DOCUMENT RESUME

ED 125 838 RC 009 325

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TITLE Strategies to Affect Student Sensory Awareness of the Environment in a Rural Schools Setting: Kindergarten Through Grade Three.
PUB DATE Jul 76
NOTE 15p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Activities; Concept Formation; Early Childhood Education; Environmental Education; Guides; *Lesson Plans; Mathematical Concepts; *Outdoor Education; *Primary Education; *Rural Areas; Science Instruction; *Sensory Experience

ABSTRACT

Presenting eight sample environmental education sensory lessons designed for K-3 students in rural areas, this guide briefly details the rationale and means for developing proximity congruence between students and life space phenomena. Field trips, nature walks, site studies, and other outdoor activities are briefly discussed. The format of each sample sensory lesson includes: an activity focus; grade range; concept; purpose; and numerous suggested activities. The areas of focus include: senses; shape and form; trees; living things; local birds; plants and animals; early spring flowers; and pond life. Exemplary activities include: finding man-made geometric forms such as buildings, signs, fences, etc. and identifying their shapes; adopting a tree and studying it throughout the year; going on a treasure hunt to look for natural treasures; making a nest, feather, and bird print collection; making an ant farm and carrying out research oriented activities; collecting snails and comparing the behavior of the captive snail with that of the wild snail; etc. (JC)

STRATEGIES TO AFFECT STUDENT SENSORY AWARENESS OF THE ENVIRONMENT IN A RURAL SCHOOLS SETTING: KINDERGARTEN THROUGH GRADE THREE

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July 1976

ABOUT THE AUTHOR

Richard Peters is currently Director of an Experimental Schools Program (ESP) project in northern New Hampshire. This ESP project, one of ten such projects nationwide, is funded by the National Institute of Education, Washington, DC, and services a rural school system of 1100 student population; Kindergarten through grade twelve.

Since July 1973, Dr. Peters and the ESP staff have been engaged in Kindergarten through grade twelve instructional program development in environmental education.

Dr. Peters has been a consultant to several EE projects; has developed and taught a twelfth grade MAN AND HIS ENVIRONMENT mini course; has written published materials for several EE oriented publications and organizations including The Journal of Environmental Education, The Journal of Geography, Social Education (the National Council for the Social Studies), and the Center for Environmental Education; has published an NCSS (National Council for the Social Studies) How To Do It pamphlet entitled "How To Teach About Human Beings and Their Environment"; and has developed several EE related 'how-to-do-it' guides for classroom teachers - for the ERIC system.

Dr. Peters received his Bachelor-of-Science in Education and Masters-of-Education degrees from the University of Maine (Orono); pursued doctoral studies in Social Studies Education at the Florida State University (Tallahassee); and received his Doctor-of-Education degree in Curriculum and Instruction from the University of Rochester (NY).

July 1976

It is a truism that "man interacts with both natural and social environmental phenomena on a day-to-day basis. Interaction alone is not enough, if we are to intelligently conserve, manage, and protect our natural and human resources. An introduction to- and awareness of the natural surroundings provides a basis for direct human interaction with environmental phenomena and enhances leisure-time activities and recreation" .[1]

It is upon this premise that the Union 58 Experimental Schools Program (ESP) project has based its student sensory awareness of the environment program for students; Kindergarten through grade three.

In order to make one aware - there is a need to, first, affect some change in existing attitudes and perceptions. If children are to become sensitive about the character and quality of the surrounding life space environment; a sensitivity and concern which will remain with them all their adult lives, they must be exposed to the nature and to the beauty - as well as to the necessity - of a quality life space.

If students are to become acutely aware of the things (natural and social artifacts) and people about them - and are

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[1] Richard O. Peters, "New Hampshire (EE) Program," Environmental Education Report, volume 4, number 4, April 1976, pg. 9.

expected to better understand their day-to-day interdependence and relationships - then they (the students) must be helped in this process. Under the tutelage of teachers and concerned parents - as well as interested community members - students can be shown that artifacts/elements which comprise the total perceived/non-perceived life space do serve a necessary function.

How do you accomplish this degree of tutelage that is necessary in order to affect student attitudes, behaviors, and sensitivity rgerading life space environments ? How can you (the teacher) bring about the direct interaction of students and life space phenomena ? How can students be aided in the development of their sensitivity toward their life space ?

PROXIMITY CONGRUENCE

In order for students to become aware of the character and nature of their life space - they must be exposed to it directly ! There is a time and a place for vicarious experiences but when dealing with student attitudes, behaviors and sensitivity about the life space - there is no adequate substitute for direct contact and exposure.

Therefore, there is a need for teachers to develop and offer instructional activities for students which provide for their direct interaction with life space phenomena. Proximity congruence is a state of harmony existant between two or more animate and/or inanimate objects. There is a need to bring objects together so that a natural state of interaction exists.

Proximity refers to a degree of nearness; the relative distance between two or more animate or inanimate objects.

If, for example, students are studying trees and their life cycles and the trees are outside the building while the students are inside the classroom - then there exists a state of proximity incongruency; that is, a situation designed to physically remove environmental life space phenomena one from the other or contrived to isolate and manipulate a given object.

In order to affect a harmony of parts (artifacts) there is a need to create a state of proximity congruency; that is, a situation designed to physically unite environmental life space artifacts for purposes of interaction. Thus, if a teacher wants students to learn about trees and their life cycles then he/she must design learning experiences whereby students leave the school - go out into the environment - and interact directly with the trees on a participatory basis (e.g., study the bark of several different types of trees - appearance and texture; scrutinize leaf colors-shape and structure; and investigate the importance of tree shade to soil moisture and low-to-ground vegetation growth).

There are several strategies that can be used by classroom teachers - for purposes of achieving a high degree of proximity congruency between students and life space phenomena.

1. Field trips. Organized instructional activities that usually involve a large number of students and require mass transportation to a site far removed from the school.

2. Nature walks. Activities for small groups of students which can be conducted either close to the school or far removed. Usually nature walks do not require bussing and are short in duration (time).

3. Site studies. If an environmental education program is to really become part of the on-going school curriculum, there is a need to create permanence. As the science classes have a lab space in which to conduct experiments - so the EE program requires a 'place' where student activities can be conducted. This 'place' should be an outdoor EE site; a geographical location where students can be taken and allowed to engage themselves in both structured and free-time activities (e.g., soil sampling, vegetation growth, water testing, pond life, nature's noises, trail hiking).

In conjunction with the outdoor studies, there are several activities which can take place in classrooms which compliment outdoor learning. As is the case with field trips, outdoor activities and experiences require planning and follow-up. Thus, classroom activities may constitute pre-outdoor orientation for students, may be used as a follow-up (review) activity to outdoor experiences, or during certain times of the year (in certain parts of the country when the weather does not permit outdoor activities) may take the place of field studies.

SAMPLE EE SENSORY LESSONS

#1

SENSES — GRADE RANGE: KINDERGARTEN

Concept: To make students aware of their sense of sight, hearing, touch, and smell.

Purpose: To develop an awareness of the outdoors by using one's senses.

Activities:

1. Take a walk into the woods. Encourage students to listen, look, touch and smell those things about them.

2. Following the nature walk, have the students make an experience chart with the following headings:

   WE SAW . . . .

   WE HEARD . . .

   WE FELT . . .

   WE SMELLED . .

   Discuss and write descriptive words about each.

3. Using the experience chart headings, have the students draw (in small groups) pictures of things that they saw, heard, felt, and smelled.

4. Have a tasting party with different types of foods. These foods can be placed in containers (such as coffee cans) and children can guess (by sampling) a food without looking.

5. Have the students make sense booklets. Each student will include pictures of nature walk artifacts and also other depictions of senses (e.g., pictures cut from newspapers and magazines).

#2

SHAPE AND FORM GRADE RANGE: KINDERGARTEN

Concept: Geometric forms occur in nature and in man designed structures.

Purpose: To make students aware of geometric forms that appear outside the school - in the total life space environment.

Activities:

1. Introduce the four basic geometric shapes to students; circle, rectangle, square, and triangle.
2. After students are familiar with the four basic geometric forms - take a 'shape walk'. Find natural geometric forms.
3. Look at small things (e.g., grass, leaves, flowers, stones, tree twigs) and identify their shapes. NOTE: This activity can be conducted either outdoors or in the classroom.
4. Look at large things (e.g., trees, clouds, contours of the land).
5. Find man-made geometric forms such as buildings, signs, fenses and walkways. Identify their shapes.
6. Outdoors - have students draw pictures of the shapes in nature that they have found.
7. There is a need to repeat these observations during different times of the year. Students should pay particular attention to those forms in nature which change most with the seasons.
8. Students make 'shape' books and record things they have found outside the classroom/school which fit into the four geometric form categories.

#3

TREES

GRADE RANGE: KINDERGARTEN - GRADE 1

Concept: Living things respond to their environment. Plants change with the seasons.

Purpose: To give students an opportunity to observe the complete seasonal cycle of a tree during the school year.

Activities:

1. On a sunny day in September begin this lesson by reading the following riddle.

   Can you guess? What starts from something smaller than a bee, And soon gets bigger than you and me? What's bare in winter, and bright in fall, And makes shade in summer, for one and all? What do boys like to climb, and girls do, too? And gives many good things to me and you? A tree, of course.

2. Take a walk into the woods and 'adopt' a tree. NOTE: The students perceive this tree as being theirs and they will study it all-year long.

3. Visit the adopted tree often during the course of the school year (weather permitting) and make observations. The teacher and the students should keep a chart and record changes in the tree - that they have observed.

4. There are several site activities that can be conducted during the course of the school year.

   a. Water the tree during dry periods.

   b. Leaves and grass cuttings may be placed around the trunk of the tree to protect it in winter.

   c. In the winter - put a bird feeder in the tree.

#4

LIVING THINGS

GRADE RANGE: KINDERGARTEN - GRADE 2

Concept: Living things respond to their environment.

Purpose: To develop an understanding that each living thing has requirements which must be met through interaction with its environment.

Activities:

1. Introduce students (via discussion, diagrams, films, filmstrips, etc) to the topics: WHAT IS AN ANIMAL? WHAT IS A LIVING THING?

2. Plan with the students to go on a treasure hunt - a walk around the school yard or to the EE site to look for 'treasures'. Discuss with the students, before you go on the hunt, some things that they might find.

rocks	ants	sticks
moss	worms	flowers
feathers	frogs	leaves
grasshoppers	bugs	decaying wood

Provide each student with a plastic bag into which they will put their treasures.

3. After the treasure hunt - have the students put their 'treasures' on a table (in the classroom). Ask them if there is anything they should do to take care of these things. Discuss each treasure and sort them into one of the two categories - 'living' or 'non-living' things.

#5

LOCAL BIRDS

GRADE RANGE: GRADE 1

Concept: Individual plants and animals can be identified by various characteristics of their species.

Purpose: To help students learn to recognize from eight to ten different kinds of birds from the area. To discover which birds migrate and which ones remain in the local area all year. To learn the eating, living, and migrating habits of identified birds. To learn to recognize different nests.

Activities:

1. Students go on a field trip or nature walk to:
   a. observe birds with binoculars,
   b. seek feathers, and
   c. locate nests.
2. Make a nest, feather, and bird print collection.
3. Set out different kinds of foods at a class bird feeding station. Observe the types of foods eaten by particular birds and note their feeding habits.
4. Paint a mural depicting local birds.
5. Discuss how birds help us (by eating insects, etc).
6. Discuss nest building and nest materials used by different birds. Also discuss the location of nests (e.g., in trees, in buildings, under roof overhangs).
7. Discuss, observe, and draw different eggs of different birds. Discuss hatching times.
8. Make paper-mache or clay birds of the area.
9. Observe and discuss the enemies of the birds.
10. Observe and discuss camouflage - as a protective device of birds.

11. Listen to recordings of birds and identify different calls. When outdoors - also listen for bird calls and have the students identify them.

12. Invite guest speakers from the Audubon Society or Fish/Game Department to discuss birds with the students.

#6

PLANTS AND ANIMALS GRADE RANGE: GRADE 1

Concept: Individual plants and animals can be identified by the various characterisitcs of their species.

Purpose: To develop student knowledge of- and an appreciation for the ant colony culture; how ants live, help us, and develop homes. Ants develop communities, establish a communications system, and conduct different jobs (a division-of-labor system).

Activities:

1. Students make an ant farm and then carry out a series of research oriented activities (e.g., observe the ants at work, care for the ants, make pictorial records of the ant farm.

2. Discuss ant types (appearance) and behavior.

3. Observe an ant hill in-the-wild (outdoors).

4. Measure the distance that an ant can travel in a given period of time.

5. Examine the physical structure of ants. NOTE: Charts and overhead transparencies - as well as looking at ants under microscopes - can be used.

6. Measure and compare the weights that ants can carry.

#7

EARLY SPRING FLOWERS

GRADE RANGE: GRADES 1 - 3

Concept: Early Spring Flowers and plants adapt to their habitats and are interrelated.

Purpose: To help students identify the common spring flowers and plants. To learn the skill of naming parts of a flower and plant. To understand why plants go through their growing cycle before the forest floor is shaded by growth of new tree leaves.

Activities:

1. Discuss flowering and non-flowering plants. Show either study prints and/or Audubon Wildflower Chart to initiate the study.

2. Plan a field trip/nature walk through a field or wooded area so that students have the opportunity to discover many different types of flowers and plants.

3. As a result of the field trip/nature walk, students return to the classroom(s) with samples of each flower and plant discovered. These flowers and plants are transplanted into a terrarium. NOTE: Students should bring back only one (1) specimen of each flower and plant discovered.

4. Students develop an art book in which they keep pictures of flowering and non-flowering plants.

5. Students play a game with study prints or pictures of the various early spring flowers to see how well they can identify them.

#8

POND LIFE

GRADE RANGE: GRADES 2 - 3

Concept: Living things respond to their environment.

Purpose: To develop student awareness of snails as the major consumer in a balanced aquarium; to find out about the life cycle of snails.

Activities:

1. Observe snails along the side of a jar. Students should watch the motion of the foot. How does the snail use its tongue? Which kind of plants does it favor? What parts of a plant do snails like best?

2. Take a field trip or nature walk into the woods and discover fresh water and tree snails. Observe their behavior.

3. Compare the behavior of the captive and the wild snails.

4. Observe the snail's egg masses. Magnify and count them. How many days pass before you can see a tiny shell? How amny survive? Find out whether the snails are air breathers or gill breathers.

5. Students keep logs of their observations and activities.

6. Study the physical structure of snails.