

Chapter 6

TEACHING SCIENCE and EVS



INTRODUCTION

The environment is an important subject that a child needs to learn at the early stages. Derived from the word “environner”, this science related to the environment is the study of the interaction between human and natural systems. Our lives entirely depend on the environment in which we live and perform our day to day activities. Environment, in general, is the natural world as a whole or the surrounding where there is the coexistence of same and different species of living and non-living organisms or objects.

Under this very subject, we must also consider topics such as geography, ecology, geology, physics and oceanography which sums up the changes observed in the overall environment helping us to analyze and understand it. Environment, as a social science, provides a basic understanding of the relations between mankind and nature along with the impact over one another.

IMPORTANCE OF ENVIRONMENT AT THE EARLY STAGES OF LEARNING

At the early stages of learning, the knowledge of the environment helps the children understand the simple objects that they see or perceive in the surrounding such as water, rain, sunlight, trees, human

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beings, birds and animals. Activities under a social setting such as listening to the parent's advice and playing with other children come under the purview of the environment. Also, a child requires education in protecting and preserving the environment for which, a study into this specific discipline is necessary. A child will explore changes in the environment as he grows. For instance, if the family along with the child relocates to a different place, there will be a necessity to adapt according to the location. This sense of adaptation and observation of natural phenomena such as how plants and animals interact with each other, the living and non-living components with which the surrounding is made up of constitute the central idea of the environmental studies. It also discusses biodiversity and impact over health and social lives.

As a child grows into an adult she or he needs to realize that the problems related to the environment are global for example acid rains, pollution and much more. It is necessary for the child to know how to deal with the problems. Therefore teacher should educate the children in the subject with necessary examples.

Broadly, we can divide environment into the three following categories, while teaching at the early stages. They are,

- i) The Natural environment
- ii) The man-made environment, and
- iii) Socio-cultural environment

▪ **The Natural environment**

The biotic factors inside of our environments such as water, air, rocks and soil along with plants, animals and other organisms can be considered as the natural environment. The interdependence of these factors for example plants and animals require air, water and nutrients to live. A child should identify these very interactions in the process of learning environmental science.

▪ **The Man made environment**

A child should be made aware that we as humans impact the environment sometimes the outcome of which is negative. For example pollution, emission of greenhouse gases etc, while others provide service to the humans. This is manmade environment and awareness of how to reduce the negative impact must be discussed.

▪ **Socio-cultural environment**

As a child takes baby steps in attaining the knowledge of the surroundings and the world, the development of individual human instincts naturally takes place. For example community feelings, religiousness, rituals, economic systems etc. This sense of being a member of a society and the traditions, values, customs, art and history that an individual follows, can be termed as the socio-cultural environment.

All the factors under the environment can directly affect the behaviour of a child. Subsystems of the environment such as climatic, biotic, edaphic will impact an organism and determine its form and survival. The interactions of these subsystems bring changes to the overall environment continuously. Moreover, the environment is not only termed as composite, but also a complex and dynamic system due to the interactions of the subsystems.

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Impact of environment on a child

Learning at the early years takes place amidst home and family. The process of learning continues to the community apart from the school and this is the immediate environment which a child can relate to for example social gatherings, celebrations and festivals. At the same time, children experience the environment through different cultural occasions, for example, occasions in which family members plant trees or donate clothes to the needy. Taking part in certain seasonal festivals promote the sense of the community culture around him. These altogether contribute to the growth of a child. Therefore, early learning must be directed towards child's interests and priorities. The setting, be it in home or school must allow children to experience and explore the surrounding. Their curiosity towards any occurrence over nature lets them ask questions to their teachers or parents. Hence, it is necessary that both teachers and parents provide the answer to the logical questions in an interactive manner.

Relationship of the child with the environment

Quality of parent-child relationships along with that of the teacher is important for the child to grow up as a responsible individual. A better environment in both school and home promotes development. At the early stage of learning it is necessary to build these relationships to establish a positive outlook on life. There are several factors which hinder the development of the child such as, poverty and lack of hygiene. This type of poor environment leads to a very unstable future for a child. Moreover, the behaviour, metabolic rate and bad habits can lead to a lot of problems in the latter part of life. Sometimes in economically backward classes, the children undergo harmful environmental hazards before birth. Therefore, it is important to look at the background of a child so as to analyze the environmental conditions which he or she has faced.

ENVIRONMENTAL VALUES ON EARLY LEARNING

Environment as a subject carries tremendous importance with it. The early learning process should promote the interest of the subject as it deals with the surrounding. The experience of every child related to the environment is unique. The interaction with the surrounding and the meaning that they infer are helpful for the development of the stimuli. Learning at the early stages as we know takes place not only through actions but also language. In an environment, a child learns language, gestures, and expressions to communicate with others along with reading and writing. A child must be given opportunities to relate to the environment for their advancement towards maturity. Hence, the values that a child gets from the environment around him, helps him to understand the world better.

The study of Environment will help the child in several ways. We have discussed many but; we will look into some more below:

a) Discover sustainable living

A child has to be made aware of the resources present in the environment such as rainwater. The resources present today have to be saved up for the future to be used for a variety of purposes such as farming. The early stages of learning will help the child to take advantage of the elements of the environment.

b) Conserve biodiversity

Environmental studies will help children to conserve biodiversity. A brief example of what is biodiversity and why it needs be conserved. Teachers should describe simple methods of conservation to the children such as

- Recycling of different materials
- Water conservation
- Limiting use of plastics, and several others.

c) Create awareness on building a healthy environment

Children, along with teachers can contribute greatly to awareness campaigns for building a healthy environment at the local levels. Teachers can help the children create awareness through a variety of community programs including making banners against air pollution, taking part into plays which promote a healthy social environment including social bonding, caring for each other, planting trees and helping distressed animals.

Before moving onto the objectives and scope of teaching environmental science to children, we will look into why environment, in general, is important for a child's learning.

Firstly, rapid brain development of the child takes place in the early years. The National Scientific Council of the Developing Child states that the lack of appropriate experience can lead to alterations in the genetic plans. They have also stated that the development of social and cognitive skills is easier at the primary stages of learning. These experiences are limited by the surroundings and the environment that the home or the school provides has a crucial impact on the way a child's brain develops.

Secondly, group environment in the early years plays a strong role in the development of children because of the long time children spend in a group and engage in combined social activities. Most of their wakeful hours are spent in the early childhood group setting. For example, a baby beginning a child care can spend longer hours in the program than elementary and secondary schools.

Thirdly, the childhood environment will help in the analysis of the teacher's own philosophy, values and beliefs in teaching. It will help the parents to see if the environment that is being set by the teacher is conducive to the development of the child.

OBJECTIVES AND THE SCOPE OF TEACHING LEARNING EVS AT THE PRIMARY STAGE

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We have seen how environment plays an important role in children's growth and learning. We will now look into the objectives and scope of teaching EVS. The teaching-learning of the subject will help us in understanding and obtain knowledge, ideas and values about the surrounding and the ways with which we can make the children aware of it to become more environment-friendly.

Significance of EVS at the primary stage

Environmental Science as discussed already, is a subject which draws references from other fields of sciences such as physical, chemical, biological and other social sciences such as history, geography, sociology etc. Environmental education focuses on developing a holistic approach of the surrounding to where a child resides. With this, there lies the responsibility of the teacher to cultivate the emotional, moral, physical and psychological aspects of personality along with creative, artistic and social potentials. By engaging children directly with the environment teachers can help them gather information and experience. Curiosity which is the driving force of a child's mind enables him to explore, understand and appreciate the environment.

Exposing children to the actual world helps them to gather knowledge of certain situations in certain environments. They can gain individual insight into the functioning of the surrounding. These interactions are extremely helpful for the healthy development of the children and they can substantially enhance children's learning capabilities.

Environmental Science helps children to recognize their immediate 'self' and 'beyond' including their families, neighbourhood, locality and country. This experience is important as it develops a perspective of the local environment and helps to compare it with the whole world. The approach in EVS goes beyond any one particular subject and helps children use the contents and methods of all the sciences to solve environmental problems in the future.

Generally, EVS discusses topics related to food, water, shelter and much more. It discusses basic principles of life in the environment. For example how timely intake food can lead to a healthy lifestyle? Or how water conservation can help in the cultivation of lands or how shelter protects all humans and

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animals from adverse environmental conditions. EVS provides children with values that help them to become responsible citizens.

Objectives

It is important for a child to improve the surrounding in which he lives in. This is one of the most important objectives of environmental studies. A child should know how to revive or save the environment which has been under constant exploitation by manmade technology. A simple example is using waste bins to dump the garbage be it in a home, or community centre or parks to sustain cleanliness. It is necessary to teach children the fact that natural resources such as forests, land etc not only host life forms but are also beneficial in protection from severe flood or avalanche. Hence it is important to conserve them because lack of it can result in a devastating scenario. At several places, mankind has transformed natural places into artificial environments by cutting down trees or forests which might be the home to a variety of living creatures. These factors develop a sense that all living beings share the same natural resources and enforcing too much pressure can harm the balance of the ecological system. The objective is to build a sense that the entire environment is a large community which includes all living organisms as members. Human beings are one of the members of the community who share all the aspects of the environment with other members.

As a global ethic, we must consider the **Earth Charter** which is the international declaration of fundamental values and principal for building a sustainable and peaceful environment. The idea is to develop overall well being of human beings along with plants and animals. The development of community life and the following social interactions help to build cooperation among individuals and support for each other. At the early stages of learning a child have different notions of the world. A teacher must explain the occurrences of nature interactively to a child helping him to grow and become a sensible citizen.

The main objectives of teaching EVS are:

- 1) To establish relationships between natural, social and cultural environment.
- 2) To establish an understanding of the surrounding physical, biological, social and cultural aspects of life-based on observation and illustrations.
- 3) Enhancing the creativity of a child or an individual derived from the curiosity of all the natural phenomena in the surrounding environment.
- 4) Observe the social phenomena such as relationships, bonding and the cultural diversity to gain an insight into the characteristics of human behaviour.
- 5) Develop cognitive and motor skills by engaging into interactive games or study related to the environment.
- 6) Develop awareness about environmental issues.

- 7) Obtain an idea about the working mechanism of several factors of the environment. Children driven by curiosity can ask several questions to which the parents do not even know the answers to. These questions are mostly related to 'why' and 'how's, on different things. Therefore, the teacher must take a note of the questions and explain them with lucidity.

- 8) Harbor a healthy environment where the child must learn to respect parents, teachers, elders and individuals. The study of the environment should help a child to develop moral values and build a positive approach towards life.

We will now look into the scope of teaching EVS at the primary stage.

We already know that the main objectives of teaching EVS at the early stages are to expose children to real life social and natural settings to draw experiences and make them aware of the problems and how those can be solved to make a sustainable development. But, a holistic vision is necessary to protect and conserve the environment. For this, the idea of learning about, through and for the environment is necessary. Teachers must emphasize on the approach of 'learning by doing'. This is nothing but the interaction and engagement of a child with real-life situations, a reflection of his day to day activities.

The scope of the subject lies in:

- Promoting and adopting environment-friendly practices and habits along with taking decisions in developing a healthy environment.

- Improving the quality of the environment by generating positive and proactive actions.

- Building positive attitude towards life and all individuals and living creatures. Caring, cooperation and a good understanding lead to a healthy life and community to which one belongs.

- Motivating children to work on programs targeted towards conservation of natural resources.

- Understanding diversified ecologies. At present, the conservation of ecology is extremely important. Ecological stability leads to good health, prosperity and cultural stability. Children should have an idea about the ecologies and their impact on the environment and the Earth.

- Management of environment where children along with teachers and parents organize programs to spread environmental awareness, for example, providing leaflets with designs made by children requesting everyone to maintain cleanliness of the surrounding, not to blow horns unnecessarily etc.

- Management of unpredictable disaster by planting trees and cutting down on environmental pollution.

APPROACHES OF TEACHING-LEARNING EVS

The methodologies of teaching-learning of environmental concepts require innovative and participatory techniques. Some major learning outcomes of Environmental education are to improve the awareness of environmental, develop an understanding of ecological principles, arouse concern for environmental problems, a commitment towards environmental protection and promote conservation of natural resources. But, teachers need to make sure that the curriculum for learning must be comprehensive enough to describe all these factors. The teacher has to draw from a wide range of learning resources and apply a variety of techniques for the development of the children. Innovative methods must be used by teachers so that what is being learnt goes beyond the learning of traditional subjects. A teacher has to develop values to a child for her intellectual growth and cognitive abilities.

It has to be seen as to how the participatory and innovative approaches are important for teaching-learning EVS.

The approaches selected by the teachers to the teaching-learning of environmental dimension have to be necessarily active and participatory in nature. The reason is maximum involvement of the learners encourage group discussion over a subject. Studies on cognitive development reveal that student participation is the key to successful learning and the teaching-learning process is successful when there is active participation of the learner. Through active participation, learning becomes internalized and a part of the learner's cognitive structure. Studies related to learning reveal that every child has a preferred learning style which facilitates and enhances his learning. Different methods of teaching are necessary to escalate student's interest along with the desire for further learning.

An interactive approach to teaching-learning is to design and incorporate real-life based learning in the classrooms. This is because locale-specific examples become an effective way for teaching-learning EVS. Since an environment consists of the surroundings, the real-life-based study approach of EVS ensures effective results.



Encouraging dialogues and questioning is a very powerful approach towards teaching environmental studies. Opportunities to talk, discuss and have a dialogue help children to share their ideas and experiences eloquently. Communication within the group and discussion of several subtopics related to the environmental study enables children to think more deeply about the subject. Additionally, encouraging them to peer talk helps the teacher to find out why their experiences of the same place are so different. Basically, a confident learning setting where children can ask questions comfortably. Some of the approaches that we have discussed have many advantages such as:

- i) With critical thinking, children can analyze their own experiences.
- ii) Children develop feelings and sensitivity towards others as they grow and explore diverse socio-cultural factors such as food, language, beliefs, practices and traditions.
- iii) By learning environment, the child becomes aware of the existence of species on Earth and how the planet nurtures life through the environment.

In the most recent times with evolving teaching methods in all fields, a teacher is expected to be not only a teacher and a facilitator but also a co-learner. It is important to understand that learning takes place in all situations and circumstances irrespective of one's age and there is always something new to learn about. Therefore at some occasions, the teacher must explore topics along with her students. This approach also helps children to develop an urge to explore and learn topics by themselves.

Thematic structuring of the contents in EVS spans across boundaries of several disciplines such as history, geography and other social sciences. Establishing association with these subjects helps children understand the environment from different perspectives. This approach further helps children to

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understand environmental problems and solutions and life under it. Let us now see how we can implement this approach in the teaching-learning process.

If for example, a teacher is aiming to discuss the concept of 'Rainfall', he or she has to refer to science and geography and teach it in a simple and interactive way. Citing the example of the formation of rainfall in a simple manner will help the child to understand elementary level science. Children eventually understand the impact of the environmental factors over his life and community. The connections to real life experiences play an important role in developing and fostering lifelong attitudes, values and behaviours towards the environment and its conservation thus encouraging children to develop knowledge and ideas of the world.

We have already discussed how teaching-learning works best in a collaborative approach. Now we will discuss how constructivist learning approach can help the entire teaching-learning process of the environment.

Constructivist approach where learning is a search

Children actively try to construct meaning to the issues that are going around them. Letting the students guess is a great way to educate them on the topic of environment. In order to teach effectively, teachers must understand the mental models used by students to perceive the world and the assumptions that they make of the surrounding. Teachers should listen to the assumptions first and then state the correct fact. This approach helps children to reconstruct their prior knowledge based on their new experiences. Some of the approaches in this system are:

- **The Discovery approach**

Proposed by noted psychologist Jerome Bruner, children should be motivated to study environment. They need to experience situations in the surrounding. Bruner's level of thought revolves around three stages. They are:

- i) Enactive level

At this stage, students perform hands-on activities directly related to what is to be observed. For example, if a nature study program is scheduled, the children should be directed to observe the surroundings carefully. Fig. 1 below shows children at observing an insect.



ii) Ikonc level

After students have gone through hands-on activity and have attained some amount of experience, the teacher directs the thinking of the students using experiential situations to the mental images upon which their discovery is to be based. This approach lets the children organize and present to the teacher or the class what they have learned. Fig 1.1 below shows the communication of children with teachers.



iii) Symbolic level

At this stage, the students are guided to replace mental images of their observations with symbols to increase generality and abstraction which results in the discovery planned by the teacher in advance. For example, children might be asked to draw what they have seen or experienced as a reference to their analysis. It has to be remembered that the teachers are educating primary and preschool children and hence only easy tasks should be assigned to them. Fig. 1.3 below shows a child engaged in drawing his or her experiences.

• **The Inquiry Approach**

A very important approach in the study of environment where children need to handle situations they meet in the real world. To use the inquiry approach, the teacher will need to prepare activities that will allow students to develop the following skills such as i) recognizing problems, ii) asking questions, iii) applying laboratory procedures and iv) providing consistent descriptions, predictions and explanations.

Some strategies for the inquiry approach are

- Engagement in hands-on activities
- Learn some basic analytical skills while at the hands-on activities and applying them to other areas of life.

The enquiry approach can be applied with the 5-E-learning cycle

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The 5-E-learning Cycle

The 5-E-learning cycle is an instructional design model that promotes scientific enquiry. This concept is based on the experiential learning philosophy of John Dewey and the experiential learning cycle proposed by David Kolb. Each 'E' represents part of the process of helping students sequence their learning experiences to establish a connection between prior knowledge and new concepts. The 5'E's are:

- Engage
- Explore
- Explain
- Elaborate
- Evaluate

Fig 2 below describes the model.



We will discuss the 5'Es below:

- Engage

As a teacher assigns simple tasks related to the environment such as observing trees, students make connections between the past and the present learning experience. For example, children were made to observe fruits on a tree and by seeing the fruit they deduced their taste. But, when they were handed over the fruit or were given a sample for testing, they were originally able to know the taste and smell.

- Explore

With guided exploration, students perform a task to get directly involved with key concepts of the environment such as scientific, geographic etc.

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- Explain

Through group discussions and communicating with the teacher, children must develop an understanding of the socio-cultural aspects along with natural phenomena. Children then explain to the teachers what they have learnt or perceived.

- Elaborate

Children elaborate their views on topics in a simplified manner and in their own words and applying newfound knowledge to a different situation.

- Evaluate

As the name goes evaluation is the assessment to determine how much a child has benefited from the lesson or activity. Children can be assessed with the help of a quiz session or any other forms of assessment.

- **Reflective Teaching**

Reflection, as defined by John Dewey, is a proactive, ongoing examination of beliefs and practices, their origin and impact. Reflective teaching approach helps students in

- i) Framing a problem and analyze it critically.
- ii) Bridge the gap between concepts and practices.
- iii) Understand and influence their thinking thereby increasing the level of motivation.

- **Cooperative Teaching**

It is nothing but the collaborative learning approach where small groups are directed to study a topic related to the environment. This helps to maximize each other's learning. In cooperative groups, each child has a valued role in the learning process and everyone is responsible for each other's learning.

In teaching learning, there are four basic components of cooperative learning.

They are:

- a) Positive interdependence

This point focuses on the fact that the success or failure of the group depends on the success or failure of each member. Therefore each member of the group learns to share and work together to attain the shared goal.

- b) Individual accountability

When children in a group become responsible for their own learning and help one another, it is called individual accountability.

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c) Equal participation

Equal participation is when a child participates in his or her individual activities to achieve the goal of the group. This also helps students in working in a group and in a community together with people.

d) Simultaneous interaction

When children express and share their views and suggestions with the teacher and other group members, it is the simultaneous interaction which helps children to study the environment and obtain answers to the questions that they have in mind.

Cooperative teaching-learning approach can be implemented successfully by giving credit to the teams for their collective work. Teachers must assign different activities to every member of the group and change them periodically.

e) Concept mapping

Concept mapping is a simple diagram for exploring knowledge and develop connections among concepts in the unit. These simple diagrams consist of nodes or links typically enclosed in a box or a circle. The links are represented by arrows. The labels in the links explain the relationship between the nodes. The concept map will provide teachers on how a child relates to the identified concepts from a lesson. An example of a simple concept map for teaching environment to primary and pre-primary children are given below.



Fig. 3 – A concept map explaining how trees provide oxygen

Apart from these traditional approaches, the children can be engaged in games such as identifying natural elements such as birds, flowers etc and solving puzzles.

METHODS OF TEACHING-LEARNING EVS

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We have discussed the approaches of teaching-learning EVS. We will now look into some methods which teachers can apply while teaching environment to children.

- **Role-playing**

In this method, the teacher assigns children to play specific roles to dramatize the specific real-life situation. Through this method, children are able to understand the given role in the social context and develop communication skills. This method also helps in establishing a relationship between the self with the world. The more a child engages in social interaction, the higher will be his ability to develop an emotional connection with others in the real world.

- **Environmental games**

Common outdoor and indoor games such as playing, running, solving puzzles and quizzes help children in developing cognitive abilities. Through these games, parents or teachers can educate children about the environment and the impact or effect that it has over all the life forms on the planet.

- **Field Survey**

Field survey is the procedure of assessing children with the help of checklist, questionnaire or direct interview. Small surveys of the locality can also help the teachers to study the attitude of the children and their families along with their views on the surrounding.

Some traditional methods of teaching are:

- 1) **Ecological Foundations Level**

Teachers must communicate and apply the major ecological concepts including those focusing on individuals, society, communities, ecosystems and adaptations. The knowledge of ecological concepts to the analysis of environmental issues must be identified along with ecological principles. Additionally, the teacher should help the children in finding out alternative solutions to environmental problems.

- 2) **Conceptual Awareness Level**

This awareness level is connected to communication and cultural activities, for example, social, religious and cultural. The teaching-learning process focuses on how these factors influence the environment from an ecological perspective. Teachers must also understand and communicate how an individual's behaviours impact the environment. We have already stated examples of this such as the attitude of an individual towards other individuals and animals determines his or her own character. Children must learn to make decisions for which study of the environment is necessary when situations change from time to time and one needs to act according to it.

- 3) **Instructional application level**

Teachers must teach with examples to effectively implement instructional materials designed to assist the development of students. Examples provide an easy way to remember things that one has learnt.

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4) Use of goals

Goals are a framework from which curricula or instructional sequences can be developed. They act as guidelines for desirable educational outcomes. The teacher is responsible for determining exactly what a learner should learn. The setting of goals helps a child to develop a mentality of achieving tasks in a familiar or an unfamiliar environment.

5) Use of presentations

Children love to see presentations. Hence it is necessary for the teacher to present the teachings with materials that a child loves. Presentations should include drawings and illustrations of the components of an environment. The presentation should be assisted with a lecture which should be fairly easy to understand.

Some general methods of teaching-learning EVS for teachers are:

- Use of simple experiences

When introducing children to nature, teachers must start with the most immediate environment so that children feel comfortable and safe. For this reason, it is recommended to take environmental education classes in the open air. In this way, teachers will be able to demonstrate natural elements within the surrounding.

- Keeping children actively involved

Interactions with children must be facilitated with adults, materials and their surroundings. This should allow a child's interest and curiosity to drive activities.

- Provide pleasant, memorable experiences

Children must be provided with pleasant memorable experiences so that they enjoy the entire learning process and develop a love for the subject.

- Emphasize experience of learning versus teaching

Effective learning must be supported with the involvement of sharing and doing versus listening and watching.

- Involve use of senses

Engagement with the world and socio-cultural events at the surrounding helps develop motor and cognitive skills. Therefore, it is important that the teacher assigns simple tasks to children which demand the use of sensory organs.

- Provide multi-dimensional learning experiences

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A variety of activities helps children to learn quickly. More than one channel of information is necessary for a child to evaluate and analyze a topic or a situation. At the same time, different activities help children to get accustomed to various situations and act accordingly.

- Relationship with the world

Teaching-learning environment will be considered successful if children develop trust among themselves. Teachers should promote cooperation, communication to help develop the trust and cooperative learning in the outdoors. Self-concept and independence are necessary for a child and hence a teacher should help him or her to feel comfortable in the natural environment. The teacher must also help children to understand that all parts of the natural world are interconnected and they are a part of it as well.

- Demonstrating personal interest

Children learn more about values and attitudes by observing the adults. Therefore teachers and adults must promote an interest in environmental studies. This will also help the child in developing enthusiasm over environmental learning.

- Maintain a warm and accepting atmosphere

A warm, accepting and nurturing atmosphere is necessary for the children to work with the teachers or parents. Children need to know that they are valued. A good atmosphere also helps in building trust.

- Multicultural experiences and perspectives

The use of art, literature and history and introducing children to a variety of cultures in the environment help children to gather experiences which help them to understand different approaches towards life, from different perspectives.

- Focus on the wonder of nature

Young minds are always soothed by the beauty and wonder of nature. Children are intrigued by natural phenomena and the teacher should motivate them to observe more and answer their questions related to natural phenomena.

PLANNING TEACHING OF EVS

Planning the teaching of Environment is important as an effective planning can reduce the necessary time and effort of achieving a specific goal. When following a plan, one can always see how much she or he has progressed towards the goal and how far is she from her destination. In teaching-learning planning is important to establish a good learning environment for improved learning and progress of learners. With an effective planning, the teacher can also see if she will face a problem at a certain point when teaching the children. In this way, the teacher can pre-plan the solution to the problem if she ever faces it. Some points that the teacher needs to remember before making a plan are as follows:

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- The teacher must know the learners and the prevailing learning environment before planning the teaching of EVS.
- The planning should be made according to students' age of interest.
- The teaching-learning method is as important as the content being learnt; hence the planning of the content, as well as the methods of teaching discussed above, is important.
- Teachers must develop a strong lesson plan to provide challenges to learners as this leads to positive enforcement to learning.
- It is difficult for the teacher or an adult to work with younger children. In many occasions, teachers will find that children are not paying attention or do not want to learn or that they are interested in other activities. These types of situations require careful handling for which planning is utmost important.
- There should be multiple approaches to a problem faced while teaching environment. Teachers must resort to more than one way in approaching a problem.

We know that the curriculum of environmental science is developed with child-centred approach and with the philosophy that each learner constructs knowledge based on her or his experiences. EVS, as we know, is a composite area of study, it is multidisciplinary, dynamic and closely related to the real-life situations and environment of the learner. Hence while planning a lesson some important facts that should be kept in mind are:

- i) The design of the EVS lesson plan should be based on the methods and approaches of teaching-learning which will help bring in real life experiences into the classroom while encouraging critical thinking.
- ii) Teachers should include the learning methods and approaches which are not only participatory but also encourage children to discover, explore and invest their immediate environment, both social and natural.
- iii) The assessment plan of EVS should focus on the abilities of the learners, their social and learning contexts. The objectives of the lesson plan are :
 - Children will be able to identify the characteristics of living and non-living things.
 - Children will be able to differentiate between living and non-living things in the environment.
 - Collect some living and non-living things from their school or home environment.

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- Prepare diagrams of the living and non-living things that they have noticed in the environment.

- iv) The use of daily lesson notes will be highly important while teaching EVS. The habit of note taking will help the teacher in executing the lesson plan efficiently. Lesson plans are also important for noting feedback from the students.

We know that the role of a teacher is not just to teach the environment, but also to facilitate learning. It is important to monitor a child's learning and progress since the teacher will need to determine if the teaching-learning process needs to be modified or not. The progress will also help the teacher to determine if they have grasped the topic or not. The second most important point which we have already discussed before is the participation of the students. Teachers need to make plans to engage and involve children in several activities. The teacher should be flexible when setting up activities for individual children. The reason behind this is the expertise level of each child varies. For example, some students learn better by creating material, and some by keeping notes. The teacher has to know the capabilities of each child.

Resource planning is also important for teaching EVS. The reason is, there are plenty of educational resources available and the teacher has to know which one to provide and to whom. We have discussed earlier that pictures, diagrams and presentations can help a lot in the teaching-learning process. But, there are a number of other resources that can be used and the teacher needs a plan to put them to use. Some of the resources that can be used are mentioned below:

1) Community Resources

Community resources are people in the community who can help in the construction of environmental knowledge. For example, a gardener can directly educate a child with the knowledge of plants. An ironsmith or a carpenter can demonstrate and describe the origin of the materials in nature and how they can forge necessary instruments from them. The teacher with the help of parents needs to plan out how children can interact and learn from people in the community.

2) Institutional resources

Institutes such as public facilities, museums and historic sites along with zoos, dams, universities etc can provide a good amount of social information. The teacher has to make plans by which he can teach the students to learn from these institutions.

3) Locally available materials

In primary or pre-primary level one the use of locally available materials is a necessity. Teachers can plan wisely as to how to use them. There are a lot of materials available around us such as a pen, chair pebbles, old newspapers etc which can assist in the teaching-learning process. Out of these objects, the teacher can make simple models or artworks to teach environment. For example, by arranging pebbles of different sizes she can teach the variety of pebbles found in nature or by organising leaves to teach the diversity of the plant world.

CONCLUSION

It should be remembered that children are the most sensitive human beings in our society and teachers must be patient while teaching children. Also, it takes a lot of time to properly plan the ways of teaching-learning EVS. Teachers should be patient in developing strategy and plans as her students will be young children who will one day grow up to be responsible citizens.