

## **Moving Toward Inquiry: Integrating Literature Into The Science Curriculum**

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Many teachers are excited about using fiction and nonfiction literature to explore content area themes and units. They believe that literature can provide a depth and richness of content not found in textbooks and support students in exploring a greater variety of perspectives and topics. Literature offers the possibility of immersing students into other cultures and time periods and into exploring the impact of scientific issues in ways that go beyond a list of facts.

While literature can have a powerful effect on children's understandings of content area themes, the potential offered by literature often has not been realized. When content area studies are viewed as covering particular topics or bodies of knowledge, rather than as inquiry into questions that matter to students, the role of literature is to supply information and to create interest in the topic rather than to support inquiry. Literature should be an integral part of children's inquiry and meaning constructions of the world rather than just another way to "get the facts." In this article, we will share our current understandings about inquiry and explore the role of literature in inquiry through a particular classroom focus on cycles and ecosystems. This focus was developed through a collaboration between Kathy, a university researcher, Junardi, a teacher researcher, and a classroom of second grade student researchers.

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Throughout this article, we will highlight literature as a way to learn about science content, concepts, and processes. We do not believe that this is the only role that literature plays within the curriculum. Literature is also a way to learn language, to critique our political and social world, and to aesthetically enter into story as a way of knowing about the world.

### Learning as Inquiry

If a curriculum is truly *learning-centered*, then that curriculum is based on inquiry and the search for questions that are significant in our lives, whether we are adults or children. Without inquiry, a sense of purpose and meaning is lost, and learning is reduced to gaining bits and pieces of information and "covering" topics of study. The questions asked in inquiry should not be framed ahead of time by teachers or textbooks, but become part of the inquiry process, so that inquirers are both problem-posers and **problem-solvers** (Freire, 1985). Learners are not born passive—they are born researchers who actively inquire into their world (Smith, 1987). Other people's questions do not interest them nearly as much as their own.

Inquiry begins when learners are immersed in exploring their world and encounter an anomaly, something about the world which puzzles them (Peirce, 1966). When they come across something which they cannot explain based on their current understandings, they either can ignore that anomaly or ask a question and search to find an explanation. If learners attend to the anomaly, they take the stance of an inquirer, searching to find and test the connections that will allow them to understand and to raise new questions. The sign of a successful inquiry is having new questions to ask, not just finding answers to current questions (Short & Burke, 1991).

While theme units have brought more interest and student involvement into content area learning, they often have not moved beyond topics to inquiry. Because the focus of attention in units tends to be on activities and books, content area processes and concepts are slighted. Finding answers to questions receives a greater emphasis than searching for a question, anomaly, or idea that's worth pursuing. Because teachers (and school curriculum guides) have been the **problem-posers**, they have had to "motivate" students to examine their questions instead of letting students find and pursue their own. We have come to believe that our role as teachers in inquiry is one of offering experiences and establishing learning environments that have the most potential for raising problems or anomalies for students rather than pre-determining the problem for them (Dewey, 1938).

### The Role of Literature in Inquiry

If teachers take an inquiry perspective on content area studies, then the role of literature is to support students in both finding and pursuing their own questions rather than only providing information. Even though literature has replaced the textbook in many classrooms, students still spend their time reading *about* science rather than actively engaging in learning about science through observing, experimenting, and forming and testing hypotheses (Harlen, 1989). Literature should support active engagement in the "doing" of science, not take the place of observation and experimentation.

Literature can provide alternate perspectives on how people live and learn and so support inquiry in ways that textbooks cannot. Because textbooks are distillations of already known knowledge written to inform, they do not include enough evidence to recreate the author's inquiry process. Well-written nonfiction, in contrast, is more modest and focused, with a more intimate and personal perspective. Instead of simply informing, the perspective is that of authors sharing their inquiry with other interested people, one enthusiast to another. Enough data is provided so readers can form their own opinions. Fiction adds another perspective, a "more human frame of reference" (Huck, 1989, p. 618), to understandings about content themes and topics.

Rosenblatt (1978) argues that readers bring a particular stance or purpose to their reading which influences the meaning they construct in the reading event. If readers take a predominantly *efferent* stance, their focus is on getting information to take away from the experience. They narrow their attention to the specific facts or answers they want to carry away. When readers take a predominantly *aesthetic* stance, they immerse themselves into the world of the book and focus their attention on what they are "living through" during the reading event. They consider a broader range of feelings, thoughts, and personal connections so that they take away a "whole" experience. The choice of stance primarily is determined by readers and their view of the reading task within a particular context. If literature is to support inquiry and children's search for significant questions rather than just a set of facts, we believe that teachers need to create learning experiences that support and encourage readers to take a wide range of aesthetic and efferent stances.

Another way in which literature can support broader inquiry is through integrating affective and cognitive ways of knowing. Many scientists have an aesthetic appreciation of their work and world that is eliminated in textbook accounts. Knowing and feeling, the mind and the heart, provide scientists and social scientists with a more holistic view of the world (Eisner, 1982), and literature can support that same integration for students' inquiries.

### Exploring the Integration of Literature into Science

While we shared these beliefs about inquiry and literature, putting them into action in the classroom was more difficult. We began moving toward inquiry by integrating literature into several months' focus on cycles and ecosystems with second grade students. This theme was developed as a broad frame from which the class could explore specific topics of study that were based in the school curriculum and in children's interests and questions. The children in this urban classroom came from a wide range of cultural and socioeconomic backgrounds and so brought diverse experiences to these topics.

Because Junardi has a strong environmental science background, her classroom teaching had for many years revolved around active engagements in scientific processes and concepts. The language arts, however, were taught separately and in a traditional manner. It was as if her day were divided into two parts so that she and her students had to make it through isolated teaching of skills and boring basal stories before they could get to "the good stuff"—their exploration of science. When she heard Kathy make a presentation about "Text Sets and Literature Circles" at a district inservice, she was interested in the possibilities of integrating literature into science so that her students would experience reading as an active process of meaning-making. Kathy was excited by her invitation to work together because she did not have a strong science background and had been looking for someone who was interested in exploring the integration of literature into inquiry.

Throughout this experience, we met and planned together, drawing on our different areas of expertise to suggest particular science and literature experiences. Kathy actively participated in the classroom 2-3 mornings a week during the literature experiences, since these were new to Junardi and her students. Junardi continued to integrate a variety of other experiences with science throughout the rest of the day. Because we began this unit in early spring, students already had established their conceptions of how the classroom operated, and the shift to active and critical small group engagements with literature was difficult for them. We struggled with how to support children's own problem-posing and to integrate literature into scientific inquiry instead of having literature as the focus of exploration.

We decided to begin the inquiry with the broad theme of cycles and interdependence. We wanted to establish a frame from which children could make connections to their own life experiences and view ecosystems as another type of cycle in their world. We chose the initial theme of cycles and ecosystems based on our knowledge of the children and the science curriculum. From this broad theme, the more specific topics and questions the class, small groups, and individuals pursued

were open to negotiation. Because of the children's interests, the class moved from a general focus on ecosystems into examining the rainforest and then the Sonoran desert.

Our inquiry began by examining common cycles in life and nature found in literature and their own experiences. We talked about cycles such as getting ready for school that were part of children's daily lives and looked for cycles in literature. In small groups, children read books with cycles such as the human life cycle in *The Island Boy* (Cooney, 1989), people's impact on each other in *The Quarreling Book* (Zolotow, 1963), animal life cycles in *The Very Hungry Caterpillar* (Carle, 1969), and a food chain in *Jump, Flog, Jump* (Kalan, 1981). Each group read a different book from the set each day until, by the end of the week, they had read and talked about all the books. The class then met to discuss how these books portrayed cycles. At the same time, Junardi introduced children to several cycles in nature such as producers and consumers, predators and prey, and the water cycle. As a class, we drew diagrams of the cycles in their lives, literature, and nature so they could more easily make comparisons and connections across these cycles.

From this broad perspective on cycles and the interdependence of nature, the class moved to a focus on ecosystems. We developed text sets for small groups around the different parts of ecosystems—animals, birds, plants and trees, people, insects, water, and homes. Our intent for these groups was that each would focus on one part, such as birds, and read to find out not only about birds, but how birds affect other parts of the system. When the groups came together three weeks later to share, we thought they would explore the interdependence of the different parts of ecosystems.

Text sets consist of a small set of related titles which have been carefully selected to represent a range of perspectives and genres including fiction, nonfiction, and poetry (Short, in press). The ecosystem groups each had a text set of around 15 nonfiction and fiction titles related to their group focus. In the insect set, for example, were books such as *Joyful Noise* (Fleischman, 1988), *Backyard Insects* (Selsam, 1981), *Why Mosquitoes Buzz in People's Ears* (Aardema, 1975), and *he Grouchy Ladybug* (Carle, 1977). In text set discussions, students read different titles and then come together to share with each other and compare their books as they search for similarities and differences. We chose text sets because we wanted students to read more critically and be confronted with different perspectives, connections, and information on their topics. Because the sets mix fiction and nonfiction, we hoped to encourage a range of aesthetic and efferent stances in their reading.

After the children signed up for a small group, they brainstormed on what they knew and wanted to know about their topic. They browsed

for several days and then each child chose a book to read and share with the group to get a discussion started. We gave each group a log to record ideas and connections they wanted to remember. The groups all met at the same time and the two of us circulated, briefly joining groups to facilitate discussion.

As soon as the groups moved into discussing and looking for connections across the books, problems emerged. Their discussions primarily were retellings of the books they read where they reported facts to each other rather than exploring their understandings and connections with each other. In their logs, they wrote isolated facts whether they were reading fiction or nonfiction. They were much more concerned about behavior than meaning and spent more time reporting who was misbehaving to us than talking about books.

The children's responses indicated their need for support in talking about literature and interacting in informally structured groups. They were used to answering specific questions in basal reader groups or on worksheets and so focused on isolated parts of books. Because their previous small group experiences had been structured cooperative learning groups where specific tasks and roles were assigned, they were unsure of how to negotiate dialogue.

We tried to support children's talk about literature and science in several ways. Each day immediately before the children broke into their small groups, we read aloud a picture book related to ecosystems such as *Bringing the Rain to Kapiti Plain* (Aardema, 1981) and had a short whole class discussion. During these short discussions, we encouraged children to take aesthetic stances by asking them to share their connections and responses instead of reciting facts or story details. After sharing initial responses and exploring the story world, we took a more efferent stance. Because children were having difficulty understanding how they could use fiction to explore science, we shared our connections to science concepts related to ecosystems and encouraged them to share theirs.

In addition, the class often met after their groups for a short reflection time. We asked them first to talk about what they were discussing in their groups and then how the groups were functioning. We did not want the major focus to be on behavior, so we began the reflection with the content and ideas discussed in groups. We then asked them about any problems in the groups and brainstormed strategies to deal with these problems. Another strategy Kathy used to move students' attention from behavior was to ask "What are you talking about in your group?" when students came to tattle on each other. While students were frustrated with her unwillingness to discuss behavior, her question communicated to them that our concern was not with how well they were behaving but with the ideas they were exploring.

We not only wanted to move children's focus from behavior to meaning, but also from overemphasizing isolated facts to immersing themselves into the world of the book (Rosenblatt, 1978). Unfortunately, the logs which we had included in their sets had signaled to them that they needed to collect facts instead of encouraging them to take aesthetic stances and both enjoy and learn from their reading. To invite them to enter more fully into the world of the book, we gave each group a shared book set consisting of a fiction or nonfiction title related to their text set focus. For example, the water group had a set of *The Magic Schoolbus* at the Waterworks (Cole, 1986) and the plant group had *The Carrot Seed* (Kraus, 1945). Because each person in the group read the same title, we hoped there would be less retelling and more sharing of their responses to the book. To further encourage sharing and dialogue, we asked them to make sketches of the meaning of the book using a strategy called "sketch to stretch" (Harste, Short, & Burke, 1988). They read the book, made a sketch, and then brought this sketch to the group to share, thus allowing them to consider the different interpretations and connections of group members to the same story. We introduced "sketch to stretch" with a class read aloud book before asking students to try the strategy in their small groups.

Maria had read *The Carrot Seed*, about a boy who plants a carrot seed. Everyone tells the boy that it will not grow, but he believes and cares for it and finally produces a huge carrot. Maria drew a sketch (see Figure 1) and said,

In my picture, the boy minus the seed is nothing because without the seed, the boy could not have grown a carrot. The family minus the boy equals no carrot because they would not have cared for the seed. They did not believe the seed would grow. The boy plus the carrot is happy because he proved he was right. Nobody believed in the carrot but the boy. Kids get laughed at a lot by bigger people and he proved he was right.

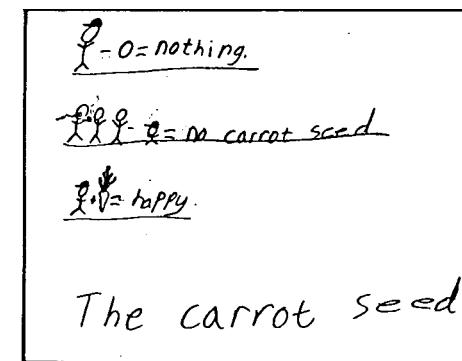


Figure 1. Sketch to Stretch for *The Carrot Seed* (Kraus, 1945).

While we believed that reading was just one way to explore science concepts and needed to be integrated with other science processes, the difficulties we experienced with the literature groups led us to overemphasize reading about ecosystems. As soon as we realized what was happening, we integrated experiment cards into the text sets and made materials available so that groups could design their own experiments. For example, the habitat group surveyed the school courtyard to determine the kinds of life forms living there. The major mistake we made in these experiences is that, for the most part, we provided the experiments for the groups rather than working with them in finding their questions and developing their own experiments.

In their groups, students began to move back and forth between reading, observing, experimenting, and discussing to include more ways of knowing and exploring science. Based on these experiences, they went to the library to get additional nonfiction related to their questions. Junardi also involved the class in simulation games, science movies, participatory science centers, and observation posts. Through class reflections and discussions, we encouraged connections across these varied experiences. Children's previous school experiences led them to view the experiences as isolated from each other and to not use what they were learning from experimenting to inform their responses to reading and vice versa.

When the groups came together to share what they had learned and experienced in their groups, other problems became evident. We had met as a class and brainstormed ways they could summarize what they had learned through diagrams, cycles, webs, pictures, and graphs. When the groups presented, they shared every piece of isolated information they had gathered. We quickly realized that the students would not be able to pull the ideas from the different groups back into a general understanding of ecosystems.

We saw three major problems. One was that students had not experienced giving presentations and summarizing what they had learned for others. They did not have a sense of audience or of how to sort out what was most important to share with others. The second major problem we created in our planning was choosing text sets that were too large and too broad in their focus. Topics like birds or people were so broad that students could not easily make connections across the books and experiences in their groups. Because the sets contained books from many different ecosystems, students were unable to see the interdependence across any one system. Most of their learning remained fragmented and their discussions never moved from sharing facts and responses to critical dialogue about larger concepts and issues.

The third problem was in our view of inquiry. We had focused on inquiry as a process of answering questions and had not given the

children enough time to find questions and ideas that really mattered to them. The groups had begun with the students immediately brainstorming on what they wanted to know. Many of these questions were quite specific such as "How many legs does a spider have?" and could easily be answered in a single reference. What we did not encourage was a continuing process of searching for new questions to explore. Inquiry and research are as much processes of finding questions as they are finding answers, yet we had fallen into the traditional school emphasis on problem-solving. We realized that we needed to give students time to explore so they could find and pose their own questions in order for their inquiry to be an ongoing process of increasing depth and complexity.

In class discussions it was obvious that the children had many questions about two particular types of ecosystems, the rainforest and their own ecosystem, the Sonoran desert. The class decided to begin with a short focus on rainforests. They pulled books and other materials on the rainforest from their previous text sets and explored them to develop and research their questions. Junardi read aloud other pieces of fiction and nonfiction such as *The Great Kapok Tree* (Cherry, 1990) and *Rainforest Secrets* (Dorros, 1990) and helped the children plan transpiration and water cycle experiments. Through these experiences, the class discussed how animals, birds, plants, and people within a rainforest depended on each other for survival. The children were particularly concerned with questions about the impact of people on rainforests and possible solutions to the destruction of rainforests. One group raised money to purchase some land in the Children's International Rainforest in Costa Rica. The class also created a mural and made a presentation on rainforests as part of the school assembly on Earth Day. This presentation gave Junardi a chance to work with students on how to summarize and present ideas to others.

### **Integrating Literature into a Cycle of Inquiry**

Based on these experiences with ecosystems and the rainforest, we found ourselves planning in different ways to support the children's interests and inquiries into their own desert ecosystem. An inquiry cycle adapted from Carolyn Burke (1991) gave us a framework for planning inquiry experiences with children. This cycle is based on the authoring cycle (Harste, Short, & Burke, 1988) and Dewey's (1938) description of the scientific method as a learning cycle of forming ideas or hypotheses, acting on those ideas to test them out, observing the conditions that result, and then organizing the facts and ideas for future use. The arrows in this figure go both ways indicating that there is continual movement back and forth among the different aspects of the inquiry process rather than some type of sequence or hierarchy.

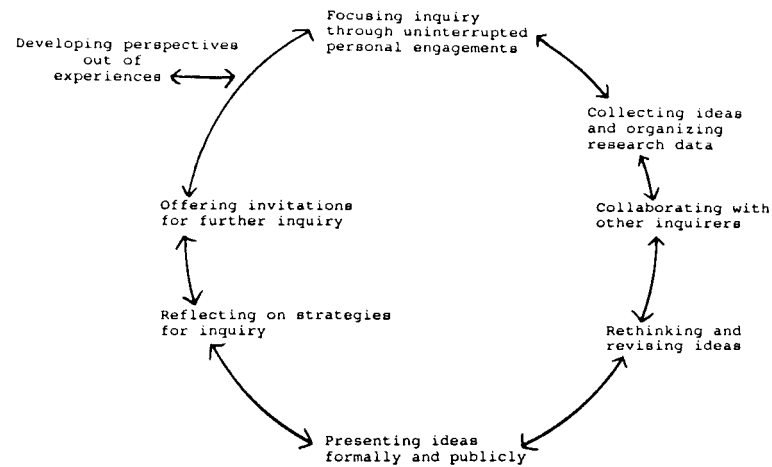


Figure 2. The Inquiry Cycle (Adapted from Burke, 1991)

### Developing Perspectives and Focusing Questions through Exploration

When we began the desert focus, we did not want to repeat our mistake of moving children too quickly into inquiry groups to research specific questions. We planned experiences so they could make connections with what they already knew about the desert, answer their initial questions on particular facts, and find questions and ideas that they could productively pursue in ongoing inquiry. We began the desert focus by filling the room with all types of literature, displays, and observation centers on the desert. Students had a week to just explore the literature and centers. They were not expected to write down what they were finding or engage in systematic inquiry. We did conduct an informal sharing time where children could share something they had discovered—a book, a fact, an observation, an "I wonder" question, or a connection to their own lives. We also read aloud books about the desert. Through this exploration, children were able to reflect on their own desert experiences and ask questions about those experiences. Their own life experiences thus formed the basis from which children drew the perspectives that informed their inquiry. They had time to connect to, and build from, their own life experiences. Having the time to explore and connect also seemed critical in encouraging more aesthetic stances toward reading because they did not feel compelled to search for answers to specific questions. Because their initial

experiences encouraged aesthetic stances, children seemed to develop a broader perspective from which to take more efferent stances. Their later searches for facts took place within the context of needing that information for their own inquiries rather than gathering isolated pieces of information.

After this week of exploration, we brainstormed together about what we knew and what we wanted to know. As they explored broadly and engaged in the uninterrupted "doing" of science, children moved from their initial questions and beliefs to more focused investigations and questions of greater depth and complexity. Children asked questions such as "How can the desert have flowers with so little water?," "Why did Native Americans of long ago want to live in the desert when it was so hot?," and "How do horned owls live? What do they eat? Why are they called horned owls?" Their questions, of course, continued to change throughout their inquiries but by giving students the chance to explore *before* asking them to focus their questions, they were able to make more powerful connections. The browsing and exploring supported their understandings of inquiry as problem-posing.

We made one other change in the brainstorming. Because of our earlier experiences, we were concerned that children were focusing so much on "facts" and knowing that they were ignoring the affective dimension. To encourage them to bring affective and cognitive ways of knowing science together, we began the brainstorming by reading *The Desert is Theirs* (Baylor, 1975) while Navajo flute music played in the background. As the music continued playing, the children individually brainstormed by drawing and/or writing about what they *knew and felt* about the desert. They shared these with each other in small groups and then we brainstormed as a class. Thomas, for example, drew a picture (see Figure 3) and talked about the specific information it represented in terms of his knowledge about birds, scorpions, and ants which live in the desert. He also talked about the feeling of "heatness" in the desert as the sun's rays went out everywhere, blocked only by the mountains.

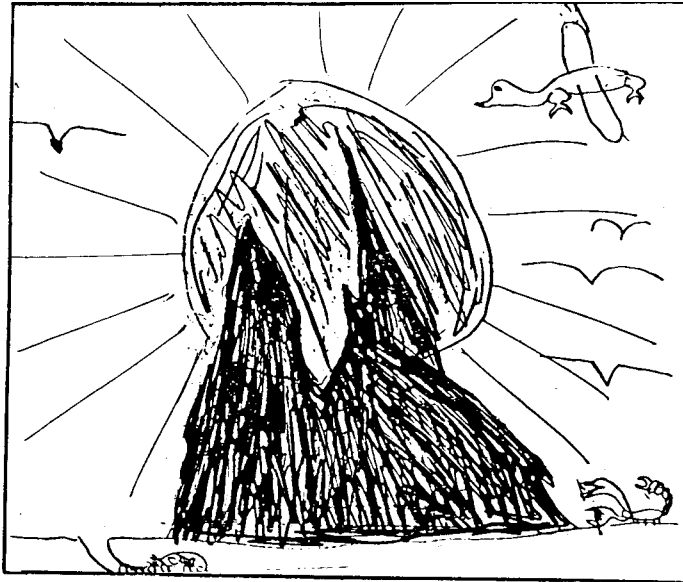


Figure 3. Desert Brainstorming (Thomas, Grade 2).

Throughout the desert focus, we continued to encourage children to share what they were learning and feeling as they participated in literature and science experiences. We also continued to play background music with desert sounds during quiet reading and exploring because, as Maria said, "the music makes me feel like I'm in the desert, not sitting at my desk."

### **Collecting, Collaborating, and Revising through inquiry**

From our earlier experiences, we knew that as learners develop questions to explore in greater depth, they want opportunities to think with other learners. Children need to participate in collaborative groups with classmates they trust to help them think through their "rough draft" ideas and to support them in collecting, analyzing, and interpreting data related to their questions. We also realized that we needed to change how these groups were formed. In the ecosystem locus, we began with literature and then developed other science experiences around what was happening in the text set groups. During the desert focus, *we began with students' questions* and organized small and whole class inquiries so they could explore those questions.

Literature was used when it was appropriate to facilitate that inquiry. This shift in our primary focus from literature to inquiry allowed for a more integrated approach that better supported scientific inquiry.

Instead of one major desert inquiry project, students engaged in a variety of smaller inquiries. Many of their questions related to animals of the desert which they investigated in small groups. These inquiries led to whole class inquiries on coyotes and insects. Children also explored Anazai and Hohokam cultures in centers on cultural artifacts such as clay pottery. These experiences were pulled together by a visit to an outdoor environmental science center where children engaged in experiences involving both the desert environment and the cultures of these two Native American groups.

Throughout these experiences, literature was integrated in many different ways. Sometimes literature, especially nonfiction, was used by students as a resource in their inquiries. Their stance was primarily an *effluent* one as they searched through reading materials to find information related to their questions and hypotheses. In their research groups on desert animals, students shared and compared ideas and information they found in books, filmstrips, pictures, and observations of the actual animals brought by a museum docent to the classroom. Literature was not the focus, but just one of the resources used by students.

Literature also played a more central role in students' inquiry through literature circles where students discussed powerful pieces of fiction and/or nonfiction related to their group inquiry. One of our most successful experiences involved children in *comparing* two related books. Because students were interested in how the desert compared to other ecosystems, we paired two books which had a similar theme or topic but were set in different ecosystems. One set paired two stories about friendship, *Amigo* (Baylor, 1963) which was set in the desert, and *Thy Friend, Obadiah* (Turkle, 1969), which was set in New England. Another set paired *Desert Giant* (Bash, 1989), on one day in the life of a saguaro cactus, with *The Park Bench* (Takeshita, 1988), on the day in the life of a Japanese park bench. The children chose the book they wanted to read with a partner. After each pair had read and discussed their book, they met with the two children who had the other book in their set, shared their books with each other, and searched for similarities and differences across the books and ecosystems. Within these discussions, they tended initially to take *aesthetic* stances toward their books and then move toward more *effluent* stances as they compared the different ecosystems.

As the students struggled to explain their tentative ideas to others and listen to the ideas being explored by other learners, they were confronted with new perspectives and connections. These interactions often led naturally to students rethinking and revising their ideas and

understandings about the topic being considered. In their paired book discussions, children revised their understandings about how the desert compared to other ecosystems. They initially thought that the birds and animals found in the desert were everywhere but soon realized that some are unique to the desert. They also came to understand that all birds and animals have particular needs for survival that cut across ecosystems.

We continued to support their discussions with whole class read aloud experiences. When the children did paired books, we had a whole group paired book discussion on two grandmother books set in the desert and the midwest. We did not say "Here's how to do this kind of discussion," but just engaged in the discussion as part of our ongoing class inquiry. In these discussions, we took different stances in our responses to provide students with demonstrations of the range of available aesthetic and efferent stances.

Throughout these small group experiences, the students needed informal ways of collecting and organizing ideas so they could reflect and "discover" ideas as well as preserve their thinking. As they focused their questions and inquiries, they needed ways to keep track of data and organize connections in their data to make sense of what they were finding. During the desert inquiries we moved away from the logs we had used in the ecosystem focus to a wider range of responses such as free writes and sketches of their initial responses to their reading. Students particularly liked webs, charts, diagrams, and graphs to keep track of their thinking and learning during experimenting and reading. We found that if we did not support students in finding ways to organize the ideas and information from their inquiries, they got lost in a "sea" of facts and ideas.

### **Presenting, Reflecting, and Offering Invitations for Inquiry**

Because the children's inquiries highlighted informal exploration and collaboration, at various points they wanted to present their understandings to others. By going public with what they knew, they had to pull together what they currently understood from experimenting, reading, and discussing and devise a way to convey those understandings to others. In the desert focus, many small presentations were made instead of a major presentation at the conclusion. For example, the desert paired book groups prepared charts, webs, and diagrams to share their sets with the rest of the class.

Throughout these active and collaborative engagements in inquiry, students needed time to step back and reflect on what they were learning (content), how they were learning (process), and why they were learning (purpose). During the desert focus, we periodically reflected as

a class on what they were learning about the desert as well as their discussion strategies in the literature groups, ~~not~~ taking strategies for research, strategies to organize data for their inquiries, and nonfiction reading strategies. We felt that these reflections allowed them to reach a more general level of understandings about content, process, and purpose in ways that would have a greater impact on their future learning and interaction with the world.

The presentations and reflections on what they were learning about the desert and their inquiry processes led to many new questions about the desert and other ecosystems. These questions from both students and teachers served as invitations to move all of us toward new investigations and keep the inquiry cycle continuously in motion.

### **Conclusion**

Our experiences with integrating literature into classroom inquiry raised both understandings and questions for us as educators. In particular, we came to new understandings about classroom inquiry, the integration of literature into inquiry, and ways to encourage readers to take a wider range of stances. Our major realization about inquiry was the tremendous importance of providing students with experiences that gave them time to explore, connect, and find a focus for their inquiry. We continue to have many questions about ways to build classroom environments that encourage and facilitate exploration and problem-posing.

We understood in new ways the wide range of functions that literature can play in the inquiry process. Students' interactions with literature supported their inquiry processes by creating interest in a particular topic, encouraging broad explorations of content, making connections to life experiences, finding focused questions to research, searching for facts and ideas related to inquiry questions, engaging in indepth discussions, introducing new perspectives and connections, and sharing ideas with others. Sometimes literature was at the center of children's inquiry and, at other points, other ways of learning such as observation and experimentation were more significant. When our focus as educators was on narrow units of study, we found ourselves using books for "cute" activities that often undermined the literary experience of those books, and the content and processes of science and social studies. As we moved to a broader perspective on inquiry, we saw how literature became another way for children to explore their questions and ideas as they actively engaged in making sense of their world.

Our exploration of ways to encourage readers to take a wider range of aesthetic and efferent stances to their reading and of the role of these stances in inquiry raised more questions than answers. Strategies



such as using fiction and nonfiction in text sets, providing demonstrations through read aloud discussions, engaging in activities such as literature circles and "sketch to stretch," and giving students time to explore and share before moving into focused inquiry did broaden the range of stances explored by students. They seemed to develop more flexibility in choosing stances that were appropriate to their inquiry and to initially take aesthetic stances which allowed for broader perspectives for later efferent stances. We found, however, that for us these insights led to many more questions and the need for more focused inquiry on the connections between stance and Inquiry. So we end as we began-as inquirers with new questions to explore.

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