

Fulbright Curriculum Project

Fulbright-Hays 2006 Seminar

Australia: An Ancient, Delicate and Unique Environment

Creating a Dynamic Classroom Learning Environment

Through Schoolyard Habitat Areas:

Good Educational Practices Inside and Out!

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ONE PAGE SUMMARY OF THE UNIT/PROJECT

American public schools need to constantly engage American youth in new and innovative ways. During my 15 years as an educator, I have found that science inquiry has been a successful educational best teaching practice to bring dynamic learning into the classroom. It engages students by helping them expand their cognitive processes. Science inquiry also taps into a child's innate wonder and curiosity. Students are constantly asking questions.

The Fulbright-Hays Seminar continues to serve as a catalyst in my classroom by helping me implement new and innovative ways to introduce content. I am able to make applications from the experiences I encountered and utilize resource materials received from my trip to Australia. Furthermore, the experiences gained during my visit to elementary schools and regional environmental centers help me integrate curricula across subject areas.

My project is threefold:

- 1) The physical schoolyard habitat areas at our school are utilized to teach a specific science standard. The visit to Burrumbuttock Public School's Wirraminna Environmental Education Centre (WEEC) was the inspiration for teaching this standard. We have habitat areas in our urban school setting.
- 2) In continuing the theme of school/community relationships that was emphasized during the Seminar, I recognize three other projects that the elementary students participate in using regional partnerships and local resources.
- 3) Promoting literacy was a constant theme during our visits to schools throughout Australia. I outline how a literacy trunk can be created to promote reading and writing through science content books based on animals, plants, and regions in Australia. A child can grow in their literacy development from a wealth of outdoor environmental experiences.

The elementary school curriculum can be easily integrated. For example, the science classroom is the perfect setting to teach reading instruction using non-fiction books. Social studies and science standards can be integrated into thematic units. Art projects can enhance a science unit by stretching the student into spatial learning modalities.

This project allows the opportunity to develop higher level thinking skills by implementing projects at the analysis, synthesis and evaluative level. Best teaching practices used by the classroom teacher, ESL instructor, and gifted education coordinator further differentiates the learning activities for students. Differentiating the instruction during this activity allows students to take ownership of their learning.

GRADE LEVEL

ELEMENTARY SCHOOL - SECOND GRADE

KEY (ESSENTIAL) QUESTIONS/QUERIES
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What is a habitat?

What is the definition of an environment?

What habitats do we have in Washington, DC?

What are the unique environmental regions in Australia?

What animals and plants live in these unique places?

What are the differences between plants and animals from different environmental regions?

BACKGROUND NOTES

Key Elementary School is within the District of Columbia Public Schools. Located in the Palisades neighborhood of Washington, DC, the school is known for its high academic achievements. Utilizing the wealth of community resources found within the Washington, DC area has been the school's constant goal.

Building an outdoor classroom has been one such achievement by utilizing a grant through the United States Department of Agriculture. Currently, four habitat areas have been created: the Woodlands Habitat, the Butterfly Garden, the Bird Sanctuary, and the Annual Vegetable Garden.

Often, students limit the meaning of the word "school" as the physical building and not the surrounding physical space. It was necessary, therefore, to introduce the students to the physical school grounds to expand their conceptual framework of an outdoor classroom. The goal of our outdoor classroom is to literally move the classroom outdoors so that students can interact with their natural surroundings.

Also, Key School utilizes resource teachers to further enrich learning opportunities for our students. As a resource teacher, my primary focus is to implement science content. But, my collaboration with classroom teachers, the technology instructor and the librarian broadens my opportunity for curriculum integration. For example, I teach small group reading sessions using science content themed books. I also promote community partnerships by bringing professionals into our learning community and fund other school initiatives through grant writing.

STANDARDS

Second Grade

Life Science

2.8: Broad Concept: Many different types of plants and animals inhabit the earth. As a basis for understanding this concept, students:

1. Recognize and explain that living things are found almost everywhere in the world in habitats such as the oceans, rivers, rainforests, mountain ranges, arctic tundra, farms, cities, and other environments. Recognize that some habitats are extreme, such as the very deepest parts of the oceans or inside hot springs.
2. Recognize that the numbers and types of living things can vary greatly from place to place.
3. Give examples of the many kinds of organisms that lived in the past that are now extinct and explain how these organisms were similar to, and others very different from organisms that are alive today.
4. Describe that plants and animals in our city have habitats that are essential to their survival. For instance, the schoolyard is a habitat that provides the basic needs for a variety of plants and animals.

OBJECTIVES (Goals)

My goal for the lesson was to have the students identify the four habitat areas that comprise the physical grounds at Key Elementary School (L.S. 2.8.4). Once the defining features of the habitat areas were articulated, the unique components of the woodlands, butterfly, bird, and annual garden habitat areas were listed. For example, the woodlands habitat is a relatively shady place. The students contrasted this observation with the sunny area of the butterfly habitat. They continued to compare, contrast, and identify components of each habitat area. The students were to include a scientific sketch of a plant and/or an animal that they found in the habitat area and include observational notes on the color, size, shape, and texture of the object they were sketching.

MATERIALS

Clipboards, Pencils, Paper, Habitat Areas: Woodland, Butterfly, Bird, Sanctuary, and Vegetable Garden.

Delta Science Modules: www.delta-education.com

FOSS Science: www.fossweb.com

STRATEGIES (Performance Tasks)

The initial lesson on habitats included the precursory activity of accessing prior knowledge using a K-W-L chart. My students had solid prior knowledge on the concepts of habitats so it was my job to provide higher level thinking activities throughout the unit and differentiate their learning. I used a variety of graphic organizers to help them list various habitats (rainforest, forests, ponds, oceans, etc) and then helped them identify specific components of the habitat (flora and fauna) that helped make these places unique. The lessons on habitats also used materials from the Delta Module Systems: Plant and Animal Populations as well as the FOSS: New Plants unit. I further augmented the learning materials by bringing in quality picture storybooks to give even more visual representations of unique habitats from around the world.

The students explored the schoolyard and habitat areas. With clipboards in hand, they recorded their outdoor observations of plants, animals, and non-living things. We then went indoors and made a graphic organizer of a T-chart listing our discoveries in terms of living and non-living things. The students were also familiarized with the physical boundaries of the habitat areas that encompass our outdoor classroom.

ASSESSMENT (Evaluation)

This portion of the lesson involved assessing the performance tasks (informally and formally), summarizing the day's lesson, and receiving feedback from the students.

Informal formative assessments were imbedded throughout this instructional sequence. I constantly gave feedback on student thinking and written activities. I allowed time for individual reflection with prompts like, "Now, I want you to think about this for at least ten seconds." I gave students time to discuss a question with their partner (no, my classroom is not always quiet)! I asked follow-up questions to their questions. I always encouraged students to ask questions. The questions of students are often more important than the answers.

At the conclusion of the instructional sequence, I gave a variety of student assessments to help me evaluate their understanding of the unit on habitats. The formative and summative assessments helped me realize if they reached the targeted instructional goals that addressed the standard. The summative assessment came from the Delta Learning Modules, Plants and Animals Population unit. I used the FOSS assessment from the New Plants Unit. I also evaluated student work, which included graphic organizers that showed student representations of key concepts. Finally, I included a "best work" sample of one of their scientific sketches that included an observational commentary about their scientific sketch from one of our school's habitat areas.

FOLLOW-UP ACTIVITIES FOR OTHER GRADES

Science Literacy Trunks

Project Description: Science Literacy Trunk: Australian Habitats

Funded by Toyota Tapestry Grant Program

www.nsta.org

Many elementary teachers are not comfortable with their content knowledge of science. The idea of science themed literacy trunk evolved from this realization. My rationale was simple: if the elementary classroom teacher is most comfortable teaching literacy type of activities, build a content themed trunk around literacy initiatives that introduces the students to science based content material.

One way to achieve this goal was through the creation of an Australian themed literacy trunk. This trunk contained a variety of materials to support, enhance, and expand the teaching of literacy through science content. Some of the activities for students to use in their classroom included picture storybooks, books with tapes, rubber stamps of Australian animals to support writing initiatives, and puzzles to enhance group interaction. Materials in the trunk created learning activities for primary students to work independently and also in small groups.

Students must be engaged with the wealth of children literature. One hook is for educators to use the engaging nature of inquiry based science content to teach literacy. Science literacy trunks bring science into the classroom during the language arts and reading block. Children have opportunities to interact with rich literacy texts through science content topics.

The Schoolyard Environment

Project Description: Architecture in the Schools

Funded by Washington Architectural Foundation

www.wafonline.org

“The Foundation for Architecture was created to increase public awareness of built environments...promoting the public’s active involvement in decisions about the city’s buildings, landscapes, parks and urban spaces.”

The fifth graders at Key Elementary School are currently in a ten-week course with the Washington Architectural Foundation. One day a week, an architect comes to our school to conduct a lesson with the fifth graders. One such lesson was to explore our school environment and identify both natural and human made elements that make our physical spaces. The students were asked to take pictures with digital cameras and then to make a poster board displaying Key School’s physical environment and schoolyard habitat.

Regional Environmental Education Program
Project Description: DC Baywatch, Destination: Watershed
Funded by Discovery Creek Children’s Museum of Washington
www.discoverycreek.org

The fourth grade students of the District of Columbia Public Schools participate in four environmental field trips enabling them to interact with their regional habitat areas. The first field trip is called Creek Critters. The students observe stream ecology and the geology of Washington, DC. The Potomac River Adventure is the next field trip where students discover the source of their own drinking water and explore the biodiversity of the river. Next, the fourth graders go to the Smithsonian Environmental Research Center (SERC) where they talk about fresh, brackish, and salt water. The final field trip is called Wetlands Safari. They visit the Kenilworth Aquatic Gardens (National Park Service) and look for native animal and plant populations.

ADDITIONAL LOCAL RESOURCES

Anacostia Watershed Society
www.anacostiaws.org

DC Greenworks
www.dcgreenworks.org

DC Schoolyard Greening Consortium
www.dcschoolyardgreening.org

Fillmore Arts Center
www.fillmoreartscetner.org

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