviewing different personnel and writing a report.

Class V, Lesson 8, A Treat for Mosquitoes
School campus: check and investigate
Visit to a farm and writing a report.

5.3.3 Organising Activity-Based Teaching-Learning

The curriculum provides the framework of what should be taught. However the rich variety of methodologies or skills needed for the effective communication of all that needs to be taught is often not available to teachers. Trends in recent years have highlighted the need for teaching methods other than the traditional "chalk and talk". Text books themselves have a number of suggested activities. There is an acknowledged need for students to be actively involved in the process of learning, and to develop practical skills which will be useful to them in their later lives. Some ways in which this can be done are by 'hands-on learning' and 'learning by doing' or 'activity approach'. These are part of the process of 'experiential learning'.

Thus a variety of teaching methodologies may need to be used for effective active learning. These should be such as to awaken interest, arouse curiosity, provide information and enable systematic processing for the information, help formulate codes of ethics and behaviour, and ultimately lead to positive action to improve the world around.

When you, as an EVS teacher, begin to use the activity approach, it may take you a little more time to prepare than a lecture or a demonstration. But the activity approach will not add to your burden. Rather, it will promote and support you by providing a range of appropriate educational material and ideas, and orientation on the creative use of the same. And the rewards for both you and your students will be significant and satisfying.

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The four steps to practicing activity-based learning are:

a. Planning

1. It is important to identify the EVS learning objectives that would be achieved through the planned activity.
2. Now you need to make a list of, and arrange for the various resources that may be required—material, learning resources, volunteers, etc.
3. Plan for debriefing/discussion after the activity should also be developed by you. You will also require to have an idea about how will you assess, not only the learners, but also the effectiveness of the activity.

b. Conducting the Activity

While conducting the activity, as a facilitator, you may need to work in the following phases:

- Initiate the Activity: Introduce the activity and inform the children about the purpose or objective of the activity, their role in it, the time duration and evaluation details if any.
- Proceed with the Activity: Once you have initiated, your main role is to ensure that children are able to meaningfully do what they are expected to do. Remember, encouraging all children is required to keep them motivated and involved.
- End the Activity: This phase is important to consolidate the learnings. This may require that the students reflect on the experiences and derive learnings relevant to the identified EVS objective. If it is not done, sometimes the children are unable to relate the activity to essential learning. The teacher can also conclude by suggesting the linkages of the activity to real life situations, and further direction. This phase is crucial for establishing links between what children experienced and what they read in their text-book.

c. Reflecting on the Process

This phase is for the teacher to take her own notes and learnings from the experience of conducting the activity. Thus it is important that you spend some time reflecting on what worked well and what did not, and why? These notes/reflections will help you improve the design, planning and conducting an activity in the future.

d. Revising

As a result of reflection, teacher often realises the benefits and strengths of conducting the activity. An objective analysis of the experience also reveals the scope for improving the same activity for the next time.

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5.3.4 Making Activity-Based Learning Work

To make an activity based approach work, the teacher:

a. Creates a positive environment in the classroom, which is encouraging yet meaningfully challenging. Frequent interactions among children are allowed and they are encouraged for careful monitoring of their own development and progress.

b. Has a well organised lesson plan, classroom and resources within the classroom. She also uses these appropriately to relate to the EVS learning objectives and concepts; provides a range of instructional activities that are relevant to children's lives.

c. Supports each to stay motivated and focused on learning by addressing individual socio-emotional, as well as academic, needs.

d. Recapitulate the lesson, provides feedback, challenges thinking and provides opportunities for further discussion of important concepts and issues, with the whole class.

Check Your Progress-1

What are the four stages of organising EVS activity? Describe each stage in brief, for an EVS activity.

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An EVS activity involves exploration. Exploration engages both the physical (psychomotor) as well as mental domain (cognitive and affective) of a child. Thus, the teacher should provide opportunity for both physical and mental engagement of the child and hence must build appropriate stimuli in her/his activity. The children who do not get enough opportunities to carry out mental activities of thinking and expression often tend to become shy. They tend to have low verbal skills and even low confidence.

Also remember that an educational activity must have a purpose/aim and should be linked to the curriculum. The Activity must be concluded well to ensure consolidation of learning and to draw its connections with the curriculum.

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5.3.5 Advantages of Activity-Based Learning Approaches

Activity-based Learning approaches:

- Help to clarify abstract concepts through practical experience or demonstration.
- Help in better understanding and contextualisation through application of the principles of science, mathematics, etc. to situations familiar to students.
- Provide opportunity to use multiple senses (seeing, hearing, touching, smelling, tasting etc.) and helps increase retention of what is learned.
- Integrate multiple teaching-learning methods, leading to maximising creativity and flexibility.
- Focus on learning more from view of the child, and less from an adult's perspective.
- Facilitates the process of 'discovery' of problems and solutions, and builds self-esteem.
- Teaches a variety of life skills in addition to the subject matter content.

5.3.6 An Example of an EVS Activity

Segregate Your Garbage

Objectives: To enable students to:

- explain the importance of segregation of garbage
- identify different types of solid waste which can be divided into dry waste, wet waste, infectious waste and toxic waste.

Materials: Writing materials; four empty baskets/bins

Procedure:

i. Make a list of solid waste items under the heads, 'dry waste', 'wet waste', infectious waste' and 'toxic waste' – e.g. paper, vegetable peels, discarded bandages, medicine bottles, etc.

ii. Write down four names from these lists on four pieces of paper. Mix them together and spread them out on a table or floor.

iii. Label the four baskets/bins as 'Dry waste', 'Wet waste', 'Infectious waste' and 'Toxic waste' respectively. Place the bins with the labels facing the students. The baskets/bins should be kept at least one to one-and-a half metres away from the table or where the paper pieces are.

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iv. At a clap or whistle one student has to separate the components, crumple each piece of paper into a small ball and throw it into the appropriate basket from the distance indicated above. The activity has to be completed within 2 minutes

v. After this, the student should explain as to why he/she threw particular component (say banana peel) into a particular basket.

vi. Put out four different chits having different names of different items of garbage and call another student and continue similarly.

Source: The Green Teacher, Centre for Environment Education

5.4 COOPERATIVE LEARNING APPROACHES

Before we begin our exploration of using cooperative learning approach, let us understand what we mean by cooperative learning (CL). Here are two comprehensive definitions of 'Cooperative Learning' by experts. Read both, discuss with your colleague at school and keep referring to the definitions as you implement CL in your class.

According to Brody and Davidson CL is a pedagogy that generates a diversified body of methods of instructions, all of which organise students "to work in groups towards a common goal or outcome, or share a common problem or task in such a way that they can only succeed in completing the work through behaviour that demonstrates interdependence, while holding individual contributions and efforts accountable".

According to G. Jacobs, CL is 'Concepts and techniques for enhancing the value of group activities.'

CL involves learning through teamwork. Teamwork is the basis of our family life and community life as well. Thus conducting group work in the class is a natural way of teaching-learning. Also living together and learning together are important values implicit in the teaching learning of EVS. Thus CL approaches and EVS blend together beautifully. They share common important values. EVS and CL both encourage teachers:

- To go beyond the boundaries of a single subject or a grade
- To go beyond the normative philosophy of teaching-learning 'values'
- To appreciate the social context of learners
- To appreciate that people are different and that diversity is critical for a democratic society.
- To help children value cooperation
- To empower the young learners

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5.4.1 Benefits of Cooperative Learning

Cooperative learning has a strong base of theory, research and practice. In the Course 3 of this programme you would have already learnt about a number of advantages that CL brings. When carried out responsibly, cooperative learning can not only support academic progress in the classroom but also improve social skills of the young learners.

Learning together in EVS

Kiran is a primary teacher. He had read about the benefits of cooperative learning and wanted to try it out in her class to facilitate the theme of 'Travel' in EVS. He asked his students to bring details of a recent travel that any member of their family had undertaken, and discuss these with another child in the class. The details included information about

Place visited by you/your family member
How is this place different from your town/city/village
A famous dish/food item of that place
Language/s spoken

The technique used by Kiran in this example is called the 'pair-share' technique of cooperative learning. The steps to implementing this technique are:

i. Individual student responds to the teacher's query.

ii. Pairs up with another child

iii. Shares with the partner to complete the team task

Sharing to Succeed

Sharing the combined effort with the rest of the class is an important part of all cooperative learning exercises. Children get encouragement through this and they also learn to take joint responsibility for the combined responses. This also creates a learning environment where success and achievements belong to the whole class and not to an individual child.

After every EVS class, for a week, reflect on your own approach to teaching –learning. Make brief notes about your approach will help you in managing group learning better.

5.4.2 Principles of Cooperative Learning

There are a large number of CL techniques and structures for small groups. But rather than knowing about readymade techniques it may be more effective that you design your own suitable techniques and methods, based upon some essential aspects of CL. Three most important principles are provided below:

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- **Positive Interdependence**: It includes sharing a common team goal/ objective, sharing common resources, creating common identity for a group (for example a name for the group selected by members) and so on. The emphasis is on positive emotions and attitude reflected through helping, encouraging each other.
- **Individual Accountability**: It is important that there is a task for each one and also there is some task to be completed as a group together. For example different team members can be given responsibilities to collect different items like pebbles, fallen leaves, articles made from rubber etc. but then the whole group must be responsible for putting the collection in order. The team together can also decide a name for their collection.
- **Equal Status Interactions** among the team members is essential for smooth teamwork. Your role as the facilitator is to check that students treat each other with respect. You, as the teacher need to be sensitive, and handle the situation skillfully. Knowing every student well is important for bringing about equal status interactions among group members in your class.

Check Your Progress-1

Describe the three main principles of CL.

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5.4.3 Advantages of using Cooperative Learning for EVS

CL helps increase students' ability to appreciate others' perspectives and view points, and help them develop inter-personnel skills, problem-solving skills, conflict management, as well as decision-making skills. All of these skills are important competence to be developed among learners through the teaching-learning of EVS.

A good EVS classroom is based on the local context: CL also enables learners to react differently, yet appropriately in different situations

EVS is a dynamic discipline and hence comprise multiple viewpoints: CL situations provide learners the opportunity to explore multiple viewpoints and

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weigh the prospects and consequences of each of these and debate upon the same. This also enables the learners to be open towards/draw influences on their understanding of an issue in the changing world

EVS teaching-learning is about analytical thinking and problem-solving: CL sessions can very much facilitate enhancement of such skills among the learners.

5.4.4 Challlenges in Cooperative Learning

Though CL situations may appear to be 'unplanned'; conducting CL involves a lot of planning. Defining the need and then the objectives of a particular CL session is very essential. Establishing curriculum links, planning for pre and post sessions/discussions by the teachers requires time and plan of action, especially with regard to assessment of each child.

As a teacher, it is thus important that you understand the subject (topic being taught and learnt) well and that you are also aware of the real-life issues (of not only the subject but also of your learners). Remember in such situations, your role as the facilitator is the most important one and hence you must find ways to keep probing; keep throwing questions; make relevant statements; use peer-communication loop, and most importantly to help learners continue meaningfully with the assigned group work.

5.5 LET US SUM UP

Activity-based learning describes a range of approaches to teaching. The idea of activity-based learning is rooted in the common notion that children are active learners rather than passive recipients of information. If children are provided opportunities to explore by their own and provided an optimum learning environment then the learning becomes joyful and long-lasting.

Cooperative learning (CL) is about supporting children work in teams—small or big. CL has social benefits as well as academic. One of the essential elements of cooperative learning is the development of social skills. Children learn to take risks and are praise for their contribution. They are able to see points of view other than their own. Such benefits contribute to the overall satisfaction of learning and schooling. Students work with classmates who have different learning skills, cultural background, attitudes, and personalities. Heterogeneous groups promote student learning. These differences compel them to deal with conflicts and interact with others. Social interaction improves communication skills that become a necessity to functioning in society.

The role of the teacher is very important in cooperative learning. To have an effective cooperative learning group, teachers must know their students well. Grouping of students can be a difficult process and must be handled with care.

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Teachers must consider the different learning skills, cultural background, personalities, and even gender when arranging cooperative groups. Much time is devoted to prepare the lesson for cooperative learning. However, ones the group work begins, the teacher's role immediately shifts into that of a mentor, facilitator, or sometimes merely that of a spectator. Your children will learn from their peers and eventually will become less dependent on the teacher for help, instead will learn to probe a problem with the help of peers.

Since many of the above mentioned benefits of using activity-based and cooperative learning approaches in classrooms align well with the goals/purpose of teaching-learning EVS, such approaches are relevant and effective to be used for EVS.

5.6 MODEL ANSWERS TO CHECK YOUR PROGRESS

Check your progress-1

Following are the four stages of organizing EVS activity

1) Planning
2) Conducting the Activity
3) Evaluating the performance
4) Reflecting on the process

Check your progress-2

Following are the three main principles of CL

1) Positive Interdependence
2) Individual Accountability
3) Equal Status Interaction

5.7 SUGESSTED READINGS AND REFERENCES

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5.8 UNIT-END EXERCISE

Consider any one activity conducted in your EVS class and describe the following:

(i) How did your plan provide opportunity to engage and succeed every student?

(ii) Which EVS objectives and values were highlighted through this activity?

(iii) What improvements would you like to introduce in the preparations and planning of classroom, teaching-learning resources, etc.?

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UNIT 6 METHODS OF TEACHING-LEARNING EVS

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6.0 INTRODUCTION

In the previous Unit you have learnt about the activity-based learning and cooperative learning strategies and their suitability for realizing some of the objectives of EVS.

A teaching method may be visualised as a structural representation of the content or concepts. Its role in any teaching – learning situation is critical, as the achievement of the stated teaching-learning objectives depend largely on the teaching methods employed. To this extent, teaching methods are nothing but the mechanisms of classroom transactions. Each of these methods has its own merits and challenges.

In EVS, methods such as surveys, projects, field trips, games, brainstorming, discussion, experimental investigations, etc., have been found more effective in maximising learner's participation in the teaching – learning process (directly or indirectly). This Unit deals with seven such methods in detail, demonstrating how they could be utilized for creating effective learning situations in EVS.

6.1 LEARNING OBJECTIVES

On completion of this Unit, you will be able to:

- explain a variety of methods available for teaching-learning of EVS
- use the following teaching-learning methods for dealing with EVS, as appropriate:
  - a) Observation
  - b) Creative Expression
  - c) Field visit
  - d) Project
  - e) Small group discussion
  - f) Experiments and
  - g) Problem-Solving

6.2 SELECTING AN APPROPRIATE TEACHING-LEARNING METHOD

It is said that an effective teacher, to be able to communicate well, should use a mixed approach, i.e. a combination of teaching-learning methods. Selecting an appropriate method depends on two key factors:

- The nature of content being transacted and dealt with in the class: As a practicing teacher, you would appreciate that based on the nature of topic being discussed in the classroom; the teacher needs to find a suitable teaching-learning method. Some topics, like defining certain scientific terms, may require elaborate explanations only, in such cases a lecture may be found very effective, while others, like 'inter-conversion among the 3 states of water' may require that you take your students to the science laboratory and demonstrate the same. Similarly a number of social science concepts, say 'seasons and food choices' may require that children are taken to a vegetable/ fruit market and that they engage themselves in observation, surveying, etc.
- The second important factor which you should consider while deciding on a teaching-learning method is the preferred learning styles of your students. All students have different intellectual abilities. They think and learn differently. There are various ways of classifying differences in learning styles. Some learning styles classifications include:
- Left and right brain thinkers
- Auditory, visual and kinesthetic learners
- Activists, reflectors, theorists and pragmatists

Each learner will have a preferred way in which to process information. The key consideration for you as a teacher is not only to rely on one teaching strategy. It is important to remember that some students don't learn very well by just listening and taking notes. Some may have a more limited attention span than others and may like activity in class. Understanding the many ways in which people learn is crucial when selecting an appropriate teaching-learning method.

In the next section of this Unit, we will discuss some of the methods which are suitable for teaching-learning of EVS, i.e. they are based on the nature and characteristics of EVS as a composite area of studies—science, social science and environmental education.

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6.3 THE OBSERVATION METHOD

Human beings constantly observe physical or social events occurring around them. It was the process of observation which gave some of the great scientists to the world. Einstein propounded the theory of relativity by observing the clocks of a church and sitting in tram at his work place. Observation made James watt realise the strength of steam encouraging him to invent the steam engine. Thus observations are the basis of learning and understanding.

Appropriately, the series of NCERT published EVS text books is titled as 'Looking Around'. This indicates that EVS is about observing, exploring and discovering the world around.

It is said that one of the ways in which an infant learns is by 'observation'. Observing things around, analysing them and drawing learnings from such observations is at the core of 'constructing and re-constructing knowledge' based on ones experiences. And in Block 1 you have read about this being the basic theory of learning that underlies the NCF 2005.

Let us look at some examples of using Observation Methods of EVS:

My Bird Book

i) Let the students go out and observe different birds and note the variations in Colour, size and other external features and record them.

ii) Let them identify the different basic features of a bird, such as,

- Size
- Colour
- Beak
- Body
- Neck
- Head
- Feet
- Wings
- Tail
- Features
- Eyes

iii) Teach the students how they can draw these different features using simple form diagrams.

iv) The students should now draw the diagrams of the birds observed using the form patterns.

v) The students should Colour the diagrams using crayons (as close to the colour of the bird as possible)

vi) The student should stick all the drawings in a scrapbook.

Tree of life

Objectives: To make students aware that trees harbour a rich and complex variety of life.

Procedure: Ask each student to select a tree for him/herself and observe it carefully. The students should draw an outline of the shape of the tree. They should note down whatever life they are able to see on or around that tree and the details like: what types of birds, insects and other animals and other plants did they see on the tree and where? How many of these life forms were there? Did they notice any nest? What were the birds, animals, insects and other plants doing? The students may go for observation more than once to notice the patterns of life on and around the trees. They should then return and present their drawings to the class. Which trees have a greater variety of life on them and why? The students may be encouraged to observe an identified tree throughout the year (during different seasons) and to take notes, photographs of the same.

Clouds

Objectives: To observe cloud patterns in the sky

Procedure: Take the students out on a cloudy day, and ask them to watch the sky and the clouds. They must observe the clouds for their patterns, shapes and sizes, and the direction in which they are moving. Each student may choose a cloud and make a sketch of it. Students may do several such sketches, and make an album of these. Encourage students if they can tell rain-bearing clouds from other clouds. Which seasons do they see clouds in? With senior students, you could talk about the various types of clouds. Ask students to predict rain? Keep a record of the predictions which may be shared with others in the school.

6.3.1 Using Observation Method

- **Planning and preparation for observation:** What types of settings, activities or environmental traits are to be assessed through observation?

- **Actual Observation:** The better methods and techniques should be used for the observation depending upon the purpose and availability of the resources and environmental situations.
- **Analysis and Interpretation:** What has been observed and recorded is subjected to a close analysis for deriving the necessary interpretation.
- **Generalisation of the Results:** The interpretation made and results arrived at are then used for establishing generalised opinion, facts or principles.

The tools used for observation are worksheets, schedules, checklists, rating scales and score cards.

6.3.2 Advantages

- Encourage children to explore their environment
- Develops observation skills.
- Encourage students to see, think, and establish connections.
- The students are able to infer similarities and the differences.
- The acquired knowledge is from real and concrete situations and objects.
- Satisfies and develops curiosity of the students.

Check Your Progress-1

a) describe two advantages of using 'observation' as a method for teaching-learning EVS.

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b) State what key steps would the teacher/facilitator require to take if she/he plans to use 'observation' method with her/his children.

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6.4 CREATIVE EXPRESSIONS

Whether it is drawing, painting, cutting, pasting or model making, all children love to be creative if they are given a chance, and the act of being creative brings with it so many benefits. Any expression by children with some novelty is creative expression.

It is important to help nurture young children's creativity through a rich learning environment of visual and performance arts. Such techniques can help you to engage your students in art and craft, music, dance and drama. Thus you may plan lessons with activities that aim to nurture expressiveness, creativity and imagination among the young learners in your class.

In this section you will explore ways to enrich your classroom learning experience by making Creative Writing, Creative Expressions, Dances etc. an integral part of the EVS teaching and learning. Creative expressions can take a variety of forms:

- **Writing:** students can be asked to create poetry, songs, dramas, stories or essays and compile collections of relevant materials from other sources.
- **Graphic Arts:** It includes drawing and painting, making collages or sculptures, taking photographs, designing posters, banners etc.
- **Music:** Children respond to songs that inspire, energise and link them to environmental messages. Feelings can be expressed effectively via music.
- **Movement and Dance:** Non-verbal art often encourages students to express those thoughts and feelings which they do not like to say.
- **Puppetry:** Environmental messages can be transformed with the help of puppetry. For this, training and specific skills are required.

Some Ideas for Creative Expressions

Poetry reading and writing
Making posters, collages, advertisements etc.
Performing Arts: Dramas, plays and skits etc.
Model making
Puppetry

6.4.1 Creative Expressions in EVS

Creativity Stimulates Learning: You have already learnt that social constructivist theory is the premise of the NCF 2005 and of the EVS Curriculum, and when children are encouraged to think independently and creatively, they become more

interested in discovering things for themselves, more open to new ideas, and keen to work with others to explore ideas. Thus if you are a teacher who practices a good mix of creative expressions with other approaches, you are encouraging children to have divergent thinking. The process of divergent thinking encourage creativity to crop into the mind of the learners

Creativity in response to social, cultural and environmental issues: Individuals can transform society if they learn to act together and generate new ideas. Younger citizens of a democratic world need to be groomed and supported to become citizens with problem solving and critical thinking skills. As a teacher, your role is to unlock the creative potential of your young learners by creating different types of learning situations before the learners.

Creativity enhances ability to manage change: In Block 1 of this Course, you have learnt that the world is increasingly becoming complex and uncertain. It is thus important that the children of today are prepared so that as decision makers of tomorrow, in the future, they are not only able to take risks but are also able to make prudent decisions by exercising choices and responding positively to opportunities, challenges and responsibilities. Children need creativity to manage risk and cope with change and adversity, and as a teacher your role is to provide them such opportunities by using techniques of creative expressions in your classroom.

Creative expressions can be very useful in developing the affective domain of the children. A society where diversity is respected and plurality of thoughts and opinions is encouraged can be created only by citizens who are able to respond to new interactions, fresh connections, and collaborations. Thus the implications for education are significant.

As a teacher it is important that you go beyond simplistic understandings of creativity as self-expression. Creativity must be understood in the classroom beyond children's responses to open-ended tasks. This will require teachers to re-consider creativity as a rich and disciplined inquiry vital for the effective communication of ideas.

Similarly, the tools and materials that support creative expressions should go beyond the creative arts (paint, paper, markers, glue and brushes) to include clay, natural objects, fabrics, dramatic play, musical instruments, real-life cases and scenarios, and so on.

Some example of using creative expression for EVS are provided below:

Slipper stamp

Many things which we consider as beyond use, e.g. worn out slippers, socks, plastic boxes etc. could still be useful to make different craft items. Based on children's creativity for example, children use even old slippers to create 'rubber stamp' through the following steps.

Notes

Students will be surprised to find out that even used slippers can be transformed!

- Collect waste rubber slippers.
- Cut out the bottom of the slipper in the shape of a square or rectangle
- Wash this piece thoroughly with detergent and water
- Draw the outline of the mirror image of the letters or design you want.
- Use a blade or knife to first cut a groove along the outline. Then cut away the part outside the outline in a such a way that the design outlined is slightly raised above the rest of the piece. Only the part to be used as the stamp should be raised. The rest should be cut out.
- Apply some coloured ink to this raised part and stamp on the required place.

6.4.2 Tips for Facilitating Creative Expressions

- Promote Creative Expression in small groups, this will help children overcome their inhibitions
- Provide choices of creative expression medium such as Visual Arts, Creative Dramatics, Music or Movement according to students' skills and interests
- Encourage team work, yet give individual attention to each child
- Helpful in building self-confidence and creative thinking skills
- Create a non-stressed, non-competitive atmosphere in the class
- Create a fun-filled learning environmental for the children

Check your Progress-2

a) State the relevance of using creative expressions for teaching-learning of EVS

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6.5 SMALL GROUP DISCUSSIONS

In Unit 5, you learnt about cooperative learning strategies. Group discussion is one of the techniques that can facilitate cooperative learning among children.

Group discussions provide learning opportunities to students in developing analytical and communication skills. As the name says, small group discussions are group exercise used as a teaching strategy to influence learning through engagement of peer groups.

Learners in small groups discuss among themselves several aspects of an environmental issue or a problem. As a teacher you should facilitate this process by encouraging them to discuss their views, share ideas, and solve problems on a particular theme or environmental issue. Each learner presents her own ideas as well as considers ideas put forth by other learners. In this way, they can be exposed to a variety of viewpoints on a given subject. This enables children to appreciate others view points and also enhances their listening abilities. Learners thus exchange ideas, and reflect on suggested solutions.

Small group discussions are also enjoyed by most children because it is peer-based communication; is interactive; and it encourages active participation of learners. The discussion format encourages learners to analyse alternative ways of thinking. It also enables learners to explore their own experiences, review these and think critically.

To enable children work in small groups effectively you, as a teacher, need to be conscious of your dual roles as subject matter experts and as group managers, and to plan the group's work both in terms of the content to be covered and the strategies which will be used to achieve the learning aims of the group.

Some themes on which small group discussions can be arranged:

- Is circus a cruelty to animals?
- Should fast food be sold in school canteen?
- Roads or Parks: What does our city need the most?

Buzz Groups

A buzz group is a small group, consisting of three to six persons who are given a definite issue/problem to discuss and an associated task to complete in a short period of time. Generally, each buzz group records their output then reports to the larger group.

6.5.1 Steps to Organising Small Group Discussions

- Teacher organises the class into small groups of about 4-6 members each
- The teacher announces a problem/statement/question to the groups
- Groups are provided 10-15 minutes for discussion

Notes

- Each individual in the group shares his/her view on the topic, followed by all group members discussing the concern, creating arguments, changing opinions, etc.
- Each group spends a few minutes reviewing, consolidating and recording the opinions, points and ideas generated.
- Each group reports to the entire class.

As a teacher, it is important for you to ensure that:

- Every discussion is goal oriented, i.e. it has educational purposes linked to the subject
- Topic is relevant for the class—age, interest and syllabus, etc.
- Children have sufficient information about the topic in order to participate actively in the discussion
- Children are able to express their thoughts in a language that they feel comfortable with
- No viewpoint or opinion is disrespected or laughed at

You consolidate the various groups' work in the end and make connections with what children read in their text-books.

6.5.2 Appropriateness for EVS

- EVS is a multidisciplinary area of study. Group discussions are effective in breaking 'subject boundaries' related to a problem or a concern. For example even when the topic of discussion may appear to be a scientific/technical one, like pollution of soil, water and air, the discussion will provide opportunity to bring in social aspects, economic aspects or even political aspects related to the topic. Thus group discussions are suitable for EVS
- In complex socio-economic and environmental scenarios, no single answer seems to satisfy all stakeholder groups. On needs to generate multiple possibilities and think for 'out-of-the-box' solutions. Groups discussions make it possible
- Different viewpoints to the same concern, based on different beliefs, priorities, culture and context, get generated. Children learn to respect and appreciate diversity
- Such learning processes develop divergent thinking, reflective thinking, listening abilities and inter-personnel skills among children

- Helps to bring real-life situations in the classroom
- Helps to inculcate positive inter-relationships
- Children do not have rigidity of subject in their mind. Gradually they will develop subject boundaries from a broad platform of Environmental Studies. Group discussion provides their scope to express their views from a subject free area and gradually get familiarised with the existence of different subject boundaries.

6.5.3 Facilitating Effective Group Discussions

- Remember you are in the role of a facilitator.
- Provide an opportunity for each student of the group to become a leader.
- While creating groups try to ensure that composition of the group is balanced (each group may have different personalities)
- Act as a consultant to the groups and help, guide, and orient student thinking and facilitate the exchange of ideas.
- Ask "why" or "how" questions and for short answers ask students to elaborate.
- Do not fear silence. This may be the most difficult thing to do but it is absolutely essential.
- Provide positive feedback for participation. Thank the students for their contribution.
- Manage both process and content. Good discussion is as much about process as it is about content.
- Consolidate the discussion at the end of each session.
- Remember non-verbal communication—nodding, smiling—are positive messages for children. Do watch for non-verbal cues from the children as well.
- Discussions could be more effective when used in combination with other teaching methods.

Limitations of Group Discussion

Group discussions do not take place accidentally. The expert teacher has to plan to various forms of discussions with much care. The students have to make thorough preparations and work hard to make discussion a success. It is time consuming and requires high level of attention and concentration.

Notes

Check your Progress-3

a) What are some of the advantages of using small group discussions as teaching-learning method.

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b) State 3 important tips for effectively facilitating small group discussions

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6.6 PROJECTS FOR EVS

As you have learnt in Unit 5 that collaborative learning is the process of getting two or more students to work together to learn. Project is also a team work and an act related to real-life activities undertaken to solve an emerging or felt problem or to realize some useful and purposeful objectives. It involves a series and a variety of activities and is executed in the real life context—social environment and natural settings.

According to Kilpatrick, "*A project is a whole-hearted purposeful activity proceeding in a social environment.*" Some advantages of using Project Method of learning for transacting EVS include:

- It is a powerful way of learning about their environment. The Project method of learning also provides an opportunity to the children to apply and practice what they have learnt, thus Projects help link theory with practice
- It is a method that helps children to discover the interdisciplinary linkages, which is so important in the case of EVS—a composite area of study
- This enables teachers to enhance a number of competency and skills among the learners—research, observation, analysis, interpretation, extrapolation, inter-personnel skills, problem solving, resource management and most importantly skills in planning and execution

- Projects are very good for getting children work closely together in their common real-life setting

6.6.1 Steps of Project Method

A project includes both field work and desk work. The strategy depends on the objectives to be achieved. A well planned project as a systematic process involves three stages:

Pre-activity stage

- Stating the problem and objectives of the project work
- Determining and planning for the various aspects of the identified project-resources, tasks, risks/challenges, outputs and documentation and reporting
- Initiating the 'project team'—rapport, roles and tasks

Activity stage

- Identification of sources and tools for the project.
- Planning and working out the organisational details of the project development and preparation of tools for data collection, questionnaire, interview schedules, check-lists, etc.,
- Various activities and tasks executed in the right sequence
- Identification of the area of action/localities, target groups, administering the tools, instruction for data collection.

Post-activity stage

- Compilation, analysis and interpretation of the data and dissemination of the results or findings.
- Formulation and implementation of the action plan—leading to resolving of the problem
- Reflecting on the experience—documenting learnings

The role of the teacher shifts to that of a facilitator. It provides students with practical experience and a sense of accomplishment. Teachers may have to provide guidance to the students in selecting, planning, executing and evaluating the project in order to make it a purposeful and meaningful learning experience.

6.6.2 An Example of Project

Clean-Up Campaigns

Your children can take up a campaign to clean up the school. You will need to guide them in planning effective and appropriate strategy for this action project.

Notes

Groups of students may inspect the different areas every day for one week, observing and listing the types of garbage/litter they find, the quantity and also where it was found. For example :

Type	Mon	Tue	Wed	Thu	Fri	Sat
Paper Plastic Wrappers Food Waste						

Paper, and wrappers and plastic may be counted by the number of sheets or pieces. At the end of the week, students can compile their notes and discuss the findings.

Once the students have become aware of different kinds of waste they can then start a project to encourage proper disposal and segregation of wastes. For dry waste, such as paper or plastic, they should take the permission of the Principal to store the segregated waste, until the time of disposal. Depending on the storage space available, they could plan the intervals of disposal.

Students could make different dustbins from used cardboard boxes for the various kinds of wastes. Each bin should be labelled for the kind of waste that should be put in to it: used notebook paper, chart paper, used polythene bags, etc. such boxes should be placed in each classroom and office, or in a common area. In the canteen, students could also place different containers for leftover food, plastic containers and bags, paper trays, etc.

For the success of such project, it is important that the student's actions are encouraged by the school management and noticed by the rest of the school. The groups' performance should motivate other students to join the campaign. Such a project is sustainable only when all are involved and keeping the surroundings clean becomes a habit.

Make a Compost pit

- Let the students dig a pit about one half meter wide, one meter deep and as long as possible, preferably at the far end of the garden.
- Line it with straw or dried leaves and grass
- Organise the disposal of organic waste into the pit as and when generated.
- Give a group of students the responsibility to ensure that the contents are covered with a sprinkling of dried leaves and soil everyday.
- Water the pit once or twice a week to keep it moist.
- Turn the contents of the pit every 15 days.
- Compost manure will be ready in three to four months.

6.6.3 Merits of Project Method

- The principles of learning as regards learning readiness, involvement in exercises, its effect and factor of motivation etc. are properly employed in this method.
- The experience is real-life based and hence lasts longer with the learners
- It is effective in developing insight towards real-life problems
- Children enjoy freedom to work in a social environment, and also develop cooperative feeling and power of group interaction and team work
- This method provides challenging yet encouraging learning environment
- Provides an opportunity for work experience, divergent thinking, self confidence and self discipline
- It is democratic and scientific in nature. Helps to develop 'discovery attitude'

6.6.4 Limitations of Project Method

- Teachers need high order of preparation. They are required to work as guide and facilitator during planning, executing, evaluating and recording the project.
- It is time consuming and may need some resources as well
- Children may be overwhelmed with the 'doing and the action' part of project, and if not supported by teachers in consolidating the various learnings, children may fail to comprehend the work and learnings derived. It is so because unlike lectures, in this case the knowledge may not be acquired in a sequential manner and also the linkages with the curriculum/text books may not be very obvious

6.6.5 Role of the Teacher

While using the Project Method of learning with your students, you:

- will be required to have a very clear time plan, matched to the school time-table
- must ensure linkages to syllabus and curriculum
- should have good knowledge and insight in the subject of research and action
- will need to constantly change your roles between that of an expert, a guide, a mentor as well as a learner
- will need to arouse inquisitiveness and interest among learners and be a self-motivated guide
- will need to ensure a positive and democratic learning environment
- provoke shy and introvert children to come forward and participate actively

- will need to appropriately engage physically challenged children
- will need to monitor and guide timely progress of the project

As EVS is linked to life skills, project method of learning is very relevant. While meeting up the objectives of EVS, Projects help systematically lead students from awareness to action, and increase understanding skills, and develop sensitivity and responsibility.

6.7 VISITS FOR LEARNING

A field trip or excursion is a journey by a group of people to a place away from their normal environment. Visits to zoos, gardens, parks and museums are part of school life. Yet often such visits are just picnics. Recognising the educational opportunities offered by such visits, you, as a teacher, can make these 'picnics' into joyful learning outings.

A wealth of learning objects and settings are available everywhere—A walk around the school ground or neighbourhood; a few hours in a city park; a visit to a local historical monument; a trip to a museum, a factory, a public office and so on. Any of these can provide rich opportunities for first-hand exposure and experiences. The challenge is to transform these into exciting, thought-provoking and educational opportunities. Properly planned, out-of-class experiences can help to enrich, vitalise and complement what is thought in the classroom. They can provide the space for the development of several skills including observation, investigation, monitoring, mapping, collecting data and analysing it, critical thinking and problem solving.

As a teacher, your goal should be to take your students to visit these facilities with specific educational objectives of EVS. The key of making visits successful is planning a variety of appropriate activities which will be both enjoyable and educational. It is also important not to over-stress on the educational part and maintain an informal atmosphere.

6.7.1 Example : Organising a Field Trip for Plant Study

Objectives of the field trip

By undertaking this field trip, the students will be able to:

- identify a few of the familiar plants by their names.
- observe and record the differences in their external features.
- Broadly classify them on the basis of size and appreciate the diversity seen.
- observe the differences in shape, size and patterns of leaves

Plants constitute a major part of the environment. Plants are classified into three major categories considering the structure of the stems. They are the herbs, shrubs and trees. Keeping in view the objectives of the field trip, various aspects to be observed are:

- Dew seen on the grass and plants in the park.
- Different plants
- Barks of the trees
- Size of the plant and tree
- Variety in shapes, sizes, number. and texture of leaves
- Differences seen in the size and shapes of seeds and fruits
- Differences seen in the flowers of plants

After the visit, next day in the class, discuss about the diversity in the plant world, its significance and future concerns. Emphasise on the types of plants, differences in leaves, fruits, seeds and their habitat. The following questions may also be discussed:

- How are two plants different from one another?
- In what ways do these two plants relate to one another?
- Expand the title or name of this plant into a detailed caption (sentence or paragraph) in your Field book.
- Describe the setting in which you might have found this plant etc.

In addition, summarise with the utility of each one. Mutual learning during field visits is an excellent way to develop a positive relationship between students and the teacher.

Complete a "Teacher Journal" regarding the field trip. This will provide a good reference for future trips.

- What was of unique educational value in this field trip?
- Did the students meet the objectives/expectations?
- Was there adequate time?
- Was there adequate staff and adult supervision?
- What might be done differently to make this an even better experience in the future?
- What special points should be emphasised next time?
- What special problems should be addressed in the future?
- What would improve a visit to this site in the future?

Notes

6.7.2 Steps to a Successful Visit for Learning

Here are the steps you can follow while panning the visit, and also some tips that could help you achieve the goals of joyful learning.

(a) Setting Goals for the visit:

You, as a teacher, would first need to set explicit educational goals for the visit linked to the EVS text books. A preliminary visit by you to the site is desirable so that you can find out about the facilities available and whether these would be sufficient to help you meet the educational goals you have set. Some sites and facilities have special programmes for school groups. In case the facility has the provision for making available the services of an Education Officer, it might be good to discuss the visit beforehand with him or her, and also have this person accompany the group. The preliminary visit will also give you an idea about several practical aspects including the time that will be taken in seeing all the enclosures, the route to be taken and the availability of space to conduct activities, what king of activities are best suited to reinforce the learning of the visit, you may feel the need to revise or modify your goals for the visit.

(b) Planning the Programme

If adaptations are to be the focus, spending time at the bird enclosures to observe different kinds of beaks and claws can help to illustrate the variety. But remember, you should not try to accomplish too much in just one visit. You may also select and plan the activities according to the educational goals.

Worksheets

Worksheets can help to guide participants to observe more keenly. They can be used for any kind of visit – to a part, a zoo, a monument, etc. You may, during your pre-visit to the site, design a few worksheets. The worksheets must be about what students will actually see at the site or facility. Worksheets help to give a purpose to the visit as students become involved and give their unique observations, responses and perspectives. Worksheets also allow you to break the whole class into smaller groups which can work independently. Depending on the theme of the visit, the worksheet-activities may be developed as nature detective, a treasure hunt, a cat and mouse game, a safari and so on.

Notes

(c) Briefing the Students

Before setting out for the visit, it is important to brief students on where they are going, what they can expect to see, what the objectives of the visit are, what the plan is, etc. 'Do's and don'ts' for the visit need to be clearly spelt out of the students. It is important that they be given reasons for what they are being asked to do or not do, as this will help them to accept and internalise the behaviour. These may include safety tips, their actions at the place, e.g., not physically touching the artifacts in the museum, not plucking leaves and flowers in a park, not feeding animals at the zoo, maintaining discipline, etc. This briefing should be done the day before the visit and reiterate before going into the facility.

At the site, children need to be given enough opportunity and time to make observations and explore the facility, as well as 'complete' the programme you have planned. It is important to encourage them to discover and question everything they see. If the educational goals of your visit relate directly to any textbook lesson, try to relate the visit to that lesson. There may also be many unplanned 'lessons' in the visit and it is necessary to explicitly point these out of the children and reinforce them.

(d) After the Visit

After the visit is over, the students should be assembled back in one place. A brief oral feedback may be taken on the spot or after the group has returned to the school. A classroom period may be needed to consolidate the learnings of the visit. Such a session may include discussions, question-answer sessions, quiz, writing or drawing about the trip, making a trip report, etc. The experience of the visit could also be discussed in the context of particular lessons e.g. food habits of animals.

(e) Evaluating the performance

As a teacher, you need to evaluate whether the educational goals you sought to achieve through the visit have been achieved or not, and whether you were able to relate them to the text book lessons wherever intended/possible. It may possible that the objectives with which you planned the visit were not met. Would you consider that visit a failure? Much depends on the reasons why those objectives were not achieved, and whether these reasons were within your control or outside your control. Was the situation at the facility very different than what you had seen on your pre-visit? Did the group behave unexpectedly? Was the visit affected by rational phenomenon like rain etc.?

Notes

ACTIVITY-1

1. Provide time for students to observe, ask questions, and record key words, ideas and phrases as journal entries in their Field book
2. Take inventory of food, specific equipment, and other supplies pertinent to the field trip
3. Have the class compose and send thank-you letters to the field trip site host, school administrators and other persons that supported the field trip. Include favourite objects or special information learned during the field trip.
4. Pass out name tags
5. Field notebooks for recording answers to prepared questions
6. Identify the EVS concepts that could be taught through the field trip.
7. Assign each student a partner
8. Provide time for students to share general observations and reactions to field trip experiences.
9. Prepare any observation sheets / Activity sheets.
10. Provide necessary instructions on the aspects to be studied, information to be recorded, activities to be carried out and the materials to be carried.
11. Keep some medicines for first aid.
12. Create a classroom bulletin board displaying materials developed or collected.
13. Prepare the field trip schedule.
14. Take along an emergency kit
15. Identify the location for the field trip and the time duration.
16. Send a letter to parents, communicate assigned duties/responsibilities.
17. Decide the objectives of the field trip and the different aspects to be studied.
18. Create a list of all student names and home phone numbers for use in an emergency.
19. Create a short news report about what happened on the field trip. Publicise the trip via an article in your local newspaper, school bulletin board, trip presentation for parent's day, or class Web page.
20. Plan activities that will occur during the trip
21. Share specific assignments students completed while on the field trip.
22. Link field trip activities to multiple curricular areas. Record field trip observations in a classroom journal.

Reorganise the above listed activities for a field visit in three stages as Planning, Conducting the Trip and Post-Field Trip stage.

Field trips are helpful in linking the real world to the classroom, visits to places of environmental concerns provide opportunities to the learners as a means of observing and experiencing the real environment. It has enough scope for building environmental awareness, stimulating participation and developing investigative skills in learners.

6.8 EXPERIMENTS FOR TEACHING-LEARNING OF EVS

The word experiment comes from a Latin word meaning 'to try' or 'to put to test'. An experiment usually helps to establish a cause-effect relationship. It includes enquiry, observation, inferring and testing of a hypothesis. It is not difficult to device experiments that can generally be fitted within the time allocated to teach a particular topic.

6.8.1 Appropriateness for EVS

Experiments can be helpful:

- In enabling children understand abstract concepts
- In helping develop scientific temper, being able to hypothesise and discover and explore
- In enhancing the skills of observation and analytical thinking
- In providing practical knowledge
- In enabling children apply the theoretical knowledge gained

6.8.2 Challenges

- The teacher may need to do preparations in advance
- You may not be able to have every child do the experiment, you may need to involve many children as observers
- While several experiments can be done by children in the classroom/at home, some experiments may require equipments and/or laboratory facilities

Some experiments may require constant adult supervision and guidance and may require that certain important safety procedures are followed. As a teacher, you must follow the same.

Notes

6.8.3 An Example of Experiments

Soil Conservation (Protective cover)

For example you may conduct the following experiment to help children to understand how roots of plants protect the Top soil.

Take two cardboard or wooden boxes or trays approximately 90cm X 50cm X 15cm. Line them with a plastic sheet to make them leak proof. These sheets can be made by cutting open old plastic bags and fusing the edges together with the help of a candle. At one end of each box cut a 'V' notch 10 cm deep to draw the runoff water into a glass jar.

Fill each box with 3-4 cm layer of brick pieces and pebbles, followed by 3-4 cm layer of manured soil.

Sow mustard seeds or any other quick growing plant seeds in one box. Leave the other box bare. Sprinkle water on Box 1 regularly till the plants are 8-10 cm high.

Now set the boxes on a table towards the edge. Place a brick or a stick under the other end to give them slope. Place empty glass jars on stools beneath the notch. (as shown in the figure) Now, gently pour equal amounts of water over the boxes

Check the rate of flow and collect the water that flows out from the two boxes in the glass jars. Note the difference in the quantity and quality of water collected in the two jars.

Now, you can certainly tell why the amount of water that flows out from the vegetated box is less than that from the bare box and why water from the bare box is muddier. Vegetation helps percolation of water through soil to collect as water table and also protects top soil.

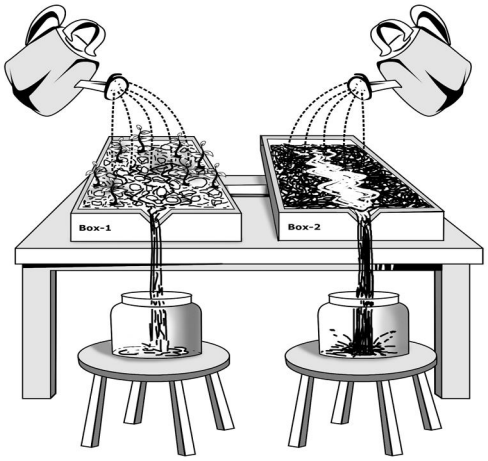

Fig-1: Soil conservation

Notes

6.9 PROBLEM SOLVING

- Problem solving or problem based learning is a method aimed to help the students in arriving at a solution or alternative solutions for a given problem.

Problem solving as an approach is most effective in adult groups, however, if children are given these experiences as well, it prepares them better to participate in democratic, group process to solving open-ended problems.

6.9.1 Steps to Problem Solving

Problem-based learning, as the name indicates, focuses on an identified environmental issue or a problem and usually involved several steps:

- Identify, understand and describe the problem
- Define the problem: For this the children may need to research/gather information which is related to the identified problem
- Fact finding: If required, undertake the necessary field work, survey, experiment, discussion or even a project
- Analyse the Problem: Gather data, interpret it and discuss to arrive at a solution/alternative solution/s. Through a group consensus mode, arrive at the most plausible solution
- Discuss possible strategy for action: The next step is to develop an action plan to solve the problem. The approach used may vary depending upon the situation and the groups/teams.
- Evaluate the Results: After a solution has been reached, it is important to evaluate the results to determine if it is effective in solving the given problem.

6.9.2 Appropriateness for EVS

Problem solving techniques are effective in:

- Developing an insight into environmental problems
- Facilitating divergent thinking among children
- Helping children appreciate multiple views on the same issue
- Enabling children participate in group processes
- Bringing real-life issues in the classroom
- Making children deal with open-ended, complex environment-development scenarios

Notes

6.10 LET US SUM UP

Individuals have preferred learning styles. There is no one method and material for making learning process successful and effective. As a teacher, your understanding of various learning methods for use in different learning situations will enable you to facilitate your class in a varied and interesting manner. A teacher can thus create good learning environment for her children by using appropriately mixed learning methods and techniques based on the concepts being learnt, the learners and the classroom resources..

Further, since EVS is a composite area of study; is EVS multi-disciplinary; and that teaching-learning of EVS is as much about attitudes and values as about knowledge and information, it is important that teaching methods used for EVS allow children to work together, to examine multiple viewpoints, to link concepts of the text-books to their real lives and to take positive action. In this Unit we discussed some of these methods in detail, with examples of using them for teaching-learning EVS at the primary stage.

6.11 MODEL ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress-1

a) Two advantages of using 'observation' as a method for teaching-learning EVS-

- Encourage children to explore their environment
- Develops observation skills.
- Encourage students to see, think, and establish connections.
- The students are able to infer similarities and the differences.
- The acquired knowledge is from real and concrete situations and objects.
- Satisfies and develops curiosity of the students.

b) Key steps are (any two)

- Planning and preparation for observation
- Actual Observation
- Analysis and Interpretation
- Generalisation of the Results

Check your Progress-2

For promoting creating expression in small groups, proving choices of creative expression, encouraging team work, helping in building self-confidence, creating a non-stressed, non-competitive atmosphere, creating a joyful learning environment.

Check your Progress-3

a) Suggested advantages are-

- Every student gets a scope to participate actively in the discussion.
- This method can be used in combination with other teaching methods
- It provides scope for the pupils to ask questions
- It enhances self-confidence and leadership quality in pupils

b) 3 important tips for effectively facilitating small group discussions (it may be as given below but it is not mandatory. Depending on the situation importance will vary)

- Provide an opportunity for each student of the group to become a leader.
- Act as a consultant to the groups and help, guide, and orient student thinking and facilitate the exchange of ideas.
- Consolidate the discussion at the end of each session

6.12 SUGGESTED READINGS AND REFERENCES

- Pandya, Mamata(2005); *Environmental Education in Schools (Module III);* CEE and COL; India
- Raghunathan, Meena and Pandya Mamata (Eds.)(1997); *The Green Teacher: Ideas, Experiences and Learnings in Educating for the Environment;* CEE; India
- Ravindranath, M.J(2007)*; Environmental Education: A Resource Book for Teacher Educators (Level 2)*; CEE and NCTE; India
- *Resources and Opportunities for EE (Module IV)(* 2005)*;* CEE and COL; India
- *Joy of learning, Handbook of Environmental Education, (standards 3 to 5) (*1986) *;* CEE,VASCSC,VIKSAT, Darpana Academy of performing Arts; India
- www.learningguide.org; accessed on 20 March 2012

Notes

6.13 UNIT-END EXERCISES

i. Share your experience of using project method or small group discussions for teaching-learning of EVS in primary classes. The description must include your reflections, as a teacher, on what did not work well and how do you plan to improve it in the future?

ii. Create a plan of using 'creative expressions' for transacting an identified EVS topic with your children. Also share a possible assessment strategy for the same.

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UNIT 7 PLANNING TEACHING AND LEARNING OF EVS

STRUCTURE

7.0 INTRODUCTION

In the previous chapters of this Unit, you have learnt about a variety of teaching-learning strategies and methods, especially those which are effective for teaching-learning of EVS. You also know that the most important reference and document for you as a teacher, during the year, is the school time-table. You will thus have many thoughts and concerns currently about how can you make the innovative teaching-learning methods a part of your teaching time-table? This chapter will focus on the same.

Planning is the basis of any successful process. No successful work is possible without planning. In this chapter, we will learn about planning the teaching-

learning of EVS better. This will require annual planning as well as lesson planning. This process will also require that you plan for the necessary teaching-learning material and also for the participation of students in the learning process. You would thus need to plan keeping in view the abilities, specialties and diversities of different students. It is so because, every child is special!

7.1 LEARNING OBJECTIVES

On completion of this Unit, you will be able to:

- narrate the need for planning
- explain the steps involved in planning
- prepare daily lesson plans for EVS
- prepare the annual plan for EVS and its correlation with other subjects
- develop students' learning profile and plan for their continuous progress and development

7.2 THE NEED FOR PLANNING

Planning is preparing a sequence of action steps to achieve some specific goal. If you do it effectively, you can reduce much the necessary time and effort of achieving the goal. In disciplinary terms, planning is referred to as a 'management technique.' A plan is like a map. When following a plan, you can always see how much you have progressed towards your goal and how far you are from your destination. Knowing where you are is essential for making good decisions on where to go or what to do next.

In terms of the formal teaching-learning process, planning is important for not your effectiveness, but it is rather more important that good planning of the teaching-learning calendar leads to good learning environment and improved learning and progress of learners. Thus in education, planning becomes all the more important.

Planning is also crucial for meeting your needs during each action step with your time, money, or other resources. With careful planning you often can see if at some point you are likely to face a problem. It is much easier to adjust your plan to avoid or smoothen a coming crisis, rather than to deal with the crisis when it comes unexpected.

Samir was undertaking a distance education programme in education. As a part of this programme, he was required to submit an assignment before the next Thursday. He received the folder last week, but he could manage time to actually open the assignment folder and read it only last Friday.

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Even now, he had about 6 days time to complete his assignment. Since he had adequate time, he relaxed a bit and thought that he would begin the work only that night.

In the evening, he remembered that it was the day of final cricket match of the Asia cup. He thought, "I still have 5 more days to complete this work, tonight I shall enjoy the match and later on do the assignment."

The next morning when he actually read the assignment, he realized that he needed some reference material which was not available with him at time. So he called up his friend for help, but the friend was out of station. Now he was worried, but then he decided to go the public library by himself to get the necessary reference material. Oops, Monday was a public holiday! Now he had no option. Fortunately, his friend returned to the station on Tuesday and helped him, so he managed to submit his assignment before Thursday.

However, he thought about the complete episode.

Look at the case and try to find out the probable answers of questions given below.

- Do Samir have enough time?
- Who is responsible for his situation?
- He is still scared. Do you help them? How?

Planning is important in every stage of your work. It will help you to understand the situation and also in dealing and addressing a problem/an issue, which you may face during the teaching work. Planning will give us clarity mainly in three areas, preparation, process and product.

i. Path clarity of the work: Planner can help you visualize the entire work schedule and the various steps contained. This way you can also prepare the entire work and its segments and logical breaks

ii. Assumptions: Good planning will provide the opportunity to review the various assumptions that you as a teacher may have about the implementation of teaching-learning process. This will always be useful for achieving the expected results.

iii. Futuristic assurance: Planning will prepare you to plan for the various concerns with regard to environmental and social aspects, also.

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Check Your Progress-1

Name the 3 key areas about which planning provides clarity.

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7.3 STEPS IN PLANNING

"The bell rang. The boys entered their classes. The headmaster took me to my class and introduced me to the pupils.

"Listen boys!" he said. "Henceforth, Mr. Laxmiram here, will be your class teacher. Youmust obey his orders and no pranks and mischief, I warn you!"

I looked at the children who were to be in my charge for the next twelve months. I could see some of them smiling; some winking at each other; a few nodded stiffly. One or two stared at me in mock wonder; the rest stood looking totally unconcerned.

I looked on. "These are the children I have to teach; this strange mischievous lot!" I thought to myself. I was a little unnerved, but I recovered. "Nothing to worry," I told myself. "I will take them on by and by."

I took out from my pocket the notes I had prepared the previous night, and glanced at thelist of activities I had made:

First, a game of silence; next, checking up of classroom cleanliness to be followed by a chorus song; and lastly, some conversation with pupils.

I told my pupils, "Come on, let us play the game of silence. When I say 'Om Shanti!' each one of you will be absolutely quiet. I will then close the door. It will be dark in the classroom. Since we shall all be quiet, we shall hear the sounds outside and around us. It will be a great fun. You will be able to hear flies buzzing around and even your own breathing. After that I will sing a song. You will just listen,".

I finished speaking and then started the game. 'Om Shanti!' I said. But the boys continued to talk and to push one another. 'Om Shanti!' I repeated again and again but it had no effect. I became a little uneasy. I couldn't shout at them to shut up and behave.

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I could not beat them into obedience. So I went on with the game. I closed the shutters of the windows and the door. It was now dark in the classroom. The students started their own game. Some started making a low humming noise; some started making catcalls; some started stamping their feet. One fellow clapped and soon the others joined him; another laughed and the whole class followed, suit. I was abashed. I turned pale. I opened all the shutters and went out of the classroom for a while, when I re-entered, the whole class had become boisterous. The children were calling out 'Om Shanti!' to one another in mock imitation of my words. Some were closing the shutters of the windows.

"My notes have turned out to be impracticable," I thought. "It was easy to prepare notes at home and imagine teaching; in practice it is a tough task. It is absurd to talk of the game of silence at this stage to a group of children who have all along been brought up in an atmosphere of noise and disorder. I shall now begin afresh from where I went wrong. It was good in a way that I slipped up at the very first step. Tomorrow I will try a new approach."

"Boys," I said, "we won't have class anymore today. We shall meet tomorrow. You can have the day off today."

At the words 'day off' the boys rushed out of the class shouting 'holiday'. They ran out, jumping and making such a noise that the teachers and pupils of other classes wondered what the matter was."

This case study is from a well known book on pedagogy *'Divaswapna'* by Shri Gijubhai Badheka. Mr. Laxmiram is an enthusiastic teacher and wants to introduce the new teaching methods in his class. But, very first day his planning was failed. At the end of the day he thought about 'what went wrong'.

He made a list of possible factors for the failure of his plan (of his very first day in the class). It included the following:

- Before planning one must to know the learners and the prevailing learning environment
- Planning should be according to students' age and interest
- The teaching-learning method is as important as the content being learnt, hence a good plan should focus on both
- A lesson plan must provide some challenges to learners, this leads to positive enforcement of learning
- For an adult, working with younger children is rather challenging
- A good plan must have alternatives

Almost all teachers have concerns, anxieties and challenges like Laxmiram every day. Good planning can be an effective tool to handle many of these challenges. A lesson plan is the facilitator's road map of what needs to be taught and learnt and how it will be done effectively during the class time. The process of creating

an effective lesson plan, certain minimum steps must be followed. You would have already learnt about these in Block 1 and 2. Let us recapitulate them:

- **Teaching Points:** From the lesson to be dealt with the topic the key teaching points need be identified.
- **Outline Learning Objectives**: The second step is to identify the learning objectives for a lesson/series of lessons on a single topic based on the teaching points.
- **Plan the Introduction and the Specific Learning Activities:** What is the major type of learning objectives—knowledge, understanding, application skills, attitude etc. and what teaching-learning methods would be most appropriate to accomplish these? How are going to link up this lesson with the last one. If a topic is being dealt with, how will this be introduced?
- **Plan to Check for the Learning and Understanding:** During the class/es, how will you know if students are comfortable learning and that the learning cycle for each child is being supported well?
- **Develop a Conclusion and a Preview:** How are you planning to recapitulate? What are the key messages/learnings/impressions, you think the learners must be able to exhibit then, and/or recall at a later point of time.
- **Create a Realistic Timeline:** One of the most scarce (and finite) resource that formal teaching-learning processes are limited by is time. An effective lesson plan must be realistic about time.
- **Presenting the Lesson Plan:** Letting your students know what they will be learning and doing in class will help keep them more engaged and on track.
- **Reflecting on Your Lesson Plan:** A lesson plan may not work as well as you had expected due to a number of factors. You should not get discouraged – it happens to even the most experienced teachers! Take a few minutes after each class to reflect on what worked well and why, and what you could have done differently.

Check Your Progress-2

a) State the minimum steps to be followed during the process of planning teaching-learning of EVS.

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7.4 PLANNING EVS LESSONS

The above steps and tips are useful for making lesson plans in general. What are some of the important aspects that are crucial for preparing lesson plans the syllabus of EVS as per NCF 2005.

In **Block 1** you have learnt that the syllabus is developed with a child centred approach and with the philosophy that each learner constructs knowledge, based on his/her experiences. You have also learnt that EVS is a composite area of study; it is multidisciplinary, dynamic and closely related to the real-life situations and environment of the learner. The focus of EVS learning is more on formation of attitudes, values, modification of behaviour and development of skills. Thus while planning the year and each lesson within the academic session, it is important that you keep the following general aspects in mind:

- Take those learning objectives on priority which are related to formation of knowledge values, attitudes and skills
- Design the EVS plan based on those teaching-learning methods and approaches which help bring in real-life experiences into the classroom and which encourage critical thinking
- Wherever and whenever possible, appropriately chose those learning methods which are not only participatory but also encourage children to discover, explore, and invest their immediate environment—social as well as natural.
- The plan of assessment for EVS should focus more on the abilities of learners, their social and learning contexts.

Provided below is a sample EVS lesson plans:

Lesson Plans

Class : III

Subject : EVS Time : 40 min.

Topic : Human-made and Natural things,
Living & non-living things
(Things around us)

- **Teaching Points** : Human-made and Natural things, Living & non-living things
- **Learning Objectives**
  - Students will be able to define and give examples of man-made and natural things.

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- Students could tell the characteristics of living and non-living things
- Students will differentiate between living and non-living things.
- Collect some living and non-living things from their school/home environment
- Draw the line diagram of some living and non-living things

Teaching Aids

Flannel Board, Different objects like Stone, Flower, Plant, Blackboard, Duster, Chalk etc.

Previous Knowledge

Students are aware of the different things around them and can name them / know their names.

Learning Strategies

Inductive-deductive approach

Introduction

Questions	Expected Answers
• Children, tell the name of the things which you see at home and in your your school environment	Trees, Plants, Scooter, Bus, tables, Chairs, Houses, buildings etc.
• Name some things which are created by nature	Water, Plants, Sky, Sun etc.
• Name some things which are made by human	Buildings, Clothes, Table, Chairs, Chalk etc.
• What do we call such things/articles?	Problematic Question

Today we will study about things made by human and things made by Nature.

Content (Teaching Points)	**Pupil-teacher's Activity**	**Student's Activity**
Man-made And Natural things	Pupil-teacher will ask the following questions-	Students will answer the questions-
	(a) Let us prepare a list of things which we see in our Environment	Flowers, Trees, Scooter, car, people, water, animals, houses Chair, table, watch, fruits, chalk etc.
	(b) After listing the things on black -board, let us pull out which human Being has made. Whatever left who has created those?	List of human made things Nature
	(c) Pupil-teacher will tell the Students- Those articles which are made by human are called human-made whereas the things which are found in nature are called natural things.	Students will give some more examples of human-made and natural things.
Living and non-living things	Pupil-teacher will ask the following questions-	
	(a) Let us look at the things again. See who possess life who does not have ?	Student give the list which are noted
	(b) Give some examples of living things.	Human, Cat, Trees, Plants, cows etc. Horses, Housefly, mosquito, birds etc.
	(c) Why are these things called living things?	
	Pupil-teacher will explain the students by showing different living as well as non-living things- The things which can breathe, move, grow and reproduce are called living things. The things which do not have Such capacities breathe are called non-living things.	Because they can move breathe, grow and reproduce. Students will participate in the process carefully and give come more examples.

Characteris-tics of living things	The above said qualities are the characteristics of living things. The Pupil-teacher will explain this through the strips of flannel board with the help of students	Students will generalise the characteristics of living things. (i) They breathe (ii) They eat (iii) They sleep (iv) They move (v) They grow (vi) They reproduce etc.

"These things are called human-made or natural things and today we studied about the things around us."

Living things	Non-Living Things
Breathe	Do not Breathe
Move	Do not Move
Grow in Size	Do not Grow in Size
Give Birth to Child	Don't Give birth to child

FLANNEL BOARD

Recapitulation

- Pupil-teacher will ask the students to encircle the living things with red colour and non-living things with black colour on previously prepared chart.

Home Work

Pupil-teacher will give the following homework to the students.

Observe the things in your environment and

i. List 5 human made and 5 natural things, surrounding to your school.

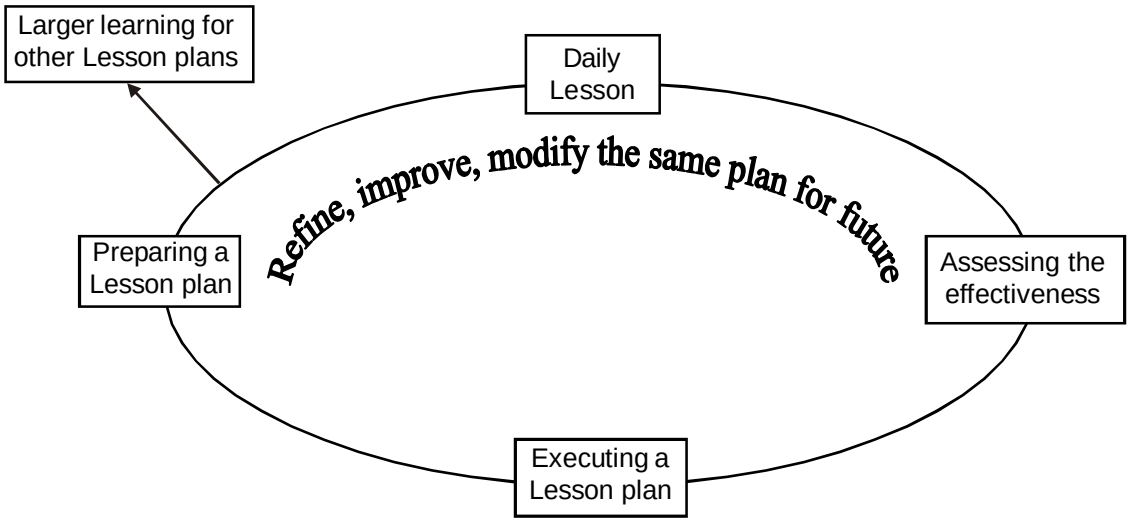
ii. List 5 living and 5 non-living things from your environment.

iii. Draw their pictures in your note book.

7.4.1 DAILY LESSON NOTES

Lesson plans are an important component of planning and can be crucial, tedious as well as complex, and sometimes repetitive to such a great extent that it may even seem to be useless! And hence as a teacher, over a few years, you may even get a feeling that we can teach and learn effectively without a formal lesson plans.

However, a reflective note taking habit on the execution of lesson plans during the year will prove very effective for you as a teacher. Daily lesson note taking completes the 'feedback loop' on lesson plans.



There can be many ways of daily lesson notes—you may create a column of 'self-remarks/notes' in the format of the lesson plan; you may maintain a dairy/ reflective journal; you may also want to record your observations while children are carrying out their work/activity (as part of a lesson plan); or sometimes, especially if you are using a particular lesson plan for the first time, you may even invite a peer teacher to sit through your class and make use of his/her feedback.

Learners' feedback can also be very useful for you to include in your daily lesson notes.

7.5 ANNUAL LESSON PLANS

Most of the time education department is preparing the annual planning for the teachers. It will help us to plan our lesson and its preparations. Here we have a table for the annual planning. Mostly department or any school level planning is for first three columns. But, last column is important for teacher.

Month	Theme /chapter	Lesson	Correlation with*

- When we are talking about correlation, it means,
  i. Correlation with nature, annual celebrations, Festivals, seasons and any natural phenomena. Here we have an example of Shakuntala teacher. Miss Shakuntala, comes from South India and is a teacher serving in a school in Gujarat. *Uttarayan,* is an important festival of Gujarat, which

is also associated with Kite flying day. Another important association is that of the practice of eating *Til Ka Laddu* (Sesame Laddu). Since *Uttarayan* is celebrated in the month of January, jaggery (*Gud*) and sesame (*Til*), besides festival correlation, also has a seasonal correlation—both *til and gud* are useful for preventing cough and cold. Shakuntala wants to plan a lesson under the theme of 'food'. How do you think you can help her?

ii. Correlation with other subjects: For example, does a lesson on 'water' have any obvious relation with another lesson in language or math?

iii. Correlation with the same theme in other grades: As you know, the EVS syllabus consists of six large themes, which grow in concentric circles. So a lesson within a theme may have correlation with another lesson of the previous year and/or the next year as well. Even though sometimes you, as a teacher, may not find it important to make students aware about such linkages, but as a teacher, while planning, you should know these vertical linkages of topics within a theme.

iv. Correlation with the other themes: For example, a lesson on 'Shelter' may have a very close relation with the theme of 'Things We Make and Do'.

Lets look at the following case of using tree plantation activity and how it is planned?

Rosy teacher realizes that making children understand the importance of plants and animals and develop compassion for the same is an important learning objective of EVS. She thus usually encourages her students to plant trees and take care of them.

As she begins to develop the upcoming year's plan, she realizes that this seems to be 'just an activity' in the previous years—the plantation was done successfully but most plants did not survive; there was no assessment of the efforts made by children towards the plantation activity. However, Rosy strongly believes that this activity is very meaningful and is important to develop positive attitude in the young learners.

So the question is if improved planning of the activity can help her make it more meaningful and effective. This year she thus planned and approached the activity differently. At the beginning of the school year, in late June, she asked her students to make a list of plants they know. She then asked them to categorize the plants in their list, and together they derived the following categories for grouping the plants:

i. Shady plants

ii. Herbal plants

iii. Fruit plants

iv. Flower plants

v. Ornamental plants

Next day, the students were asked to discuss in their families as to which of the listed plants would they like to grow? After two days, the final list (for the whole class) was ready. Rosy asked the students to reorganize the list to state the required plants under the 5 categories and prepare bar graphs.

The next week students were taken out to visit the nearest nursery of the forest department and were asked to share their requirements with the staff there. The day after, the forest department provided the necessary saplings of the trees to the respective families (based on the list compiled by the students). Rosy had requested the forest department representative to also facilitate a session on what requirements and care do different species of the trees would require for being nourished and grown well.

Rosy was now assured of the survival of the planted saplings.

Based on the above case, note down your response to the following questions:

i. While preparing this lesson plan which points of good planning were taken care of by Rosy teacher?

ii. How many subjects were covered under this plan?

iii. If you were Rosy, do you think this planning and execution exercise was worth achieving EVS objectives? Why?

iv. In your opinion, will the survival rate of plants increase or decrease compared with that of the last year? Why?

v. Can you explain why thematic planning is important in Environment lesson plan?

Initially Rosy had a question of sustainability of the activity and the associated learning. But her timely realization that more planning is required to make this important activity an integral part of her formal teaching-learning schedule. Since this was the first attempt, she needed to put it rather more effort and spend longer time preparing for the same, but the next year, her preparation time is most likely to come down.

In the case, we can also see Rosy planning and managing resources—material, plants, resource person, etc. She also needed to plan for and organize field visit for the students. Most importantly, she ensured that she made the necessary correlation—with the local resources, with season (through plantation activity), with family and local community (through survey in the families).

As you know, the syllabus of EVS has six themes. All the themes are also spread over all three years and the three grade—3, 4 and 5. While planning for EVS, you need to ensure that:

i. You have a learning plan organized thematically (all 6 themes) which may cut across all the 3 years of learning and its progression. For example, if you are talking about food, then the EVS text-books are developed in such a manner that you will be able to reflect vertical expansion of key learning points within the theme for all the 3 years. Thus a plan will help you see the connections between any two grades.

ii. The annual plan and subsequent lesson plans should also consider the local and immediate environment links—like seasonal diversity and events, festivals, local celebrations, etc.

Check Your Progress-3

a) Create a format/framework for lesson plans

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7.6 PLANNING FOR PROGRESS, PARTICIPATION AND RESOURCE USE

So far you have deliberated upon planning based on EVS curriculum and textbook. Curriculum and/or textbook are the key reference point for planning, but there are three other aspects as well which should be considered while planning. These are:

i. Students' progress: As a teacher your role is not only to 'teach' subjects but also facilitate 'learning'. In Chapter 5 you have learnt about Continuous Comprehensive Evaluation, and that it is important that child's learning and progress is monitored from time to time. Based on findings of the same, you may need to modify your teaching-learning plan for the class for that year. This is the aspect where teacher's innovativeness is important. Thus students' progress is an important factor for executing the plan.

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ii. Students' Participation: As you know different children have different preference for learning styles and hence you are encouraged to use a variety of teaching-learning methods. Thus your plan must be flexible enough to accommodate students' abilities and learning preference—some students learn better by creating material, some by keeping notes; some may be interested in keeping a file of newspaper cuttings and while others may learn by peer discussion. As a teacher, it is important that your plan is able to engage and involve all children in the class.

iii. Available resources: Good and practical resource planning is an important factor for the success of any lesson plan. Plenty of educational and learning resources are available in the school and its immediate environs. This will be discussed in detail in the Chapter 8.

7.6.1 Students Progress

It was the first day of the school year. Leena was newly appointed teacher and was given the charge of grade 4. All students came forward to welcome Leena. She was very happy. Suddenly she noticed a student in her class who was rather quiet and was sitting in a corner. He was rather unkempt; his big eyes seemed to be devoid of any expressions.

With a little hesitation she smiled to him, but he did not respond. "He is Tad", informed Apoorva, another student. "He is always like this", he added. "He is never interested in the class and knows nothing about what our teachers teach."

A few days later Leena was also convinced about what Apoorva mentioned about Tad. Then came the day of the first monthly test. Tad's performance was poor in the test. His handwriting was illegible.

Now was the time for teachers to assess students' performance and record their scores. Leena was now recording Tad's score. She started to read the previous comments in Tad's progress report, which were not very positive. Now she recorded her comments as well. At last she picked up Tad's Learning Profile. "Tad is a brilliant student. He is always enthusiastic and is smiling. He has a very good future!" these were some of the comments in his profile. Leena was surprised. These comments were of Tad's first year in the school. Leena was curious and thus continued to read further.

"This year, after the first unit test, Tad seems to be little scared. Tad's mother has some problems, hence Tad is not attending his classes."

Grade 3: "Tad lost his mother. His father drinks. Tad is very upset. He is not performing at all. There is no one to take care of him". Leena continued to read, though tears in her eyes had blurred her vision. She felt that a great injustice was done to Tad.

The next day when Leena entered her class, she gave a warm smile to Tad. Tad gave a blank look to her. But as Leena continued to smile, slowly a smile appeared on Tad's face in response to hers. Four months passed by, it was now Christmas and New Year time. All students were giving a variety of gifts to Leena teacher. She was lovingly accepting all the gifts. Finally, Tad came to her and gave small bracelet made of beads and stones, and also an almost empty perfume bottle to her.

It was now time for the next Unit tests. Tad stood fourth in the class!

You may have 'Tads' in your classes as well. It was only through the Students' Learning Profile that Leena could understand the abilities, competencies and the family situation of Tad.

Students' profile is useful not only for a single teacher, but also to maintain a continuum over the years and grades that the child moves to. It is important that teachers highlight important aspects (learning preferences, family situation, any sudden and large change in child's progress and attitude, etc.) in the profile. Only then Profiles can prove to be effective tool for tracking students' progress and for providing the feedback on the teaching-learning plans. To do this, there are different ways, for example,

- We can develop a comprehensive format in which we can have all the students' progress record. Such format provides a holistic view of the class and also a comparative analysis. But, it does have some limitation as well. It may not be very student-centred. This format is more useful for and easy to be used by the teacher.

Name of student	*Learning style*	*Learning abilities*	*Interested themes*	*Last Unit's achievements*	*This Unit's achievements*	*Notes for next time planning*

- Individual learning profile for each student may be prepared as well. Such a format is most child-centred, but is tedious for the teacher to use and maintain. And an objective comparative analysis may not be arrived at.

7.6.2 Participation of Students in Planning

As you know different children have different preference for learning styles and hence you are encouraged to use a variety of teaching-learning methods. Thus it will be good to involve students in planning process. This will ensure that the plan prepared by you is flexible enough to accommodate students' abilities and learning preferences—some students learn better by creating material, some by keeping notes; some may be interested in keeping a file of newspaper cuttings

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and while others may learn by peer discussion. By involving students in the planning process, your plan will also be able to engage and involve all children in the class.

7.6.3 Resource Planning

Identifying a variety of educational resources and creating new ones, based on requirement, is an important step in planning process. It is so because to accomplish the various learning activities mentioned in the lesson plans, the teacher needs a resource. Students' involvement in generating a school bank in the classroom/school is advisable. You will learn more about Resources for teaching-learning of EVS in the next chapter.

7.7 LET US SUM UP

This is not a chapter on pedagogy, yet the chapter deals much with the applied part of study in education. Each one of us has our own way of planning, but following certain minimum common steps will ensure that your plan is practical and effective.

The chapter is written with teacher as the main focus, because the teacher is an architect of the students. Any architect needs to keep a few things in mind:

- Her creation should be self-explanatory
- Her work must be an innovation
- Her creation (learner) has its own identity
- The creative output must be sustainable
- Correlate with local factors and circumstances

Planning for teaching-learning of EVS requires that your lesson plan has made the necessary correlations and interconnections. Further, it is important for teachers to understand the planning should range from annual plan to daily notes taking as well. And planning in EVS also requires that natural environment, cultural environment and future sustainability should be incorporated in your plans.

Finally engagement of students in the planning process and resource mobilization are important factors for developing an effective plan. The next chapter will inform you more about resource planning.

7.8 MODEL ANSWERS TO CHECK YOUR PROGRESS

Check your Progress-1

Ans. Preparation, Process and Product

Check your Progress-2

Ans. Identifying teaching points, outline learning objectives, planning introduction and specific learning activities, planning to check the learning and understanding, developing a conclusion and a preview, creating realistic time line, presenting the full length plan and reflecting on the lesson plan.

Check your Progress-3

Ans.

Date	:
Class	:
Subject	:
Topic	:
Teaching Points	:
Learning Objectives	:
Previous Knowledge	:
Learning resources/ Teaching aids	:
Learning strategies	:

	Teaching Points	Learning activities	Black Board work
Introduction			
Presentation			
Evaluation			
(Home Assignment)			
References			

7.9 SUGGESTED READINGS AND REFERENCES

http://www.discoveryeducation.com/teachers/free-lesson-plans/lms-lesson-plan-928.cfm

http://www.lessonplanspage.com/writelessonplan-htm/

National Curriculum Framework 2005, NCERT, New Delhi

Notes

7.10 UNIT-END EXERCISE

a. According to you what is better planned, failure or unplanned success? Why?

b. Prepare a lesson based on the table of format provided in the lesson plan section of the chapter.

c. What key points must be considered while planning?

d. For the following statements, write 1 to 4 to take a stand based on the following scale:

   1 = Strongly agree

   2 = Agree

   3 = Disagree

   4 = Strongly disagree

e. Radhakrishna has been a teacher for more than 20 years now. He knows all his students very well. At the time of inspection, his daily planning book was found to be blank. He ridiculed the need to maintain a teacher's Planning Book. How do you agree with him?

f. When your principal asks you about why Fulan's notebooks are poorly maintained, you immediate think: Fulan's mother never takes care of her and hence Fulan is a very careless child. As a result her notebooks are poorly maintained. Are you convinced about this line of thinking.

g. Is planning a tool for success? Justify.

h. Can we solve all the problems through planning? Justify.

Notes

UNIT 8 RESOURCES AND MATERIALS FOR TEACHING-LEARNING OF EVS

Structure

8.0 INTRODUCTION

In the earlier Units of this Course, you have learnt about the scope as well as teaching-learning processes for EVS. You would recall that 'Environment' means 'surroundings'. It includes natural, cultural and even social environment. One of the important aspects of environmental education is to teach through environment. With focus on this aspect of environmental education, and recapitulating the

Notes

need for planning the teaching-learning of EVS for the whole year, this chapter will deal with planning and arranging for locally available resources and material for EVS.

Facilitating learning in EVS calls for creative teaching-learning processes. Thus developing, maintaining, sharing and utilising local teaching-learning resources and material is important for an EVS teacher. This Unit will discuss these aspects and will dwell in detail on identifying and using local teaching-learning resources and material for EVS.

8.1 LEARNING OBJECTIVES

On completion of this Unit, you will be able to

- explain the significance of a learning resource for EVS
- identify local learning resources and use them in the teaching-learning of EVS
- develop teaching-learning material suitable for EVS using appropriate resources
- undertake Teaching and Learning using locally available resources
- recognise the role of children, parents, and community members in building a resource base for EVS

8.2 WHAT IS A LEARNING RESOURCE?

'Resource' means something that can be used to help achieve an aim (The Oxford Advanced learners' dictionary). As a teacher you must already be using a number of resources like a dictionary, a map or a model etc. to help you transact EVS lessons better. Now look at the following examples:

- A teacher wants to teach about plants, he/she may use the school garden as a learning resource.
- To clarify the concept of river and pond, the teacher may arrange a visit to a river or pond or he/she can show a video-clip or a picture of it.

When used in such a manner, the above listed items—map, model, school garden, pond, video film, etc.—all become teaching-learning resources.

Notes

8.3 SIGNIFICANCE OF LEARNING RESOURCES IN EVS

Use of educational resources for teaching learning of EVS is critical because:

- EVS is the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate inter-relationship between the humans, culture and biophysical surroundings.
- Outdoor-based learning processes are effective in EVS
- Real-life based experience, in physical, biological, social and cultural aspects of life are appropriate for EVS. Use of local resources and material facilitate real-life based learning.
- EVS aims to enhance cognitive ability, capacity and resourcefulness in child, and to make her curious about social phenomena – starting with the family and moving on to the wider space. Using learning resources creatively one can achieve this.
- By using local resources, teachers can help students to construct their own knowledge, develop skills and values providing them direct learning experiences.

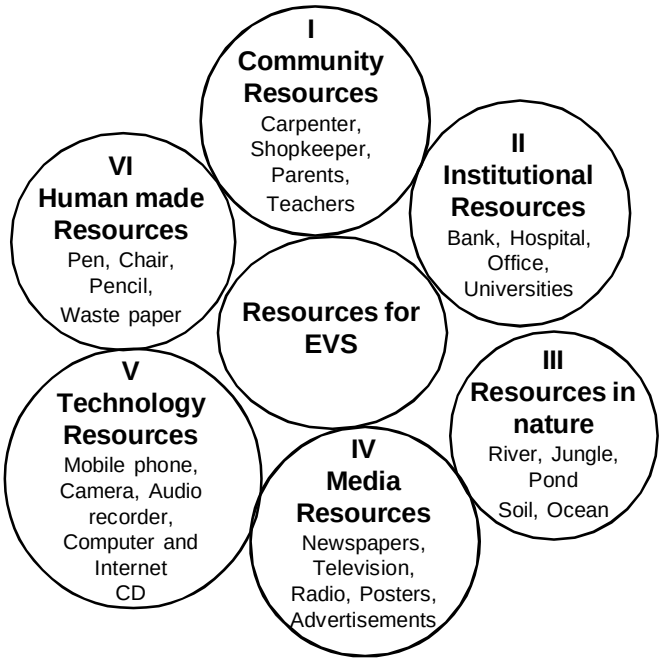
Besides these educational benefits there are several social advantages too.

- With the help of local resources you can build strong relationship with society and neighbouring communities
- Students can connect to the world around them through their studies and vice-versa, which is an important part of learning
- Students will become aware of their immediate environment
- Students will be sensitised towards the conservation of their immediate environment

In order to gain these advantages, a teacher must have the knowledge and skills to identify, develop, and use local learning resources.

8.4 TYPES OF RESOURCES AND THEIR USE

A variety of resources are available around you. You as a creative EVS teacher, need to develop the ability to identify and use them effectively. Such resources can be broadly categorised as follows:



8.4.1 Community Resources

Do you know for a teacher each Person who lives in the neighbouring community can be a resource? The belief that 'each person is important' can be very meaningful in this work. Practical work leads to knowledge construction. Thus Day-to-day work experience makes every person an expert. Thus skilled workers like a gardener, an iron smith or even a carpenter can become very useful resource for you. Let us quickly look at how a potter can help you in your session:

- This week, you are discussing the theme of 'Things we make and do'. The potter can speak not only about his personal experiences but can also deal with aspects like types of soil in that area; the process of making pottery, etc.

Now you will be able to list many such names as a resource, like iron smith, goldsmith, gardener. Look at how resourceful can a teacher become by using the expertise of the local community members

- Nirmala's father, a farmer, has been invited by her teacher to help children understand better about plants in general and weeds in particular.
- Just as the local heath worker is able to help in understanding the human body, as well as health and hygiene related topics, the local *patwaari* or revenue official is an expert both on maps and local history.
- Avinash, a carpenter on his way back home from the city, supports you as teacher in your class on measurements, something he is an expert at. And when he is not available, then you ask the local tailor to help you out.

Notes

- Many grandparents are waiting to be able to narrate interesting folktales, to the young children. Such folktales can also be modified into other activities like puppetry, role plays etc.
- You can certainly count on a number of retired professional (teachers, clerks, policemen, defence personnel) who are willing to help you and the school on a voluntary basis.
- Remember a **child** herself is a very important resource. A child has curious nature, she is a keen-observer of her environment, she may not have well defined purpose of observation but she does it continuously. Teacher's role is to support the child in converting these observations into meaningful learnings for a child.
- Do remember that your peer teachers can also be a valuable resource for you.

Provided below is a sample sheet which will help the children record their interaction with farmers from the neighbouring town.

SAMPLE SHEET

Meeting a Farmer

- Name of farmer : _____
- Family members : _____
- How much land he owns : _____
- Crops he cultivates : _____
- Key factors that effect his farm / crops : _____

  _____
- Does he use tractor or other machinery for farming :_____

  _____
- Source of irrigations : _____
- Type/s of irrigation used and why : _____
- Seasonal crops :_____
- Profit and loss in farming : _____
- Does he use animals on farm? If yes, which animals and how?_____

  _____

- Does he use fertilizers in the farm? Name of the fertilizer._____
  _____
- How does he ensure the fertility of the soil? _____
  _____

8.4.2 Institutional Resources

Institutes, especially public service sector ones; can be very effective local learning resources. Each institute has its own unique mandate and vision which eventually contributes to the development/economic goal of the society. A teacher can plan and coordinate visits to relevant institutes. This also ensures real-life link built into the teaching-learning process. Some such possibilities exist in the form of:

- Public Facilities: Public hospitals, bus stations, post offices, police stations, public libraries, banks, veterinary hospitals, gram panchayat offices, office of the Municipality
- Museums and Historical Sites: Museums of natural history, palaces, parks and gardens, laboratories, cold storage
- Other establishments: Plant nurseries, wind farms, universities, dams, zoos, fire stations
- Commercial and Industrial set ups: Power house units, factories which are not harmful for children, shopping malls, local markets, etc.
- Local 'Mela'(fairs) also provide good opportunities for learning: By visiting mela, students can learn how market works and can realise the local rituals, dressing style, mode of living of different kind of people.

Institutional Visit: Sample Record Sheet

Date _____

School _____

Student _____

Class_____

Visit to a cold storage

- Name of the head of cold storage _____
- Name of the person and designation who guided you and gave information about the institution_____
- It is situated in _____
- What does it store?_____
  _____
- Who uses it?_____
- What kinds of crops can be stored in the cold storage?_____

Notes

No.	*Name of the Crop*	*Minimum temperature to store (°C)*	*Best time duration to store*
1			
2.			
3.			
4.			
5.			
6.			
7.			

- How many workers work in the cold storage?_____
- How does a facility like this help us in our daily life?

  _____

8.4.3 Elements of Nature as Learning Resources

Natural Environment is said to be a very good learning resource for EVS. It is so because humans are a part of the natural environment and hence learning from the environment comes very naturally to a child.

Elements of nature like hills, ponds, grasslands, forests, oceans, etc. excite children and create curiosity among them. Thus as a teacher, if you can find an opportunity of letting your children learn in and from the nature then your task of facilitating learning becomes very easy. Within the framework of the school timetable you may not be able to find many opportunities for outdoor-based learning however even one opportunity a year can be effective for you and your students. Thus visits to natural heritage sites and nature camps can be effective.

Very often, outdoor-based education is seen as a tedious and complex process. However, as discussed in Unit 6 of this Block, outdoor-based learning environment can be found in your own school campus or in a park near the school, etc. The Unit also discussed the various steps to planning outdoor-based learning sessions in detail.

8.4.4 Media Resources

Today a range of educational media are available. The newspaper, relatively cheap and universally available, is an invaluable learning resource. Moreover, the

Notes

educational potential of electronic media can be exploited for education in a variety of innovative ways. Video, film, television, computers, internet—all these offer the possibility of bringing the world into the classroom. Media provides a set of teaching learning resources, popular and easily available. For EVS, the main advantage of using media is that students learn about current environmental issues. They also get an opportunity to read about and to understand different opinions and viewpoints on an issue.

Media Resources include:

- Local, national and international news papers
- Magazines, especially for EVS include Safari, The National Geographic, Down to Earth, *Vigyan Darshan*, etc
- Television channels like The Discovery, The National Geographic channel , Planet Earth, Travel and Living
- Radio programmes related to EVS on *Gyan Bharati, Vividh Bharati*
- Environment related websites and portals
- Environment related Programmes broadcasted on Doordarshan or other educational channels
- Paintings, exhibitions etc.

Some ideas on how to use media for EVS include:

- Using 'News paper cuttings' related to EVS students can undertake research work or project on an identified theme in EVS.
- Facts and opinions with regard to relevant environmental themes can be discussed using environment related channels and magazines.
- You can make children read scientific or environment related stories from magazines or newspapers
- Children can be encouraged to watch programmes on Television telecast by the UGC. They can be informed about this in advance. And this could be preceded or followed by a relevant classroom session.
- With the use of posters and paintings, you can help children express their ideas and views on relevant environmental concerns.

8.4.5 Technology Resources

Today a number of technologies are available to support the teacher in the process of teaching-learning. Oxford Advance Learner's Dictionary defines 'Technology'

as "Scientific knowledge used in practical ways in Industry". The younger generation is good at using technology. Technological gadgets attract children. In the teaching-learning of EVS technology can be used in a creative and meaningful manner. Listed below are some examples:

Resource	Uses in teaching-learning of EVS
Mobile phone	Can be used to record natural sounds like animal and bird calls Stopwatch facility can be used for capturing time-bound natural events, like sun-rise and sun-set, etc. GPS (Global Positioning System) be used to enhance map-making and map-reading skills
Computer	Multi-media facility can be used for video presentations on environment related topics. Internet facility is an easily accessible resource for information generation, research as well as exchange and communication with other schools, communities or groups. Animations can help children to understand abstract environmental phenomena, like 'inside our earth'; 'movements and processes inside plant body', 'Life under sea', etc. Programmes like Microsoft Office can be used for recording and retrieval of data, making graphs, etc.
Camera	To record natural activities of birds, insects, animals and use it during your sessions with children. Camera is of course most used during field visits, treks and tours, etc. Camera can be very useful for recording students' activities and use it with them during a feedback session/ assessment process.

Notes

Check your progress -1

a) *Write any three categories of educational resources:*

.....

.....

.....

b) *Which local expert will you prefer to use for teaching-learning about food crops A Botanist; A Farmer; A green grocer*

.....

.....

.....

c) *What kind of media will you prefer to use for explaining about life under sea to 12 year old children?*
Photographs; Models; Film

.....

.....

.....

8.4.6 Human made Resources

You must be using some materials in teaching learning of EVS for creating effective learning situation which are made by human. You can ask the students to prepare a list of it. You will get the names of pen, pencil, glass wares, papers, materials developed from waste papers, materials developed by using no cost or low cost materials. These become a source of bringing, analogy, comparing, modelling, puppetting etc. are used in different activities to help in concept formation in children's mind. The materials can be stored in a corner of the classroom, school premises and can be used while conducting the related activities.

8.5 USING LOCALLY AVAILABLE MATERIALS CREATIVELY

Generally teachers are made to understand that teaching-learning resources mean charts, ready-made maps, globe, models, etc. Yes these are teaching-learning resources. However, just look around yourself, you will find many such materials and equipment, like a pen, a chair, pebbles, etc. Even waste material like old

Notes

newspapers, invitation cards, discarded ice-cream cups and sticks, can be a treasure of teaching-learning material for creative teachers. Thus without necessarily having access to much resources like time and money, your innovative and creative abilities can help you use local materials as readily available learning resources. Further, a good teacher will also be able to bring in students' participation in ensuring the use of this treasure house as a learning resource pool! Let us look at some examples.

Available Material	Learning Activity/ies	Learning Purpose
Pebbles	Arrange a collection of pebbles according to some categories like shape or size or colour etc.	• Recognise shapes, size and sequences • Know that variety of pebbles and rocks are found in nature.
	Organise and classify collection of fallen leaves in groups/order. Children can be guided to group the leaves based on shape/ size/ texture/ appearances etc.	• Develop skills of classification • Enhance observation skills • Learn about diversity in the plant world.
Leaves	Provide chairs mode of different material like wood, plastic, iron. Ask children to work in groups and undertake the following research • What material is the chair made of? • Where could this material come from? • Cost and life of the chair • Is the material biodegradable? • What will ultimately happen to the material when chair is discarded?	• Learn about manufacturing process • Know about minerals and plastics • Be exposed to the concept of 'Life of an object' • Know about different waste material and their treatment

Glass	Calculate surface area and volume of a glass Fill the glass with different liquids— Water, milk, oil etc. Using a measuring cylinder, find out the volume of each liquid Explore any social ceremonies where glass has a specific significant use	• Basics of mensuration • Density and volume relationship • Learn about local customs and traditions

Each of above mentioned ideas arouses childrens' intellectual curiosity and leads them to explore, reflect and construct their own knowledge and understanding. As a teacher your role is to encourage them to think, to reflect upon how they worked, and consolidate learning as it emerges.

Fun with Bicycle

- It has more than 50 parts—identify and list them!
- Find out why it does not move in reverse when the pedal is moved backwards;
- Put the cycle on a stand, move the pedal vigorously – what is the maximum time you can get the rear wheel to keep moving freely (use the stopwatch on a mobile phone)?
- Then, get on to the cycle; pedal away vigorously—for how long can you ride without needing to pedal again? (do this in an open ground where there's no chance of falling and getting hurt);
- What are the different kinds of sounds you can produce from a cycle (e.g. by rubbing/scratching the tyres, clinging the chain) and what are the words could be used to describe these actions and sounds?
- Find out how different people use a cycle as part of their lives and livelihoods

Making a Solar Cooker

Material

Shoebox
Aluminum foil
Glue

Scissors or knife
Brushes for painting
Plastic bag to keep the pots in (the bags help store the heat)

Procedure:

a. Take a shoe box .Cut a 3-sided flap in the top of your box as shown in Figure 1.

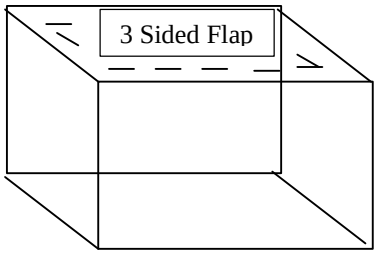


Fig.-1

b. Open up the box and line the inside of it with aluminum foil ensuring no gaps. Then paint the foil with black paint.

c. Fold back the flap along the uncut line and stick aluminum foil to the inside of flap. Ensure foil is shiny side out – reflective side and there are as few wrinkles as possible as shown in figure 2.

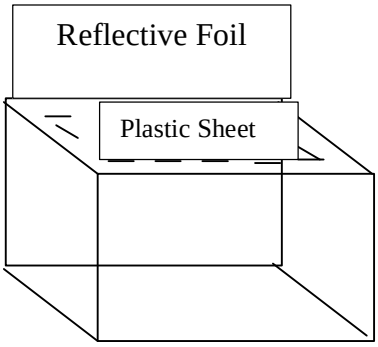


Fig.-2

d. Measure a piece of plastic, or cling film to fit over the opening you have just made. The plastic must be larger than the opening so that a tight seal can be formed. It is important to ensure that little or no air escapes from the box once it is in use. Otherwise, this will increase the overall cooking time.

e. Glue, tape or staple the plastic sheet to the top of the opening. Ensure no air gaps by forming a tight seal using tape and glue.

f. And finally place some food inside the plastic bag and place in your cooker. Point it towards the sun ensuring the panels reflect the maximum amount of sunlight through the window, inside the cooker. Based on the brightness of the day and also the amount of food you are cooking, cooking may take anywhere from twenty minutes to 2 or 3 hours to cook

With this, you must have got many more ideas of creating/developing effective teaching-learning material using local, low-cost or no-cost material.

Notes

Check Your Progress-2

a) *Of the following listed no cost material, tick the ones which are available in your school:*

Used pens, pebbles, twigs, used bottles, old tubes/tyres, a bicycle

.....

.....

.....

.....

b) *What kind of waste material you could get from the local grocery shop for teaching-learning of EVS?*

.....

.....

.....

.....

c) *List the kind of skills that you can help children develop using a collection of fallen leaves.*

.....

.....

.....

.....

8.6 SCHOOLS AS RESOURCE CENTRES: CREATING A TREASURE HOUSE

As you have realised now that there is such a variety of educational material and resources around you, which can be effectively used for teaching-learning of EVS. Perhaps you already use it in your work. Don't you think that these can be organised and maintained for creating a Learning Resource Centre in your school? Would such a resource centre be not useful for your own school as well as some of the neighbouring schools?

Let us now look at what steps go in creating and maintaining such a Resource Centre:

Collection	Corners	Documentations and Records
We can make different kinds of Collections, with the help of children like ,	**We can make different kinds of 'Corners' to maintain material or resources of different types, like**	**Students can be guided to maintain some files, like**
o Seed collection o Leaf collection o Picture collection o Metal collection o Coin collection o Stamp collection o Newspaper(cutting) Collection o Magazine Collection etc.	o Story book corner o File corner o Project corner o Collection corner o Painting corner o Waste material corner o Craft corner o Art corner o Maths corner o Puzzle corner o Experiment corner o Toy corner o Sport corner o Map corner o Creative corner etc.	o Student profile o School profile o Village profile o Vegetation profile o Pet animal related profile o Event related profiles o Contact number file, etc.

Such a Resource Centre in the school can be utilised for a number of teaching-learning situations in EVS as described in Unit 5 and 6 of this Block.

Each school in itself is a resource for enhancing the teaching-learning process. It is important that schools share resources, expertise and experiences among themselves. Collaboration among schools can be effective in making teaching-learning of EVS interesting and interactive.

Each school becomes a resource centre and may invite neighbouring schools to visit and use their resource bank/centre. Once a year an event (*mela*, fair etc) can jointly be organised by the cooperating schools. Such events can have a focused EVS theme to be selected based on the priorities of the schools engaged or the syllabus of EVS. In such events children of cooperating schools (or even from other schools) shall be encouraged to participate, share, and have learning with fun. Such opportunities are very good forum for sharing learnings, knowledge, material and resources.

Notes

8.7 ROLE OF CHILDREN AND COMMUNITY IN DEVELOPING AND MAINTAINING RESOURCE POOLS

By now you would have realised the importance of community and members of the community in helping create and develop educational resources and material. By now you are also able to identify various resources that exist around you and the opportunities within the school time-table to use these resources. Now you are also able to identify appropriate EVS topics for which such resources will be very useful. Also remember that the child itself is an important resource, you accept that the child is not an empty mug, to be filled by the teacher using the 'jug of knowledge'.

Now to understand that once created, how can such material and resource pool be maintained with support from children and community, read this story:

There was a school in small village called Rampur. Teacher named Ramesh was working there. Ramesh was very enthusiastic in his work. The village school campus was rather small compared to the number of children in the village. There was not even adequately sized playground for the children. The teacher Ramesh thought about possibilities for making the school campus bigger.

There was a 'wasteland' plot just next to the school. Ramesh asked the students, "who does this plot of land belong to?" On receiving the answer, The teacher Ramesh approached the Sarpanch of Rampur. He shared his concern and dilemma with the Sarpanch. He and Sarpanch together went to the farm owner and convinced him to donate the land to the school. Because of persuasion from Sarpanch and the passion and commitment of The teacher Ramesh for the cause of quality education, the owner agreed to the proposal. With the guidance of revenue officer of the village, necessary papers were also prepared and signed.

Now the big question was how to convert this wasteland into a safe playground for school children? He asked the children, and children showed the way. They talked to their parents, and one of the parents brought his tractor to flatten the ground. Children brought sickles and axes from home to clean the grass and shrubs. Finally, the ground was ready!

Learning for Ramesh was 'significance of contribution from community and children in the education processes.' He decided to strengthen this relationship even more. He established the school library and laboratory, and ensured that these were open for villagers too. The responsibility of maintaining the library and the laboratory was entrusted with two young boys from the village. For books and laboratory material and equipments, he took support of doctors, government hospital, gram panchayat and other well wishers.

Notes

This is only one real-life example with many ideas for a new path to creating and developing good educational resources in our schools.

Read and Reflect

a) What could Ramesh do if he wanted to make a garden in his school?

b) How would Ramesh arrange daily newspaper for the school without any cost?

c) Think, how can you help make low-cost furniture for your school?

d) What could you do if you want to create a collection of maps of the area in which your school is located and also create a picture album of the area? How will you maintain it?

8.8 LET US SUM UP

In this Unit, you have seen examples and reflected upon those to:

- Understand what educational resources can be developed for EVS teaching, without requiring big budgets and expensive material.
- Learn about the major categories of resources that you have around you—community, children, natural environment, technology, etc.
- Realise that educational resources can be created using simple things and material around us, like the pebbles, glass, bicycle, etc.
- Understand how schools in a cluster can come together to share and learn from each others' experiences and help create a variety of resource pool for teaching learning of EVS.
- Understand the important role of community and children in collecting, using and maintaining locale specific, environment friendly and low cost resource pool for EVS.

8.9 MODEL ANSWERS TO CHECK YOUR PROGRESS

Check your progress-1

a) Community resource, media, technology, natural elements, institutional resources, things/material around

b) A Farmer

c) Film

Notes

Check your progress-1

a) Used pens, pebbles, twigs

b) Waste plastic items, packaging material, wasted grains,

c) Skills of classification and Skills of identification

8.10 SUGGESTED READINGS AND REFERENCES

- *National Curriculum Framework 2005;* NCERT; New Delhi; 2005
- *Tbilisi to Ahmedabad: The journey of Environmental Education –A Source Book*; CEE; Ahmedabad, 2007
- *Environmental Education in the Indian school system*: Status Report; CEE; 2007
- *Joy of Learning: Handbook of Environmental Education Activities*; CEE for NCERT.
- http://subirshukla.blogspot.com
- http://.Education matters.blogspot.com posted by Subir Shukla .2010
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- http://solreka.com/blog/solar-cooking/build-a-simple-solar-cooker/

8.11 UNIT-END EXERCISES

i. What is understood by 'resources for teaching-learning of EVS'?

ii. What would you include in your list if you were asked to make a list of local educational material?

iii. If you arrange a meeting of students and a senior citizen of the local community, which important points will you include in students worksheets/ interview schedule?

iv. How will you use your students' experiences in EVS learning process?

v. What do you learn from the Teacher Ramesh's story given in this Unit?