INTERMEDIATE

MINI-INQUIRY:
From Cheese to Magazines

—Bodo Heiliger, Alexandria County Day School, Alexandria, Virginia

The way a child's mind operates is simply a miracle. I have recently come to appreciate how amazing kids' questions are and that what really matters is being available to help students discover information and find answers. Their natural curiosity is stunning. I confess that in the past I sometimes felt overwhelmed by the sheer volume of kids' questions. Unable to answer or unwilling to take the time, I frequently fell into the "go look it up" trap rather than indulging their curiosity. Now I understand how much we all learn when we join together, investigate and search for answers. From Day 1 of the school year, I had focused on teaching kids to think. They had learned and practiced how to monitor comprehension, activate background knowledge, make connections, ask questions, make inferences, determine important information, and summarize and synthesize while reading. I decided that we could build on these thinking strategies to support kids as they did research as well. You really can't do research without thinking carefully about what you read, hear, and see. And kids soon discovered that using these strategies flexibly helped tremendously as they engaged in the research process.

Mini-inquiry projects not only provide kids with the tools to do independent research but also validate and honor their questions, their pursuits, and their findings. And it is the celebration of their wonder and curiosity that makes all of the difference. As they engaged in mini-inquiry projects, students came to me daily with information they found. They voluntarily shared articles, ideas, and issues. They looked things up, hopped online, and read widely and wildly in pursuit of answers to their questions. And what amazed me most about this mini-inquiry project—apart from the students' sheer pleasure and engagement—was how well it helped them transition to larger and more in-depth research projects later on.

I followed the Gradual Release of Responsibility instructional approach as we moved through this project, beginning with my modeling my own question on the first day, guiding them to find answers, supporting them to work together on the second and third days, then sending them off for collaborative practice, teamwork, and sharing findings on the final two days of the inquiry. Here's an overview of our lesson sequence.

Day 1: Introduction to Mini-Inquiry Projects

- Teacher introduces researching and note taking by modeling with a teacher-created question in mind: When and how was cheese invented?
- Present findings.

Day 2: Modeling How to Find and Research a Question

- Using *Time for Kids,* teacher models how to read while questioning the text.
- Teacher and kids co-create a question for research: Who is the Dalai Lama and what does he do? Model researching and note taking with a question in mind.
- Present findings.

Day 3: Working in a Group to Come up with a Researchable Question

- Students work in groups and read *Time for Kids* while recording their questions about the text.
- Students determine which of their questions interest them the most and can be answered by reading a variety of texts.

Day 4: Researching the Answer and Preparing the Presentation

- Establish ground rules for collaborative work.
- Students research additional resources and take notes with their question in mind.
- Students prepare a poster, skit, paper, or other presentation.

Day 5: Presentation and Reflection

- Present findings.
- Celebrate the research!
- Reflect on the process.

Day 1: Introduction to Mini-Inquiry Projects

I have always found that the way you introduce any project can make or break the entire experience for students. I contend that if you show enthusiasm for watching paint dry, kids will sit down next to you and watch (at least for a few minutes)! The first day of any project inspires or discourages the students and sets the stage for excellence or mediocrity. To foster the

former, I begin this project with all the students sitting around me at the easel, and I ask them the following questions while recording some of their answers on chart paper.

"I'm thinking of some questions that are always asked by kids, but rarely answered by anyone. Why is the sky blue? Why is the grass green? Why is blood red? Where does dust come from? What are eye boogers? Have you ever had any questions that have never been answered?"

"I have so many every day!"

"I always wondered why my feet stink."

"Why does hair fall out?"

"Why do muscles get all bulked up when you lift weights?"

"Has anyone ever told you to look up the answer? If so, have you ever looked it up? Why did you or didn't you?"

"Mr. Heiliger, I asked you a question about the plague and you told me to look up different types of Black Plague remedies, but I didn't because I didn't have time and I kinda forgot."

"All the time, but I never look it up because I'm too busy."

"My mom always tells me to look it up. When she does that, I just don't care about the answer anymore."

"There are so many questions we come up with every single day and rarely take the time to answer. During this next week, we are going to work together to answer those questions. You are going to come up with questions that are important to you, and you're going to find the answers to them! What's awesome is that we don't know what the questions will be! You're going to come up with them."

Kids always become excited about the unknown, and having the ability to create their own questions helps to inspire them. However, to begin the project, we need to do a quick whole-class investigation on some topic that will be of great interest to the majority of students and will serve as a model for them. To come up with a good question, I reflect on the personality of the class as well as a subject I am interested in learning more about. I have found that each class, every year, establishes some sort of personality and

becomes completely enamored with something or someone. This past year was no different; these kids were fascinated by *cheese,* of all things. Perhaps it's a funny word or overly used in cartoons, but this love of cheese became the basis for our whole-class question: How and when was cheese created? I've found it particularly useful to come up with a question that most kids would never think they'd be asked to research. This question on cheese was perfect.

Day 2: Modeling How to Find and Research a Question

During the first day's lesson, we talk about how to come up with a question (What are the origins of cheese?) and then research with that question in mind. The second day focuses on using an issue of *Time for Kids* (March 28, 2008) to help generate questions.

I tell the students that we are going to read through a couple *TFK* articles together and come up with a question. Then we are going to work in two stages. First, we will research that question and keep track of our thinking by taking notes. Then, after our whole-class question creation and discovery, kids will break into groups to come up with their own questions. Throughout the year, students read *TFK* and write down tons of questions on their Post-its as they read. Because they are familiar with both *TFK* and questioning, I encourage the students to write down their own thinking while I read and share mine. We don't get past the first article on Tibet and its struggle with China before we have at least twenty "researchable" questions:

Who is the Dalai Lama?

Why did China invade Tibet?

Why don't the Tibetans fight back?

What's happening in Tibet today?

Why don't we [the U.S.] do anything to help?

What's it like to live in Tibet?

What is Buddhism?

How is Buddhism different than Christianity?

It is important to discuss all the questions because the school's Internet service is down today of all days! So we need to figure out which questions can be answered in a library without Internet access. We decide that it would be a struggle to answer a question such as "What's it like in Tibet today?" and "Why don't we do anything about it?" without the Internet, because printed sources are unlikely to reflect the current situation in Tibet. I explain that while time-sensitive information is best dealt with on the Internet, we can

often get more information about a topic that is not current from books. I chose the Dalai Lama question because I am interested in learning more about him. So, I say to the class:

"I'm extremely interested in the Dalai Lama and I am delighted that someone came up with a question about him. Do you think we can find the answers in the library? I really don't know much about him and would love to learn more. Is it OK if we, as a class, agree on the question, Who is the Dalai Lama?"

I rarely have much dissension with a whole-class decision like this, but if there is, I always let the kids know they will have the chance to research a different question later. Prior to the lesson, I collect as many books on Tibet and the Dalai Lama as the library has to offer. I begin reading the book *Tibet: Through the Red Box* (by Peter Sís) while constantly reflecting on the question and asking myself if the information helps me answer it. Toward the end of this beautiful Caldecott-winning book is a story about the Dalai Lama—exactly what we need. There is a sidebar with a complete description of who the Dalai Lama is and how he came to power. I write down every important fact that helps us answer our question. Once we exhaust this book, I grab an encyclopedia. Interestingly enough, we find only one extra fact to add to our research. The students are amazed that we were able to find more information in a picture book than in an encyclopedia. I spend a minute talking about how picture books often provide us with valuable information, plus they have the added bonus of beautiful writing and pictures. I bring closure to today's lesson by asking both a content and a process question:

"What did you learn today about the Dalai Lama?"

"There have only been fourteen Dalai Lamas."

"He is the leader of Tibet."

"Dalai means 'ocean of wisdom' and Lama means 'master or teacher,' so the Dalai Lama is a teacher or master with an ocean of wisdom."

"He lived at Potala, which is a palace with a thousand rooms with huge towers or spiritual wings. But now he is in exile in India."

"What did you learn about researching today?"

"Picture books are more fun to research with."

"Encyclopedias have a ton of information, but not always more than a picture book. Plus encyclopedias are not as interesting."

"If a book like Through the Red Box *does not have a table of contents or index, then you might have to read through the entire book to find what you're looking for. That takes a little more time, but it was an interesting story."*

Day 3: Working in a Group to Come Up with a Researchable Question

The days when I release the kids to go off on their own are always exciting because they show me whether my teaching worked. To begin today's lesson, I gather the students around me and we reflect on what they've learned over the past two days about researching. After a review of the reading-with-a-question-in-mind strategy and working in groups, I break the students into the same heterogeneous groups from the first day and have them read through the entire *Time for Kids* while coming up with questions that really interest them. I give the students about thirty minutes to read through the articles in the magazine and chat with each other while I circulate, listening to their thinking.

"Can glaciers reform?"

"Are protests ever peaceful?"

"How do scorpions sting?"

"How come the middle states seem to have more harsh weather than other places?"

"Why are some people allergic to things that others are not?"

"How can people get cars out of floods when they are covered in water?"

"Why does China blame the Dalai Lama if he won the Nobel Peace Prize?"

Once all the groups have read through the magazine or are close to finishing, I tell them that they will need to decide on the top four questions they believe they can answer with resources in the library. (The school Internet is still down.) I tell them they can choose their top questions and if they cannot agree, we'll discuss their choices as a class. I give the groups five minutes to decide on their top questions. I then have them sit in a large circle so we can discuss the chosen questions as a whole class to determine which ones can be answered in the library. This helps all groups recognize what types of questions can be answered at the library and which may need outside resources such as newspapers or the Internet.

I always preface this decision-making task with this statement:

"I know that because you are all working in a group, your favorite question may not be chosen by the whole group or may not be a question you can answer in the library. In life, there are moments when your ability to be flexible will help the entire group. OK, who has a question they think cannot be answered in the library, and why? Any question that cannot be answered today in the library, let's keep track of it, so when we have the chance, we can go to a more current source to find the answer."

"What's happening with the flooding in the Midwest can't be answered because we would need a newspaper or the Internet, which we do not have right now."

"How many schools are peanut-free can't be answered because we don't have the Internet."

"So those are good questions to research later on, if anyone is interested. Now, what question or questions have you chosen to research today?"

GROUP 1: "We decided on the question, Do allergies ever start at an older age?"

After every group's question, I ask the class,

"Does everyone think they should be able to find the answer in the library? Where should they look? Okay, group 2 . . ."

GROUP 2: "What causes massive flooding?"

GROUP 3: "Is it our fault global warming has started?"

GROUP 4: "What is a scorpion's stinger and how poisonous is it?"

GROUP 5: "Apart from the fighting, is Tibet a nice place to live?"

"Wow, each group has such a different topic from the others. Tomorrow, you are going to research the answers to your questions. I'm excited to see what you all find out!"

Some of the groups had two questions they could not agree upon, so I intervened and gently steered them toward the question I felt would yield the most information as they pursued their answers.

Day 4: Researching the Answer and Preparing the Presentation

Today, the groups will seek answers to their questions. Before sending them off to research I call them into a circle to review how to take notes on the researching template, and how to respectfully work together as a group to find the answers. Depending on the dynamic of a class, a teacher can assign roles for each member of the group. However, I usually allow the students to figure out the best method for their group to work together. I explain the idea of consensus, that we need to listen to everyone's ideas, but if we cannot agree on a process, we can always take a vote. I make it clear, however, that we need to keep in mind the feelings and thoughts of everyone in the group as we go through this collaborative process. If conflicts arise that cannot be resolved, I let them know that I may assign roles and jobs (timekeeper, reporter, illustrator, manager, and so on). This doesn't happen often, though, because most fourth graders take pride in working something out without the teacher's involvement. After the discussion about collaborative work process, I send the groups off for approximately ninety minutes to research and prepare the presentation—the time will be determined by the topics and amount of available information.

Once each group has researched the answers to their questions, I explain the sharing phase of the inquiry. The instructions are simple and the choices are wide: each group must prepare some sort of presentation to explain their findings and create a powerful visual to go with it.

Day 5: Presentation and Reflection

I invite kids to present their findings in any way they choose, as long as there is some visual component. For this inquiry presentation, most groups decide to create a poster and present their findings through skits. One group comes up with a song to help enhance their presentation. It's important to leave the door open to all the different ways in which students can make their learning visible. Songs, lectures, posters, skits—there are countless ways to show learning. This freedom allows for maximum creativity and excitement. My only requirement is that each group's presentation allow the audience to clearly understand its research. The last step of the project is to reflect with the children on what they learned about the research process and how this will help them when they have questions in the future, especially as they move into more in-depth research. Some of their responses:

"It's sooo important to research with a question in your mind! It makes it so much easier! You don't have to take so many notes, because you just write notes about your question."

"I now know that it's not that hard to find answers, even without the Internet! I'm going to do it more often!"

"The library is a great place to get information. The Internet is probably better for current stuff."

"When we get to the bigger projects, we could probably break down our paper into several different questions and then research them one by one."

"You should remember to use more than one source to get your information."

"It's fun to be allowed to present our research in a fun way."

"This was awesome."

"It's fun to research!"

This whole project was a response to my inability to answer all the questions my students posed. By brushing off their questions with flippant responses, I squashed much of their enthusiasm and interest. Now, when kids ask me questions I cannot answer, I find time during the day for them to search for the answer—right away, if possible, no waiting. I am certainly aware that there isn't enough time in a day to answer every question because many uncontrollable forces dictate much of our class time. However, if you provide kids with small chunks of time in class, they'll feel validated and often will begin to find time on their own outside of school. Too often children rely on adults for the answers to questions. We want students to feel a sense of independence and a desire to head to the library and use the Internet to complete their own inquiry projects. Our job is to foster this desire. Kids love researching when they're interested and invested in the topic and when they know their interests are valued. As Albert Einstein stated, "The important thing is not to stop questioning." As teachers, we have the power to squash students' curiosity or foster it so they never stop wondering.