

Appendix C

A Positive Example of Technology Use

LESSON PLAN

Date: February 23, 2001 (Friday)

Grade Level: Grade 1

Subject Areas: MTH, SC, LA, TCH

Topic: Life Cycle of a Plant

Objectives:

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1. The student will be able to make an estimation and adjust the estimation when appropriate.
Math, Strand Seven, # 4
2. The student will be able to observe and analyze patterns in the series of events in the life cycle of a plant and predict the next likely occurrence in the sequence accurately after three group attempts.
Science, Scientific Knowledge # 3/Lang. Arts, Listening/Visual Literacy, Structure # 3
3. The student will be able to conduct a simple exploration about seeds based on his/her own questions.
Science, Scientific Inquiry # 9
4. The student will improve comprehension by communicating thoughts, feelings, judgments, understandings, and attitudes about reading material.
Language Arts, Reading, Application # 4

Materials:

One small jar of lima beans (about 25) that have been soaking for 24 hours
One piece of cloth to cover the lima bean jar
20 magnifying glasses
Paper towels
Plastic knives
Toothpicks
The big book, "I'm a Seed," by Jean Marzolla
Overhead projector with transparency of seed parts or Flexcam
Large cards showing life cycle of plant in sequence

Procedures:

Introduction

Place the jar of lima beans (covered by the cloth) on the table in front of the classroom. Ask students to guess what is under the cloth. Uncover the jar and ask if anyone can identify the type of seeds. (They should be very familiar with these.) Then have students make predictions about the number of seeds in the jar. Write the predictions on the board. Explain to the students that they will have an opportunity to find out more about how plants grow and the life cycle of a plant.

1. Go over behavioral expectations. Have the students gather in the reading area. Display the big book, "I'm a Seed," and ask students to take turns telling the story as the pages are turned. (This story was used for a Shared Book experience the previous day.)
2. Have the students point out the six major events that take place in the story (seed, sprout, grow, bloom, fruit/flower, more seeds for story to start again). As the events

- are listed, introduce large cards with pictures to match each stage in the life cycle of a plant.
3. Pin the first “seed” card at the top of the bulletin board and ask the students to explain which card comes next. Place them in sequential order in a circle going clockwise on the board. Talk about how the cycle continues. Give all of the students a chance to briefly explain a stage for the class. (This would take three complete cycles.)
 4. Ask students how they believe the seeds turn into plants. Follow up by asking for suggestions about how they might find out more about this. (Look inside a seed.)
 5. Have students return to their seats. Display the jar of lima beans. Begin counting the beans out, placing one on each student’s desk on a paper towel. When half of the beans are counted out, have the students look at their estimations and see if they want to make any changes. Finish counting out the beans for the students to use and then place the extra beans on a paper towel in the front of the classroom. Announce the total number of beans and check the estimations. Ask students to think about how they might have improved their estimations. Did they change their estimations after seeing the total from half the jar? Why or why not?
 6. Hand out plastic knives and magnifying glasses. Allow students to explore the seeds from the outside first. What do they smell like? How do they feel? How are they different from the lima beans they use for manipulatives in their CGI lessons? How are they the same?
 7. After some initial exploration, have the students split the beans down the middle with their knives. Model the correct method of cutting the bean. Have extra beans available in case of mistakes. Ask: What do you see? Can you find three “different” parts? Where do you think the plant starts?
 8. Set up the Flexcam (or, if unavailable, the overhead and transparency) and show the students with a pointer the three major parts. Circulate around the room and allow time for the students to continue examining their seeds. Post a diagram of a dissected seed on the bulletin board next to the life cycle of a plant stages.
 9. After the experiment, have students return plastic knives and magnifying glasses to the containers by rows. One student at each group of desks will then gather up and throw away the seeds and paper towels.

Closure

Regroup at the reading area and ask the students to take turns sharing what they learned about seeds and the life cycle of a plant. Review the six stages with the cards on the bulletin board. Ask the students to point to the seed coat, food storage and little plant (embryo) on the seed diagram. Tell them they will have an opportunity to learn more about the life cycle of plants in the next lesson.

Evaluation:

The teacher will...

- observe that the student made an estimation and, if appropriate, adjusted the estimation.
- use a checklist to record that the student observed and analyzed patterns in the series of events in the life cycle of a plant and predicted the next likely occurrence in the sequence accurately after three group attempts.
- observe that the student conducted a simple exploration about seeds.
- observe that the student improved comprehension by communicating thoughts, feelings, judgments, understandings, and attitudes about reading material.