Environmental Education Trainer's Guide for Nature Conservation

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SECTION ONE

Environmental Education

What is Environmental Education?

The most widely used definition and concept of environmental education (EE) was identified at the first inter-government conference on EE in Tbilisi, Georgia in 1977. This concept was stated as follows:

> "**Environmental Education** (EE) is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivation, commitment, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones."

Objective:

To understand the concept of environmental education, its goals and principles.

Skills:
Analysing, interpreting and presenting

Time:
70 minutes

Materials:
Flipcharts, glue/sticky tape, coloured cards

EE IS A PROCESS WHICH FOCUSES ON THE FOLLOWING GOALS:

1. To foster clear awareness of, and concern about, economic, social, political and ecological inter-independence in urban and rural areas.

2. To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment.

3. To create new patterns of behaviour of individuals, groups, and society as a whole towards the environment.

(UNESCO, 1977)

EE FOCUSES ON FIVE CRITERIA WHICH ARE:

- **Knowledge:** EE provides individuals and communities with a basic knowledge and understanding of the environment and the inter-relationship between humans and the environment.

- **Awareness:** EE promotes awareness and a sensibility in individuals and communities about the environment and its problems.

- **Attitude:** EE encourages individuals and communities to value the environment and consider it important and tries to inspire participation in the process of improving and protecting the environment.

- **Skills:** EE provides people with skills to identify, predict, prevent and solve environmental problems.

- **Participation:** EE provides individuals and communities with the chance to actively participate in solving environmental problems and to make educated decisions about the environment.

PRINCIPLES OF ENVIRONMENTAL EDUCATION

TO ACHIEVE THE ABOVE OBJECTIVES, A SYSTEM OF GUIDING PRINCIPLES FOR ENVIRONMENTAL EDUCATORS HAS BEEN SET UP, WHICH ARE:

- EE should consider the environment in its totality – natural, man-made, technological and social (economic, technological, cultural-historical, moral, aesthetic);

- EE should be a continuous and lifelong process, beginning at the pre-school level and continuing through adulthood in all formal and non-formal sectors;

- EE should be interdisciplinary in its approach, drawing on the specific content of each discipline in order to gain a holistic and balanced perspective;

- EE should examine major environmental issues from local, national, regional and international viewpoints so that students appreciate environmental conditions in other geographical areas;

- EE should focus on current and potential environmental situations while taking into account the historical perspective;

- EE should promote the value and necessity of local, national, and international co-operation to prevent and solve environmental problems;

- EE should assist others to explicitly consider environmental concerns when planning for development and growth;

- EE should enable learners to play a role in planning their learning experiences and provide opportunities for making decisions and accepting their consequences.

- EE should enhance environmental sensitivity, knowledge, and problem solving skills and establish values;

- EE should help learners to identify the symptoms and the root causes of environmental problems;

- EE should emphasize the complexity of environmental problems and thus the need to develop the skills to think critically and solve problems;

- EE should use diverse learning environments and a broad array of educational approaches to teach and learn about, and from the environment, with an emphasis on practical activities and first hand experience.

(UNESCO, 1977)

In the past, EE mainly focused on teaching about the environment. It was limited to providing knowledge and raising awareness about the environment for students in a classroom. Since the 1970's, EE has begun to approach its content and target group in a more holistic way. Now EE aims to create a population that not only is knowledgeable but also has positive attitudes and is taking action to conserve the environment.

The following are three common ways to approach environmental education. Combined they provide a holistic approach enabling individuals and groups to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment:

- **Education about the Environment** provides learners with practical knowledge about the environment and the impact humans have on it.

- **Education from the Environment** uses the natural environment as a teaching tool – a natural laboratory to provide knowledge and hone the skills to protect it. This component helps develop values and creates positive attitudes.

- **Education for the Environment** develops a consciousness and deep concern about the living environment and promotes responsibility for taking care of and protecting it. The objective of this component is to develop attitudes and levels of understanding, which influence people to take collective action that will positively benefit the Earth.

See Figure 1.1, which shows how these three ideas mesh to form a holistic approach for EE.

FIGURE 1.1
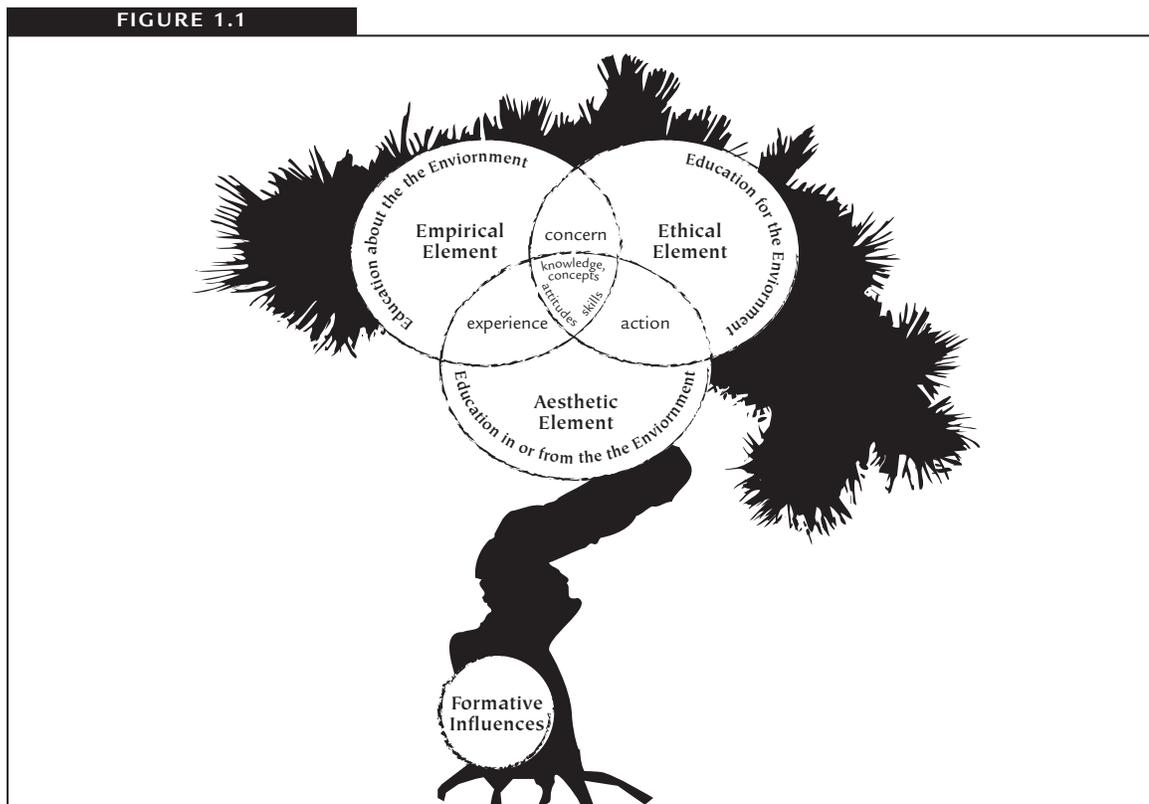
(PALMER, 1998)

Activity

GETTING FAMILIAR WITH ENVIRONMENTAL EDUCATION

PREPARATION
Write the concept of EE, its goals, its five criteria, and its principles on a flipchart.

PROCEDURE

1. Ask trainees what environmental education means to them. Ask the participants to write their thoughts on cards. After they finish, collect the cards and arrange them on a pin board. Classify them by subject and put similar ideas in groups on the board. (In general, people who hear about environmental education for the first time, share the common misconception that EE means supplying information and knowledge to learners that will help them understand the environment and nature.)

2. After this is done, introduce the concept of EE, its goals, criteria and principles and the three common ways to approach EE (written on a flipchart) to the trainees and compare it with what they have written. You should emphasize that EE is a process, which not only enhances knowledge but also affects understanding, attitudes and behaviour towards conservation.

3. After introducing EE, ask participants whether or not they understand the material covered in the lesson. If not, find out why, and answer any questions the participants may have.

(15 minutes)

Communications, Propaganda, and Education

What is the difference between communications, propaganda, and education? All three have common features such as providing information to people and influencing attitudes. But they are also different in many ways.
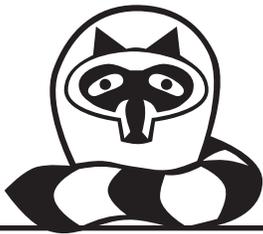
Objective:

To understand how EE differs from propaganda and communications.

Skills:
Comparing, comprehending, analysing, interpreting, presenting, and working in groups

Time:
60 minutes

Materials:
Overhead projector, transparencies, flipchart, scissors, glue, large paper

FIGURE 2.1

1 WAY

> Newspapers
> Radio
> Television
> Delivery of posters
> Lectures

MESSAGE SENDER

MESSAGE RECEIVER

<u>Propaganda</u>: A one-way transfer of information to an audience in order to affect attitude and provoke the adoption of a certain behaviour.

FIGURE 2.2

Message sending

2 WAYS

Feedbacks

› Interviews
› Village meetings
› Delivery of posters with discussion
› Dialogue
› Slide Shows with discussion

SENDERS

RECEIVERS
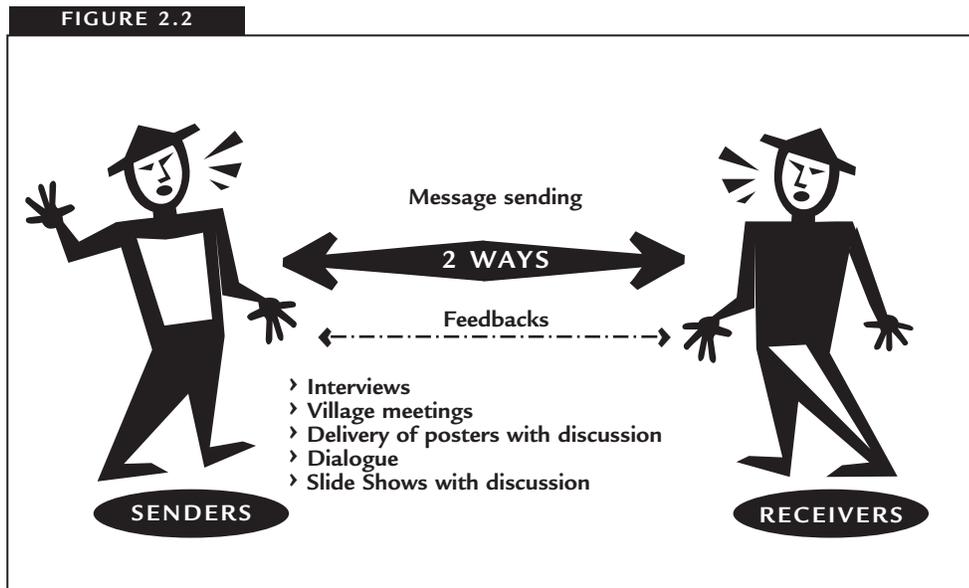
Communications: A two-way transfer of information in which one party sends the information in an effort to promote a change in behaviour and the receiving party provides some sort of feedback as a result. This feedback may be in the form of dialogue or action.

FIGURE 2.3

A pedagogical process which:

› Enhances knowledge and understanding
› Provides and teaches skills
› Influences attitudes
› Involves participation
› Promotes action and behaviours
› Teaches problem solving, analysing, and decision-making
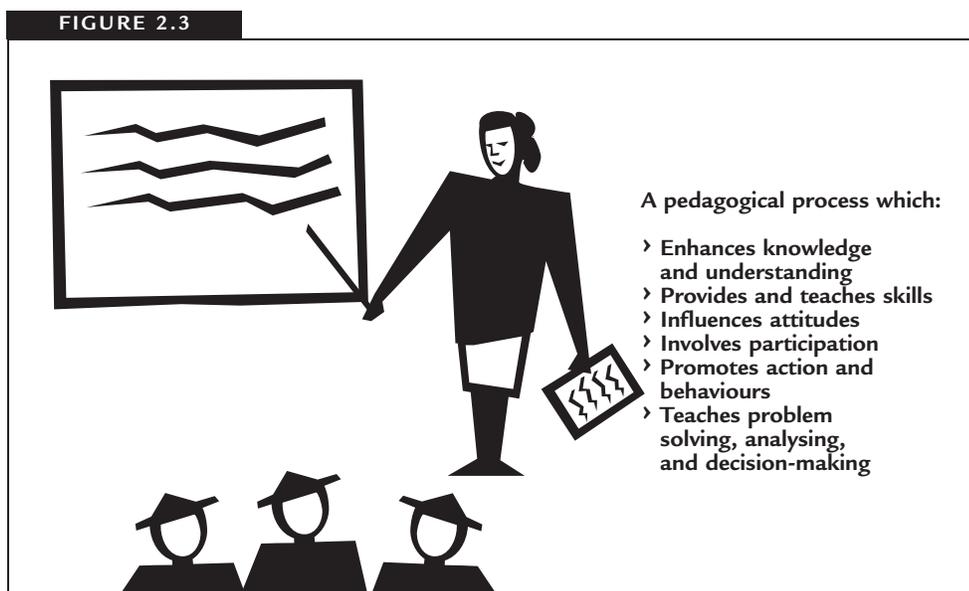
Education: A two-way process of learning in which a teacher facilitates and enables students to acquire knowledge, understanding, attitudes, and skills to achieve certain lifelong goals.

Activity

WHAT'S THE DIFFERENCE?

PREPARATION
Photocopy the activity cards and cut out for groups. Make overheads of Figures 1.2, and 1.3. Get glue and large paper for the groups to stick the cards on. Make a table on flipchart paper to record the answers.

PROCEDURE
1. Present on an overhead the figures that show the differences between propaganda, communications, and EE.

**2.** Divide the trainees into groups of up to five participants. Give each group one set of activity cards. An example set of activities is attached. You can use this one or replace it with more relevant activities for your training group or project area.

3. Ask all groups to read their cards and divide the activities into one of three categories (EE, propaganda and communications). Then have the groups write the three categories as headings at the top of a large paper and glue the cards under the appropriate column. Some activities may be classified in more than one category depending on how they are carried out.

	Group Education (Card number)	Communications (Card number)	Propaganda (Card number)
Group 1			
Group 2			
Group 3			

4. After finishing the group discussion, sum up the groups' results in a table like the following:

5. Ask the different groups about the differences between their answers to encourage discussion. Focus on activities that the groups disagree on. You might start the discussion by asking why a group classified a specific activity under a different heading from other groups?

6. A more detailed discussion can be developed by asking some of the following questions:
   a) How does this activity contribute to forest or wildlife protection?
   b) Does this activity help participants/ citizens to take action to conserve and protect forests and wildlife? (If the answer is "yes", can the participants describe the learning process that is taking place during this activity?)
   c) If the activity is propaganda or communications, what should be added or emphasized so that this activity becomes an EE activity?
   d) Is one way better than another?
   e) In what situations are the various approaches appropriate?

WHAT'S THE DIFFERENCE?
ACTIVITY CARDS
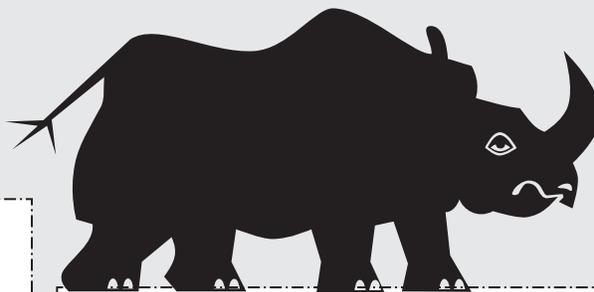
1. Organise a contest for children in primary and secondary schools entitled "What do you know about nature and the environment around you?" Ask the students, who are divided in to teams, questions about nature. At the end of the contest, the winning teams receive awards.

2. Organise a drawing contest entitled "I love the forest". Collect the pictures in two weeks.

3. On the occasion of "Environment Day" take children to visit and camp in the forest. Have a park ranger guide the students on a nature trail.

4. Produce and deliver trainees notebooks with a slogan on the cover "Let's protect the Ha Tinh Langur (*Trachypithecus laotum hatinhensis*)" with some information about the Ha Tinh langur. Students who get good grades in class and poor students who improve will be awarded these notebooks.

5. Create "conservation gardens" in school grounds. A conservation educator defines the location of the "conservation garden" on the school campus. Fences are made and gardening tools are bought for the school.

6. Hold a community meeting about rhinoceros protection. Have a conservation educator explain about the state law and the rules of the national park to protect rhinoceros.

7. Organize a play about environmental protection in local communities. Two thousand people may watch this play in one night.

8. Deliver a poster "We protect the endangered Rhinoceros" to schools.

9. Organize "Environment Clean Up Day" with activities such as: lectures on the meaning of "Environment Clean Up Day" announced on the village broadcast system, and organising groups to clean the village's roads and paths.

10. Organise "Tree Planting Day". Seedlings are delivered to schools and participants plant trees at one location in the village.

11. Organise a training course for local people on fuel efficient stoves, which need only half the firewood of a normal oven.

Formal and Non-Formal Environmental Education

Formal Environmental Education: Relates to schools, colleges, and higher education both compulsory and non-compulsory. Characterized by formalized programmes of study, which are designed for the mass of those educated.

Non-Formal Environmental Education: Relates to extra-curricular and group activities held at environmental education or field study centers, with groups of youth, women or farmers.

MODELS FOR TEACHING EE

a) **Model of teaching EE as a separate subject**:
This model is applied to develop an EE subject that is separate, and distinct but exists alongside other subjects in the school's official curriculum.

b) **Model of teaching EE as a part of other subjects**:
In reality, some core subjects in the official curriculum at the secondary school level, such as biology, geography and chemistry already contain or have the potential to integrate environmental education lessons into them. Therefore, there may be no need to develop a new EE subject but instead EE materials and lessons can be incorporated into the existing curriculum of two or three core subjects.

Objective:

For trainees to know the difference between formal and non-formal education and to become familiar with Green Clubs and Nature for Life Clubs.

Skills:
Analysing, applying, presenting, and working in groups

Time:
70 minutes

Materials:
Flipcharts, white-board markers

c) <u>**Model of an Interdisciplinary Approach**</u>:

EE is a subject with content, a process and an approach that can contribute to all other subjects in some way. Taking an interdisciplinary approach means teaching EE as a part of several subjects. The EE content is shared among a set of chosen core subjects. When teaching EE as a part of several subjects, there is a greater chance to use the pedagogical process to develop higher levels of thinking and action. Furthermore, when EE is a part of each subject it will make the subject more diverse and interesting.

NON-FORMAL EDUCATION

a) <u>**Model of an Extra-curricular Activity**</u>:

When there is no specific national strategy for integrating EE into formal education structures, EE can be introduced into schools in extracurricular activities such as conservation clubs. When the programme is for adults who are not in the formal education system or the school does not have the capacity or desire to integrate EE into its curriculum, non-school affiliated groups or clubs may be an appropriate venue. For example, EE can be integrated into the activities of the Women's Union, or the Nature For Life Club for adult farmers in buffer zones of protected areas.

Note: All models are equally valuable but should be selected based on the context of the situation and the benefits of implementing a program following that particular model.

GREEN CLUBS

A Green Club is a volunteer group of school students, open to any student who wants to participate. Green Clubs aim at encouraging students to study and discover the environment and nature, and participate in activities to protect nature in their local area. Green Club activities create a chance for students to learn about the environment. These are extracurricular activities, which contribute to a comprehensive education programme and help students to consolidate their knowledge and skills in a pleasant and fun situation after class time. (See Chapter 4, Section 5 for setting up a Green Club.)

NATURE FOR LIFE CLUB

A Nature for Life Club is an example of a non-formal environmental education programme. This club is for adult learners living inside protected areas and their buffer-zones. As members of the club, community groups will receive training on environmental issues and in specific techniques such as agro-forestry. The individuals in the group will also be supplied with material to train and raise awareness, such as field guides for skill development. The members will be given the opportunity to participate in the conservation process. They will be equipped with the knowledge, attitudes, and skills needed to effectively analyse local environmental situations and make informed decisions as active conservationists. To form and run a Nature for Life Club, an environmental educator should take into account the following suggestions:

- All activities should be based on the practical needs of the community, proposed by the community.

- The benefits of the proposed conservation activities, to which the community should agree, must be clearly stated.

- All activities should be designed with the aim of developing solutions for practical problems of the community. By participating in these activities, each community member can gain knowledge and skills to change their attitude and behaviour toward the environment.

- EE for the community should focus on carrying out specific activities that enable the community to protect nature and the environment at present and in the future.

- All activities should enable community members to participate in and to make effective decisions in order to solve existing environmental problems and prevent new ones.

- EE for the community reaches a diverse audience and there may be many target groups in one community. It is, therefore, important to use a diverse range of teaching methods and media.
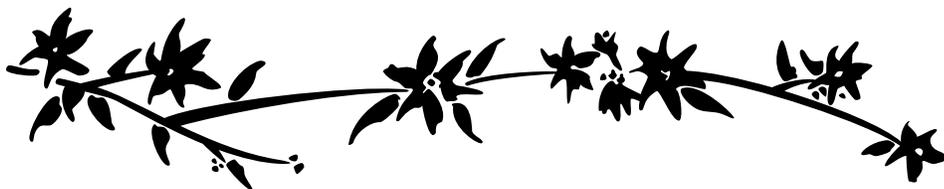
Activity

FORMAL AND NON-FORMAL EDUCATION

PREPARATION

Make overheads and handouts of the **Models for Teaching EE**. Write questions on an overhead for discussion.

PROCEDURE

1. Divide trainees into two groups. Distribute copies of **Models for Teaching EE** to trainees. Give trainees ten minutes to read these copies.

2. Ask the trainees to discuss the following questions in their respective group.

> <u>Group 1</u>: What might be some of the difficulties encountered when introducing EE into schools? What are the advantages and disadvantages? How might the integration of EE into school curricula result in conservation?

> <u>Group 2</u>: What might be some of the difficulties encountered when integrating EE into non-formal education and linking it with the activities of Women's Unions and Farmers' Unions? What are the advantages and disadvantages? How might the integration of EE in the non-formal setting result in conservation?

3. Have both groups identify which model of EE is most suitable in the buffer zone of the protected area where they work and explain the reasons for this choice. Have them identify the potential difficulties they may encounter when implementing that model.

4. Have a representative from each group present the results of their discussion.

SECTION TWO

Education Theory:
Teaching and Learning

CHAPTER ONE

The Brain Structure and the Learning Process

The human brain can be divided into three main parts that are thought to have developed during the evolutionary growth of the human being from stone age to modern times. These parts are found in three layers with the most primitive located at the back and on the bottom of the skull and the most advanced on top and at the front. These parts are commonly referred to as the "reptilian" or primitive brain, the "old mammalian" or intermediate-brain, which comprises the structures of the limbic system, and lastly the "new mammalian" or superior brain, which is made up of the neo-cortex.

THE "REPTILIAN" BRAIN

This part of the brain is the most primitive and is responsible for self-preservation and instinctual behaviour, which enables survival. In more detail, the reptilian brain is responsible for:

- **Survival**: fight or flight responses; lashing-out; screams.
- **Monitoring motor functions**: breathing, balance and instinctual responses.
- **Territoriality**: defensiveness about possessions; friendship; personal space.
- **Mating rituals**: attention seeking; showing off.
- **Hierarchies**: the need to be a leader or to associate with the group leader.
- **Rote behaviours**: behaviours which are repetitive, predictable, and rarely constructive.

(SMITH, 1996)

When a human being experiences negative stress, the heart rate increases, the blood pressure rises and an increased supply of blood is made available to the reptilian brain and less flows to the more rational parts of the brain. Chemicals such as adrenaline and cortisone are also injected into the bloodstream, which makes the body respond quickly. This closing down of the more rational elements of the brain results in the displacement of the capacity for patterning, problem solving, creativity, flexibility, and peripheral awareness. Rational thought is displaced by survival, ritualistic and rote behaviours. During this period, individuals are unable to receive new information. A teacher should always remember that if students in the classroom are under stress or are anxious, this process is taking place, and they are unable to learn.

The teacher should be able to identify the source of a child's stress so that it can be reduced and the student's learning potential increased. Some causes of student stress are:

- Disputes with parents, friends or a teacher
- Victimization, bullying, low self-esteem, lack of positive self image
- Inability to connect learning with personal goals and values
- Belief that the work is too difficult, inability to start tasks
- Inability to understand the connections between current, past or possible future learning
- Physical or intellectual difficulty in accessing available material
- Poor sight or hearing in the learning environment
- Poor self-management and study skills

(SMITH, 1996)

To help students overcome their stress, the teacher may incorporate relaxation techniques into the classroom. The layout of the room should also be comfortable and warm. Teachers should also learn to defuse conflicts among students in the classroom and promote working as a team. The teacher may also be able to earn the students' trust and talk with them if they have some problems outside the classroom. Furthermore, the teacher may help to build a student's self-esteem by showing them that they care, and helping them through difficult times.

THE LIMBIC SYSTEM

The second layer of the brain known as the limbic system controls the emotions and is where the long-term memory is found. The limbic system is also responsible for maintaining the immune system, and determining sleeping cycles, eating patterns and sexuality.

The reticular system is part of the limbic system, which routes information to where it is needed. The reticular system filters in useful and valuable information and filters out useless information. This part of the brain, which validates new knowledge, is situated in the area of the brain associated with the long-term memory and emotions. For the brain to validate learning, there must be a connection with an emotion. The learning must also be associated with a purpose, which the learner has recognized.

The limbic system is pre-eminent in processing and managing information. This is important in understanding how the memory works and particularly in how the brain stores new knowledge in the long-term memory.

Understanding the limbic system clarifies three key points, which are essential to teachers:

1. Emotions and emotional associations are more important to the brain than cognitive understanding.

2. The limbic system governs our concepts of value and truth. In other words, although we reason that information is true, it is only when it is linked with feelings via the limbic system that we value it. It is also the part of the brain that governs goal setting. Goals that have a powerful personal link connect with the emotions and activate the reticular system to store valuable and relevant data based on these goals and filter out useless data.

3. Information with a powerful attachment to emotions or feelings will reside in the long-term memory. An experience that has a strong emotional association will be easier to store in our memory. It is, therefore, important to educate students by influencing their emotions and attitudes. Emotional associations should be incorporated in the design of the learning experience.

THE NEO-CORTEX

The cerebrum or neo-cortex is the "thinking cap", responsible for thought, voluntary movement, language, reasoning, and perception. It is divided into four lobes (frontal lobe, temporal lobe, parietal lobe, occipital lobe) and separated into halves - the left and the right hemisphere. The corpus callosum by which the two hemispheres are joined acts like a central telephone exchange relaying messages between them.

The neo-cortex is to solve problems, and to discern relations and patterns of meaning. The right hemisphere is better at appreciating things in depth, such as recognizing faces and patterns. The left hemisphere is used in serial processing - identifying units of information in sequence - while the right hemisphere is used more in parallel processing - synthesizing several units of information simultaneously. Each hemisphere analyzes its own input first, subsequently exchanging information across the brain via the corpus callosum. Two streams of data are thus integrated to give a balanced and fuller perspective. To be an efficient learner, one must use both hemispheres. The types of learning which favour the right or the left brain are not balanced. A teacher, therefore, should design a lesson so students are using the whole brain.

RELATIVE CAPACITIES OF THE BRAIN

THE LEFT BRAIN:
- Language
- Logic
- Mathematical formulae
- Number/Sequences
- Linearity/Analysis
- Words of a song
- Aggregation
- Phonetic reading
- Unrelated factual information

THE RIGHT BRAIN:
- Forms and patterns
- Spatial manipulation
- Rhythm
- Musical appreciation
- Images and pictures
- Dimension
- Imagination
- Musical tune
- Disaggregation
- Day dreaming and visioning
- Whole language reader
- Relationship in learning

(SMITH, 1996)

Looking at the design and operation of the brain helps us understand that each main part of the brain performs a different function in the learning process. Understanding this process helps teachers to adjust their teaching style to improve the learning experience. Understanding this also helps to create an active learning environment that is fun, challenging and relaxing.

FIGURE 1.1

REGIONS OF THE BRAIN

Intermediate Brain: (paleopallium) Limbic System

Emotions

Rational Brain: (neopallium) Neo-cortex

Intellectual tasks

Primitive Brain: (arhipallium) Reptilian Brain

Self preservation, aggression

FIGURE 1.2

NEO-CORTEX

Helps control reasoning, planning, emotions, speech, movement

Frontal Lobe

Parietal Lobe

Interprets sensory signals and integrates information

Occipital Lobe

Temporal Lobe

Processes sound, controls aspects of learning, memory, language, emotions

Processes visual signals

Activity

HOW DOES THE BRAIN WORK?

PREPARATION

Figures of the brain showing the reptilian brain, the limbic system and cerebrum as well as the areas of the cerebrum; flipchart; A Pain in the Brain Activity cards photocopied and cut (9 statements).

PROCEDURE

1. Before giving a presentation, ask trainees to answer the following question: When learning, which part of the human body is used most and for what purposes?

2. After a brief discussion, present Figure 1.1 of the human brain with the three evolutionary parts on a transparency or flipchart and explain the different functions

3. After presenting the figure, ask the trainees the following questions and write their answers on cards and pin them on a board.

> What causes a learner to be stressed?
> What should a teacher do to relieve stress in a classroom?
> Which is more important for memory: emotional associations or cognitive learning?

4. Present **Figure 1.2** of the cortex to the students. After presenting the information about the neo-cortex, have students think about which part of the brain they favour.

5. To review the entire lesson, break students into groups. Give each group a packet of **A Pain in the Brain** activity cards. Have the groups review the cards and decide which statements are true and which are false. After the discussion, the groups should pin their cards on a flipchart in two columns labeled "true" and "false" and explain their answers in a presentation.
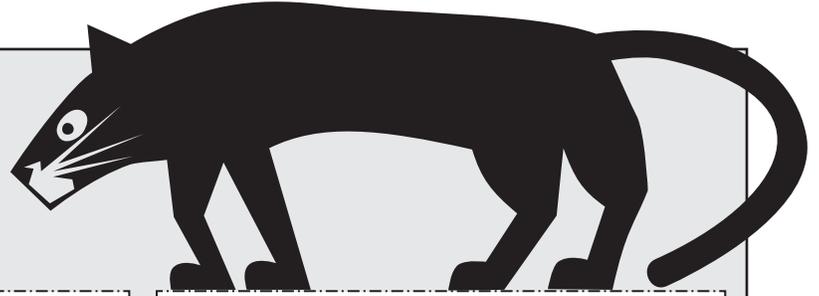
**A PAIN IN THE BRAIN
ACTIVITY CARDS**

1. The brain is designed to help people learn in a formal learning environment. (i.e. In school)

2. The human brain processes data in parts. It is difficult for the brain to insert and process a lot of data at once and at many different levels of consciousness.

3. Under negative stress or emotional threat, the limbic brain dominates. Higher order thinking skills are displaced by rote behaviours in order to survive. An individual loses peripheral vision, focuses on the source of anxiety and resorts to behaviour learned in childhood.

4. Under pressure of negative stress, the learner will resort to rote behaviours and fight or flight responses. They are resistant to innovation or new information. A student in the classroom who is under stress will not learn anything.

5. Emotions and emotional associations are more important to the brain than cognitive understanding.

6. The reptilian brain governs our concept of value and truth. Although we may reason that information is true, it is only when it is linked with feelings that we assign it value. Goals that have a powerful personal link connect with emotions and activate the reptilian brain to retain valuable data and filter out useless data.

7. Information with a powerful attachment to emotions or feelings will reside in the long-term memory. An experience, which has strong emotional associations will be easier to remember. Emotional associations can be generated in the design of the learning experience.

8. The limbic brain is the "thinking cap". It is the part of brain used to solve problems. The limbic brain generates meaning from sensory data, which it is presented with.

9. Individuals tend to favour one type of processing - via the left or right hemisphere of the brain. The way of teaching should demonstrate the student's preference for left or right thought.

ANSWERS: Sentences 2, 4, 5, 7 are <u>TRUE</u> and sentences numbered 1, 3, 6, 8, 9 are <u>FALSE</u>.

Learning Types and Intelligence Preference

Every human being has a learning style and every human being has strengths. Learning styles are identified as being 'that consistent pattern of behaviour and performance by which an individual approaches educational experiences'. As such, it is best looked at as a composite of influencing factors, only some of which a teacher can control. A learner has a characteristic way of perceiving, interacting and responding to the learning environment and this will have been shaped by cognitive and effective factors, the structure of neural organization and the experiences from home, school and culture.

Understanding different learning types can help teachers understand what factors contribute to different preferences of students, and then, they can become more attuned to the needs of their students. This knowledge helps teachers develop techniques to improve or change the learning models. When teachers do this, they are able to provide lifelong learning.

Objective:

To understand in detail the difference between the various learning types and the seven intelligence categories in order to create a balanced, whole brain, multi-sensory learning environment.

Skills:
Listening and evaluating

Time:
50 minutes

Materials:
Overhead projector, transparencies (if needed), flipchart, and white-board markers

THE THREE LEARNING TYPES

29% of learners prefer learning by visualization.	They can "see" their individual learning objectives clearly via either static or dynamic images. They will readily 'see' themselves operating in different contexts. They will often see images associated with words or feelings. They will affirm their understanding of new information only when they see it happen or see it written or described visually. When spelling, they may 'see' the word as they are about to write it down. A teacher of visual preference often says, "Let's imagine…"
34% of learners prefer learning by hearing.	They can easily understand things by an 'internal dialogue' and prefer expressing themselves with language. In anticipation of a new situation, there may be mental rehearsal of what will happen. These people can usually create a lively and amusing learning environment by speaking. A person with auditory preference often hears the word spelled out before writing it. Teachers of this type often say, "Did you ask yourself…?"
37% of learners prefer learning by kinesis.	They often attach their learning to their emotions or tactile sensations. When spelling a word, such a person may 'feel' himself or herself writing it letter by letter beforehand or it may simply feel right. An anticipated experience will come with strong emotional associations. They will experience the physical situation with all the related emotions that it brings. A teacher of kinesthetic preference may ask, "How do you feel about…?"

(SMITH, 1996)

The following model introduces the Multiple Intelligence Theory developed by Howard Gardner, which describes the difference between an individual's direction in learning and his or her aptitude or tendency to perform well in certain areas. Effective teaching will provide learning opportunities to develop all seven intelligence areas.

FIGURE 2.1	
Linguistic	A facility with language, patterning and systems.
Mathematical and logical	Likes precision and enjoys abstract and structured thinking.
Visual and Spatial	Thinks in pictures and mental images, good with maps, charts and diagrams, uses movement to assist learning.
Musical	Sensitive to mood and emotion, enjoys rhythm.
Interpersonal	Relates well to others, mediator, good communicator.
Intrapersonal	Self-motivated, high degree of self-knowledge, strong sense of values.
Kinesthetic	Good timing, skilled at handicrafts, likes to act and touch, good control of objects.

(SMITH, 1996)

Activity

MEET YOUR BRAIN

PREPARATION
Make photocopies of Multiple Intelligence Model Survey, Answer Key and Intelligence Wheel.

PROCEDURE
1. Present the three learning types on an overhead to the class. Then ask the trainees whether they prefer learning by visualization, hearing or kinesis. Have the trainees think about this and provide answers by giving examples of how they learn something by each style.
(15 minutes)

2. Present the Multiple Intelligence Survey, on page 27, to the trainees and have them follow the instructions. Explain that this exercise will help them to understand how different learners think and have different abilities and why lessons should be developed to cater to different learning styles. Discuss the results.

The Multiple Intelligence Survey below helps learners to understand partly the balance of abilities and skills in themselves. This is very important for both learners and teacher to develop ability and assign responsibility in a given task.

MULTIPLE INTELLIGENCES SURVEY

Instruction: Please complete the following survey by assigning a numerical value to each of the statements which you think represents you. If you agree that the statement represents you very strongly, assign it a five. If the statement does not represent you, assign it a zero. Use the numbers five to zero to grade each statement. Then, by taking the numerical score from the statement from the survey, plot it on the Multiple Intelligence Wheel to find out your intelligence preference.

1. I am skillful in working with objects. .... ____
2. I have a good sense of direction. .... ____
3. I have a natural ability to sort out arguments between friends. .... ____
4. I can easily remember the words to music. .... ____
5. I am able to explain and clarify difficult topics. .... ____
6. I always do things one step at a time. .... ____
7. I know myself well and understand why I behave as I do. .... ____
8. I enjoy community activities and social events. .... ____
9. I learn best from talks, lectures and listening to others. .... ____
10. When listening to music, I experience changes in mood. .... ____
11. I enjoy puzzles, crosswords and logical problems. .... ____
12. I need the aid of charts, diagrams, and visual displays to learn. .... ____
13. I am sensitive to the moods and feelings of those around me. .... ____
14 I learn best when I have to get up and do it myself. .... ____
15. I need to know how I will benefit from something before I want to learn it. .... ____
16. I like privacy and quiet to work and think. .... ____
17. I can pick out individual instruments in complex musical pieces. .... ____
18. I can visualize remembered and constructed scenes easily. .... ____
19. I have a well developed vocabulary with which I can express myself. .... ____
20. I enjoy and value taking written notes. .... ____
21. I have a good sense of balance and enjoy physical movement. .... ____
22. I can discern patterns and relationships between experiences or things. .... ____
23. In teams, I co-operate and build on the ideas of others. .... ____
24. I am observant and will often see things others miss. .... ____
25. I get restless easily. .... ____
26. I enjoy working or learning independently of others. .... ____
27. I enjoy making music. .... ____
28. I have a facility with numbers and mathematical problems. .... ____

MULTIPLE INTELLIGENCE ANSWER KEY TO STATEMENTS

The number that is found under the heading "Statements" represents the number of the statement which represents that intelligence.

| Intelligence	Statements				Total score
Linguistic	5	9	19	20	_____
Mathematical and logical	6	11	22	28	_____
Visual and Spatial	2	12	18	24	_____
Musical	4	10	17	27	_____
Interpersonal	3	8	13	23	_____
Intrapersonal	7	15	16	26	_____
Kinesthetic	1	14	21	25	_____

MULTIPLE INTELLIGENCE WHEEL

Have the trainees take their numerical score from each intelligence category from the questionnaire and plot it on the wheel. After the number, is plotted have them shade each segment to give a visual representation of their intelligence preference.
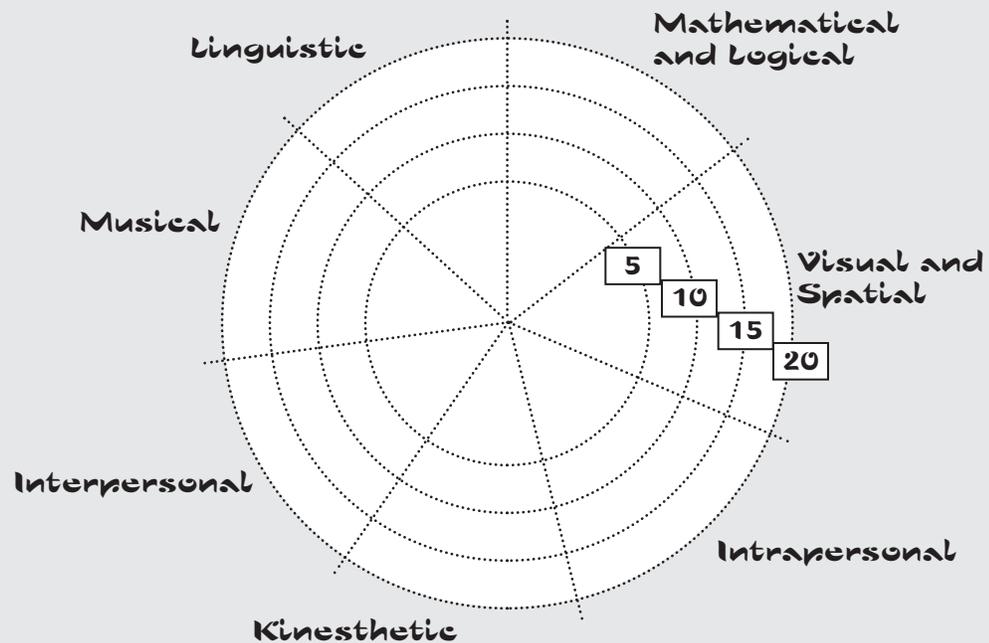
The Learning Cycle and Factors That Influence Learning

LEARNING CYCLE

Learning is a cyclic process. **According** to David Kolb, a researcher in cognitive psychology, the learning process is a four-stage cycle. The four stages include having a concrete experience, observing and reflecting, forming abstract concepts and testing implications of these concepts in new situations. According to this model, the best way to learn is to experience all these stages in order. However, learners may prefer one stage to others. A person who prefers concrete experience is often a person of action. Someone who prefers the second stage is a person who likes to appraise.

Objective:

To understand the cycle of learning and factors which influence a students learning in order to create an effective learning environment.

**Skills:**
Listening and evaluating

Time:
30 minutes

Materials:
Overhead projector, transparencies, and coloured cards
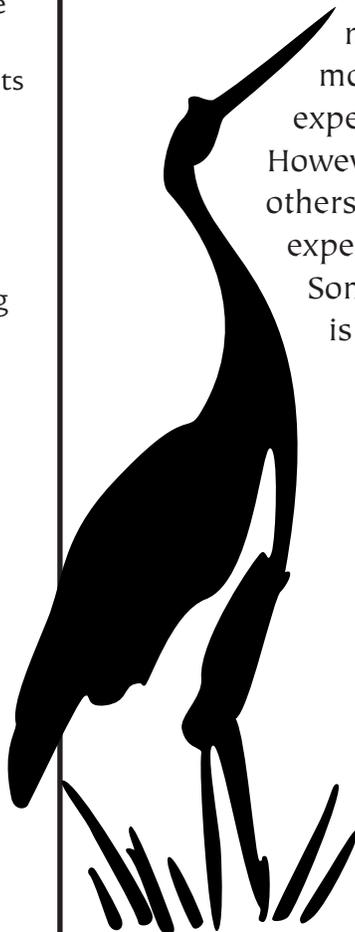
A practical example of a person going through all four stages is exemplified in the following story: A forest guard is on a field trip, to another forest reserve. While on this field trip, he is taken to a site that is being reforested with indigenous tree species. He likes the idea of reforesting after he sees the benefit it is creating for the ecosystem and the community. He goes home and reflects about what he just saw. He thinks about the forest reserve he works for and the erosion and fragmentation problem. He thinks of a new way to apply the reforestation techniques he learned. He decides to test this method on hillsides at his nature reserve to prevent erosion and to decrease fragmentation. He learns much from this practical implementation of his abstract idea.

FACTORS THAT INFLUENCE LEARNING

Every human being and every student has a learning style, which is affected by different factors. These factors are environmental, emotional, sociological, physical, and psychological. The figure below describes the components of each factor. It is important for teachers to understand these factors to make the learning environment as comfortable as possible.

FIGURE 3.1

| Environmental	Emotional	Sociological	Physical	Psychological
Sound	Motivation	Self	Mobility	Capacity to analyse and synthesize
Light	Responsibility	Peers	Perception / Capacity to receive information	
Temperature	Persistence	Team		Degree of dominance of left –vs- right brain use
Room design and layout		Parents/ adults	Patience/ attention span	
		Community and its culture		Impulsiveness and reflection
		The development tendencies of society	Factors of body growth/ nutrition	

(SMITH, 1996)

Activity

### LET'S GET COMFORTABLE

PREPARATION

Photocopy the **Factors That Influence Learning**

PROCEDURE

1. Show trainees the figure **Factors That Influence Learning.**
2. Present the learning cycle to the class with an example to illustrate the process.
3. Break trainees into three groups and ask them: What elements contribute to an individual's learning style?
4. List their answers on cards and pin them on a board.
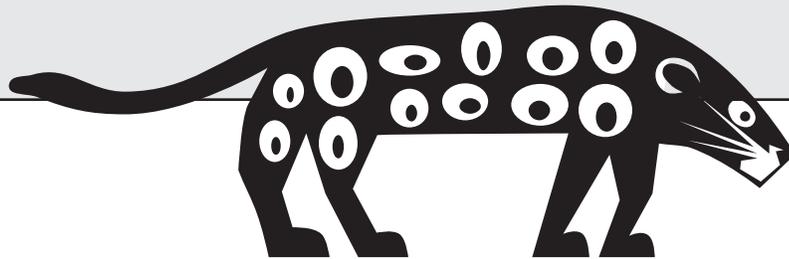
The Difference Between Learning Styles of Adults and Children
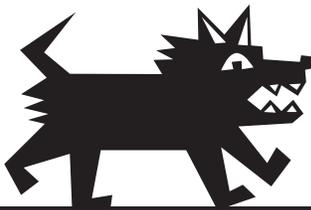
Objective:

To understand how adults and children learn differently and to be able to plan a learning programme suitable for the students' age group.

Skills:
Brainstorming, analysing, applying information, and working in groups

Time:
80 minutes

Materials:
Overhead projector, transparencies, flipchart, markers

C hildren are considered to be the future. Children will grow and develop their attitudes toward the world, which will affect their future decisions. Adults, on the other hand, focus mainly on the current issues. As they are more experienced and aware of the world, the style by which adults' learn focuses on receiving information that relates to their needs. Some key differences in learning based on age need to be taken into account in order to develop a suitable learning programme for your target group. See the following figure: **Some Differences Between Learning Styles of Adults and Children** to better understand some of these differences.

SOME DIFFERENCES BETWEEN LEARNING STYLES OF ADULTS AND CHILDREN

FIGURE 4.1	
Adults	Children
› Willing to learn what they can apply immediately after learning.	› Being taught what they will probably apply in their whole life.
› Certain about what they want to learn.	› Limited experience.
› Have a lot of experience and information that affects how they learn.	› More instructions are needed when learning.
› Learning styles and abilities are very different.	› Having different learning styles at the same growth period.

(NAAEE, 1994)

COGNITIVE AND SOCIAL SKILLS FOR DIFFERENT AGES

Look at the table below to get a clearer understanding of how people learn at different ages and the skills that are developed at those ages.

FIGURE 4.2			
Age Group	Cognitive Skills	Social Skills	Educational Features and Techniques
Infancy	› Organised patterns of behaviour and thought › Primarily sensory and motor activities › Learns names of things very quickly › Asks questions: Who, what and where?	› None	› Shape and colour › Basic words › Hands-on activities › Basic identification
2-6 Years	› Explores and masters symbols (words/language) › Focuses on one idea at a time › Accepts the world as it is › Doesn't understand causality › Asks questions: When and why? What does it remind me of?	› Individual-based › Can't differentiate between self and others › Can't understand perspectives of others › Forms friendships › Judgment based on physical observation › Realizes different perspectives exist	› Guided discovery, involvement, inquiry, discussion › Identification of objects › Factual information › Learning by repetition of others › Learning distinctions (e.g., alike vs. different) › Learning by analogy (e.g., role-playing and vivid images to stimulate imagination) › Activities to expand youthful energy and lack of inhibitions › Awareness and appreciation activities › Basic ecological principles and patterns of nature › Basic management and conservation information › Sensational information (e.g., "biggest" or "best") › Explanation by demonstration, personification, dramatization (e.g., living history, puppetry, costumed acting, etc.) › Some focus on different perspectives

COGNITIVE AND SOCIAL SKILLS FOR DIFFERENT AGES, CONTINUED

Age Group	Cognitive Skills	Social Skills	Educational Features and Techniques
7-11 Years	› Involved with present moment › Thinks best about concrete or direct experiences › Has trouble imagining something not experienced › Learns by multi-sensory direct explorations › Begins to categorize things › Grasps cause and effect › Begins inductive reasoning	› Influenced by peer groups › Can see and assess own behaviour › Begins to understand other's perspective › Better understanding of relationships › Becomes aware of many different ideas and points of view in the world	› Guided inquiry, discussion, imagery › Literal interpretations › Focus on different and broader perspectives › Sensational information (e.g., "biggest" or "best") › Sensitivity to meet societal norms › Awareness and appreciation activities › Intermediate ecological principles and patterns › Intermediate management and conservation information › Introduce cultural aspects of environmental issues › Introduce consequences of environmental problems
Adolescent	› Can use logic effectively › Can think abstractly › Can imagine past, present, and future › Solves problems systematically › Uses inductive and deductive reasoning › Forms hypotheses › Responds to more sophisticated and challenging materials	› Can move to a neutral third-person perspective › Can conceptualize a broader social system	› Guided discovery, inquiry, discussion › Sensitivity to and acknowledgment of adolescent feelings › Structured socializing and adult treatment › Meaningful and highly relevant materials › Cooperative group activities › Preparation for adolescent authority-testing behaviour › Sensational information (e.g., "biggest" or "best" › Awareness and appreciation activities › Advanced ecological principles and patterns › Advanced management and conservation information › Explore cultural aspects of environmental problems › Problems to challenge new abstract thinking abilities
Adult	› Same as adolescents	› Broad societal perspective › Understands that each person has a unique perspective and system of understanding	› Same as adolescents

(JACOBSON, 1999)

Table 4.3 below provides different suggestions, their use, outcomes, and limitations for different methods, which can be used to provide an effective adult learning environment.

TEACHING TECHNIQUES FOR ADULTS

FIGURE 4.3

Format	Description	Use	Outcomes	Limitations
Lecture	› Delivery of information from speaker to group	› Presents new knowledge to a group	› Knowledge gains › Efficient transfer of specific information	› Does not reach action-oriented learners › Does not provide multi-sensory input › No audience participation › No feedback from audience
Lecture\Discussion	› Delivery of information from leader involving group interaction	› Validating presented information with individual experiences of group members	› Knowledge gains	› Does not reach action-oriented learners › Does not provide multi-sensory input
Guided Discussion	› Group interaction directed toward goal determined by leader	› Completes task of problem solving and decision-making, with some group involvement	› Knowledge gains Attitudes identified	› Does not reach action-oriented learners › Does not provide multi-sensory input
Small Group Discussion	› Group interaction with varying levels of leadership and content focus	› Generates ideas for problem solving; shares feelings; helps build teams	› Knowledge gains › Attitudes identified › Involves everyone › Peer-learning environment › Create sense of rapport	› Talkative people dominate › May stray from topic/task
Case Study	› Group solution to identified problem situation	› Applying knowledge to relevant situations by group interactions	› Knowledge gains › Skills enhanced › Attitudes identified	› Need appropriate data and case
Role-Play	› Acting out "real life" situations in a protected, risk-free environment; no script or rehearsals for the activity	› Rehearsing behaviours and skills in realistic settings; identifying and stimulating changes in attitude and behaviour	› Skills enhanced › Attitudes identified › Trainer controls content to highlight specific issues › Collective exercise	› Not everyone is active › Anxiety among performers
Games\Simulations	› An extended role play or structured, experiential activity with specific rules that allows participants to learn from their own experience	› Identifies behaviour and attitudes in realistic settings; generate data; identifies problems and conflicts; reinforces behaviour; develops an understanding of alternative perspectives and attitudes	› Attitudes identified › Skills enhanced › Allow for rapid feedback › High participation › High motivation › Rapid peer learning › Trainee control of learning situation › Active, experiential learning	› Trainees may not want to play › Excitement/involvement may overshadow learning objective › Can never recreate all situations

TEACHING TECHNIQUES FOR ADULTS, CONTINUED

Format	Description	Use	Outcomes	Limitations
Skit	› Similar to role plays except that all the parts are pre-scripted and rehearsed by the participants	› Presents information, develops practical skills, reinforces behaviour, develops understanding of alternative view-points	› Trainer controls content to high-light issues	› Collective exercise › Not everyone is active › Anxiety among performers
Interviews	› One or more people ask questions of a guest speaker or a panel of speakers. The questions may not be predetermined	› Gathers information; develops perspective; generates ideas; evaluates situation; in-depth exploration of issues	› Informal › Non-threatening for interviews › Discussion follows audience interest	› Interviewer may not cover important issues
Brain-storming	› A moderator presents a topic and asks for suggestions. All offerings are recorded, within a time limit. Following the brainstorming, the suggestions are discussed in detail	› Generates ideas	› Lots of information in a short period › All ideas considered	› Quiet people over-looked/dominated › Participants afraid to give wrong or silly suggestions
Worksheets\Handouts	› Tasks are explained and completed by individuals or groups, in writing	› Develop/ reinforce skills; processes and retains information	› Knowledge gains › Individual activity › Participants have something to take with them	› Need resource to design and reproduce copies

(JACOBSON, 1999)

Activity

WHY DOES AGE MATTER?

PREPARATION

Make photocopies and overheads of **Differences Between Learning Styles**, **Cognitive and Social Skills for Different Ages**, and **Teaching Techniques for Adults**. Write the cognitive and social skills on a flipchart, mixing up the skills for the different ages.

PROCEDURE

1. Present on an overhead **Table 4.1, Differences Between Learning Styles of Adults And Children.**

2. Have the trainees break into groups and handout the list of the cognitive and social skills in mixed order on flipchart paper. After they have read the list, have them arrange the skills on a new flip chart paper so that they match the proper age group (Infants, 2-6 years, 7-11 years, adolescents, 12-18 years, and adults, 18 and over) to the skills. Have the trainees present their results.

3. Present on an overhead or flipchart **Table 4.2, Cognitive and Social Skills for Different Ages**. Compare the students' results to the chart and discuss the discrepancies.

4. Have the groups make a list of effective teaching techniques for adults and present their results.

5. Present on an overhead or flipchart **Table 4.3, Teaching Techniques for Adults,** to show some other examples and compare with the trainees' list.

Learner Centered Approach

Objectives:

To understand the learner centered approach and ways to integrate it into the classroom.

Skills:
Listening, observing, analysing, interpreting, applying ideas, evaluating, and working in groups

Time:
130 minutes

Materials:
Overhead projector, transparencies (if needed), flipchart, and white-board markers, A4 paper

I n terms of teaching and learning, there are many approaches, which have been applied in the past. However, more recently, one approach has come to the forefront as a model for success. In this chapter, we will discuss the learner-centered approach, a model of learning and teaching that gives the student the choice and flexibility to learn in a way that optimizes his/her potential strengths and interests.

TEACHER-CENTERED APPROACH

In the teacher-centered approach, the learning objective is usually to transfer knowledge, information, or skills from the teacher to the student. The teacher more or less controls the material to be learned and the pace of learning, while presenting the course content to the students. The purpose of learning is to acquire and memorize new knowledge or learn new skills.

In this model, lecturing is dominant. Traditional lecturing is a one-way transmission of information. It does not provide opportunities for students to engage in a continuing dialogue with the lecturer, in which their conceptions can be shaped by feedback. Nor does it allow students to actively apply and experiment with their conceptions or to reflect on experiences and feedback.
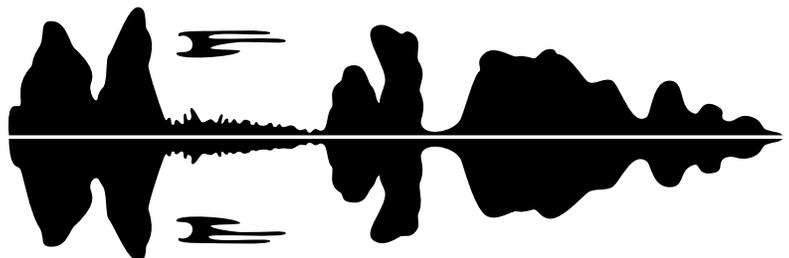
LEARNER-CENTERED APPROACH

The philosophy of this model is that learners learn best not only by receiving knowledge but also by interpreting it, and learning by discovery, while also setting the pace of their own learning. Teachers coach and mentor students to facilitate their learning, designing experiences by which students acquire new knowledge and develop new skills. In other words, learners learn primarily because of what they bring to the classroom experience in terms of their perceived needs, motivations, past experiences, background knowledge, interests, and creative skills. Learners are active as opposed to passive recipients of knowledge. They may assume a decision-making role in the classroom, often deciding what is to be learned, by which activities, and at what pace. Teachers, on the other hand, are seen as facilitators, helpers, and resources.

- Learning is both an individual and a social process.

- Students decide what they need to learn by setting personal learning goals.

- Students construct for themselves meaningful knowledge as a result of their own activities and interaction with others (cognitive psychology).

- Learning strategies include researching information in the library, solving problems, studying specific cases, completing assignments and projects, discussing the issues, and working in groups and in the field.

- Classroom teaching is a stimulus to the student's real learning that mostly takes place outside formal classes.

- Students engage actively with the subject matter and transform new information into a form that makes personal sense to them and connects with prior knowledge.

- Students are placed immediately into a realistic context with specific coaching provided as needed.
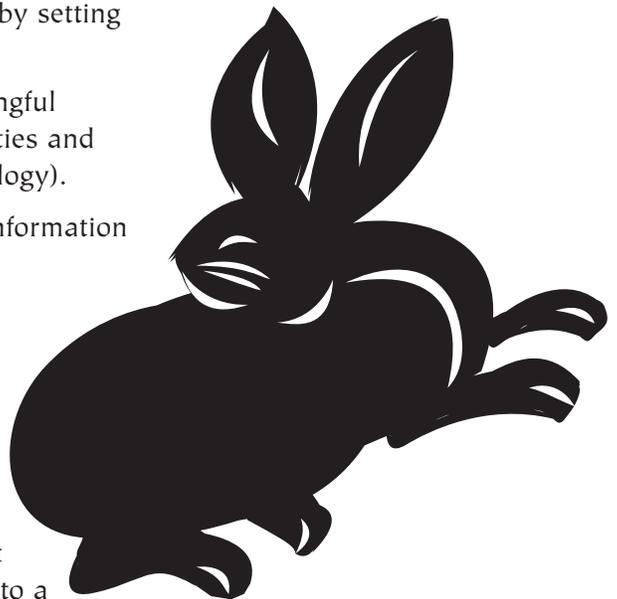
(UNIVERSITY OF NEW SOUTH WALES, INTERNET)

In general, student controlled learning (learner-centered) works best when the learners are relatively mature and possess significant related knowledge or when there is no particular sequencing of the material to be learned. The teacher-centered approach is more appropriate when learners are less mature and lack necessary prior knowledge. Learners who are immature or lack necessary prior knowledge frequently make poor instructional choices if left on their own.

Some suggestions for creating a learner-centered classroom:

a) <u>Emphasize higher-level intellectual skills</u>
Ensure that the course objectives specify more than just facts and technical skills by emphasizing higher-level intellectual skills such as, problem solving, critical thinking; and the exploration and development of appropriate attitudes.

b) <u>Make lecture more interactive</u>
Include teaching activities that promote cognitive challenges and require learners to demonstrate a deep understanding of the subject matter or relevant problems. This may mean using small group activities during lectures so that learners have an opportunity to interact with each other and the material to explore, discuss, and analyse issues and report back to the class.

c) <u>Less memorizing of facts and more construction of meaning</u>
Decrease the amount of factual material that has to be memorized. Spend more time helping learners to understand and use basic principles rather than memorizing facts.

d) <u>Less traditional lecturing and more active learning</u>
Reduce the time allocated to lecturing to allow more time for group-based teaching and self-directing learning. If your aim is that students understand your material, and are able to explain it, apply it or use it to analyse problems, then you shouldn't use standard lectures. Teaching methods that involve more active learning achieve more in the same time.

e) <u>Peer teaching and collaborative group work</u>
This helps to encourage independent learning by having students work in groups without tutors or with more senior students. Group leadership will require students to express their ideas in order to organise them for their audience. This process creates a deeper level of understanding because one of the most effective ways of learning something is to compare interpretations, agree on a line of argument and how to present that argument, and then teach it to someone else.

(UNIVERSITY OF NEW SOUTH WALES, INTERNET)

Activity

WHO IS IN THE CENTER?

PREPARATION

Make photocopies of the two recipes and write them on an overhead or flipchart. Make photocopies of the DUNIKEHAN cake recipe for the trainees. Buy enough ingredients for the O' Man Cake equal to the number of groups in your training class. Also have a small camp cooker, some small cake pans, and a bamboo steamer. Make handouts and an overhead of the learning pyramid. Make a list of the levels of the learning pyramid for trainees to arrange in order.

PROCEDURE

1. In the first part of this activity you will teach the trainees in a teacher-centered approach. Play a chef on a TV cooking programme and give instructions on how to make a Dunikehan cake. Use an overhead or flipchart to show the directions and read them aloud. Give the trainees only ten minutes to memorize what you have said. Don't allow them to copy the instructions. Turn off the overhead or cover the flipchart.
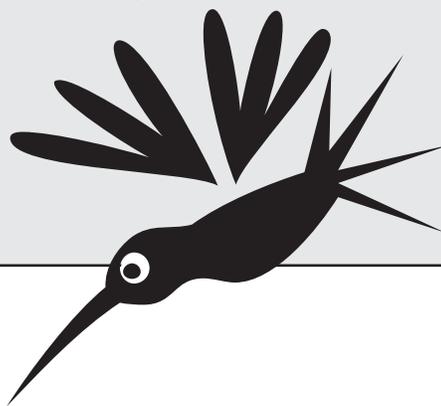
RECIPE 1

DUNIKEHAN CAKE (American – Vietnamese cake)

Ingredients:

Chicken: 367 grams   Salt: 2.5 tablespoons   Milk: 5 spoons
Beef: 412 grams   Flour: 310 grams   Butter: 4.5 spoons
Sugar: 3 tablespoons   Egg: 5   Seasoning: 1 spoon
Bamboo shoot: 256 grams   Onion: 3.5

Formula:

Pastry:

1. Mix 30 grams of flour, 1 tablespoon of butter, 5 egg whites and seasoning with 1.3 liters of boiling water. Allow to cool for 10 minutes to make the pastry.
2. Fry the entire pastry over high heat. Add salt while frying to make it crunchy. The crust should be shaped round like a rice pastry.

Mixture:

3. Cook fresh bamboo shoots in boiling water for 12 minutes. Chop them finely.
4. Mix the chopped bamboo shoots with egg yolks. Steam for 11 minutes.
5. Cook 412 grams of beef in milk for 17 minutes. Cool for 4 minutes.
6. Chop up onions; simmer in milk and beef mixture with added sugar for 20 minutes.
7. Simmer the chicken with sugar and butter for 20 minutes.

Rolling:

8. Roll the bamboo shoots steamed with egg, beef, onions, chicken, and other ingredients prepared above in the pastry.
9. Steam the rolls for 23 minutes.

Requirement: Serve hot with chili sauce

2. Now give the trainees the following quiz to see how much they can remember from the recipe for DUNIKEHAN cake which you presented. After they have finished, go over the answers and have them correct their quizzes.

Quiz:

1. The name of the cake is:
  a) DUNIKEHAN
  b) DUKENIHAN
  c) DUNNAHIKE

2. The ingredients include:
  a) 412 grams of chicken
     and 2 spoons of salt
  b) 367 grams of chicken
     and 2.5 spoons of salt
  c) 310 grams of chicken
     and 4.5 spoons of salt

3. The ingredients include:
  a) 5 eggs and 4.5 onions
  b) 3 eggs and 4 onions
  c) 5 eggs and 3.5 onions

4. The pastry is made of:
  a) Flour, butter, egg white, milk
  b) Flour, butter, egg yolk, boiling water
  c) Flour, butter, egg white, seasoning,
     boiling water

5. When making the mixture,
  a) Cook bamboo shoots in milk
  b) Steam bamboo shoots
     with egg yolks
  c) Steam bamboo shoots with butter

6. While making the cake
  a) Cook onions and butter in high heat
  b) Cook onions and sugar and milk in
     low heat
  c) Cook onions and milk in low heat.

7. When making the pastry:
  a) Fry it in high heat
  b) Simmer it in high heat
  c) Fry it in low heat

8. When making the mixture:
  a) Cook beef and butter for 11 minutes
  b) Cook beef and milk for 20 minutes
  c) Cook beef and milk for 17 minutes

9. Steam the cake for:
  a) 20 minutes
  b) 23 minutes
  c) 17 minutes

10. Eat the cake with:
  a) fish sauce while hot
  b) chili sauce while hot
  c) chili sauce while cool

3. Now you will teach the trainees by the student-centered approach. Distribute the ingredients and copies of the recipe to the groups with the proper utensils needed to make the O' Man cake. Go over the recipe once and then have the groups make the cake following the recipe.

RECIPE 2

0' MAN CAKE

Ingredients:

Rice flour: 250g	Vegetable oil: 30g	Jicama: 100g
Wheat flour: 50g	Fresh onion: 20g	Coriander: 30g
Fresh coconut: 200g	Fresh garlic: 20g	Fish sauce
Dry prepared-shrimp: 100g	Fresh chili: 20g	Salt, pepper to taste
Lean ground pork: 100g	Sugar: 30g	Vinegar or lime

Preparation:

1. Shred hard coconut into fine pieces. Pour 800 ml of water over these pieces. Knead this mixture and wring to extract coconut milk.
2. Mix rice flour with wheat flour, salt and 15 grams of sugar. Pour 700 ml of coconut milk into this mixture and knead well.
3. Wash the dry prepared-shrimp; let it dry and mince it.
4. Cut jicama into small square pieces.
5. Mince the lean pork.
6. Heat the oil in a frying pan and fry the onion and half of the garlic until translucent and then mix in the minced pork and shrimp. Fry until the pork is browned. Add salt and jicama into this mixture and blend it well.
7. Rub oil on the tray surface of a bamboo or electric steamer, put a 1 centimeter- layer of mixed flour on the tray. Boil the water for the steamer, then put the tray inside and steam the flour on the tray until it is nearly like dough. Then put a thin layer of the filling on the flour-layer and continue to steam. After about five minutes, put another layer of the flour on the meat and steam for about 15 minutes. Then continue the process of laying flour and filling in different trays of the steamer until all flour and filling have been used. Let the cake cool and eat with sauce.

Preparation of the sauce:

8. Boil 100 ml of the coconut milk. Add fish sauce, salt, and sugar to the coconut milk for taste. Boil the liquid in two minutes and let it cool.
9. Chop chili, coriander and half of the garlic (10g).
10. Put chopped chili, coriander, garlic, and lime juice (or vinegar) in the liquid and stir it well.

4. Give the trainees the quiz below. After they have finished with the quiz have them correct their answers.

QUIZ:

1. The name of the cake is:
   a) O'Man
   b) O'Manh
   c) O'Min

2. The ingredients include:
   a) 200g Fresh coconut, 30g coriander, 100g dry prepared-shrimp
   b) 150g Fresh coconut, 30g coriander, 80g dry prepared-shrimp
   c) 200g Fresh coconut, 50g coriander, 80g dry prepared-shrimp

3. The ingredients include:
   a) 250g Rice flour, 30g sugar, 50g wheat flour
   b) 200g Rice flour, 30g sugar, 40g wheat flour
   c) 250g Rice flour, 40g sugar, 60g wheat flour

4. The pastry is made of:
   a) Coconut milk, wheat flour, rice flour, sugar
   b) Rice flour, wheat flour, butter, egg
   c) Coconut milk, rice flour, wheat flour, boiling water, shrimp

5. When making the mixture:
   a) Fry the onion and garlic and then mix in the minced pork and shrimp.
   b) Fry the jicama with the onions and garlic and add the coriander.
   c) Fry the onions with the shrimp and coconut milk

6. While making the sauce:
   a) Put chopped chili, coriander, garlic, and lime juice (or vinegar) in the coconut milk
   b) Put chopped fried pork, coriander, garlic, and lime juice (or vinegar) in the coconut milk
   c) Put chopped chili, coriander, onion, and lime juice (or vinegar) in the coconut milk

7. When making the pastry:
   a) Put the last layer of the flour on the meat and steam
   b) Put the last layer of the meat on the flour and steam
   c) Put the last layer of the flour on the meat and fry

8. After the last layer steam the cake for:
   a) 15 minutes
   b) 17 minutes
   c) 10 minutes

5. Now compare the quiz from the O'Man exercise to the DUNIKEHAN cake exercise and see which quiz the trainees scored highest in. Have the groups make a list of the differences between the methods, the level of learning and memory, and level of fun between the two exercises.

6. Now divide trainees into their groups and ask them to prioritize the learning methods listed below with numbers from 1- to 7. Have each group present their answers.

Learning method	Learning efficiency #
Reading..	_____
Listening	_____
Visualizing	_____
Listening and visualizing..	_____
Group discussion..	_____
Concrete experience...	_____
Teaching others	_____

7. Present the **Learning Pyramid** to the class and discuss the answers as well as how the learner-centered approach is the most effective approach for learning.

LEARNING PYRAMID

Pedagogues and educational scientists in Great Britain carried out a survey on the learning efficiency of different methods of teaching. The result of the survey is described below in the chart:

FIGURE 5.1

Teacher-centered   The lowest efficiency

Reading	7-10%
Listening	10%
Visualizing	20%
Listening and Visualizing	25-30%
Group Discussion	55%
Concrete Experiences	70-75%
Teaching Others	90%

Student-centered   The highest efficiency
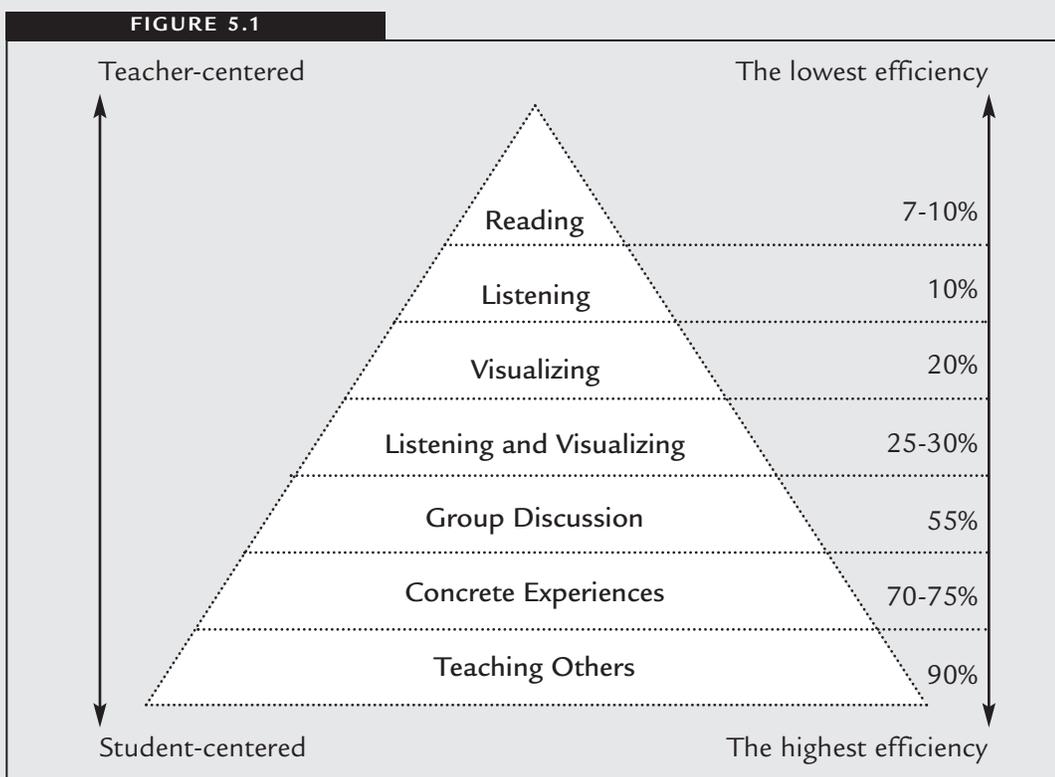
SECTION THREE

*Factors Which Influence
Attitudes and Behaviour*

# What is Behaviour?
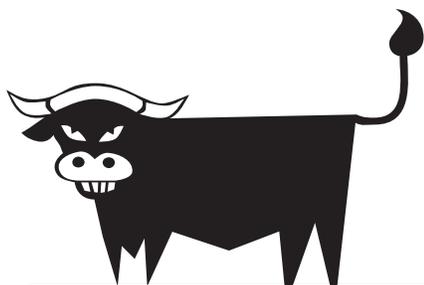
Objective:

To understand what behaviour is and how it relates to the environment. To also understand and be able to identify several factors that influence behaviour.

Skills:
Listening and brainstorming

Time:
30 minutes

Materials:
Overhead projector, transparencies, and coloured cards

Behaviour is the collective pattern of decisions, practices, and actions of people. Behaviour is defined according to what humans perceive to be in their best interest, and based on their values, socio-economic situation, as well as other factors. According to Bruce Byers, the behaviour of individuals and social groups forms the interface between ecological systems and social systems. **(Figure 1.1)** A person or a group's behaviour may be either conservation oriented or destructive to the environment. It is, therefore, important to conservationists and environmental educators to understand behaviour and the many factors that influence a person's behaviour in order to properly design their programmes.

BEHAVIOUR IS THE LINK BETWEEN THE SOCIAL SYSTEM AND THE ECOSYSTEM

FIGURE 1.1

Ecosystem ◄ BEHAVIOUR ► Sociosystem

sociocultural factors, resource access, social norms, knowledge, options, values, skills, laws, politics, gender, economics, organizations
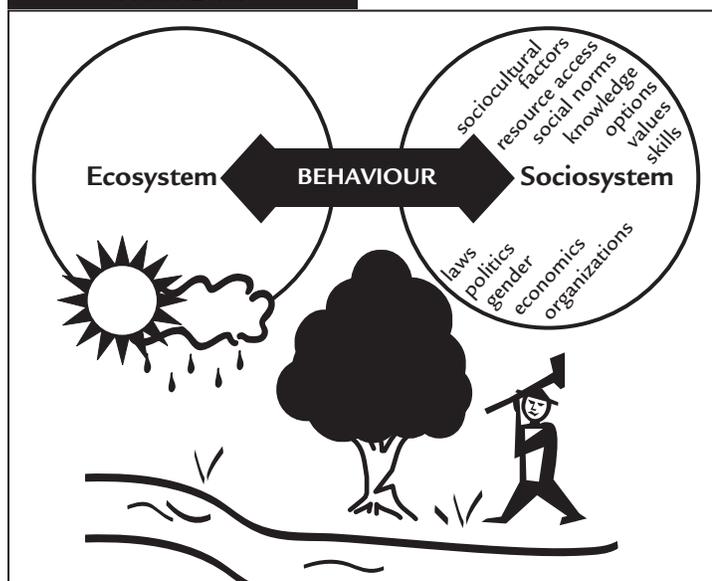
(BYERS, 2000)

Activity

WHAT ARE YOU DOING?

PREPARATION
Make handouts for trainees and an overhead slide of the definition of behaviour and the behaviour model.

PROCEDURE
1. Ask the group to define behaviour and explain its link to the environment.

2. After a quick brainstorm, present the overhead of the definition of behaviour.

3. Ask the trainees what factors might influence behaviour. Write these answers on cards and pin them on the board.

4. Finally, show the overhead of the behaviour model with the factors that influence behaviour. Explain that it is important for environmental educators to understand these factors in depth, as these factors are intimately associated with the root causes of conservation problems. If they understand these factors and how they influence behaviour, they will understand how to affect and change those behaviours that have a negative impact on the environment.

How Economics, Consumerism, and the Environment are Connected

Objective:

To understand and analyze the impact of consumer behaviour on the environment and the relationship between economy and biodiversity.

Skills:
Listening, organizing, analysing, interpreting cause –and effect, problem solving, presenting, and working in groups

Time:
150 minutes

Materials:
Packs of instant noodles, flipchart, white-board marker, scissors, and glue

Most humans in modern society consciously and unconsciously are involved in the market economy. Humans are involved in the economic system whether as producers, service providers, or consumers. All of us benefit in different ways from the market and interact and participate in it daily because of our need and desire for food, shelter, medicine, clothing, transport, and entertainment. The manner and extent of our participation in the market is determined by the amount of money and resources available to us and the amount of knowledge we have about the market and alternatives to the market. Because of the importance of the market in our lives it has a powerful influence on our daily decisions and on our behaviour overall.

Since resources are limited and desires are unlimited, there is always a relative scarcity of raw materials. There is also a constant negative impact on other resources such as the air and water caused by waste and pollution from the production process. We need to be aware of how our interactions with the market affect the environment and biodiversity and alter the way we produce and consume in order to create a balance between ourselves and the natural system that sustains us.

Activity

NATURE FOR SALE

PREPARATION

Prepare handouts and flipchart or overhead with the definitions of demand, supply, and price; Demand and Supply Curve for Tiger Products; Production Factors; General Pyramid of Production; Instant Noodle Pyramid of Production; and Production Factors worksheet.

PROCEDURE

1. Review with students the theories of supply, demand, and price as shown below.

Demand, Supply, and Price

Demand is the amount of a product or a service that consumers are willing and able to buy at a given price. As price goes up, consumers usually demand less of a product (see demand curve on the right). This *demand curve* shows the relationship between possible prices and the quantity demanded (assuming that other factors, such as fashion or the consumer's income, don't change).

FIGURE 2.1

DEMAND CURVE

D

D=Demand

Price in dollars

Quantity

Supply is the amount of a product or a service that suppliers are willing to offer for sale at a given price. As price goes up, producers get more money and thus are willing to supply more of a product, creating a *supply curve*. The illustration on the right shows the relationship between prices and quantity supplied (assuming that other factors, including costs such as taxes, don't change).

FIGURE 2.2

SUPPLY CURVE

S

S=Supply

Price in dollars

Quantity

Market price is the price at which the quantity supplied is equal to the quantity demanded (see the illustration on the right). The price is determined by the interaction between the potential buyers (demand) and the potential sellers (supply). And the market is not one place or store – it is represented by all the suppliers that sell a product and all the customers who buy it.

FIGURE 2.3

PRICE

D   S

D=Demand
S=Supply

Price in dollars

Quantity
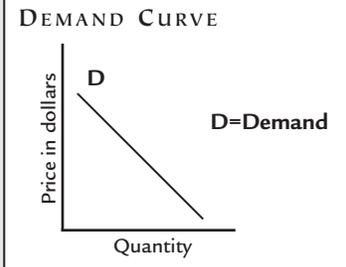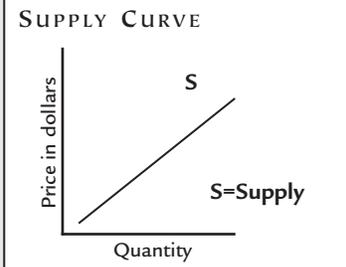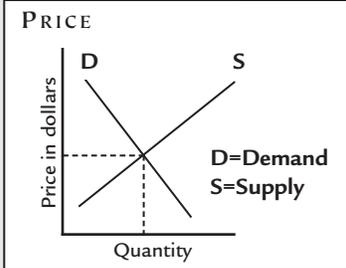
(WWF, 1999)

2. Write the following question on the board: Does our consumer behaviour have a negative impact on the environment? Can our consumer power influence the market and reduce the negative effects on the environment?

3. Now introduce the concept of demand and supply using tiger medicine products as an example. Use the graph below to draw sample demand and supply curves for these products.

4. Explain to the trainees that after a campaign to raise awareness, people learn how their consumer demand has devastating effects on the tiger population, and some people stop buying tiger products. Show this change in demand as shown in **Figure** 2.2 and the consequent shift in price. Make another demand line to the left of the one given in **Figure** 2.1. Also show how the supply of the products has increased as a consequence of the conscious decision not to buy tiger products. Explain that this decision shows how a consumer can affect what is sold on the market and how that product is produced. Emphasize that it is very important for an individual to think about the power and the responsibility they have in determining the fate of the environment.

FIGURE 2.4

Price in VN Dong Millions (y-axis): 2.00, 1.90, 1.80, 1.70, 1.60, 1.50, 1.40, 1.3, 1.20, 1.00, 0.90, 0.80, 0.70, 0.60, 0.50, 0.40, 0.30, 0.20, 0.10, 0.00

Quantity Demanded (x-axis): 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

FIGURE 2.5

NEW MARKET PRICE
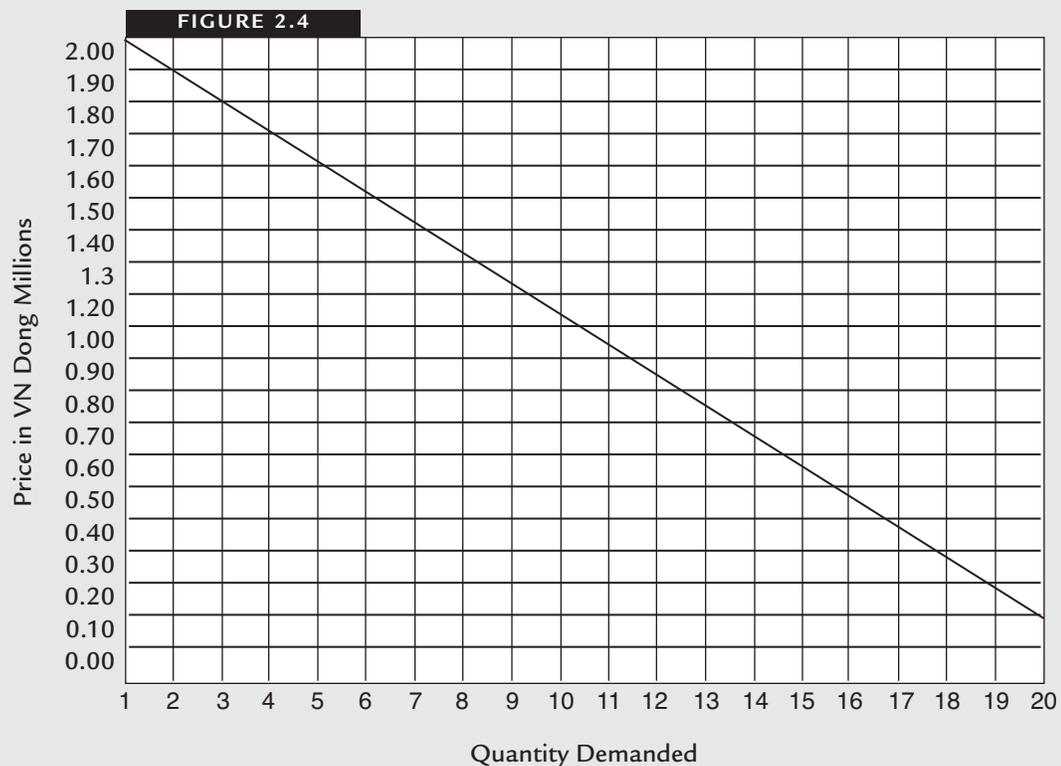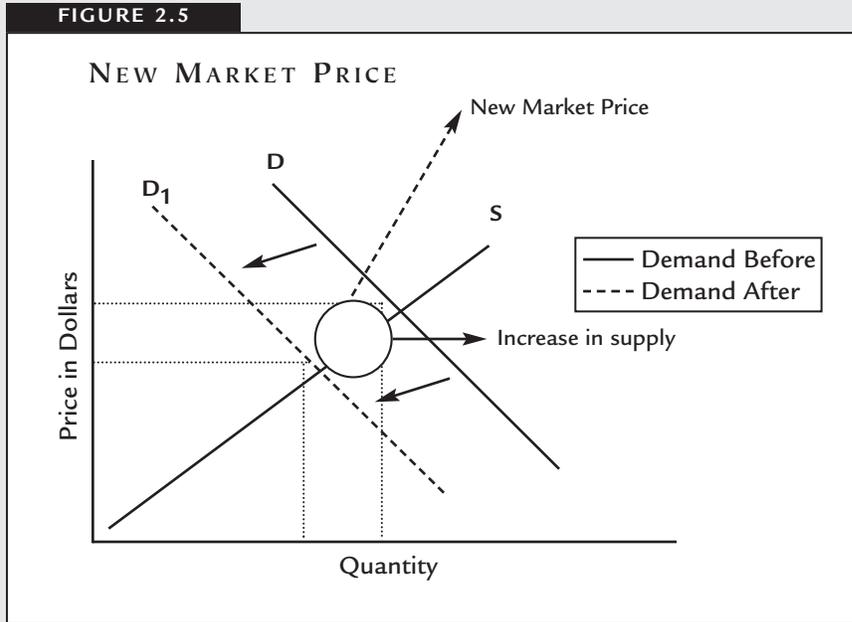
5. Break students into groups of four or five. Inform the trainees that they will now study the connection between types of goods we consume and produce, and the natural environment and biodiversity.

   Have groups answer the question: *What does it take to make one product?* Write the question on the board or flipchart. Introduce the **Factors of Production** on an overhead.

FACTORS OF PRODUCTION

FIGURE 2.6

Natural Resource	Labour	Capital	Management
The raw materials needed to produce a product (e.g., timber, minerals, water)	The human effort that goes into producing a product, including muscle power and brainpower.	The equipment, structures and skills needed to turn raw materials and labour into finished products.	The process that organises and manages the labor, raw materials, and capital to produce and sell a finished product.

(WWF, 1999)

6. Explain that production of one product influences many people's lives on many different levels.

PRODUCTION PYRAMID CARDS

PRODUCTION FACTOR
1. Miss Ha runs a restaurant at Trang Bom market.

PRODUCTION FACTOR
2. Mr. Nam, a farmer of Nghe An, specializes in planting sugar cane to earn extra money for his family.

PRODUCTION FACTOR
3. Miss Ngoc has been a shrimp keeper since she was a little girl. She looks after about 10 shrimp ponds.

PRODUCTION FACTOR
4. Giant metal mixers stir the flour, oil and flavouring together.

PRODUCTION FACTOR
5. Nguyen is an artist. He designed the flashy new noodle wrapper.

PRODUCTION FACTOR
6. Many kinds of coriander are grown commercially.

PRODUCTION FACTOR
7. Alexov from Russia owns and operates a farm that grows wheat and exports to Vietnam.

PRODUCTION FACTOR
8. Van manages a manufacturing plant that makes instant noodles.

PRODUCTION FACTOR
9. At the paper processing plant, timber is converted into thick sheets used to wrap paper products.

PRODUCTION FACTOR
10. Hung drives a truck to transport essential spices to different factories where the spices are mixed into products to enhance foods flavour.

PRODUCTION FACTOR
11. Mr. Lam opens a manufacturing mill, which makes nylon paper used to wrap food products and protect them from humidity.

PRODUCTION FACTOR
12. Computers automatically track the noodle factory's production output, sales, and inventory.

PRODUCTION FACTOR
13. Prairies have fertile soil that is perfect for growing wheat.

PRODUCTION FACTOR
14. Thai Binh farmers make salt from seawater dried by the sun.

(ADAPTED FROM WWF, 1999)

7. Present the **Pyramid of Noodle Production** to the trainees and highlight the levels of production.

FIGURE 2.7

GENERAL PYRAMID OF NOODLE PRODUCTION

Consumer

Retailer

Distributor

Final Product Manufacturer

Refined Product Manufacturer

Supplier of Raw Materials

Biome that provides natural resources to produce raw materials
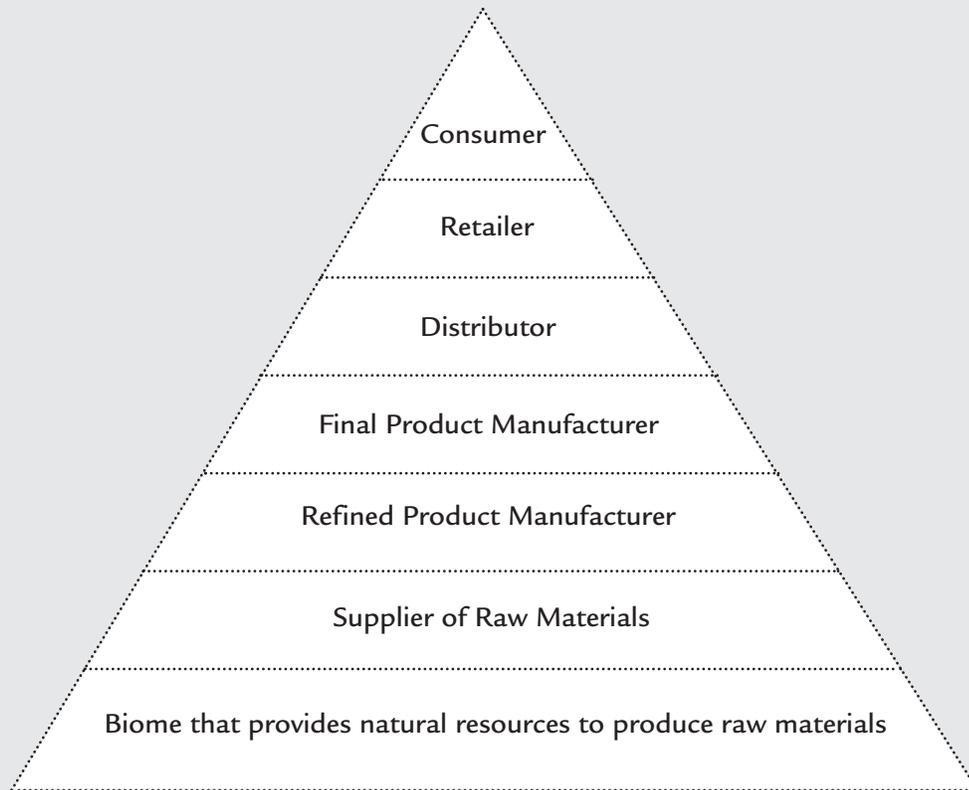
(WWF, 1999)

8. Have the groups draw the above pyramid on flipchart paper and cut out the cards from the handout "Production Pyramid Cards" (or cut them in advance). The students should glue these cards around the pyramid at the correct level of production. The teacher should go around and check the group's answers.

9. Distribute one noodle packet to each group and explain that these are final products. Explain that the groups will now study the relationship between biodiversity and consumerism based on the analysis of the noodle production process

10. Have the groups identify the ingredients of the noodles and make a list of all the raw materials needed to make the final product. For example, sugar should be identified at its source from sugarcane. (Main ingredients also include packaging)

11. Have the group use the **Pyramid of Noodle Production** on flipchart paper used in the previous activity and list the different resources under the appropriate production levels and the ecosystems they come from. For example, shrimp are raised in mangroves. The different resources include sugarcane, wheat, spices, shrimp, salt, paper and nylon packaging, electricity, petrol, oil, gas, and water used for production and transport.

12. After recording the results on flipcharts have the groups present the results to the class.

13. Now present the final example of the **Pyramid of Production** shown below, highlighting again that there are so many people who are involved in producing a product at different phases using resources and many different ecosystems for such a small product.

FIGURE 2.8

PYRAMID OF PRODUCTION

Consumer

Retailer

Distributor

Producer

Refined Product Manufacturers
Sugar   Oil   Flour   Flavoring   Packaging   Coloring

Supplier of Raw Materials
Shrimp   Peanut   Sugar   Wheat   Salt   Chili   Coriander   Tumeric   Wood   Polyvinyl
Cane   Acetate

Biome that provides natural resources to produce raw materials
Mangroves   Grass   Tropical   Tropical   River   Marine   Other
Prairies   Lowland   Mountain   System   (underground   Ecosystems
Forest   Forest   oil reserves)

(ADAPTED FROM WWF, 1999)

14. Now analyze the effects of noodles consumption on the environment with the trainees.

(45 minutes)

Have groups understand thoroughly the process that a noodle packet goes through to reach consumers. Ask the trainees to name some of the positive and negative effects that noodle production can have on people and the environment. (Refer to the pyramid) Ask the trainees to analyze some of the following situations:

At one time a large amount of forest was cleared and converted into agricultural land to cultivate wheat, peanuts, and sugarcane. Have the trainees name at least three positive and negative effects this might have on the environment and the inhabitants of the area. For example, what might be some negative effects from factories on the environment? Some examples are loss of biodiversity, deforestation, and pollution of air, water, and land).

Positive Effects	Negative Effects
_____	_____
_____	_____
_____	_____

15. Summarise the activity and ask some questions.

(40 minutes)

Have the groups work on the following issues:

a) If producers stop producing noodles, name some of the positive and negative effects this might have on people, the environment, and the economy.

b) Think about the products you and your family buy every week. What are some of the common products you purchase? How does you purchasing these products affect other people and the environment? Make a list and explain how can you change your consumer behaviour to have less of a negative impact on the environment.

Wrap up the exercise by emphasizing that purchasing products and using services have an impact on the environment. (Refer to the previous exercises about the demand curve and the impact of demand on tiger populations and the production pyramid.) Any product you buy is connected to the environment in some way. All products include components that come from nature and can cause environmental pollution when produced, consumed and disposed of. People around the world, including producers and consumers, are seeking ways to make products that have less of a negative impact on the environment. Explain that the students can play a role in conserving nature by adjusting their consumer behaviour and thinking about the different ecosystems affected by their consumerism including transport and water.

* THIS EXERCISE WAS ADAPTED FROM WWF, 1999. WINDOWS ON THE WILD, BIODIVERSITY BASICS: AN EDUCATOR'S GUIDE TO EXPLORING THE WEB OF LIFE. CALIFORNIA. ACORN NATURALISTS

Culture and the Environment
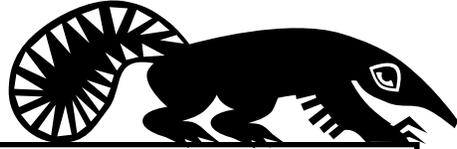
Objective:

To understand what culture is, how it influences human behaviour and the role it plays in the relationship humans have with the natural environment. Also to understand and learn about different cultural practices from around the world that interact with the environment and identify ways that people can adapt their cultural lifestyle so that it is more environmentally friendly. Value the integration of cultural aspects into EE materials and messages.

Skills:
Reading, interpreting, analysing, critical thinking, presenting, and working in groups

Time:
120 minutes

Materials:
Flipchart, white-board markers, coloured cards, and 14 photos of different cultural and ethnic groups

Culture is the totality of physical and spiritual values, that are created by and accumulated from realities and experiences of people in their different environments. Simply, culture is the totality of behaviour patterns, arts, religious and social beliefs, institutions, and all other products of human work and thought.

Culture is created from the interaction of human life with the natural environment. People have to depend on nature and survive in nature to earn their living. They also have to protect nature for themselves and future generations. Cultural behavioural patterns are reflected by different types of institutions, food, dress, transportation, festivals, ceremonies for marriage, birth and death, planting methods, and construction of houses, etc. Each region, each nation has its own typical culture. As environmental educators, we need to understand culture, as it is one factor that influences behaviour. Environmental educators also need to integrate cultural messages, designs, and concepts into the programmes and materials.
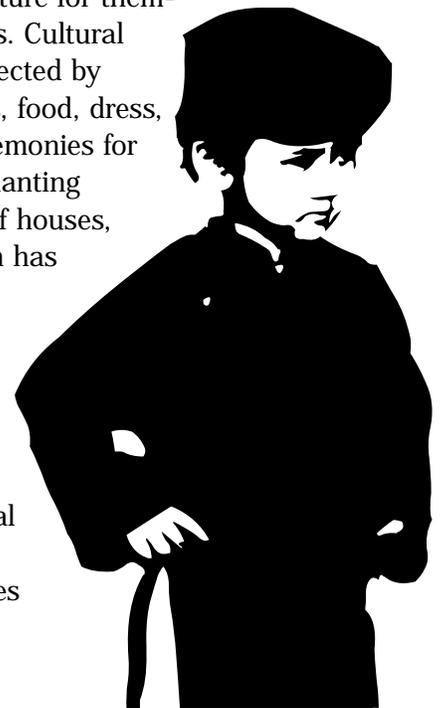
Activity

### GETTING TO KNOW THE WORLD

PREPARATION

Make sets of cards from the pictures and information of the different cultures. Write questions on a flipchart or overhead slide.

PROCEDURE

1. Have a discussion with the trainees and use the following questions to get them to think about culture. Write their answers on cards and pin them on a board.

   a) Q: <u>What is culture?</u>
      A: Culture is the totality of socially transmitted behavioural patterns, arts, beliefs, institutions, and all other products of human work and thought.

   b) Q: <u>Describe some examples of culture that can be seen in your daily life.</u>
      A: Some examples of culture we see daily are houses (materials, design, direction), food, communications (ways of shaking hands, greeting, talking), dress (Vietnamese long dress, four panel traditional dress), methods of cultivation (wet rice, dry rice), religion and beliefs (ancestral worship, Buddha worship), ceremonies for different events or traditional festivals.

2. Now break the trainees up into groups and give each group five different picture cards. Have the students read the descriptions on the back and discuss the pictures within the group.

3. Have the trainees answer the following questions based on an analysis of the pictures and the description.

   a) How do the cultural activities in the pictures relate to the natural environment?
   b) Are these activities environmentally sustainable?
   c) Which factors or pressures may threaten these activities to make them environmentally unsustainable?
   d) Does your culture exist in harmony with the environment?
   e) What are some examples of positive and negative cultural practices in relation to the environment in your life?
   f) What aspects of your culture can be changed in order to live more harmoniously with the environment?
   g) What steps can you take so this can actually be done?

4. After the groups finish discussing, have a representative from each group present the group's analysis to the whole class. Emphasize the relationship between culture and the environment. Stress that people need to be aware of their individual cultural relationship with the environment. They should be able to identify what cultural aspects in their life are not in harmony with the environment and think of alternatives to these behaviours. As they are part of a global community, they should be able to make conscious decisions to change their behaviour to live more in balance with the environment. They may also look at examples of other cultures around the world, which are centuries old that may provide alternative paradigms for sustainability.

CULTURES OF THE WORLD CARDS
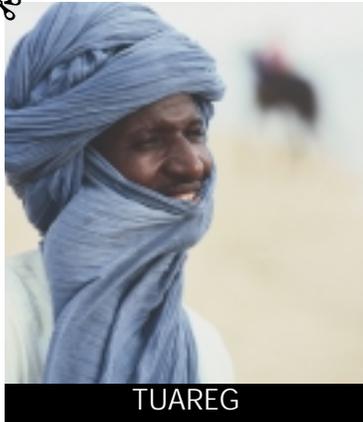
TUAREG

The **Tuareg** are nomadic and number about one million. They inhabit the Sahara in the countries of Algeria, Mali, Niger, Mauritania, Libya, and Burkina Faso. The weather is hot, ranging from 60 degrees during the day, to 22 degrees during the night. The people rely on trade to obtain food such as millet, barley, wheat, onions, dates, and spices. Meat is rarely eaten except for holidays and rites of passage. The intense aridity requires quick movement between water supplies and grazing areas. The Tuareg rely on the camel for survival. Camels are used to travel across the inhospitable desert, provide milk, and are prized and loved as a part of the family.

KAYAPO

The **Kayapo** traditionally are semi-nomadic and live in houses made of palm leaves and wood poles. They alternate between village living and nomadic wandering. During their nomadic phase, they make use of the "ibe" or old gardens, which are actually gardens they have cultivated which appear to be part of the forest. They have been managed so that semi-domesticated species dominate the garden for multi-purpose uses. They also use these gardens to attract certain animals. The untrained eye cannot recognize these gardens. The Kayapo also plant fruit and vegetables along frequently used trails.

CULTURES OF THE WORLD CARDS
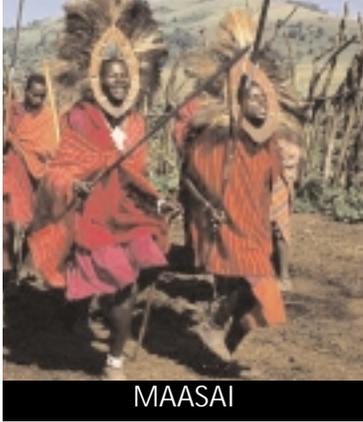
MAASAI

The Maasai people and related tribes live in East Africa in Kenya and Tanzania in semi-arid and arid lands. These tribes are semi-nomadic herdsmen. Their movement is based on seasonal rotation of their livestock. Under normal situations the pasture is fallowed and guarded by warriors. Livestock are used to bond relationships and for economical purposes.

Eighty percent of the diet of these tribes is milk, with blood as a supplementary part. Meat is only eaten on special occasions, which helps to maintain cattle populations at a level that does not have a negative impact on the land. The cattle that are killed also provide hides used for mattresses and utensils. Their dung is used for plastering walls, and urine has medicinal properties. When there is drought, the animals are bled and this provides the nourishment for the people to survive. The Maasai believe that tilling the land to farm is a crime against nature.
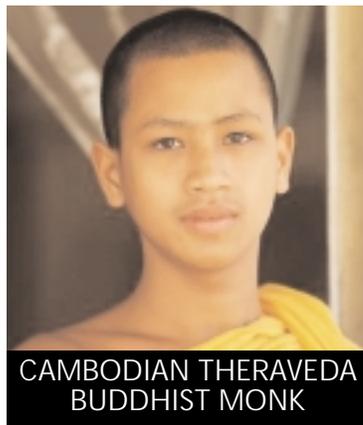
CAMBODIAN THERAVEDA BUDDHIST MONK

The monk lives a simple lifestyle. All material possessions are rejected. Cigarettes and alcohol are also given up forever as well as a life with wife and children. He wears a simple cloth robe and sandals. The monk lives a life of meditation and contemplation in a monastery. He grows fruits and vegetables and eats one meal per day with no meat.

HMONG

Hmong women weave textiles using thread made from hemp and then dying it with indigo. Many women use their skills to make batik and embroidery to decorate traditional clothes and baby carriers. Cloth is also made for rituals. Hmong believe that in order to join their ancestors in the other world, they should be buried in hemp cloth.

CULTURES OF THE WORLD CARDS
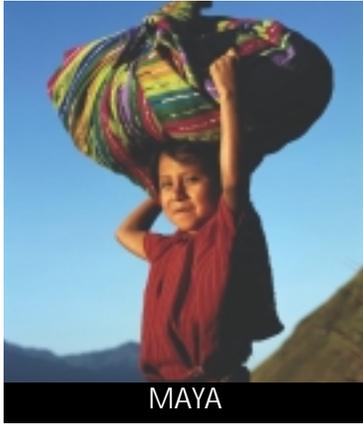
MAYA

The Maya believe in cosmology, which refers to the existence and experiences of commonality with all that is and that we and all organisms and entities are aspects of a single unfolding reality. This means that all is connected, and we are part of the animal world and the animal world is part of us. If we disturb the animal world, we are thus harming ourselves. Everything in nature must be respected, therefore, to maintain a perfect balance.

Maize is also considered sacred as it is given to us (the children) from the mother (Earth). The mound of earth that the maize grows from is believed to be a symbol of a breast of the mother, and the maize is like the milk that a mother feeds her baby with. The clothing worn by the Maya is also very important in representing the connections of man, nature, and the universe, as there are many stars, flowers, animals, and plants interwoven on the colourful fabric. The design also signifies which village a person is from.

RED DAO

The Red Dao mainly live in mountainous areas and practise slash and burn agriculture. They plant their rice and corn in one area for up to two years and then shift to another area after the soil becomes infertile.

ABORIGINAL

The Aboriginal people are the original inhabitants of Australia. Many of them still live a traditional lifestyle as hunter gatherers. They believe that their ancestors were born from the land, trees, sky and water. The Aboriginal considers the desert and the barren hills in their home as parts of their own body. They believe that the land does not belong to them, but they belong to the land. When they die, they believe that they merely return to the source of their birth. They return to and become part of the hills, the forest, the desert, the land, and the soil. They will also become part of the birds, animals, and insects living on Earth. A person who has developed the ability can see the spirit of the dead in these natural systems and objects. Water is such a rare resource in the desert and when it is found, it is perceived to be the property of all living things: human, animal, and plant. Humans, however, have the responsibility to keep it clean, and to keep it from drying up so that all species can continue to use it.

Cultures of the World Cards
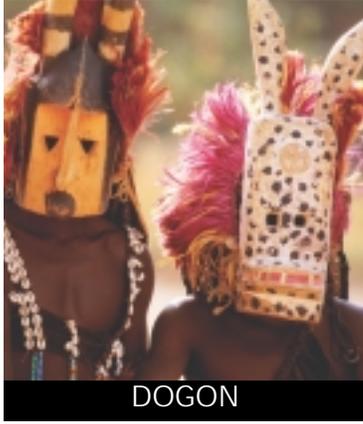
DOGON

The Dogon inhabit the Bandiagara cliffs in southern Mali. They live in houses made of sun dried mud and stone with thatched roofs. The Dogon retain symbolic relationships with respect to the environment and animals play a major role in their lives and ceremonies. The Dogon religion categorizes and ranks all living things. Semi-domestic crocodiles are kept as sacred protectors of the village. The desert tortoise, which can endure the harshest conditions, is believed to be holy and kept in villages as a sacred symbol. Each village is led by a religious leader in charge of the cult of Lebe, a mythical serpent and God of Plant rebirth who was born from the original creator Amma. Amma created all the forces of the universe. Nommo, the spirit of water, is also worshiped together with Amma.

The Dogon are known for their elaborate woodcarving. Stylized human and animal symbols are used on the doors to protect their grain. They also carve many different types of masks in the form of animals, which are used in special ceremonies. Believing the tree from that the wood was cut contains a spirit that must be respected, the wood is carved in a sacred and ceremonial way.

WESTERN BUSINESSMAN

Western businessmen often dress in suits made from various materials, some of which are artificial. They also often use a computer, FAX, mobile phone, and spend long hours in the office. They eat most meals in restaurants or cook food that comes in cans and boxes. They travel frequently by plane or car to meet clients and entertain themselves with activities such as golf.

Values and the Environment?
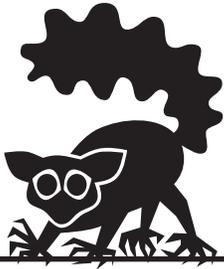
Objective:

To understand what values are, how they affect our behaviour and govern our relationship to the environment.

Skills:
Reading, organising, interpreting, problem solving, presenting, and working in groups

Time:
160 minutes

Materials:
Photocopier, overhead projector

What are values? Values may be considered the choice between what is right and wrong or they may be what determines what we decide has worth in our life and possibly worth in other's lives. We are guided by our values in our everyday actions. People make decisions about how to use natural resources in their environment based on their values, and we choose the option we feel is the best for our well-being and the well-being of others. Because values are such powerful factors in the decision-making process, environmental educators need to understand them in order to design EE programmes effectively. By understanding values, they may change negative environmental values and promote more positive ones. On the next page you will see different ways the environment may be valued.
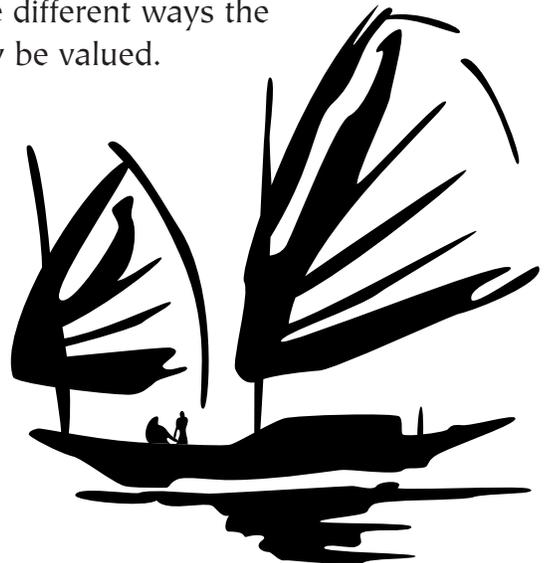
VALUES AND USES OF BIODIVERSITY AND NATURAL RESOURCES

FIGURE 4.1

Instrumental or Use Value:
Non-human species and ecosystems have value because of their usefulness to humans.

Use Now:

Material Uses/Values

Non-material Uses/Values
(psychological or emotional)

Direct:
Food, clothing, shelter, water, medicine
Basic needs, necessities (subsistence)
Wants, amenities (more than subsistence)

Indirect:
Life support or ecosystem services
Ecological cycles (water, carbon, nitrogen, oxygen, etc.)
Degradation of wastes and pollution
Pest and pathogen control

Religious
(belief, taboos, totems, ceremonial value)
Spiritual and aesthetic
(solace, meditation, beauty)
Scientific and educational
(laboratory and classroom)
Recreational
(physical or non-physical)
Historical
Existence

Future Use:

Material Uses/Values
Direct and Indirect: as above

Non-material Uses/Values
(psychological or emotional)
Uses/Values: as above

Intrinsic Value:
Non-human species and ecosystems have value independent of any value to humans.

(BYERS, 1996)

Activity

Is it Valuable?

PREPARATION

Make handouts of **Values and Uses of Biodiversity**; **What Would You Do survey**; two case studies; Balance of Material Development with Social Development. Make overheads of Balance of Material Development with Social Development and the Yin/Yang Symbol. Write questions on a flipchart.

PROCEDURE

1. Present the definition of value and the values and uses of the environment.

2. Give trainees the **What Would You Do** survey. Tell them not to write their names on them. Explain to them that you will not collect the survey and noone will see it but them. The survey is for their own use and knowledge, so they should fill it out honestly.

WHAT WOULD YOU DO?

Below you will find ten questions with two choices each. Please select the option that best exemplifies what you prefer. There are no right or wrong answers, just what is best for you.

1. Do like your job because you:
   a) Help the environment and people or
   b) Would you work in another field if you could find a job that paid a lot of money

2. Do you:
   a) Do charity work for others or
   b) Earn money only for yourself and family

3. Do you:
   a) Spend time with your family after work at night or
   b) Watch television or go drinking with friends

4. When you buy and cook your food, do you think about:
   a) Eating food that has been grown organically or
   b) Eating food that is most delicious

5. When shopping for household goods do you:
   a) Look for natural products and think about who made them or
   b) Buy manufactured products made from manmade materials

6. When you see things differently than another do you:
   a) Listen carefully and try to understand what they believe and then discuss it or
   b) Try to convince them immediately to change their belief

7. When eating, you see a child of eight years old begging for food. Do you:
   a) Feel sadness and maybe offer them extra food or
   b) Feel nothing

8. When you see a forest being cleared do you:
   a) Feel a deep pain inside or
   b) Feel it is a sign of progress

9. When you see a person from Africa do you:
   a) Think they are almost the same as you and you want to learn about their differences or
   b) Think they are very different than you and strange

10. When you buy a bowl of soup in a shop do you:
   a) Speak to the waiter kindly and say thank you or
   b) Just order your food, eat it and leave

11. Are technological advances important for:
   a) Better health care or
   b) Better leisure and entertainment

12. Do people need cell phones:
   a) So they can be available during emergencies or
   b) So people can chat with others wherever they are

13. If you had a choice between two things at the same price which would you choose:
   a) A new type of motor bike which is not beautiful but has no exhaust fumes or
   b) A modern and latest style of motor bike which has a radio on it

14. As a farmer do you prefer:
   a) Natural fertilizer with mediocre productivity or
   b) Chemical fertilizer with higher productivity and impact on soil and water

3. Hand out copies of the two case studies below and have everyone read them thoroughly.

(15-20 minutes)

4. In groups, have the trainees answer the following questions:

Questions for the Ashram Case Study
   a) Can this lifestyle replace the modern way in which we are heading?
   b) Does this lifestyle contribute to the sustainable use of resources?
      Why or why not?
   c) Can you live this way? Why or why not?

Questions for the Material Development Case Study
   a) Is this type of development better than the Ashram way of life?
      Why or why not?
   b) Does this lifestyle contribute to the conservation of nature?
      Why or why not?
   c) Which activities in this lifestyle are unsustainable? How can they be changed to
      be more sustainable?

5. Have the groups present their results.

**6.** Based on the discussion and the cases studies, present on an overhead the Balance of
   Material Development and Social Development Model. Explain that there needs to be a
   balance between material development and social development in order to achieve peace
   and environmental sustainability. Today we have not yet reached a balance and should
   strive to change our behaviour so that we can obtain a balance.

7. Overlay the Yin and Yang on the Balance of Material Development and Social Development
   Model and explain that the left side or material development is yang or male and the right
   side or social development is yin or female. If there is too much yang, there will be violence
   and environmental destruction. If there is too much yin, there will be stagnation and
   lethargy. Every living system is composed of yin and yang. Even in the human body, if there
   is too much yang, a body will deteriorate quickly. Imagine when you get angry, how you
   may begin to sweat and your heart beats quickly. This is a sign of excess yang. People are
   often told to breathe deeply to calm down, this breathing is adding more yin to the body's
   system and restoring a balance. Without a balance of yin and yang in the human body, a
   human can get sick or even die. This is true outside the body and in all natural systems,
   especially the Earth.

THE BALANCE OF MATERIAL DEVELOPMENT AND SOCIAL DEVELOPMENT

FIGURE 4.2

The Earth and Natural Environment

Generous
Compassionate Humble
Forgiving
Unselfish
Utilitarian
Communal/Charity

Innovative
Ambitious
Confident
Creative
Intellectual
Acquisitive
Independent

**Balance =
Environmental Sustainability**

Social Development

Material Development
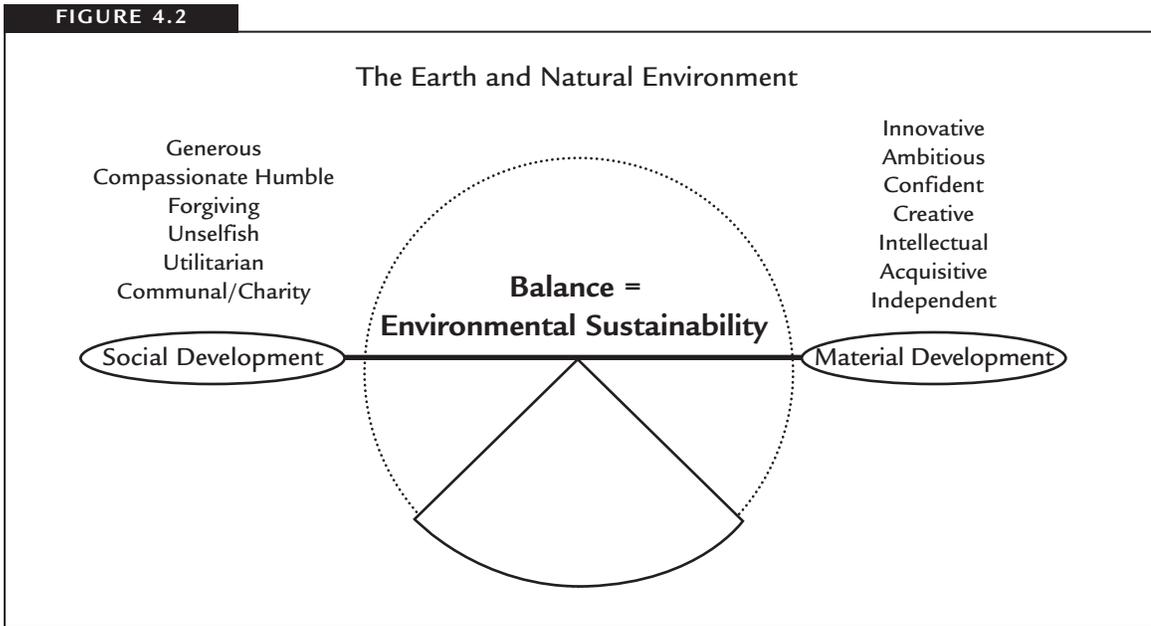
THE BALANCE OF YIN AND YANG

FIGURE 4.3

CASE STUDY 1

IS MATERIAL DEVELOPMENT A MODEL TO FOLLOW AND WILL IT LEAD TO ENVIRONMENTAL SUSTAINABILITY?

Many people throughout history have believed that civilization could be developed by creating newer and more modern technologies so that life will be easier and more comfortable for them. Humans are enterprising and creative and have the ability of advanced learning. These skills have made it possible to innovate and invent.

Long ago people were hunter-gatherers and relied on this lifestyle for survival. Over time, they learned to capture fire and with it to cook. From this fire they also learned to shape metals into weapons such as spears and arrows. These new and advanced tools quickly improved their speed and accuracy in hunting and allowed a growth in population. As new inventions developed and hunter-gatherers learned to domesticate crops and animals, society changed from hunter-gatherers to farming communities.

New technologies began to emerge, which facilitated trade between people and countries. This encouraged people to travel and discover new lands and cultures in search of different resources and products and new forms of wealth. The horse was domesticated to travel further afield and to carry goods from one place to another. The wheel and cart were invented to make farming and transport more efficient. Small boats were invented to get from one village to another. Nautical skills advanced and sturdier ships were made to transport goods from continent to continent.
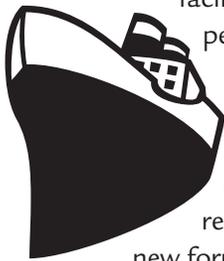
Many intelligent people over the centuries have dedicated their lives to inventions of one type or another. During the last 500 years, inventions have continued. Similar to those of thousands of years ago, the advances from these inventions promote a more comfortable lifestyle.

As an example, two brothers thought it was possible to fly and tried to perfect a machine that could do so. Eventually they succeeded and the airplanes that travel the skies today are based on this technology. Similarly, in the 1900's, the first motorized buggy was invented, resulting in the modern cars that travel the roads today. Electricity was developed by a man experimenting with a kite in a lightning storm. While another man, experimenting with sound waves, discovered how to make a telephone. Now, we can hear each other's voices from thousands of kilometres away. Physicists discovered how to split the atom and to send rockets to the moon. They have also developed nuclear energy from uranium to use as a modern fuel. Computers were invented as a way to process information faster, more conveniently and with a long-term memory. Video games and TVs were invented to provide us and our children something with which to occupy our leisure time.

We have just brushed the surface of what we can do with technology. There are scientists all over the world working hard to discover new technologies, which will have an impact on all of our lives. One day we may be able to fly in cars, drive in boats, talk to our TV to change the channel without using a remote control, get our education at home on a TV, enter virtual video games with our children, and produce the type of food we want in test tubes without farming. Who knows what we will achieve? The skies for material development are limitless. Is this type of development "civilization" and is it conducive to harmony and peace ? Can this lifestyle lead to the long-term conservation of nature?

CASE STUDY 2

IS THERE A MODEL FOR SOCIAL DEVELOPMENT WHICH PROMOTES ENVIRONMENTAL SUSTAINABILITY?

Once Mahatma Gandhi visited the UK as a guest of Prime Minister Sir Winston Churchill. While in the UK, Gandhi was shown around the city of London to see Buckingham Palace, and the great technologies being used at the time for transportation and communication. He was brought the finest foods to eat. Churchill asked Gandhi, "Well Mahatma, what do you think of our civilization?" Gandhi replied, "I think it would be a good idea." What did Gandhi mean?

Gandhi embodied the ethic of social development and what he saw in England he considered solely material development. Growing up in India as a Hindu, he learned the traditions taught by great sages and fashioned his every action and thought on development of society. Throughout India there are many people who live this way of life and choose to strive for a life of social development that promotes community and communion rather than a life that promotes material development and technological advances.

Many of these people live in villages, which are commonly known outside of India as "ashrams". When living in these villages, people conform to and dedicate themselves to a different way of living than is common in modern society. This way of living is meant to free the people from a stressful and painful life and allow them to live in a world that is peaceful and in harmony with all of humanity and with all living creatures of the planet.

They strive for "communion" which means that they work day and night to break from the seven desires and eight emotions. They do this so that they can live a life that engenders values which promote peace and harmony. They also strive to live a life of "community" which means they love and respect all of creation, are forgiving, compassionate, humble and generous to others, and refrain from anger or violence, dedicating their lives to the common good rather than to personal success.

The overarching philosophy of life in the ashram is sacrifice for humanity and for the environment and to develop the love for each other and an attitude of cooperation and mutual service that respects the environment. While living in an ashram, one must strive at all times for truthfulness, non-violence, non-aggression, chastity or restraint of desires and emotions, non-materialism, honesty, fearlessness, equality, self-sufficiency and work to provide for oneself and for the betterment of others. (One makes all the goods that one uses or consumes). Life in an ashram is industrious and self-sufficient and the community lacks nothing. The people grow their own staple crops, such as rice and wheat and all vegetables. All cultivation is done without any chemicals or pesticides. All food waste is recycled or composted. Cows provide milk and yogurt. Medicinal plants are grown to treat illnesses. People make their own clothes and build their own houses from sustainable resources. They have their own schools where their children are taught the principles of living in harmony with all of creation. They help needy people with charity work and by distributing their surplus to the poor. Gandhi said, "What can be better than that a man should by his personal labour add to the useful wealth of others".

Millions of people have made the commitment to live life while embodying the values promoted in an ashram. Can this way of life be considered as an alternative means of development from the type of development Winston Churchill was so proud of? Can this way of life lead to the long-term conservation of nature?
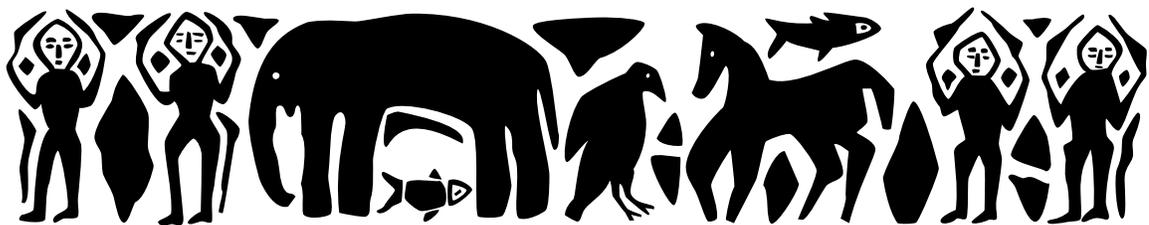
Environmental Ethics?

WHAT ARE ENVIRONMENTAL ETHICS?

Ethics is a code of values that recognizes that humans are interdependent. This reality is dictated by the human need to live in groups and the necessity, thereby, to share the Earth's resources and land. In order to create order and avoid chaos, people living in societies need to adopt generally accepted or normative rules of conduct and follow social norms. These codes of conduct for the "right way to act and live" imply that each individual has the duty and responsibility to care for other humans now and in the future and they set out the criteria which defines specifically what an individual's rights and duties are. Furthermore, ethics justify a method that may be used to appraise the actions of individuals and institutions, while specifying the qualities to be encouraged and discouraged in an individual's character (virtues and vices). Peer pressure and the law play a role in enforcing this system.

(BENSON, 2000)

Though there are general norms in ethics, which are agreed upon, there are great differences between views of ethics towards the environment. On the next page are two distinct environmental views or ethics that relate to the environment.
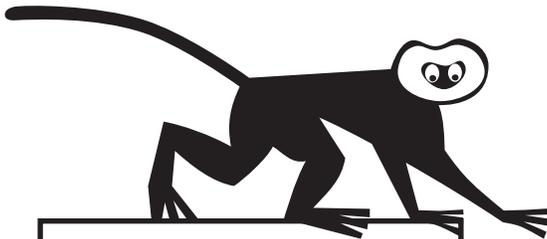
Objective:

To understand what environmental ethics are and how they influence behaviour. The trainee will be able to identify the ethic of their training group and understand how to design their programme appropriately to promote a more environmentally friendly ethic.

Skills:
Interpreting, analysing, comparing and contrasting, presenting and applying

Time:
65 minutes

Materials:
Flipcharts, card sets

Non-human centered moral status and intrinsic value:
The human is only a component of a larger cosmos. All living forms must be respected regardless of their human value. Human development must not threaten nature and the survival of other species. Humans must treat all other living things with respect and avoid causing them unnecessary misery and death. Each person should be responsible for his/her impact on nature.

Human centered moral status and material value:
Nature is there for our use. It has been created to help humans survive and flourish and it is our right to exploit it for our benefit. There is no need to worry about the future, as nature always will provide for us.

Activity

THE ETHICS OF BEARS

PREPARATION
Photocopy the Ethics of Bears cards and cut out for groups to use. Have glue and large paper for them to paste the cards on.

PROCEDURE:
1. To begin, ask the trainees what ethics are. Ask them how ethics affect their behaviour. Have the trainees write their answers on cards while you stick the cards on a board. Group similar answers together.
(15 minutes)

2. Break the class into groups and distribute the six cards on different environmental ethics, a large sheet of paper and glue. Ask trainees to read the statements carefully and stick them on the flipchart respectively from left to right. At the far left, place the statement which represent an ethic that is most concerned about the environment and then continue sticking the cards on the paper moving to the right as the statements become less concerned with the environment.
(25 minutes)

3. Ask the students to analyse the paragraphs below to identify which ethic most closely relates to theirs. Also have them explain what type of EE activity can be developed for each paragraph in order to influence the ethic and change the behaviour of the individual.

4. Have the groups present their results.
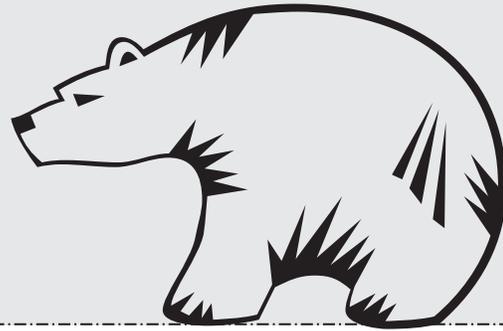
ETHICS OF BEARS CARDS

1. I believe that all animals and plants have their own spirit and are connected by a cosmic web. I am just part of the Earth and her myriad forms. I believe that the Earth is a living body and she is my great mother. Humans are only one component of the universe. In order to survive, sadly, I must sacrifice some of the other living things on the earth for food and shelter. But when I do this, I must pray for their forgiveness and thank them for their life. I have been offered rice wine with bear gall bladder, but every time I refuse. I would never harm a bear for this use, as he or she is equal to a human being. Could I take gall bladder from a human to drink? I would die before harming a bear for this purpose.

2. I work for a conservation organization and believe that nature is precious. I could not imagine any other job. Everything on Earth is interconnected and animals are beautiful creatures. If we destroy nature, we are destroying the balance and this might cause us to suffer. I recently went out with my friends to drink wine. They ordered wine that contained bear gall bladder. I feel that it is okay to drink this wine with my friends on special occasions as I already do a lot to protect nature and a few times won't affect the balance. Besides, bears are not endangered yet.

3. I am a traditional Chinese doctor just as I dreamed I would be when I was a child. I work to save the lives of people and to make sure they are healthy. I learned to treat many types of diseases and to produce many types of medicine from plants and sometimes animal parts. We are lucky that the Earth is so bountiful in resources that we can find cures in our forests. The Earth's resources are precious and people only know a little about the potential value they can provide for us. We need to use these resources in a sustainable way, as no one knows exactly if we can discover cures for human diseases like cancer or AIDS. I often prescribe medicine to my patients made from bear gall bladder. I love nature but it is necessary to exploit these animals to save lives, and besides, they aren't killed but just kept in cages.

4. I am a schoolteacher. I work to teach children, who are our future, to be better citizens. I also teach some lessons about protecting natural resources. Humans in the past and at present have depended greatly on the Earth's natural resources, and we wouldn't be here if it weren't for them. As the Earth's resources are limited, if one generation uses too much, the next generation will not have enough to meet their requirements for development and to live a materially comfortable life. So, it is up to us to use them wisely so we can pass them on to future generations. When I go out with my friends on weekends, I even enjoy drinking wine made from nature. Sometimes we drink gecko wine and other times we drink bear gall bladder wine.

5. I work for a timber company. We harvest old growth trees for export to Japan. It is great for my country as we are beginning to get richer from this business. We should harness the power from all natural resources so we can grow richer and richer. After all, nature has been given to us to use to industrialize and develop. If we don't use it it, is going to waste. We should exploit it as much as possible for our benefit. Every week I drink a glass of wine with bear gall bladder because it can make me live longer.

Planning and Designing an EE Programme

Defining the Programme Objectives and Identifying the Critical Behaviours or Root Causes to Target
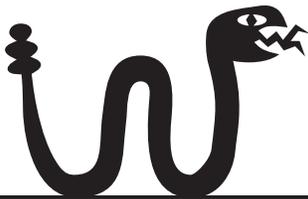
Objective:

To learn to identify critical behaviours or root causes to address when designing an EE Programme.

Skills:
Organizing, analysing, interpreting, presenting, and working in groups

Time:
120 minutes

Materials:
Overhead projector or flipchart, transparencies, pens, coloured paper, and cards

Defining a specific problem or problems to target is a critical first step in designing a programme. It is also essential to define the root causes of the problem so that the issue is being tackled at its source. The more proximate the source of the problem being addressed, the more successful the approach will be. One effective tool to identify the problem and its root causes is a problem tree. The root causes identified in the problem tree can be analyzed and translated into specific behaviours to target in an EE programme.

FIGURE 1.1

SAMPLE PROBLEM TREE TO DEVELOP EE PROGRAMME OBJECTIVES AND TARGET CRITICAL BEHAVIOURS
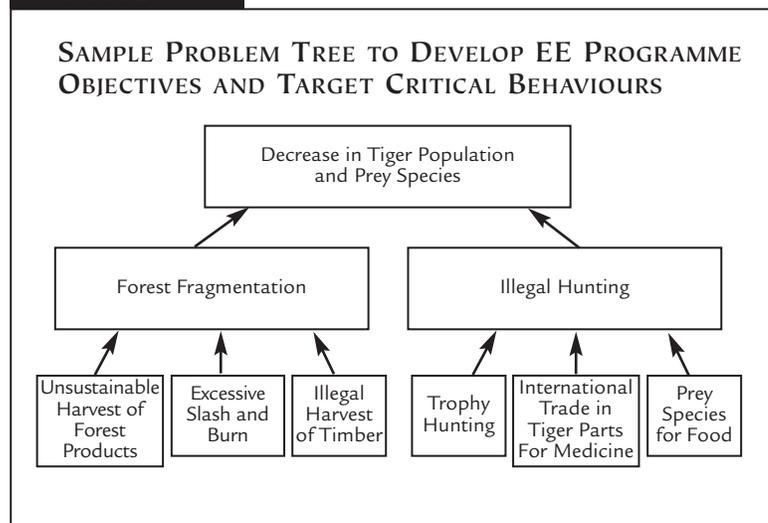
Activity

PROBLEM TREE ANALYSIS

PREPARATION

Make photocopies and a diagram on flipchart paper of the sample problem tree. Have flipchart papers for each group and coloured paper cards to write on.

PROCEDURE

**1.** First show the sample problem tree (**Figure** 1.1) and explain the process of how it was made. Then break the class into groups of up to six people.

2. While in groups, have the trainees first select a focal problem that is the biggest threat they are working to stop. Write it on a card and stick it on the top of a large paper. For example, the highest level problem in the sample is the loss of tiger species and their prey base.

3. Next have the group determine the immediate causes of the problem and write them on coloured cards and place them below the main problem.

4. For each problem at the second layer, ask WHY that is happening and write the root cause or causes underneath.

5. Have the trainees connect the different levels of the pyramid with lines to show the links between cause and effect.

6. Ask the groups after they have completed their trees to present them to the class.

7. Explain that this is an exercise and that to do this in reality, they should involve stakeholders in identifying the exact root causes.

8. Once the root causes are identified, the group should evaluate them and select the ones that can be targeted by EE. After this, they should prioritize which ones they can work on based on the urgency of the issue and their time, labour, and financial capacity. These will be the critical behaviours to target in their EE programme.

Putting it all Together: Design a Programme to Target Critical Behaviours and Promote Conservation
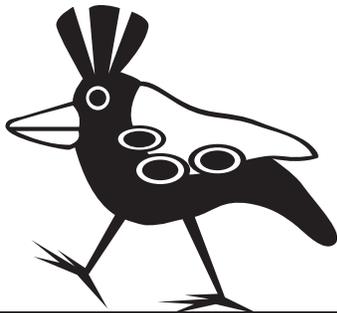
Objective:

To learn to identify the factors that influence the critical behaviours targeted in an EE programme.
To be able to identify the intervention needed to target the behaviour.
To be able to design a sample project based on what you have learned.

Skills:
Reading, organizing, analysing, interpreting, applying, evaluating, presenting, and working in groups

Time:
180 minutes

Materials:
Overhead projector, transparencies, photocopies, flipchart

Once the critical behaviours have been identified, it is essential to identify the factors that cause these behaviours. Understanding these factors will provide a basis for designing EE activities and materials appropriately.

Activity

IDENTIFY THE FACTORS

PREPARATION
Make handouts and overhead slides of the **Understanding Behaviour** Worksheet; **Critical Behaviour Intervention** Worksheet; three case studies. Write questions on a flipchart.

PROCEDURE
1. Hand out the worksheet **Understanding Behaviour** and review it with the class.

UNDERSTANDING BEHAVIOUR WORKSHEET

FIGURE 2.1

Checklist of questions you might ask:	Answers:
Knowledge ‣ Do people behaving this way know that it damages resources?	
Value ‣ Do they care that the resource is being damaged by this behaviour?	
Social norms ‣ Do they care what other people in their community think of them if they behave this way? ‣ Are there local influential people or leaders who are role models for sustainable or unsustainable behaviour?	
Sociocultural factors ‣ Are there religious beliefs or taboos that influence behaviour? ‣ Does cross-culture contact influence the behaviour?	
Options ‣ Do people have viable options or alternatives that do not damage the resource?	
Skills ‣ Do people have the skill and means of taking advantage of options and alternatives that do not damage the resource?	
Economic ‣ Are there overriding economic factors that motivate behaviour despite knowledge, values, sociocultural factors, options, and skills?	
Law ‣ Are laws, rules, enforcement rates, and penalties adequate to deter or stop this behaviour?	
Policies ‣ Do policies of government agencies encourage or discourage this behaviour?	
Gender ‣ Does gender affect the behaviour?	
Resource access or "ownership" ‣ Is this behaviour affected by differences among users with access to resources or ownership of them?	

(BYERS, 2000)

2. Now hand out the **Critical Behaviour Intervention** worksheet and review it with the trainees.

CRITICAL BEHAVIOUR INTERVENTION WORKSHEET

FIGURE 2.2

If people behaving this way...

❯ **Don't know** that it damages resources,
    Provide this information using education and communication activities.

❯ **Don't care** that the resource is being damaged,
    Try to change values and attitudes with dialogue, education, and by resolving disputes.

❯ **Do care** that the resource is being damaged,
    Strengthen their resolve with education and dialogue.

❯ **Do care** what others in the community think of them if they damage the resource,
    Strengthen social norms by raising awareness raising and monitoring the community.

❯ **Lack viable options and alternatives** that do not damage the resources,
    Create and discover such options and alternatives.

❯ **Lack the skills** or means to take advantages of options,
    Train them in the skills and, or provide means.

❯ **Are motivated** by overriding economic factors to use the resources unsustainably,
    Increase incentives or benefits for desired behaviour or
    Increase costs for behaviour that damages resources.

❯ **Are not deterred** by laws, enforcement rates, or penalties when damaging the resources,
    Make new laws or, **Increase** enforcement rates or penalties.

❯ **Lack security rights** to use and manage resources and so are not motivated to conserve them,
    Advocate and **lobby** for access to resources or ownership of the resources
    by those using them.

❯ **Are not motivated** because of gender inequality and disempowerment,
    Address gender issues with dialogue, education, and training.

❯ **Lack effective organization** to manage the resources and promote desirable behaviour,
    Promote institutional development, reform, and, capacity building.

(BYERS, 2000)

3. Hand out a case study to each group and have them read it carefully.

4. Have the groups develop a sample problem tree for their case study and identify the main problem to target. Also based on the problem tree and using the **Understanding Behaviour Worksheet,** have them identify which behaviours in the case study are the critical ones to target and the factors that cause the behaviours

5. Now have the groups look at their results and analyse them based on the **Critical Behaviour Intervention Worksheet**. Ask them how they could best address those behaviours.

6. Finally, have the groups design a brief EE strategy with relevant activities for their case study

7. Have the groups write their results on a flipchart and present them to the class

8. Review the trainees' results and discuss what they have done and make suggestions for improvement.
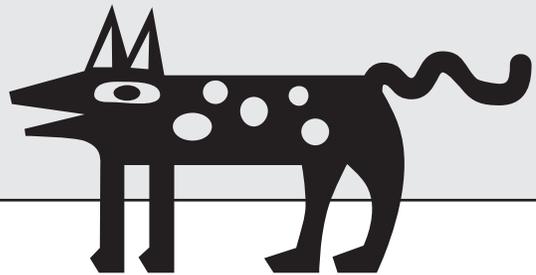
CASE STUDY 1

Bwindi Impenetrable National Park (BINP) - Uganda

Bwindi Impenetrable National Park, situated in south-western Uganda, is composed of a continuum of lowland to montane forest. The national park is home to at least 120 species of mammals, including the mountain gorilla, making it one of the richest forests in Africa in terms of mammalian species.

The BINP is surrounded by a large human population with a density ranging from 151 to 301 people per square kilometre. The local people here are poor and are quite dependent on the forest. In 1991, Bwindi Forest became a national park and the neighbouring communities lost the limited access that they formerly enjoyed because they do not have the right to collect forest products anymore. They know that the law exists and they also know that the resources are being damaged. They try to improve their livelihood by doing some activities such as bee keeping, agro-forestry, tree planting, and animal husbandry. However, they have not been successful in these activities and their lives haven't improved much. Therefore, as the forest provides them with the essentials for survival, local people still go into the forest to collect non-timber forest products such as medicinal plants, honey, mushrooms, fruit, cattle fodder, and materials for basketry. At present, a solution to these issues is being sought.

(WWF, 1998)

CASE STUDY 2

Kaya Forest - Kenya

The Kaya Forest consists of remnant patches of the once extensive and diverse tropical lowland forests of the East African coast. The word "Kaya" comes from the local Mijikenda people who traditionally used the term to describe their 45 villages, which were surrounded by a belt of thick forest. Plants in Kaya have been used for medicinal purposes by the local communities, thereby enhancing the value of these resources for local people.

Much of the Kaya is now threatened with total destruction or severe degradation by the over exploitation of forest resources due to cultivation, encroachment and allocation of land for non-forest uses. The Kaya is also threatened by conflicts over land use within the local communities, between the elders who still reserve these scarce groves and many of the unemployed youth whose cultural values have been changed. Communal land ownership of these forests acts as a disincentive for local communities to protect them since not all individuals share the traditional reverence for these areas.

Besides, people in this area are living in poverty. Not many children have a chance to go to school and the illiteracy rate in communities is extremely high. Though the Kaya forests have been legally recognized as national monuments and are protected by the Kenya government, people do not know that it is illegal to go into the forest to collect forest products. Local forest guards are employed to guard the Kaya against improper use and poaching. These forest guards have the power to apprehend offenders, but they never come to local communities to talk about forest conservation. Already, an unknown number of rare species of plants, insects and birds may be extinct. How to protect the Kaya forest is currently a big question for Kenya.

(WWF, 1998)

CASE STUDY 3

ROYAL CHITWAN NATIONAL PARK - NEPAL

Situated on Nepal's southern border with India, Royal Chitwan National Park, the first park of Nepal, has a total area of 932 kilometres. This park is especially known for the royal Bengal tiger and the greater one-horned rhinoceros.

Tiger hunting, which is common in this area, is very profitable. Tigers are hunted for their meat and skin, and for medicine. Since 1989, many biodiversity conservation projects, which include tiger conservation, have been carried out in this national park and its buffer zone. Rangers of the park meet with local people to tell them about tiger conservation. However, tiger hunting continues. Hunters are willing to face the risk of being arrested by rangers in order to hunt the tiger. During a spate of poaching incidents in the early 1990s, 25% of tigers in the west of Chitwan National Park were lost.
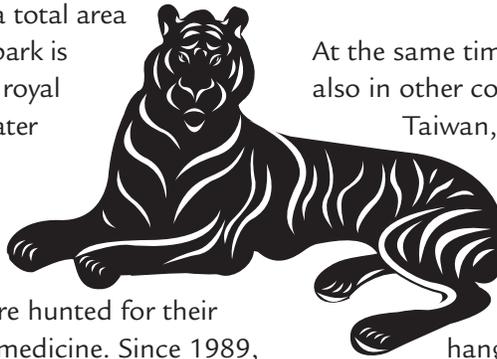
At the same time, in the cities of Nepal and also in other countries like Vietnam, China, Taiwan, Hong Kong and South Korea, people use many kinds of tiger-based medicines or use tiger-based products like wall hangings, and fur coats. Many of them do not know that the products are illegal. They simply think that they have money and they can buy whatever they want. Other people know that it is illegal and that it has a bad effect on natural resources, but they know of no other options.

If this situation continues what will be the tiger's future?

(MISHRA AND JEFFERIES, 1991);
(JACKSON AND KEMF, 1996)

CHAPTER THREE
Designing a Lesson

Developing a lesson is a critical step in an environmental education programme. This chapter will outline some suggestions to keep in mind to get you started.

COGNITIVE SKILLS TO INCORPORATE INTO THE LEARNING PROCESS

When designing a lesson plan, one needs to make sure that the plan entails a pedagogical process. The process should include the transfer of cognitive skills by incorporating them into the learning method and process.

Cognitive skills that are important for students to learn are as follows:

- **Knowledge**: Recall facts and basic observations
- **Comprehension**: Students can debate, explain, clarify and summarise received information.
- **Analysis**: Students can divide an entity into parts and ideas that are logically linked. Make inferences, find causes and draw conclusions
- **Synthesis**: Students can link different or distinct ideas to make an entity. Solve problems, and make predictions.
- **Differentiation**: Students can compare different ideas and distinguish the logical one.
- **Evaluation**: Students can evaluate different theories or themes. Make decisions and appraise.
- **Application**: Students can use learned concepts in new contexts that are different from the original context.

(PALMER AND NEAL, 1994)

Objective:

To develop a balanced and fun lesson which focuses on the learner-centered approach and incorporates cognitive methods.

Skills:
Researching, organizing, analysing, interpreting, applying, presenting, and working in groups

Time:
90 minutes

Materials:
Overhead projector, transparencies, flipchart, white-board markers, magazines and books for research

Knowledge Targets

When developing a lesson plan for EE, one should be sure to cover specific knowledge areas important for a well rounded understanding of the whole environment. Specific learning targets for EE have been established by the National Association for Environmental Education (NAEE) in the UK in 1976 and can serve as a guideline for developing appropriate curricula to reach conservation objectives. The targets for learners are as follows:

Area and Location
Experiences a basic orientation within the local and national environments. Perceives the Earth as the home of humans but recognizes the limit of resources. Observes how humans use and influence the environment. Learns to use local and world maps.

Atmosphere and Cosmos
Can describe and measure simple climatic factors in the local environment and appreciates their significance for food production. Recognizes the role of the atmosphere in the life of the plants and animals. Can identify the major climatic and vegetative patterns of their region and the world.

Landforms, Soils, and Minerals
Knows that soil is dynamic: (a) it contains living things and supports plant growth, (b) it erodes or becomes less fertile. Can identify different soil types. Sees the inter-action between soil and living things. Understands that mineral resources are limit-ed.

Plants and Animals
Knows from first hand experience various kinds of plants and animals in his/her own environment. Recognizes inter-dependence among soil, atmosphere, plants (producers), animals and man (consumers). Knows what is meant by the food chain. Is aware of some endangered species and measures needed for their conservation.

Energy
Recognizes manifestations of energy in various forms, and the control of energy by humans. Knows that energy is generated by the sun and the energy cycle. Knows the origin of fossil fuels and the impact of its use on the environment.

Water
Knows the necessity of water for life and its importance as a natural resource. Knows the water cycle. Is aware of water pollution and limits.

People
Recognizes the varieties and similarities among people. Knows how people live in and use different environments. Knows rural depopulation is a worldwide phenomenon. Is aware of population growth and its relation to the quality of life.

Social Organization

Learns individual and group responsibility or ethics concerning the environment. Uses environmental experience to gain self-discipline. Recognizes agencies working on environmental problems and recognizes cooperation as a means for solving world environmental problems. Also recognizes local, regional, and national laws to protect nature.

Economics

Relates food, clothing, and shelter needs to available resources in various societies. Recognizes the organization of resources into farming, forestry, fishing, mining, manufacturing, servicing, transportation, and communication.

Aesthetics, Ethics, Literacy

Uses environmental experience to acquire basic skills. Learns basic vocabulary of environmental terms. Uses the visual arts and music to describe and interpret various environments.

Built Environment

Recognizes different buildings and functional areas in the locality. Knows how the construction of built areas may impact on the natural environment.

(NAEE, 1976)

STEPS TO DEVELOP A LESSON

- Select objectives for the lesson based on the essential knowledge targets. Your long-term plan should cover all the knowledge targets. Your individual plan covers one topic. What do you want the student to learn in the lesson? The entire lesson plan for EE should follow a process "from awareness to action." Therefore, the lessons should not be limited to the goal of information dissemination but should also include changing attitudes and developing skills.

- Identify and select the subject for the lesson. What would be an interesting topic to cover to reach your objective?

- Identify the methodology to maximize the learning process and develop higher thinking skills. Create an activity that teaches the material in a fun and participatory way.

- Research. Read books and magazines; visit the Internet; and gather all the necessary information.

- Write the lesson so that it is balanced, fun, emotional, and includes cognitive learning.

- Estimate the time for carrying out the lesson.

- List and acquire the essential materials and equipment to implement the activity and make the lesson more visual and fun (films, games, pictures).

Activity

PREPARING A LESSON

PREPARATION

Make copies of the **Cognitive Skills To Incorporate Into The Learning Process**; **Knowledge Targets**; **Steps To Develop A Lesson**; Magazines and encyclopedias.

PROCEDURE

1. Divide trainees into three groups. Distribute one copy of **Cognitive Skills To Incorporate In The Learning Process**; **Knowledge Targets**; and **Steps To Develop A Lesson** to each trainee to skim through.

(10 minutes)

2. Ask each group to develop one simplified lesson according to all the above principles.

(90 minutes)

Give the students the magazines and encyclopedias for quick research. Sample topics for lessons might include: Why do we need to protect our forests? What are the roles of wetlands? What are the benefits of trees? How do forests prevent floods and erosion? How are species related to each other? What would the forest be like without animals?

3. Have the groups present their results on a flipchart.

4. Other groups can ask questions and compare the lesson to the criteria in the handouts to see if it is a suitable and balanced lesson.

Green Clubs

WHY ESTABLISH GREEN CLUBS?

This is an extracurricular activity that is easy to conduct in remote schools while it does not increase the workload of students and teachers. The Green Club is also a good chance to test EE before it is introduced officially into a curriculum. Green Club activities give students a chance to learn about the environment. These are relaxed extracurricular activities, which complement a comprehensive education and help students to improve their knowledge and skills about nature in a pleasant and fun setting.

THE GOAL OF GREEN CLUBS IS NATURE CONSERVATION

EE activities in Green Clubs should focus on educating students about nature conservation in natural areas and in urban areas. The activities should focus on engendering a spirit of and responsibility for conservation, while also providing tools to take conservation action. The students may also spread the message about conservation, and through them, adults in the local community may learn to be more responsible and become more proactive in the protection of natural resources.

Objective:

To know what a Green Club is and be able to set one up.

Skills:
Knowing and comprehending

Time:
45 minutes

Materials:
Overhead projector, transparencies
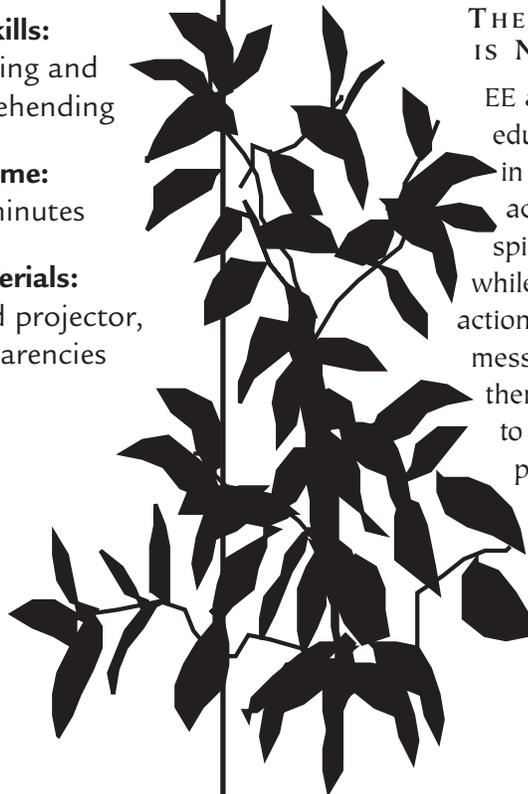
STRUCTURE OF A GREEN CLUB

Each primary school or secondary school can establish one Green Club. However, the number of schools in each protected area that participate in Green Club programmes depends on the ability, time and resources of the Protected Area's EE team.

A Green Club can be broken into classes if there are many students. Each Green Club class should have no more than a 1:20 teacher/student ratio. This number facilitates management of the class and also enables the teacher to work individually with the students more easily. This number of students also allows children to work in small groups and to participate equally.

However, the greater the number of students participating in Green Clubs the more effective the conservation programme will be. So, to enable greater participation, each school may have as many classes as needed to maintain the 1:20 teacher/student ratio. Therefore, if there are 80 students interested in Green Clubs in one school, then there should be four different Green Club classes in that school, each led by a different teacher. All classes should, however, follow the same curricula and activities. For field trips, the different groups may travel together but should be supervised by its own teachers.

In primary schools, Green Clubs should include students from class three to class six. In secondary schools, Green Clubs should include students from class six to class eight (Students of class nine are always busy with high school entrance examinations). If local students are able to participate continuously in EE activities throughout the years, from primary school to secondary school, there will be a much greater chance to develop future conservationists among them.

The Green Club class should meet at least once a week at a regular time. The time and the length of the meetings are up to the students and the teacher but should not conflict with schoolwork or duties that need to be fulfilled at home.

WHERE TO CARRY OUT GREEN CLUB ACTIVITIES

Depending on the content and time of planned activities, they can be conducted in class, in schoolyards, in a school garden, or any place outdoors as long as there is good weather. Outside activities are always much more fun, enable students to learn from the environment and provide more space to play games. Students can also participate in outreach activities in their village/hamlet/community.

CLUB CHARTER AND SONG

To make students more interested and proud of their club, each Green Club should have its own name that is chosen by the Green Club's members at the first club meeting. This name may be the name of an animal or plant that students love. Each club should also have an agreement or charter for members to sign, which is composed by the supervising teacher of the club. This charter should be read at the beginning of all meetings. Each club member will also have a Green Club card with the student's name, class and club name written on it. The card can be laminated to make it last longer. If possible, each club should choose its own song about environmental protection to sing at the opening of the meetings.

DEVELOPING A GREEN CLUB ACTION PLAN

Green Club teachers, in cooperation with and assistance from EE staff of the protected area or national park, should develop an action plan based on EE theory and local conditions. To do this, the teacher and EE staff must be trained in EE.

In general, this action plan should be developed for one year to correspondence with the school year (from September to May). A Green Club should schedule activities weekly. When developing the action plan, the teacher should not arrange any activities during national holidays or when students have to take final examinations.

The action plan should state clearly the time (month, day, hour), content (objective, subject, method, materials needed), individual responsible (name of supervising teacher, name of assistant teacher), and venue (where to conduct the activities).

The action plan must be supported and approved by the school management board. As the Green Club is an extracurricular activity, the supervising teacher should cooperate with other teachers in charge of the Youth Union to link the Green Club activities with these other activities. In the event that the school wants to conduct Green Club activities during the summer holiday, it has to cooperate with the People's Committee or village Youth Union to develop the action plan for the summer.

MEMBERSHIP RIGHTS AND RESPONSIBILITIES OF GREEN CLUB MEMBERS

Green Clubs are volunteer groups that consist of students who want to participate in conservation activities. Green Club members benefit by participating in weekly activities, learning by playing games and taking field trips. They also may receive EE materials such as a newsletter, storybooks, posters, and membership pin. As members, the children also have the responsibility to actively take care of nature and to volunteer in activities for the environment.

Participants and Stakeholders

Teachers: Any teacher who would like to, may participate in activities of the Green Club together with students. However, in terms of management and supervision of EE, each Green Club class in one school needs at least two teachers who have been trained in EE. One will manage and supervise in general, and the other will act as his/her assistant.

Teachers who participate in Green Clubs must be well informed about the environment and understand EE and the learner-centered approach to teaching. Teachers must also be willing, enthusiastic, creative, excellent problem solvers, managers and role models for the students. The teachers must be exemplary for students in attitude and lifestyle. They should be good natured and respect students' ideas and decisions. Experience shows that the teacher who is the manager of the Pioneer Union is suitable to be the manager of a Green Club.

Students: As Green Club is a volunteer group, students must also assume some responsibility for managing their club. Two students are required for the positions of president and secretary of the club.

> **President**: Responsible for calling the club meeting into session and soliciting membership; can also provide administrative support for teachers when carrying out activities during the club meetings.

> **Secretary**: The secretary helps to compile the newsletter, reports on the meetings, helps the president solicit memberships, and manages materials and learning tools of the club.

School Management Board and Department of Education and Training

The school management board is responsible for encouraging and supporting the organization of Green Clubs in the schools. It should also support teachers and school Youth Union/Pioneer Union leaders to coordinate their teaching content and action activities.

At regular meetings, the supervisors of Green Clubs and the schools' Youth and Pioneer Union, leaders should report to the Department of Education and Training about their activities. By attending these meetings, they can promote Green Clubs as a model for extracurricular activities and encourage the input of new content into school Youth and Pioneer Unions. Based on that, the Department of Education and Training can encourage schools to adopt these approaches and increase the number of Green Club programmes by introducing them into new areas.

Local Authority and Student's Family

To have support and agreement from a student's parents and the local authority, official letters need to be sent to the village People's Committee and Youth Union. These state the club's goals and the rights and benefits of the club members.

Outreach activities of the club should always be done in cooperation with the local authority and with adults in the community. Schools can appeal to and invite students' parents, village elders, hamlet heads, village leaders and Youth Union leaders to participate in club meetings in a variety of ways, such as by telling stories or leading field trips.

Rangers of National Parks

Rangers of national parks and protected areas should participate and cooperate with Green Clubs in the design and implementation of activities. Rangers may be invited to talk about forest ecology and wildlife protection, deforestation, and the prevention of forest fires during the dry season. Rangers may also provide information materials such as booklets and posters and help club members to discover nature and the environment by leading field trips. Student might cooperate with ranger stations in the area to conduct field trips to monitor forest plots, survey the biodiversity, plant trees, watch birds, and scout for forest fires.

How to Conduct One Green Club Meeting

One Green Club meeting may be organized as follows:

1. Bring the club to order. Take roll call. Read the charter and sing the selected song of the Green Club

2. Present the report on progress of on-going activities of the Green Club. The teacher can comment on the activity of the last meeting and repeat the conclusions of the last meeting.

3. Announce up-coming activities.

4. Conduct fun and relaxing educational activities and games to learn new things about nature and the environment

The Green Club supervisor may be flexible and adjust the schedule of the club's meetings to make them more relevant to the practical situation of the school and community.

Evaluation of a Green Club

Results of a Green Club's activities are clear when an environmental condition is improved by the Green Club such as when a local stream is cleaned by students. One may also be able to see a change in the consciousness, participation and responsibility of community members towards nature conservation. However, strict evaluation of an education programme and its effect on knowledge, understanding, attitude and conservation action are not so easy and a more comprehensive system is needed to monitor these changes. This system can be developed with technical assistance from WWF, and staff of the local protected area.

It is essential, however, for a teacher to evaluate the effectiveness of his/her teaching and the enthusiasm of the students for the activities. This information will enable teachers to improve the quality of the content and methods of the Green Club programme for maximum effectiveness. A Green Club teacher can use the following criteria to evaluate activities:

❧ Number of Green Club members participating in the activities

❧ Real time needed to conduct the activity compared to the time planned for conducting the activity. (minutes) If there was a discrepancy, why?

❧ Is the activity appropriate for students or not? If not, why?

❧ Do students feel that the game is interesting and fun? If not, give reasons.

❧ Does the activity achieve the goal of helping a student understand the environment and does the activity encourage practical action for the environment?

❧ Does the activity involve too many presentations that take too long? (15 minutes is efficient)

❧ Does preparation for activities take too long?

❧ When the activity ends, is discussion encouraged by the students? Do they come up with correct conclusions?

❧ How can the activity be adjusted to make it more effective?

Evaluation of classroom activities should take place periodically and it is best to evaluate after each activity.

SOME IMPORTANT SUGGESTIONS TO MAKE GREEN CLUBS MORE EFFECTIVE

❧ During the club meeting, the teacher should never make decisions without consulting students and should allow students to actively participate in activities at their own pace.

❧ Green Club meetings should not be a one-way transfer of information. There should be an opportunity for students to discuss and share information openly. Group work is one suggested method.

❧ The Green club teacher encourages discussion by the students.

❧ Topics for class discussion should be difficult enough to challenge the students but not so difficult that they are hard to understand. Simple topics that can be used include: Of the things that you consume and use everyday, which come from the forest/nature? What are the consequences of deforestation? Why are animals in the forest disappearing so quickly? What can students do to protect the forest and wildlife?

❧ Green Club's can be conducted in ways that create better relationships between teachers and students. The teacher not only guides the students but also participates in actual activities with the students.

❧ Preparation of Green Club activities takes a lot of time to be effective and fun.

❧ To avoid stressing or boring the students, do not overload them with too many activities. Activities should be appropriate for a student's age and local context.

❧ Do not pay too much attention to losing or winning. Encourage students to share knowledge and experiences with each other and learn together.

❧ Ensure that students clearly understand the objectives of activities to set his/her own learning goals and link them to prior knowledge and experience.

❧ There is no need to correct minor mistakes that the students may make. Give students some room to learn from their own mistakes. Allow them to also make some decisions on how to carry out the activities. Do not strictly adhere to rules of games if the objective of the activity is still clear and let students bring into play their creativeness.

❧ Let students feel relaxed and enjoy themselves.

Activity

INTRODUCTION OF GREEN CLUBS

PREPARATION

Make transparencies of **Some Important Suggestions to Make Green Clubs More Effective**.

PROCEDURE

Present the information in this chapter to the trainees on overheads.

SECTION FIVE

Presentation Techniques and Workshop Games

Presentation Techniques
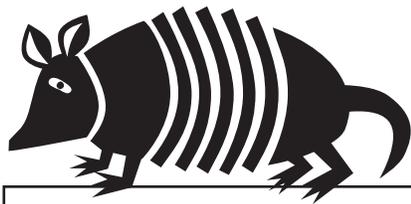
Making a good presentation is one of the most important factors that determines the success of your training. You may have a good training approach, but without a good presentation you cannot achieve your goals of the training effectively. This chapter will provide you with some guidance on presentation skills.

METHOD FOR PRESENTATION

Your method should follow that of the learner-centered approach described in Chapter 5, Section 2 and should include group work, a mix of visual and audile techniques, and student presentations. Remember, after 15 minutes the average person can no longer focus on a lecture and thus its effectiveness in learning decreases greatly.

OBJECTIVE AND CONTENT OF YOUR PRESENTATION

You need to define the objective of your presentation. What do you want the student to learn from this lesson? You should select subjects that fulfill the goal of your training. Since your goal is EE, then the subjects you choose should provide learners with critical information that influences their knowledge, attitude, and skills in regards to nature conservation. The objective of each lesson and thus the subject selected should follow the lesson plan for EE developed by the EE extension staff of a project or PA or a school teacher. These lesson plans should be modeled on the knowledge targets mentioned in Chapter 4 of Section 5 and together should form a comprehensive education programme.

Objective:

To know the key points about giving a good presentation and to be able to put them into practice.

Skills:
Researching, organising, interpreting, evaluating, presenting, and working in groups

Time:
120 minutes

Materials:
Overhead projector, transparencies, magazines and books for research

While your presentation should be new, fun and interesting, it must also provide accurate information. Thus, you should spend time to researching and preparing the information for your presentation. You may have many sources of information such as local conservation organizations, experts working in the area, long-time residents, government ministries or agencies related to your topic, school books, libraries and the internet. Make sure that the information you collect is comprehensive, current and accurate.

It is important not only to state facts, such as scientific names of plants or animals or the number of native plants or animal in an area, but also to explain and interpret this information in a fun and creative way. By doing this, you can make a lasting impression on your training group so they remember and connect to the information.

STRUCTURE OF YOUR PRESENTATION

Any presentation should include three parts: an introduction, the body, and a conclusion.

The **introduction** does two things. It focuses the learners' attention by promising them a rewarding experience and provides them with an overview of the objective of your presentation and also the main message. Your introduction can be startling or humorous, a rhetorical question or a quotation. Your goal is to be provocative. You need to grab your learners' attention with your first words. The introduction should introduce your message and set the learners' expectations.

The **body of your presentation** should describe the main ideas within your message in a way that is relevant, meaningful, and entertaining for your learners. It should convey a message, which is expressed by no more than five or seven main ideas. The body of your presentation will be off target and of little appeal to your learners if it does not have any message.

To be effective, all your main ideas presented should be illustrated in some way by using visual aids, such as props, slides, maps, charts, graphics or by creating mental images with metaphors, comparisons, and analogies. Make sure you breathe life into potentially boring subjects.

The **conclusion** should summarise the main points and reemphasizes the message, connecting it to real life experiences of the audience. It might include a thought provoking quote or a dramatic ending for emotional impact.

According to Sam Ham, when you prepare your presentation, you should follow the **2-3-1 rule.** This rule's name comes from the order in which different parts of a presentation are developed: 2 (body), then 3 (conclusion), and then 1 (introduction) A common mistake is trying to prepare the introduction first. Remember that the introduction is to attract the attention of your learners and to tell them how you're going to organise your presentation. And you cannot do this until you have outlined your body. Besides, a good introduction should also prepare your learner for the conclusion. Thus, the body should be developed first, the conclusion second and the introduction last.

<div align="right">(HAM, 1992)</div>

How to Give a Presentation (Presentation Style)

Now that you have a presentation ready to be given to your learners, how do you bring it alive in order to achieve your training goals?

Setting the context:

Setting the context is a very important step in your presentation. According to Kathleen Regnier, Michael Gross and Ron Zimmerman, 1992, "You begin speaking to your learner long before you utter your first word. Your grooming whispers about your dependability. Your posture states your competence. Your clothing shouts your credibility as an expert on the subject." Thus, you should be appropriately groomed and dressed with a confident posture. Let your appearance assure your learner that you are competent.

Also, you should be a good host by arriving before your learners come, to prepare all the equipment and check that everything is set for your guests. You should welcome the learners when they come and try to get acquainted with them as much as possible. By doing this, the barriers between you and the students will be broken.

Your beginning:

When you start to talk, the first 30 seconds are critical in establishing a relationship with your learners. You need to project warmth, confidence, and competence. Don't put barriers between you and your learners. Don't stand behind a podium or a table. Meet the audience standing upright with a smile and eye-to-eye contact. Be casual but not sloppy. Don't sit down or stand with hands in your pockets. Don't be too formal though, with hands behind you, in a wooden posture, and with a gloomy expression.

(REGNIER, GROSS AND ZIMMERMAN, 1992).

How to remember your presentation:

Don't try to memorize your whole presentation as it may easily prevent a fresh, spontaneous delivery. Keep your main points in mind and you will easily remember the examples that illustrate them. In case you need to memorize something, memorize the following (Sam H. Ham, 1992):

- The very first thing you'll say when you greet your learners
- The outline of the body
- The first sentence of your introduction
- Your message that will be conveyed in the introduction
- All transitions (sentences or paragraphs that connect introduction to the body or body to conclusion or even connect main ideas)
- The first sentence of your conclusion
- The message that will be re-emphasized in the conclusion
- The last sentence of the conclusion

In case you have to prepare notes to use as a clue to get back on track, simply pause, look at your notes and carry on naturally. Don't hide your notes or it will look like you are "sneaking a peek" and it can destroy the attention of your learners.

<u>Your voice</u>:
Talk with a friendly voice as when talking to a group of your friends. Don't make your presentation become a formal scientific forum.

Your voice should be loud enough so that all learners can hear it. You also should change your voice (higher or lower) and its rhythm should depend on the subject you are talking about. When you want to emphasize something, talk with a slow, deliberate pace. Breeze through other parts lightly. You can use a moment of silence to set off main points of your presentation. Pauses help to alert your learners that something important is coming up.

<u>The words you use</u>:
If you spend time choosing the words you use, it will significantly increase the effectiveness of your presentation. Some things that you should do include the following:

- **Be specific.** Use information from specific examples and when possible mention specific people, places, or events, which will give clear images to the listener.

- **Be Professional.** Don't use redundant words or trite expressions, ahs, ums, and disclaimers like "according to Dr. Binh, …", or "It would appear that…".

<u>Body language</u>:
You should communicate with your learners not only with your voice but also by your body language such as facial expressions, posture, and gestures.

When speaking, you should face the learners. Make eye contact when you are talking to them, unless it is culturally inappropriate. Speak to everyone by turning to address people to your right and left, not only those directly in front of you. Your body language can help to interest the learners in what you are saying.

(DOMROESE AND STERLING, 1999).

<u>Practise</u>:
Before giving the presentation to your learners, you should practise it in order to improve it. There are many ways that you may choose to practise such as speaking in front of a mirror, reciting your presentation to staff, friends or family members who will provide honest feedback on your performance, or reciting it alone in a room or in the open air. Whatever way you choose, imagine that you are standing in front of your learners and speak with the voice that is loud enough for them to hear you and act as if you are interacting with them. Make sure that your presentation is well organised and fits within the intended time-frame. Try to improve your presentation as much as you can to make your presentation more interesting.

<u>**Using visual aids in your presentation**</u>:
According to Margret C. Domroese and Eleanor J. Sterling, 1999, visual aids can enhance and reinforce the message of your presentation. They help to illustrate concepts and to connect these ideas with real things. Following are some visual aids that are very effective for presentations:

- **Familiar objects** are things that are used in people's daily lives or that they have in their home.

- **Pictures** such as slides, photos, drawings, or posters that can help students to visualize the topic of discussion.

- **Models**, **charts**, **graphs**, **diagrams** and **maps** are very useful tools to illustrate abstract ideas, and steps in a process without having to use a lot of words.

- **A chalkboard or a white board** with non-permanent markers enables the educator to write key words and draw and change a graphic using different colours during the course of the presentation.

- **Flipcharts** are large sheets of paper that can replace the chalkboard or white board.

- A **pin board** can help you to show your learners' ideas easily by pinning ideas written on cards on the pin board.

- **An overhead** is a very common visual aid that can be used when there is electricity. It is a simple and relatively inexpensive medium for presentation. By using an overhead, you can easily draw and write whatever you want on transparencies and show them to your learners.

There are many kinds of visual aids that you can use when giving your presentation. You should vary your presentations by mixing the type of visual tools but be careful not to use too many in one day as this may distract your learners and make your presentation less effective.

When using visual aids, you should pay attention to the colour. Red excites people. Green and blue reduces tension. Colours can have cultural significance as well. Some ethnic groups may favour a dominant colour. To understand more about colors and their effects refer to the colour wheel on Page 103.

Colour has an emotional impact. Colour can contribute to, emphasize and separate things. If you can control the colours you use, your presentation will be more interesting and attractive.

THE COLOUR WHEEL

The colour wheel presents colours in their natural sequence, based on how they appear in nature (e.g. in a rainbow or prism). Each colour is positioned such that the colours most similar to it are located adjacent to it, and the colours least like it are located opposite from it. The following are some important points that you should know when you are about to choose colours for your visual aids.

- The **primary colours** are red, blue and yellow. All colours are created based on these three colors (depending on the degree of these three colours when they mix with each other).

- The **secondary colours** are colors that can be mixed from two primary colours (e.g. red and yellow make orange)

- **Advancing colours** are generally dark colours, such as dark blue, dark green, etc; they stand out and dominate.

- Retreating colours, such as bright green or bright yellow are less prominent.

- **Warm colours** such as vivid red, orange, and yellow, take on more importance and are prominent.

- **Cool colours,** such as blues, greens, and violets, recede and have a calming effect.

- **Complementary colours** appear opposite each other on the wheel and contrast with each other (e.g. orange and blue, green and red, yellow and purple). Colour schemes that contrast are usually lively and stimulate. Any colour looks more vivid when it's contrasted against its opposite colours.

- **Related colours** are adjacent to each other on the wheel (e.g., yellow and orange, blue and purple). They are similar and blend easily. Colours that blend often give a soothing and calm effect (unless there are strong contrasts in lightness and darkness).

- **Neutral colours** can be used alongside any other colours. Black and white are neutral colours (Black and red are often an appealing colour combination, especially if you want your subject to somehow seem important, distinguished or formal. That's why business people and politicians often wear black suits with red ties or handkerchiefs).

- A **dark colour** stands out on a pale background. A pale colour stands out on a dark background

Primary Colours
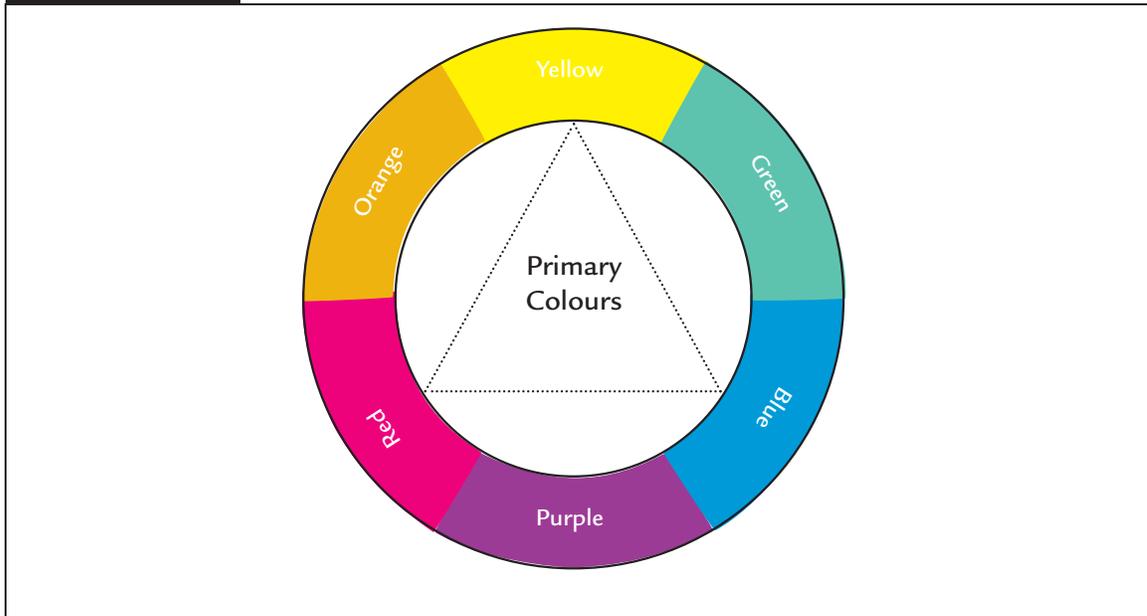
Activity

MAKING A PRESENTATION

PREPARATION

Get some magazines and encyclopedias for the trainees to use. Make a list of potential environmental topics for presentations.

PROCEDURE

1. Have the trainees prepare a five minute presentation on an environmental topic.
(60 minutes)

Give the trainees some magazines and encyclopedias for research.

2. Have trainees give their presentation.

3. Have the class critique the presentation in a constructive but easy going way based on the content and structure of the presentation, body language, and voice.

Supplemental Warm-up Activities for Training

1. DID YOU KNOW? (approx. 10 minutes)

Objective:
To get the training group warmed up

Procedure:
Each person should post an A4 size paper or similar size on his or her back with tape. (The paper should be thick enough to avoid the ink running through onto the person's shirt) Everyone should be given a marker to write with. After everyone has a paper on their back and a marker, trainees should walk around the room permitting people to write on their backs. What they write on the cards should be something that they know about that person. It can be something mysterious, interesting, or funny that no one else knows. Or, it can be something about the other person's character. After the group has finished writing their comments on each other's backs, then everyone must remove their cards and introduce themselves to the rest of the group based on this information.

Materials:
Thick A4 paper, tape, markers

Time:
Depends on the group size. The group should have ten minutes to write if the group is about 20 people and each person should have one minute to present.

2. NAMETAG MIXER (15-20 minutes)

Objective:
To be used as an initial getting acquainted game.

Procedure:
As participant enters the room, ask them their name but present a nametag with a different person's name. Explain that they should seek out the other person whose nametag they have and introduce themselves to other participants during the search. If the group is relatively small, have the pair interview each other so they can introduce their counterpart to the group.

Materials: Nametags

<div align="right">(SCANNELL AND NEWSTROM, 1980)</div>

3. INTERVIEW 1 (time: varies)

Objective:
To help participants become acquainted with, and feel comfortable about each other, early in the course.

Procedure:
Pair up the participants. Instruct them to interview each other by asking about:

   b) Three unusual things that have happened in their lives.

   c) Special talents or hobbies they have.

   d) The two most important job responsibilities that they have.

   e) The person that they most admire (or despise) in the world.

   f) A colour and an animal that best describe who they are and how they feel.

Materials: Paper and pen

4. INTERVIEW 2 (time: varies)

Objective:
To help participants become acquainted with, and feel comfortable about each other, early in the course.

Procedure:
Ask members in the group to pair up and introduce themselves to each other including what are their likes and dislikes, recreational interests, personal aspirations, etc.

Materials: Paper and pen

5. INTERVIEW 3 (time: varies)

Objective:
To help participants become acquainted with, and feel comfortable about each other, early in the course.

Procedure:
Ask trainees to pair up and to examine and describe their name. They should tell the full name or nickname, who they were named after, and whether they like or dislike their name. Also, they should tell what other name they would choose if they had the opportunity (and why).

Materials: Paper and pen

6. THE BALL KNOWS ALL (time: varies)

Objective:
To help participants become acquainted with, and feel comfortable about each other, early in the course.

Procedure:
Procure a soft ball (a tennis ball or sponge ball). Arrange the participants in a circle. Throw the ball to one person and ask that individual to disclose something unusual about himself or herself. Then have the ball thrown to another and repeat the process. Only upon the second receipt of the ball should a person disclose his or her first name.

Materials: Ball

7. CAN YOU GUESS WHO I AM? (time: varies)

Procedure:
Prior to the course, survey (by phone or letter) the participants to get some information about them such as their hobbies, job title, major accomplishments, self-descriptive adjectives, etc. Then prepare a brief synopsis of each (with name deleted) and distribute to them at the beginning of the course. After the first coffee break, post the descriptions on a board and invite everyone to fill in the names that they believe match the description. Go over the answers.

Materials: Participants' synopsis

8. JIGSAW PUZZLE (15-20 minutes)

Objective:
To be used as an informal way to be initially introduced to other participants.

Procedure:
Choose several pictures or logos and cut them into pieces like a puzzle. You should have at least two different puzzles so teams can compete against each other. Randomly distribute each piece of the puzzles to a different participant. Individuals are then asked to search out the remaining pieces of the puzzle and put it together. Prizes may be awarded to the first team that completes its puzzle.

Materials: Pictures or logos from magazines

9. LIMERICKS (15-30 minutes)

Objective:
To serve as a method of getting acquainted.

Procedure:
Gather several limericks or well-known poems. Each should contain five lines. Type or write one line of each poem on a different card (So there will be five different cards for the one limerick). Give a card to every person and ask him or her to seek out the other trainees whose lines fit with theirs to make a complete limerick or poem. After they all meet each other, they are then to create a new and final line. Prizes may be awarded to the most creative entries.

Materials: Book of limericks and cards

10. WHO'S WHO GAME (10 minutes)

Objective:
To serve as a method of better understanding each other.

Procedure:
The game works best for participants who know each other at least a little. Distribute cards to the participants and ask them to write something about themselves that is surprising but true that only they know about. Participants should write in a way that people won't recognize their handwriting. For example, "I worked in a circus." Then collect the cards and display them on a table or wall so all participants look at them. Gather participants together and have them guess who's who.

Materials: Cards

11. ANYTHING FOR A LETTER (10 minutes)

Objective:
To serve as warming up exercise.

Procedure:
Divide the participants into teams of four. Ask them to find the objects in a room that begin with each letter of the alphabet that the facilitator gives out. Example, A is for apple, B is for bag, and C is for car keys. Give them five minutes and then ask them to read the list of objects. The team with the most items wins. The facilitator can award double points for XYZ or ask the groups to identify more than one item for each letter to get extra points.

Materials: Paper

12. THE SEVEN PS (20-30 minutes)

Objective:
To help people better understand each other. This activity builds relationships and because it runs over the day, it maintains ongoing interest in the session.

Procedure:
Write the seven Ps on cards:

1. Person you would like to meet

2. Politician you dislike the most

3. Paperback you would most like to read

4. Pet you wanted as a kid

5. Pet peeve

6. Place you would most like to be today

7. Phobia

Hand out a card to each person. Ask the participants to write their seven Ps on their card, and then collect the cards and shuffle them. Select one and read out. Ask the participants to guess the author and write his or her name down on a piece of paper. Put the card that has just been read at the back of the pile. During the course of the day, read out all the cards. Keep them in the order that they are read for a 'Big Revelation' at the end of the day. Reread the cards at the end of the day in the same order, asking after each "Who guessed that this was xxx." Offer a prize for the person with the most correct guesses. The facilitator can include a phantom card or one for him/herself.

Materials: Cards with questions printed, and pieces of paper for recording the person who guesses.

(STIBBARD, 1998)

PART B

Team building

Group working

Brainstorming
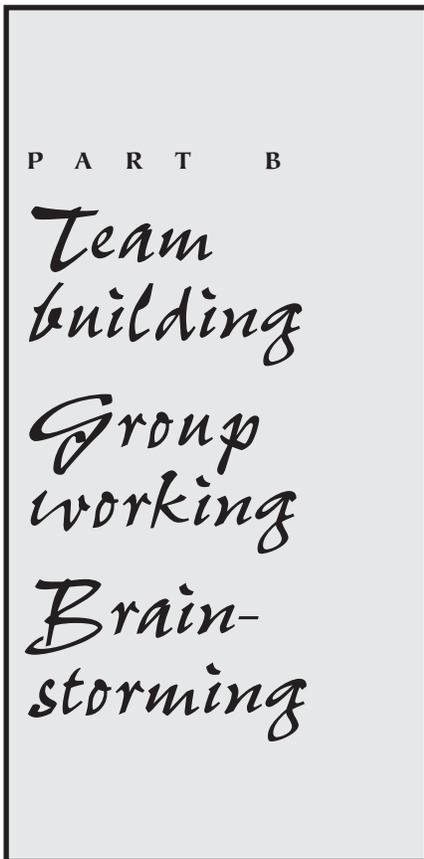
1. TEAM CHARADES (15 minutes)
(Depends on number of groups and the ease with which group names are guessed.)

Objective:
To establish cohesiveness in a new team that must work together in a training situation for the remainder of the day or course.

Procedure:
1. Divide the participants into teams based upon either personal preference or some previously established criteria.
2. Ask each group to choose a name for its team that will identify it for the duration of the session.
3. Call upon each group to act out its name in "charades" fashion, while other groups try to guess the name of the group.

Materials: None

2. DEPARTMENT X-Y-Z (20-30 minutes)

Objective:
To build a spirit of teamwork in groups and to practise creativity and group work skills.

Procedure:
Break up participants into teams of five. Each team is assigned to a new "department" within a company, or organization. The team leader is given a card with a nonsensical acronym (three or four letters). The team then decides what the letters stands for and describes to others the name of the "department" and what its mission and objectives are. An example could be PQN. The team might create Phong Quan ly Nhan su (Human Resource Department) and then go on and report the kind of activities and scope of this mythical department. (Allow eight to ten minutes for brainstorming and three to four minutes for each team report). A panel could be named to select the winning team.

Materials: Cards

(SCANNELL AND NEWSTROM, 1980)

3. **K**NOW THE **A**NSWER **(10 minutes)**

Objective:
This is a fun game that creates humour because occasionally bizarre answers appear.
The game shows some features of communication.

Procedure:
Ask the participants to pick a number between one and ten, and multiply it by nine.
Then add the two digits together, subtract five, and match the correct letter of the
alphabet to that number. Have them think of some countries that start with that letter.
Then think of an animal that starts with the second letter of that country. Think of the
colour of that animal. Check that everyone has a coloured animal from a country. If
necessary, repeat the steps. Ask how many people have a grey elephant from Denmark.

Materials: None

4. **A**NIMAL **N**OISES **(20 minutes)**

Objective: To have fun

Procedure:
Clear the furniture from a large space. Blindfold each participant. Each participant
should secretly be given a distinctive animal call or sound that they have to produce,
and a coloured card to stick on his or her shirt that represents that animal. For exam-
ple, cat - yellow, dog - black, pig - green, cow - white, chicken - red. Then, everyone will
make the animal sound they have been assigned, and try to group themselves with other
participants that have the same animal call. After 10 or 15 minutes, call a halt and ask
everyone to take off their blindfolds. The participants should be able to figure out if
they ended up in the incorrect group by the coloured cards on their shirts.

Materials: Blindfolds, coloured pieces of paper. (Number of colours should equal
number of animals)

5. LIST THE WAYS (10-15 minutes)

Objective:
To immediately stimulate interest in the subject to be discussed by brainstorming.

Procedure:
To open a session on any subject (e.g., Managing time: Ask each person to name one way that a supervisor can either lose or waste time). Go around the room quickly, and record each person's contribution on the board. Don't allow any criticism or discussion until everyone has participated. The benefits are that people become immediately involved and the list is created in a participatory way. People develop an interest in the subject and are motivated to learn.

Materials: Pen, board

6. THE BALLOON GAME (time: varies)

Objective:
To provoke laughter and to help build team spirit.

Procedure:
Divide the participants into teams. Each team has a basket which is placed at the end of the room. The teams will start at a start line at the opposite end of the room of the baskets. Place a large pile of balloons at the start line. When the facilitator says, "start," one member of each team has to balance a balloon on their head with the assistance of his or her team member and run to the end of the room where the basket is and place the balloon inside. After all the balloons are gone, the game is over. If any pair drops their balloon, they have to stop immediately and come back to the start line. The team with the most balloons in its basket is the winner.

Materials: Balloons and big baskets

7. HUMAN BRIDGE (10-15 minutes)

Objective: To learn how to work in a group and solve problems.

Procedure:
Divide participants into two groups of eight to ten individuals. Ask each group to build a bridge connecting themselves to each other. Each bridge must include 26 abutments. (One abutment is one body part of a participant that must touch the ground).

Abutments must consist of: five knees, five feet, three hands, two backs, five elbows, three noses, and three heads. Time for each group to build its bridge is five minutes. The group that builds the bridge faster and more precisely is the winner.

Materials: None.

Note:
Number of participants in each group can vary provided that the facilitator changes the number of abutments to make it more suitable to the number of participants.

8. BALLOON PASSING (10-15 minutes)

Objective:
To promote teamwork and develop problem solving skills

Procedure:
Divide participants into two groups (at least four participants in each group) and ask each group to stand in a circle. Give each group one tennis ball or plastic balloon to pass. When the facilitator says, "pass the balloon," one player in each group should pass the balloon to someone else in their group. The person who received the balloon will then continue to pass the balloon to someone else. All participants in the group must receive the balloon once. Participants are required to remember whom they passed the balloon to. The first round of the game finishes after all members have received the balloon once
.
The second round will begin by asking the two groups (in two circles) to pass the balloon to the same person in the same order that they did in the first round. Groups should find ways to pass the balloon in the fastest manner possible. (The best way is that the one who passes the balloon stands next to the one who receives it). When the game leader says, "pass the balloon," the two groups start to pass their balloon at once. The group that finishes passing the balloon first is the winner.

Materials: Two balloons or tennis balls

P A R T   C

Communication

1. BACK-TO-BACK COMMUNICATION (10 minutes)

Objective:
To encourage open communications and to illustrate how words, when not transmitted by face-to-face contact are susceptible to incorrect assumptions and interpretation.

Procedure:
Arrange groups of five to seven people each. Place two chairs back-to-back and select or request two people to sit in the chairs. Ask one of these people to describe to the other a humorous or silly thing that happened to them (e.g., When I was learning to drive...). As one person speaks, the other is asked to listen intently as he/she will report back to everyone. The rest of the participants observe the facial expression, gestures and non-verbal movements. Compare what the person who had his or her back to the speaker heard to what everyone else heard. Was it different?

Discussion:

1. As observers, did you tend to see and hear the same massage? Why not?

2. As speakers or listeners, how did it feel knowing your words and actions were being closely monitored? In real-life situation, how do you handle this?

3. Communication is often difficult. In cases like this, how can we assure more effective communications?

Materials: None

2. NON-VERBAL INTRODUCTION (20-30 minutes)

Objective:
To understand the importance of verbal communication.

Procedure:
This game is a light way of mutual introduction. Pair up participants and have each person "interview" his/her partner and gather whatever information can be gained. The interview, however, is strictly NON-VERBAL. No questions, comments or any kind of oral communication is allowed.

Encourage people to be creative and motivate them to solicit and provide as much information as possible. Any interaction is "fair game" as long as it's non-verbal. After allowing about eight or ten minutes of the respective groups to "interview" each other, the individuals have to present to the group. After each person is introduced, the individuals interviewed may add, delete or correct any information presented.

After all introductions are complete, critique the entire activity.

Discussion:

1. How did you feel when trying to express yourself in this fashion?

2. Were some of your nonverbal gestures misinterpreted? Could this have been avoided?

3. Were you fairly accurate in "reading" the non-verbal cues from the partner? Why or why not?

Materials: None

(SCANNELL AND NEWSTROM, 1980)

3. The Visual Game (5 minutes)

Objective:
To understand the importance of listening when communicating.

Procedure:
Invite everyone to stand. The facilitator should tell everyone, "Listen carefully to what I say." Tell the group to make a circle with their thumb and second finger. Now point their other three fingers in the air. Now the facilitator says, place your hand on your cheek while at the same time placing his or her hand under their chin without saying anything else. Most people will follow this visual lead and not the instructions. Ask the group if you said to put their hand under their chin.

Discussion:
Discuss communication, in which listening is a special skill, and the power of visual communications.

1. How many people put the hand under the chin?

2. Why did they do that?

3. What roles does the body have in our communication? How? (Quote communication as being 7% words, 33%voice and tone, 55% body language)

4. What consequences does this have for you in work?

5. What do you need to learn in order to communicate better?

Materials: None

(STIBBARD, 1998)

4. WHERE TO NEXT? (10-15 minutes)

Objective:
To build rapport and demonstrate the importance of good communications.

Procedure:
Break up the participants into teams of fewer than eight. Have each group make a circle tight enough to almost reach across. The facilitator should ask them to raise their left hand and point their right hand at the center of the circle. Then ask them to lower their left hand and grab someone else's right hand, somewhere across the circle. Tell them that once they have made contact they can't let go. Tell the participants to untangle themselves without breaking their grip. When untangled, they should be in another circle. It's OK that some people may face away from the center. It's possible to change the size of the teams involved and to limit the time. Have teams compete to untangle first.

Discussion:
Discuss the importance of communication in problem solving and team roles:

1. Who initiates solving the problem? Why them?

2. What could you have done to finish the game faster? How would this have made a difference?

3. Did anyone feel others didn't listen to him or her? How did you feel about that?

4. Were members all going in the same direction?

5. How can we assure the members are all going in the same direction?

6. What roles were there in the group?

7. Did anyone take several roles?

8. How do you play different problem solving roles in the workplace?

9. Can you see yourself playing any particular one at work?

10. What might happen if you change the role you habitually play?

Materials: None

5. FEEDBACK AND TEAMS (30 minutes)

Objective:
The game shows communication roles in team building and succeeds because of participants' honesty. A great way to finish off conferences and team building sessions because people can be honest about their emotions. **Warning:** This game deals with a sensitive issue and can embarrass participants if it isn't run properly. Inexperienced teachers should consider a less risky game. The game should be played at the end of a seminar or conference, when participants have already established relationships. Emphasize that this is a serious exercise.

Procedure:
Arrange the participants' chairs in two lines directly opposite each other. Write on a piece of flipchart paper:

1. The thing I like most about you

2. The thing I need more from you

3. The gift I would most like to give you

Ask the participants to go around the chairs speaking for one minute to each person, telling them the answer to the three points above. When they have spoken to everyone, bring the group together and discuss the comments people received. Give the participants an opportunity to write down the feedback they received. Look out for people who are overly negative and any angry responses. Keep people moving from person to person.

Discussion:
Discuss how to identify people's strengths and weaknesses, and their experience of being told what their strengths and weaknesses are.

1. How did you feel telling people these things and being told these things yourself?

2. What strengths do you know you have that you didn't know before?

3. What weaknesses could you improve on?

4. What benefits do you get from honest feedback?

5. How would this be important at work?

6. Where does it make a difference now?

7. What would change if there were more honest feedback at work?

Materials: Paper for people to write on