

WRITTEN RESEARCH: AN ENDANGERED SPECIES?

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“Why do you think some animals are endangered?” asks our guest speaker from a local wildlife refuge.

A group of handwaving seven-year-olds, deeply involved in a study of endangered species, offers their insights.

“Habitat encroachment,” Pablo tells her.

“Illegal poaching,” suggests Laura.

“Pesticides,” chime in Becky and Maya together.

“Environmental pollution,” adds Ken.

After finishing their research reports on animals, these second graders enthusiastically ask if they can write a second one. Yet Thomas Hogan recently found that 40% of the elementary students surveyed strongly disliked writing research reports, ranking it as their least favorite writing activity.

For years I have asked myself why this unit on endangered species is so popular. Unlike Hogan’s students, these children find research comes alive because this unit:

- actively involves students with field trips, art projects, writing activities, and visiting live animals.
- capitalizes on their love of animals
- raises an awareness of an important social issue.
- involves fascinating animal facts.
- develops excitement about research and a feeling of expertise about endangered species.
- results in a beautiful finished product.

This article describes how a six- to eight-week integrated unit on endangered species brings research alive for second through sixth graders.

Surveying the Terrain: Pre-Writing

In order to demonstrate to students and parents how much they have learned at the end of the unit, I give a brief pre-test to find out how much students already know about endangered species. After covering the walls with posters and loading the shelves with books about endangered animals, I plunge into the unit. Reading books such as *Saving the Peregrine Falcon* or *The Black Footed Ferret* sparks questions:

“What does ‘endangered’ mean?”

“What’s the difference between ‘extinct’ and ‘endangered?’”

“Why are animals endangered?”

“Why does it matter if some animals disappear?”

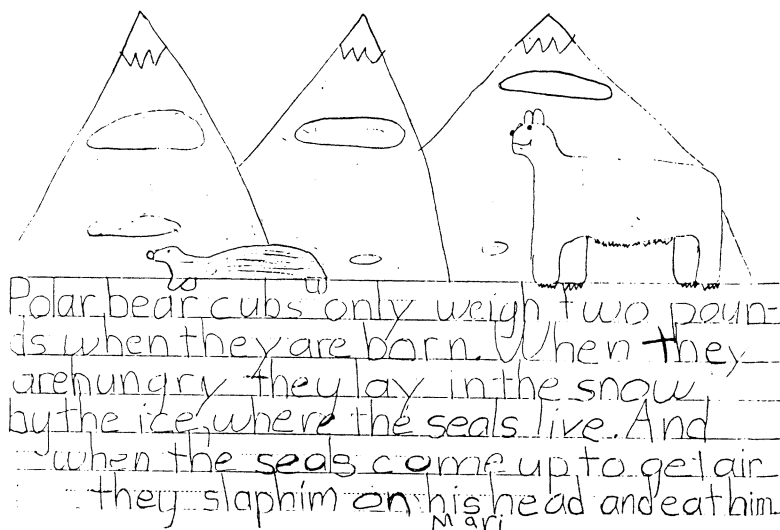
First Forage: Modeling

The children vote on one specific family of animals, such as bears, birds of prey, large cats, etc. as our focus for one week. For instance, if they choose whales, we read about whales, discuss their attributes and habits, examine books and charts, and meet in small groups to brainstorm facts we have learned. We design huge murals, write poems about whales, and listen to their songs. With chalk, we outline the size of a blue whale on the playground. (Last year, to help students visualize the amazing size of the whale’s heart, I drove my Volkswagen into the whale shape!) The children enjoy memorizing animal facts, which some remember for years. (Did you know that the peregrine falcon can dive at up to 200 m.p.h. or that a bald eagle’s vision is eight times greater than ours?)

After a week of whales, the children pair up to research one specific type of whale in more depth, such as the humpback or blue whale. Teams scatter to search through classroom and library books for information. Reading and writing intertwine as the children read for facts, write the information in their own words, check back for spelling, and use the books again for illustrations.

Groups cluster to revise their drafts for content and proofread for mechanics. Children exchange papers for suggestions and I add my own comments. The students carefully copy and illustrate

their final drafts which I compile into a book with a laminated cover. We add the book to the class library and share it with other grades.



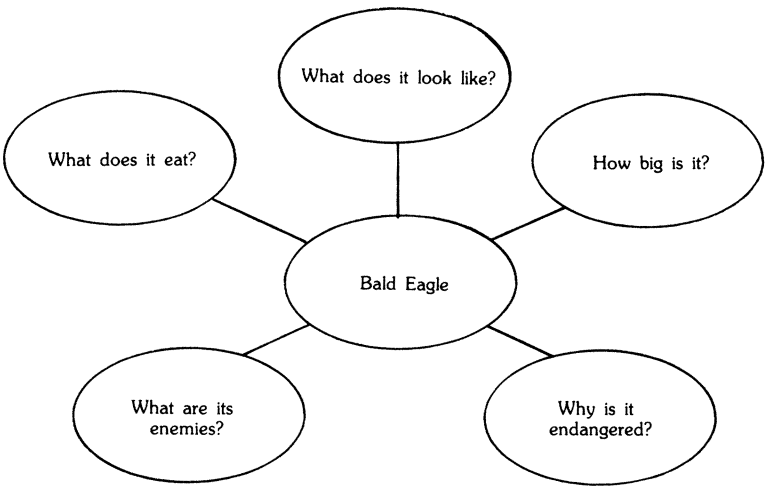
Claiming A Territory: Guided Practice

By this time, the children are eager to delve into the study of one animal which they will research individually and in depth. We list all the possible animals, checking the yearly endangered species publications from the National Wildlife Federation and U.S. Government (see References). In order for everyone to learn more, and so that only two people will have to share the same materials, I suggest that only two students choose the same endangered animal. As children eagerly make their choices, I hand each of them a tagboard endangered species folder to decorate and use for storing their drafts and notes.

On the chalkboard I model a web about one animal such as the bald eagle. The class brainstorms five or six questions indicating what they might want to learn about the eagle. These

questions are arranged like wheel spokes, radiating from the central topic and later becoming headings for their report. The students each make a web about the animal they have chosen and tuck it in their folder.

Sample Web



Now the students are ready to begin the first draft of their research. By looking at examples, the children learn about the title pages, tables of contents, and bibliographies they will need in their reports. For older students, I may suggest they add more chapters with footnotes. A unit like this one permits the teacher to adapt the activities and requirements to meet the interests and needs of the particular group of youngsters. Throughout this unit, I am teaching skills that are in every curriculum guide, but teaching them *in context* as the skills are needed rather than in isolation.

Stalking the Prey: Independent Practice

The children eagerly launch into collecting information for each chapter. In order to learn specific library and organizational skills, we visit the school or public library, where the librarian shows students how to use the card catalog to locate books about their animals. With small groups I demonstrate how to find information

about animals in the encyclopedia and National Geographic Index. Students list their researched facts in the appropriate chapters of their reports, citing sources in their bibliography and footnotes.

We also take field trips to the aquarium, zoo, museum, and wildlife areas. We invite speakers from Greenpeace, and from the local zoo and people who can bring live animals to school. Students keep learning logs of their experiences and questions. By now the children have become enthusiastic “experts” on endangered species, and bring in articles about animals from newspapers and magazines at home. All these activities help students begin to develop an awareness and interest in social issues concerning endangered animals and the environment. By reading and writing, exploring through field trips, and learning from speakers, students gain both rich and memorable experience.

Final Plan and Capture: Revision and Publication

At last the students are ready to begin the final phase of research. Paired with older students, peers, or with parent volunteers, they edit for content first and then for mechanics. The students number their pages and complete the table of contents. I confer with students to check for accuracy and determine what format they will use for “publishing” their research. Some choose to write their final copy by hand, while others use the school computer. If they choose to have an adult type it for them, the student must write a letter asking for help and offering to do a task for the adult in exchange. I hesitated at first to ask parents, but later found that it was an interactive experience for families; they saw what their children were learning and went on to explore more about animals together. (One child even had an endangered species birthday party.) Parents are amazed at the high scores on the post-test, covering both the facts and concepts about endangered species. It is often the case that students who seldom excel receive some of the highest scores.

Sharing with the Pack: Celebration

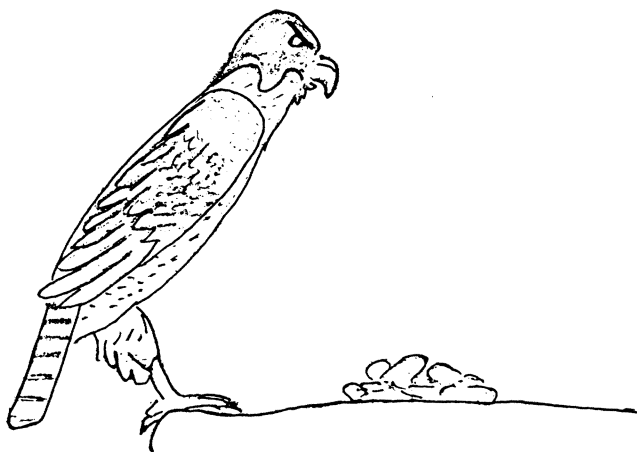
After all the reports are bound and illustrated, we send invitations to an Authors’ Night at school where students proudly display and read the finished reports along with the rough drafts, letters, photographs of our activities, and art projects. As the children read the research papers aloud, families never fail to be impressed

and excited. This is a good time to invite the principal or school board members to see what your students are capable of producing.

The peregrine falcon looks like it wears a large black moustache. Both male and female have the same markings, but the female is larger than the male. The peregrine is like a hawk, however a peregrine has pointed wings which are better for speed.¹ Special flaps on its beak keep air out of the lungs when diving at high speeds.²

A peregrine's eyesight is so keen, a peregrine falcon could read The Times one mile away! A peregrine falcon parent can tell when a chick is full because the falcon chicks have a pouch under the neck. When the chick is full, the pouch bulges.¹

Peregrine falcons mate for life, but if one of the falcons dies, the other falcon will find a new mate.⁴



When curriculum is focused around an exciting theme, learning bubbles over. Students absorb facts and concepts but, even

more, they learn *how* to learn. They internalize skills and attitudes that they will retain for the rest of their lives. "The learning fostered by written reports more than compensates for the time they require. Written reports that must be scientifically accurate, interpretive, creative, analytical, and evaluative demonstrate those highly prized goals of abstract thinking which all teachers hope to foster" (Gere, 92). Children learn skills of persuasion, the rituals of research, and the way to organize and present information through listening, reading, writing and speaking. They come to school with newspaper articles, stuffed animals and reactions to TV shows. The climate of the classroom is one of excitement and hard work. Students discover that learning is an exciting lifelong process. Research comes alive.



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