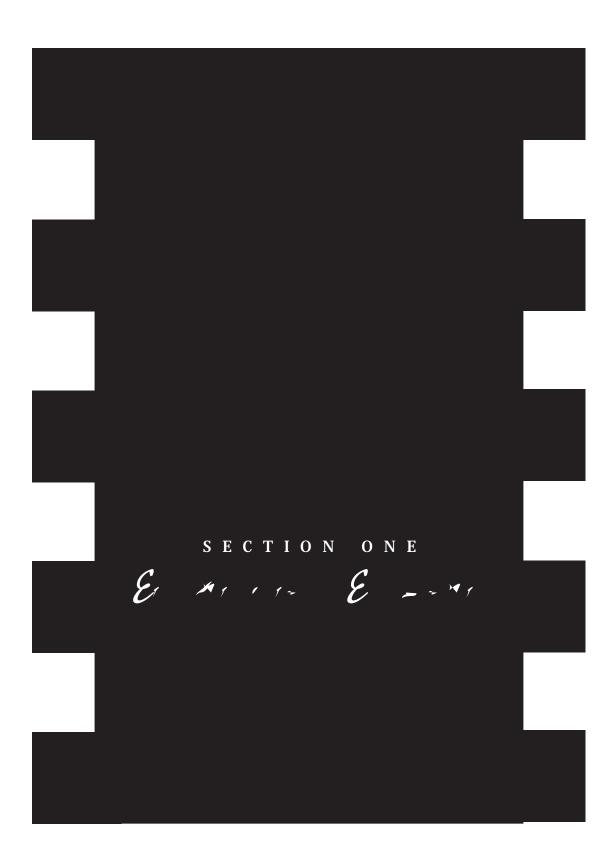
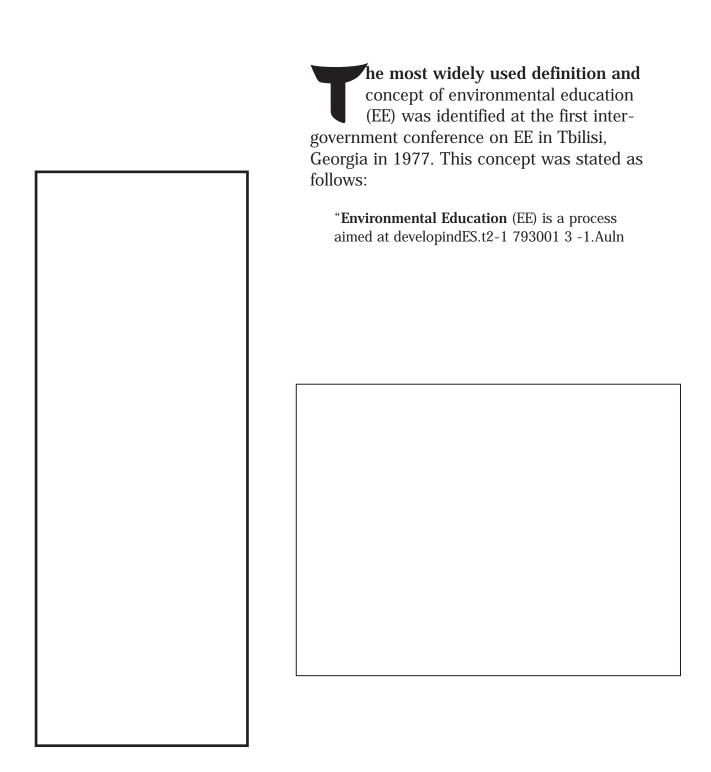




41 M. Casa 12

IN	TRODUCTION3
I.	Environmental Education (EE) 1. What is Environmental Education?
II	Education Theory: Teaching and Learning 1. The Brain Structure and Learning Process
	and Children
III	. Factors Which Influence Attitudes and Behaviour
	 What is Behaviour? How Economics, Consumerism, and the Environment Are Connected Culture and the Environment Values and the Environment Environmental Ethics
IV	Planning and Designing an EE Program 1. Defining the Problem Objectives and Identifying the Critical Behaviours To Target (Root-Cause-Problem Tree)
	3. Designing a Lesson
V.	Conducting a Training 1. Presentation Techniques





EE FOCUSES ON FIVE CRITERIA WHICH ARE:

M Kno

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.



Objective:

To understand how EE differs from propaganda and communications.

Skills:

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

Time:

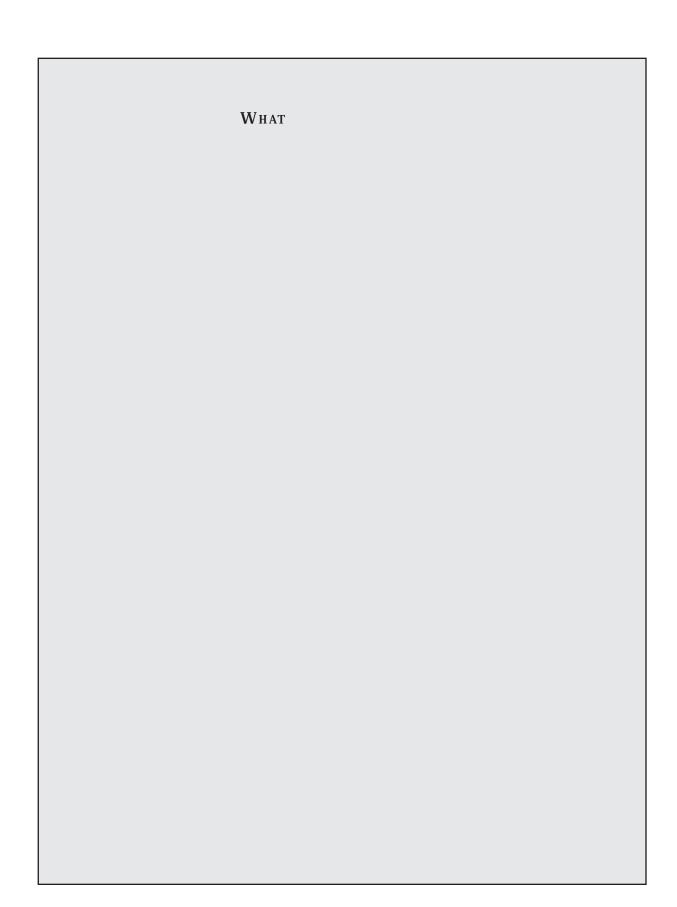
60 minutes

Materials:

Overhead projector, transparencies, flipchart, scissors, glue, large paper hat 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.

<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.





1.			
qu th	Ask the udents, who are divided in to teams, lestions about nature. At the end of e contest, the winning teams receive wards.	6.	Have a conservation educator explain about the state law and the rules of the national park to protect rhinoceros.
2. in	. Collect the pictures two weeks.	7.	Two thousand people may watch this play in one night.
3.	E . Have a park ranger guide the udents on a nature trail.	8.	•
i Cla	Trachypithecus laotum hatinhensis . Students who get good grades in ass and poor students who improve II be awarded these notebooks.	.44	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.
"c ca ga	A conservation lucator defines the location of the onservation garden" on the school mpus. Fences are made and rdening tools are bought for the hool.		

c) Model of an Interdisciplinary Approach:

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) Model of an Extra-curricular Activity:

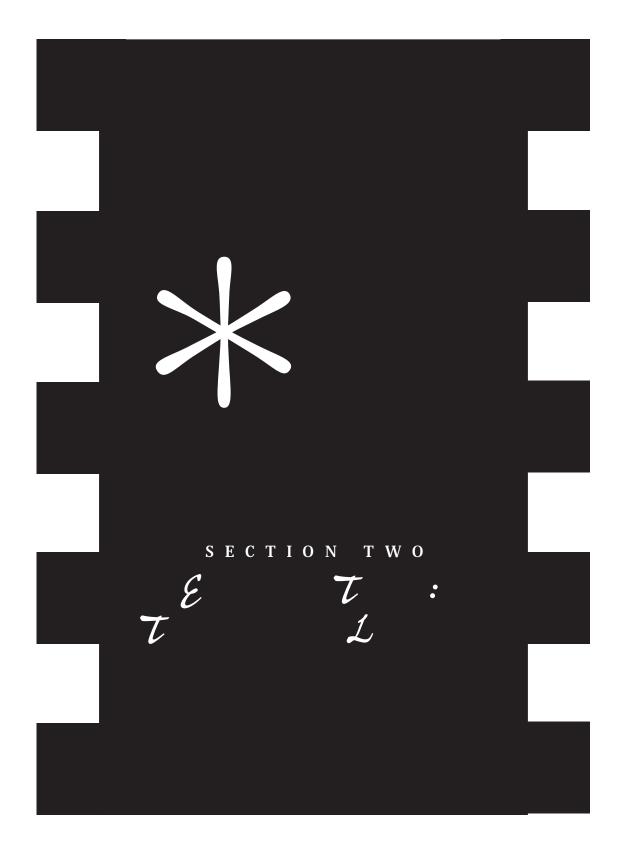
When there is no specific national strategy for integrating EE into formal education structures, EE can be introduced into schools in extracurricular activities such as conservation clubs. When the programme is for adults who are not in the formal education system or the school does not have the capacity 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.

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.)

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

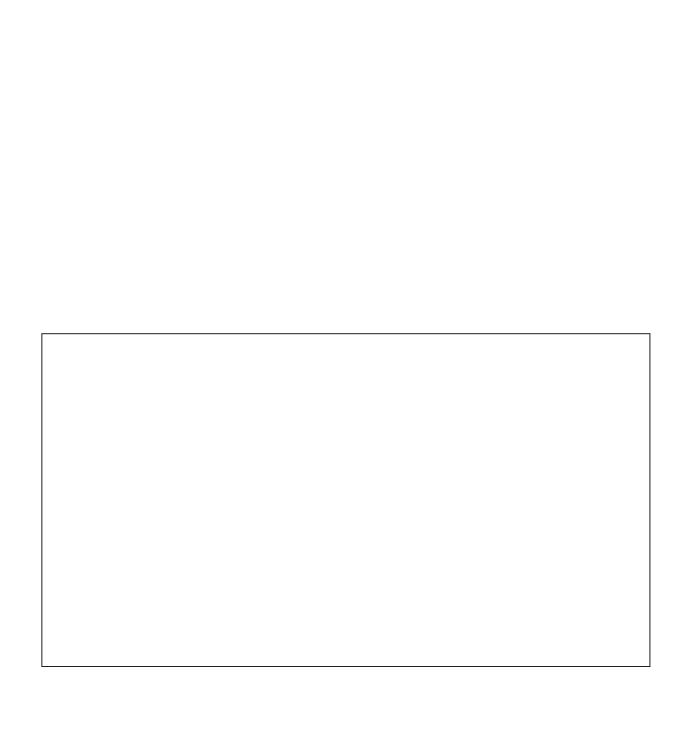
FORMAL AN	D Non-Formal	EDUCATION
Make overheads and handouts of th overhead for discussion.	PREPARATION e	EE. Write questions on an

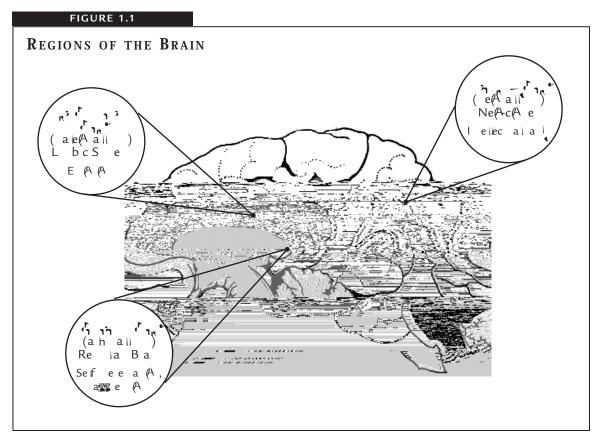


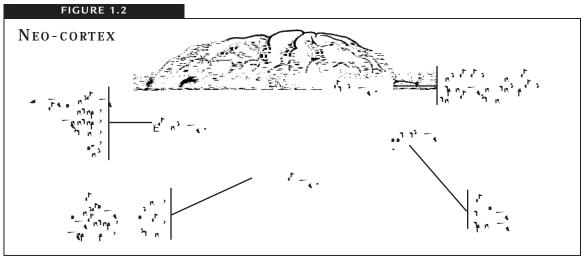
TBS LP

Objective:









Activity

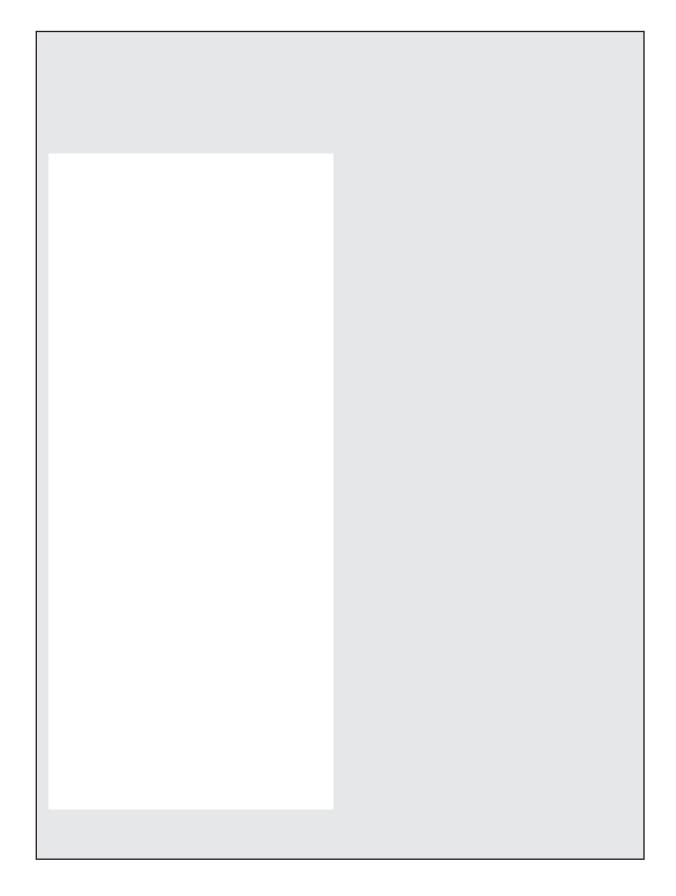
HOW DOES THE BRAIN WORK?

PREPARATION

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PROCEDURE

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- 2. Afe ab efd c (A), e e F 1/2 e 1.1 (Af heh a ba h he h ee e (A) (A) a a a e c (A) fi cha a de a hed ffe e f c (A)
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- 4. Pee A hecA e A he de . Af e ee A he h
- 5. The e hee ele (A, beal de (A) (A) . Geeach (A) a acle (A) . I a e he a d a dec de h ch a e e a e a d h ch a e fale. Af e he d c (A) he (A) d he cad (A) a fl cha (A) (A) abeled e a d fale a de a he a e a e e a (A).

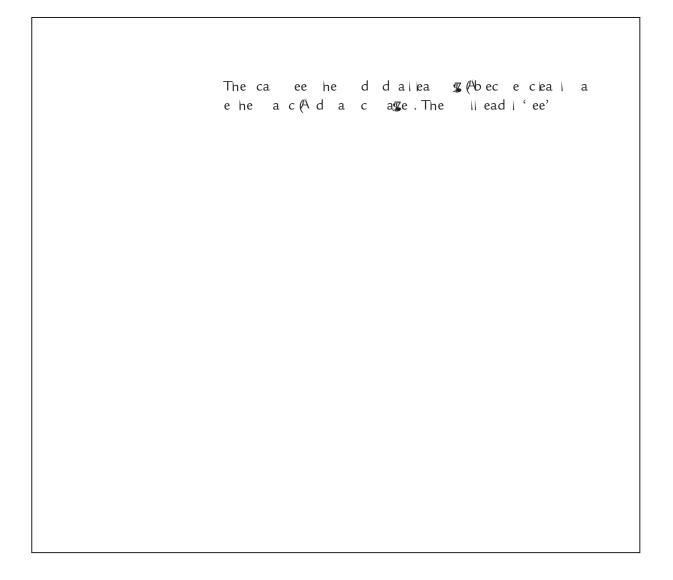


Objective:

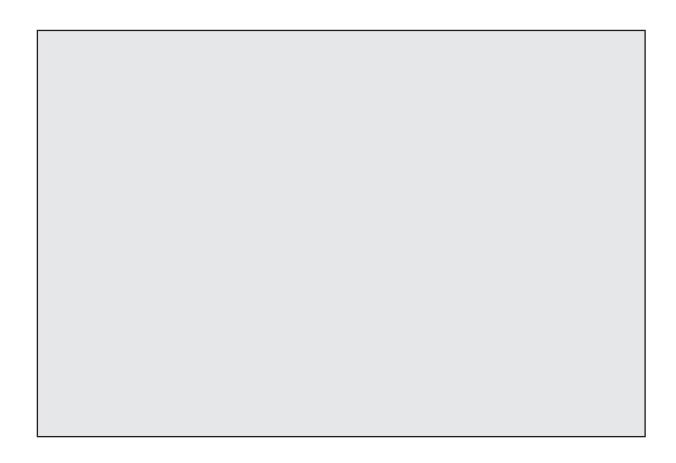
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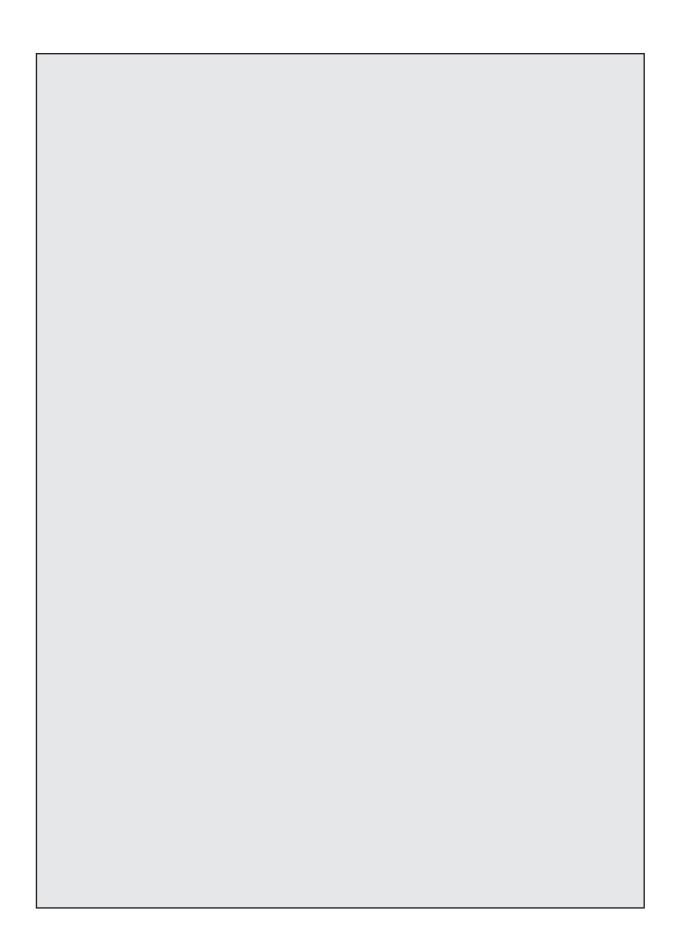
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Objective:

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FACTORS THAT INFLUENCE LEARNING

LET'S GET COMFORTABLE

PREPARATION

PhA ACA he E , it . , n - in inny

PROCEDURE

- 3. Beala ee (Ahee 3) (A adalhe: Whaeke c (A be (Aadal ka 3) ke?
- 4. L he a e (A ca) ad he (A ab (Aad.



C H A P T E R F O U R

T B L C

hildren are considered to be the S Some Differences Between Learning Styles of Adults and Children

SOME DIFFERENCES BETWEEN LEARNING STYLES OF ADULTS AND CHILDREN

FIGURE 4.1 > W || **g** (A ea ha he > Be 🖫 a 🖫 ha he II (Ababla I ca a ledael af e ea 🕱. he hAe Ife. L ed e e e ce. Ce a ab(A ha he a (A lea . >MAe cAae > Haea (Á (Árfe e e ce eeded he ea 🕱. ad f(Å a (Å ha > Ha **g** d ffe e lea affec hA he lea . eaheae**g** (Ah z ead > Lea e (Ad. ableaee dffee.

(NAAEE, 1994)

Objective:

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COGNITIVE AND SOCIAL SKILLS FOR DIFFERENT AGES, CONTINUED

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TEACHING T

Activity

WHY DOES AGE MATTER?

PREPARATION

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PROCEDURE

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- 4. Ha e he 3 (A ale a reffec e each som e f(A ad I a d e e he e I.
- 5. Pee (A a (A e head (A f) ha -4.3)
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1

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Objectives:

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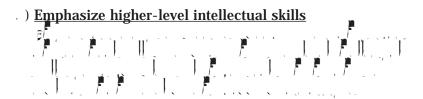
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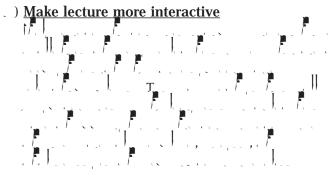
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n terms of teaching and learning, there

TEACHER-CENTERED APPROACH

Some suggestions for creating a learner-centered classroom:





Less memorizing of f

Activity

WHO IS IN THE CENTER?

PREPARATION

Male hA (AcA e (Af he (A ec e a d e he (A a (A e head (A f I cha . Male hA (AcA e (Af he DUNIKEHAN cale ec e f(A he a ee . B e (A \mathbb{Z} h \mathbb{Z} ed e f(A he O'Ma Cale e a I (A he be (A \mathbb{Z} A) (A a \mathbb{Z} ca . A I (A ha e a a II ca c(A) e a II cale a , a da ba b (A) ea e . Male ha d(A) a da (A) e head (Af

RECIPE 1 DUNIKEHAN CAKE (A a V a a) Ch cle: 367 **g** a Sal: 2.5 able (**) MII: 5 (**) F(A): 310 **g** a B e: 4.5 (**) Beef: 412 🕱 a S sa:3 able (4)A Sea (A 🕱: 1 (A)(A) E📆: 5 Ba b(A) h(A): 256 g a O (A): 3.5 E 1 - 0 1.M 30 🖫 a (Aff (A, 1 able (A) (Afbe, 5 e 🐷 he a dea (A 😮 h 1.3 le (Afb(Al of ale hea. Al of Ac(A) Ac(A) Af Ale hea. 2. Fhee ea (Aeh Shhea. Add alh ef Sa (Aale ch. Thec h(Aldbe haed (Aldleace a 7360 3. C(A) fehbab(A) h(A) b(A) gae f(A) 12 e. Ch(A) he fel. 4. M he ch (4 ed ba b (44 h (44 h e (4 l . S ea f (4 11 e . 5. C(VA) 412 3 a (4 beef | 1 f(A 17 e . C(VA) f(A 4 e . 6. Ch (A (A); e la d beef e hadded ga f(A) 20 e. 7.S e hechcle h gaadb e f(A 20 e. 8. R(All he ba b(A)A h(A)A ea ed hegg, beef, (A) (A), chole, ad(Ahe ⊈ede eaedab(Ae hea. 9. S ea he (All f(A 23 n' se eh(A hchlace 2.

Quiz:

- a) DÜNIKEHAN a) C(YA) (A (A a d b e h s) hea b) CAAIA A ad Zaad I b) DUKENIHAN c) DUNNAHIKE A hea c) C(A(A) (A (A a d))
 7.
 a) F h Sh hea 2. 1 14 1 1 13 14 a) 412 g a (Afch cle ad2 (A) (A) a b) S e h **s**h hea b) 367 3 a (Af ch cle c) F (A hea a d 2.5 (** A** a l c) 310 g a (** ch c le a) C(A) beef a d b e f(A 11 ad 4.5 (A) (A) (A) al 3. T. P. . . P. P. b) CAA beef a d | fA 20 c) C(A(A) beef a d | 1 f(A 17 a) 5 e a d 4.5 (A (A b) 3 e 📆 a d 4 (Å (Å c) 5 e a d 3.5 (A (A a) 20 e b) 23 e c) 17 e a) F(A, be, e, g, be, l, b) F (A, b, e, e g (All, b (A) z a e 10. ;; ;; ** a) f h a ce h e h (A) c) F (A, be, e.g., he, ea (A, g., bØl⊈ ae b) ch l a ce h e h (A c) ch l a ce h le c(A) a) C(4/A) ba b(4/A) h(4/A) b) S ea ba b(AA h(AA he**zz (**All c) Sea ba ba ha ha e
 - 3. NA (A lleach he a ee b he de -ce eed a (Pach. D b e he gede a d c(A e (Pf he ec e (A heg (A h he (A e e leeded (A a le he O')) Ma ca le. G(A A e he ec e (A ce a d he ha e heg (A a le he ca le f(A A g he ec e.

0' MAN CAKE MIL J KZ P Vegge able (Ål 30g) Feh (Ål (Å: 20g) Feh ggalc: 20g) R ce f (Å : 250**⅓** J ca a: 100**g** Whea f (A : 50 g) Fehc(Ac(A : 200 g) C(Å a de : 30**⅓** F h a ce D e a ed-h : 100 F e h ch l: 20 S Lea S (A d (A l: 100 S S ga : 30 g D eaed-h:100**%** Sal, e e (A a e V e**y**a (A ∣ e r r 4 4 4 6 1. Shedhadc (Ac(A) (Af e ece. P(A) 800 | (Af a e (A e he e ece. K ead h ead 🕱 (Ae ac c(Ac(A 2. M ce f A h hea f A , a l a d 15 g a A ga. P A 700 | A C C C A | I A h eadleadell 3. Wahhed eaed-h; le dad ce. 4. C ca a (A all a e ece. 5. M ce he ea (A). 6. Hea he (A) af gaadf he (A) (A) adhaf (A) he galc I a I ce adhe he ced (Aladh .F lhe (Alb (Aed. Addalad caa (A h eadbed ell 7. R b (A) (A) he a face (A) a ba b (A) A elec c ea e, a 1 ce e e - a e (A) ed

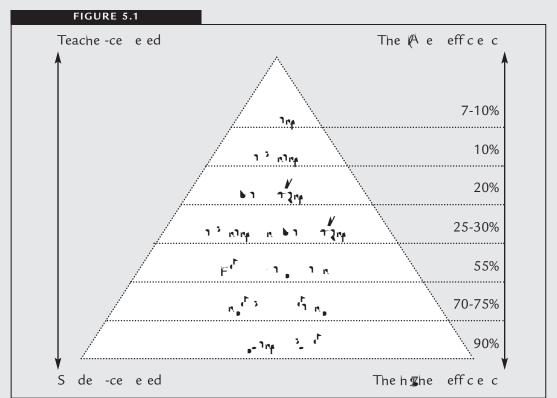
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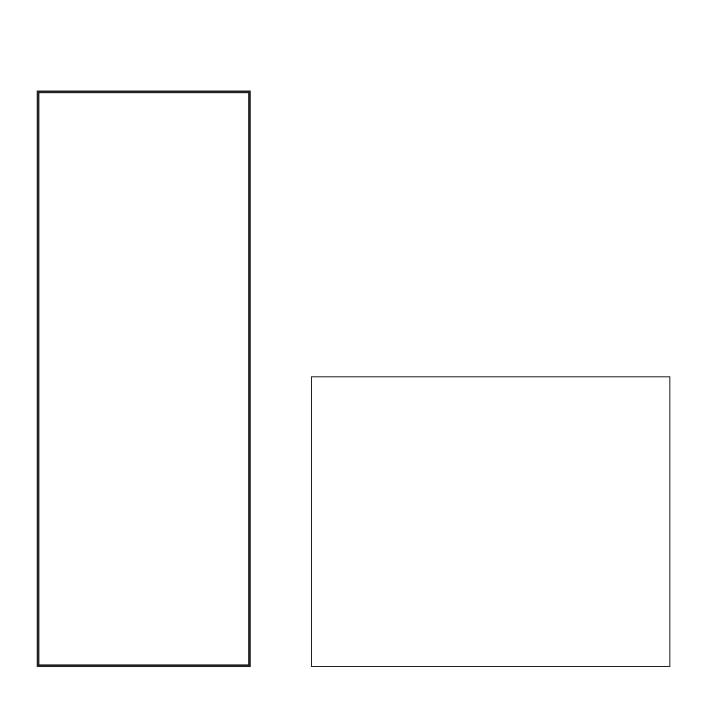
7. Pee he Par Ahecha add chea e a ellah Aheka e-ce eeda Aach he Ahecha add chea e a ellah Aheka e a ellah Ahek

LEARNING PYRAMID

Peda \mathbf{g}/\mathbf{g} e a ded ca (A a l ce G ea B a ca ed (A a e (A he ka \mathbf{g} eff ce c (Af d ffe e e h (A d (A f each \mathbf{g}). The e l (A he e de c bed be (A he cha:



CENTER FOR ENVIRONMENTAL EDUCATION



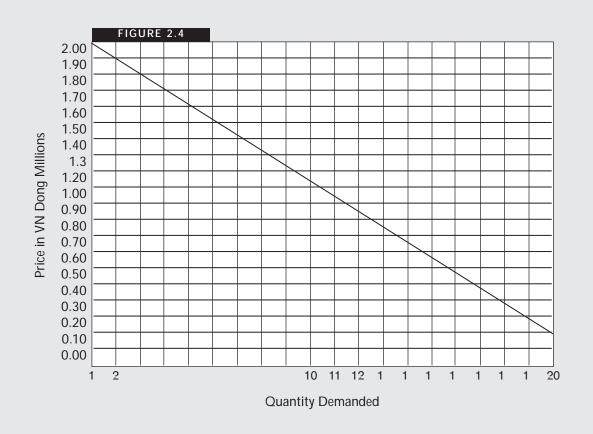
Objective:

ost 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.

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.

- 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.



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: Wha dei ae aenerdc? Write the question on the board or flipchart. Introduce the Factors of Production on an overhead.
6. Explain that production of one product influences many people's lives on many different levels.

3. Have th	ne groups dra	w the above	pyramid o	ո flipchart բ	paper and cu	t out the car	ds from

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

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 produceraeid, consucerseekudine war .sed tmakthe

5

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 ulture 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

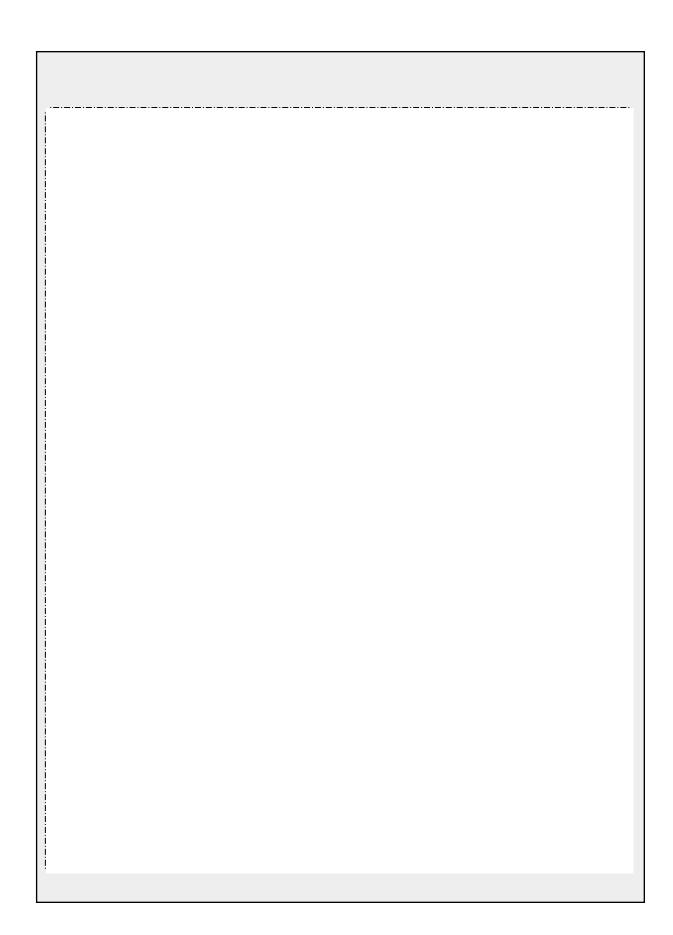
GETTING TO KNOW THE WORLD

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: What is culture?
 - **A:** Culture is the totality of socially transmitted behavioural patterns, arts, beliefs, institutions, and all other products of human work and thought.
 - b) Q: Describe some examples of culture that can be seen in your daily life.
 - 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?



CULTURES OF THE WORLD CARDS



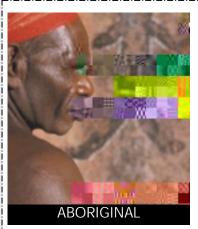
The Maya believe in cosmology, which refers to the existence and experiences of commonality with all that is and that we and all organisms and entities are aspects of a single unfolding reality. This means that all is connected, and we are part of the animal world and the animal world is part of us. 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.



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.



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

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.



C H A P T E R F O U R

Values and the Environment?

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:

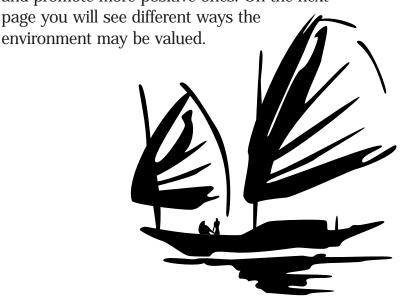
160 minutes

Materials:

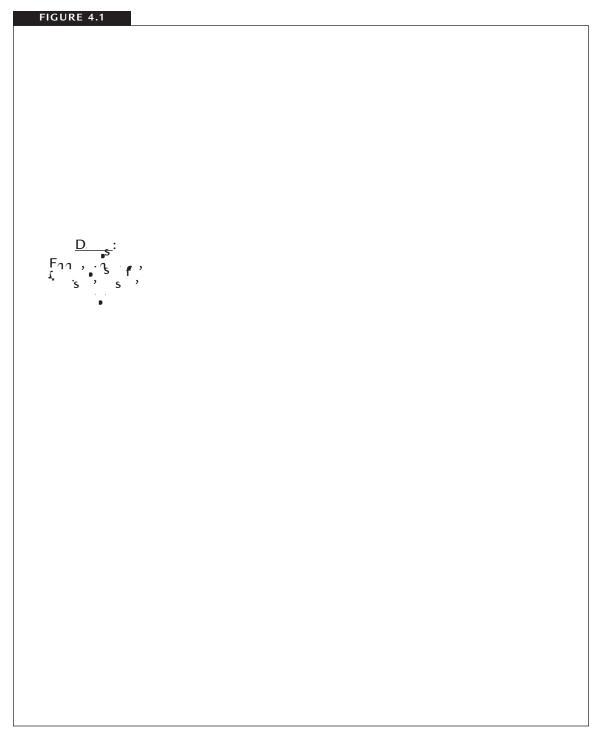
Photocopier, overhead projector

hat 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



VALUES AND USES OF BIODIVERSITY AND NATURAL RESOURCES





IS IT VALUABLE?

PREPARATION

Make handouts of J. 4 4 6 8 7 8 9 4 9 9 9 9 9 9 ; 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 survey and noone will be it but them. The survey is for their own use and knowledge, survey should fill it at honestly.

		n that best est for you

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

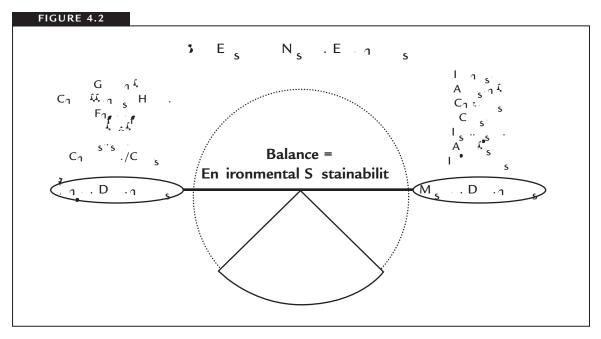
4. In groups, have the trainees answer the following questions:



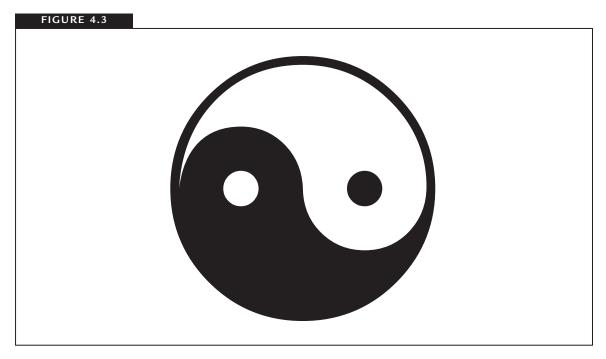
- * As a State of State
 - b) Does this lifestyle contribute to the sustainable use of resources? Why or why not?

Why or why not?

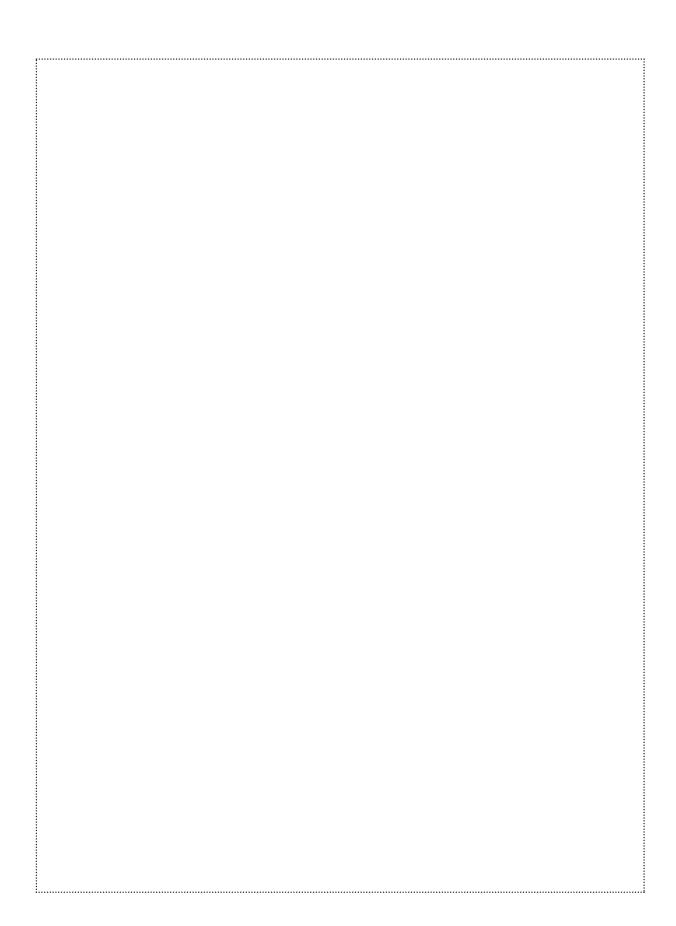
THE BALANCE OF MATERIAL DEVELOPMENT AND SOCIAL DEVELOPMENT



THE BALANCE OF YIN AND YANG



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



They strive for "communion" which means that they work day and night to break from

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.



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 min tes)

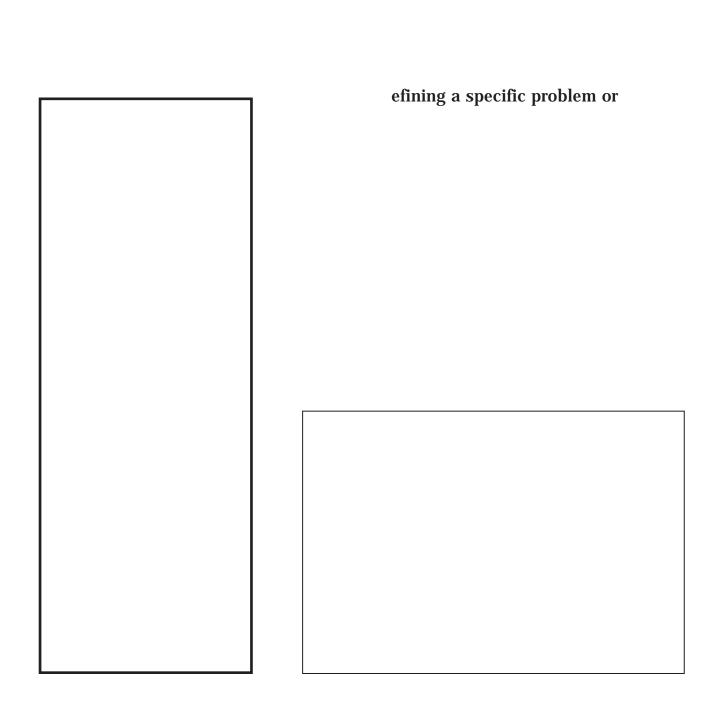
2. Break the class into groups and distribute the six cards on different environmental ethics, a large sheet of paper and glue. Ask trainees to read the statements carefully and stick them on the flipchart respectively from left to right. At the far left, place the statement which represent an ethic 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.

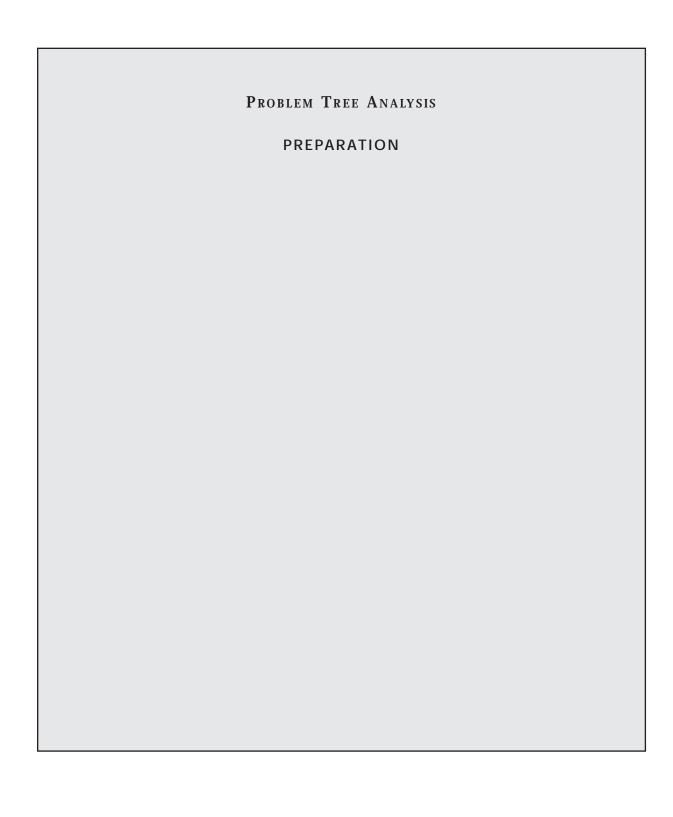
(25 min tes)

- **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.

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.

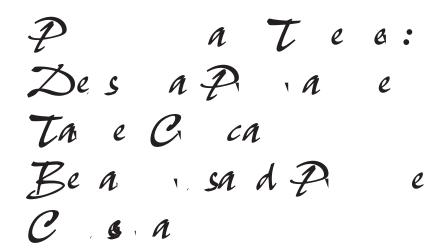
- **4.** I am a schoolteacher. I work to teach children, who are our future, to be better citizens. I also teach some lessons about protecting natural resources. Humans in the past and at present have depended greatly on the Earth's natural resources, and we wouldn't be here if it weren't for them. As 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.
 - 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







C H A P T E R T W O



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





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



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.

	VIOUR INTERVENTION WORKSHEET
f people behavin	g this way
	nt it damages resources, nformation using education and communication activities.
Don't care	

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

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

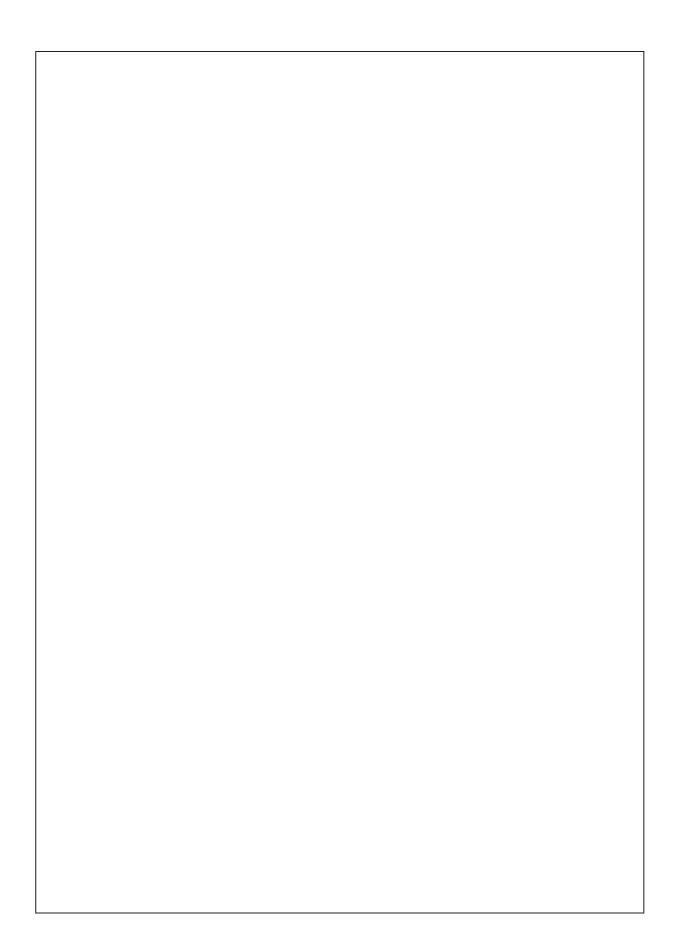
communities lost the limited access that they formerly enjoyed because they do not have the right to collect forest products anymore. They know that the law exists and they also know that the resources are being damaged. They try to improve their livelihood by doing some activities such as bee keeping, 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.

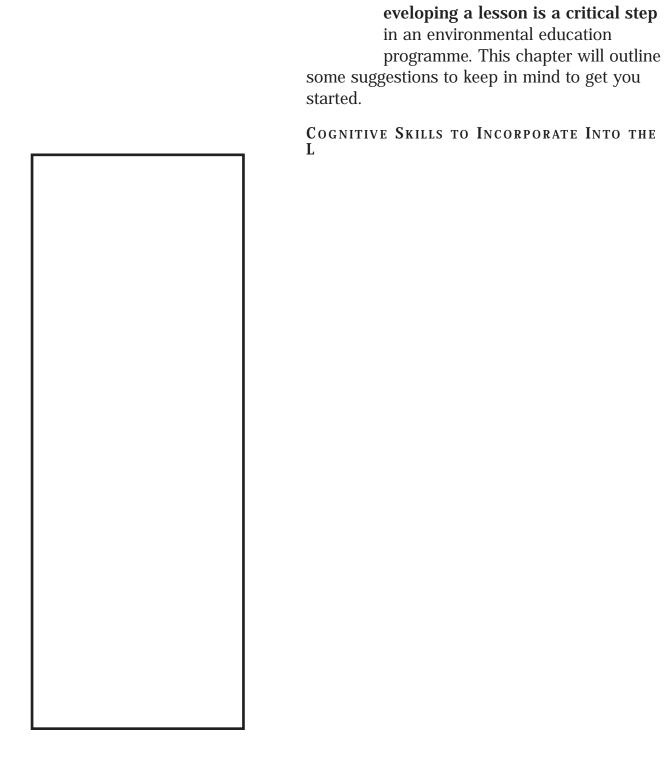
(WWF, 1998)

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 8 1





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 learner.7(get)1eveloping a lesson plCeas

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



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?



WHY ESTABLISH GREEN CLUBS?

his 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.

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

CLUB CHARTER AND SONG

for the environment.

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

PARTICIPANTS AND STAKEHOLDERS

<u>Teachers</u>: 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.

<u>Students</u>: 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

- Mumber 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?

aking 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.

12

E H D F E - 123 . -

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.

C E F E E A I

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 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 ${\sf H}$

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.

Talk with a friendly voice as when talking to a group of your friends. Don't make your presentation become a formal scientific forum.

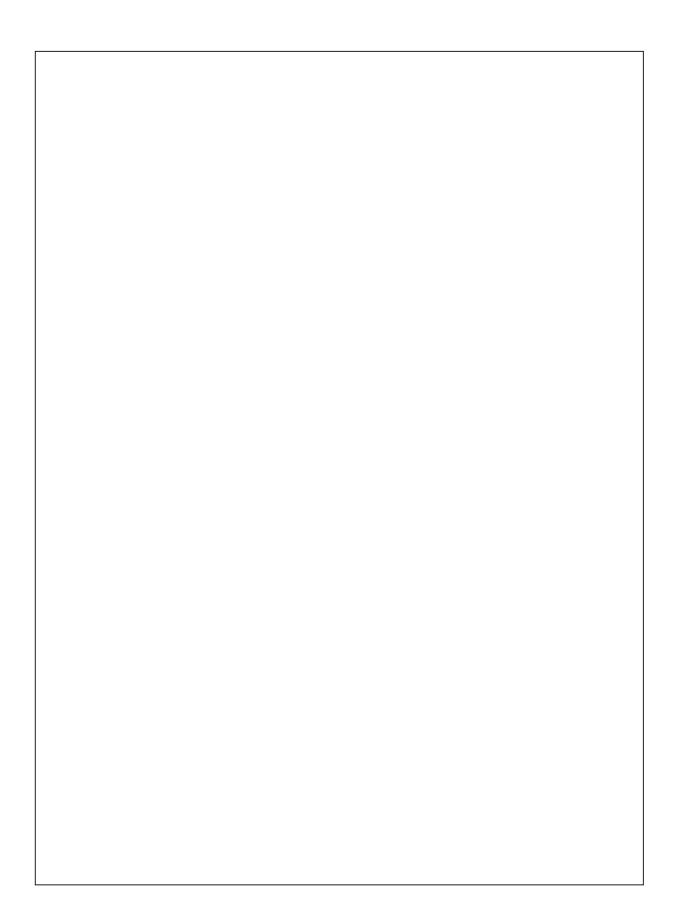
Your voice should be loud enough so that all learners can hear it. You also should

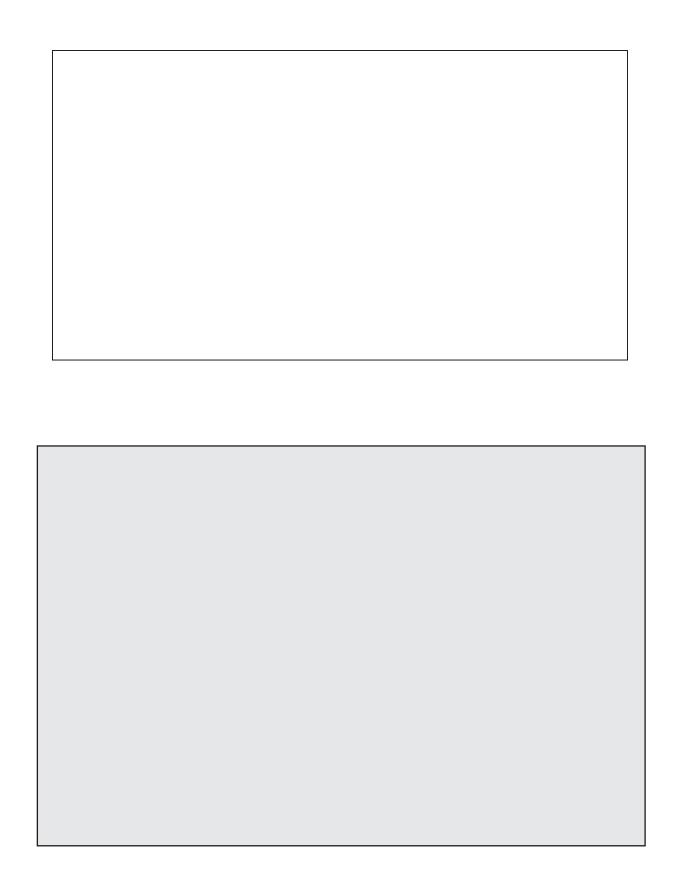
According to Margret C. Domroese and Eleanor J. Sterling, 1999, visual aids can enhance and reinforce the message of your presentation. They help to illustrate concepts and to connect these ideas with real things. Following are some visual aids that are very effective for presentations:

- F are things that are used in people's daily lives or that they have in their home.
- such as slides, photos, drawings, or posters that can help students to visualize the topic of discussion.
- e, , , and are very useful tools to illustrate abstract ideas, and steps in a process without having to use a lot of words.
- A 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.
- F are large sheets of paper that can replace the chalkboard or white board.
- A can help you to show your learners' ideas easily by pinning ideas written on cards on the pin board.
- A 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 referiving y







C H A P T E R T W O

Supplemental Warm-up Activities for Training

Ice-breaker/
warming up

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Procedure:

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- 7. P

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Team building
Group working
Brain-storming

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Objective:

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Procedure:

Materials: e

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- 2. , , e e , , , e e , , . . . ee c , . . . , e e e c , e ? e -e , . . . , e . . , e . . . ,

Materials: e

. - E BA I D C I (20-01 ...) Objective: e, e e e c c . . Procedure: , e, ee c e, ere ,/e, r.e, .e, ee, . . c e e . e ere , ee,,,,,c - R . .e,, ,,c e ., , , c . c. , e . cree e. e œ . e . . e . e . , c. r . e , . c .., ,, e. e.c., , e, ,., e. .e. .e.re .e, .ee,ece r.,. ere ec.er, .e .., e. e.e ... e e c e, , .. e ,.e ., ere e, eee rome c . ee e. er ., c, ec ee, cr. e.ee.e c... Discussion: 1. ee e., ee, ? 2. ee, e ., e, e, e, e ee? . ., e ee . е ? 3. ee . , cc , e . e . e , e , e , e ,? . .?

Materials: e

(, , L, 1 80)

• HE I A GAE (5 1 ...)

Objective:

. e,. .e , e e c . c. .

Procedure:

Discussion:

,c,,c . c ,e , ,ec , ,e e , ,.c ...

- 1. e e ...e . e .. e ?
- 2. .e ..?
- 3. ., e, e, .e e ., c . c. ? ?(.e . c . c . e , 55% ... e)
- 4. . c e e e, e, . , e , . , ?
- 5. . . ee . e , , e , . c . c e e . e ,?

Materials: e

(, 7 , 1 8)

. HE E E ? (10-15 I ...)

Objective:

. . e ,..e. . e c . c. ,.

Procedure:

Discussion:

,c,,.e . e c . c. . e , . e .e,:

- 1. . e,, . . e , e ? . e ?
- 2. .c. e e , .e e ,e,? ..., e e ,e e?
- 3. e ee .e, ', e . , e .? ee?
- 4. e e e e , . . e , e e c ?
- 5. c e ,, e . e e e , e . e , e e c ?
- 6. ., e, e e . e e . e . ?

• FEEDBAC A D EA (Ol...)

Objective:

e e, , c c. , e, e , cee, e c.e

e, , , e c.e e e c e e, ... e e . , ... Warning: , e

e , . e, .e , .e c e e, ... e . e . e ... e ...

e e e e e e ce, , ... c , e e e, ... e ... e ...

e e e e e e ce, , ... c , e e e, ... e ...

Procedure:

- 1. e. e ,. ..
- 2. e. ee e.
- 3. e . . , . e . e .