



The Curious Classroom: 10 Structures for Teaching with Student-Directed Inquiry

By Harvey “Smokey” Daniels (Heinemann, 2017)

S.O.S. (A Summary of the Summary)

The main ideas of the book:

- ~ Students will engage more deeply in their learning if we organize instruction around their curiosities and interests.
- ~ This book shows you how to do just that by presenting 10 structures to help gradually introduce student-driven inquiry.

Why I chose this book:

I like that “Smokey” Daniels admits that teachers are often initially uneasy about implementing an inquiry approach. Part of this is because they didn’t experience much project-based learning as students themselves. So, rather than presenting a complete overhaul to replace our more “traditional” teaching, he starts small.

He presents 10 “structures” or approaches we can use with students, starting with the simplest idea and building to the most complex inquiry project. This scaffolding allows those of us who never got to experience inquiry firsthand to become more comfortable and ease into using this as a pedagogical approach of our own.

If you or your faculty would like to read more about an inquiry approach, consider these books as well (and see overviews of these books – BookBits – at www.TheMainIdea.net):

Empower: What Happens When Students Own Their Learning by John Spencer and A.J. Juliani
Disrupting Thinking: Why How We Read Matters by Kyleene Beers and Robert E. Probst

The Scoop (In this summary you will learn...)

- ✓ How an inquiry approach is different from a coverage approach to the curriculum
- ✓ How you can find the time to follow student-driven inquiries and still meet all curricular requirements
- ✓ Some simple structures to introduce inquiry learning by modeling your own curiosity and capturing kids’ questions
- ✓ More advanced structures that allow you to weave mini-inquiries and investigations into your teaching
- ✓ Ways to incorporate experts in the field and the news into an inquiry approach
- ✓ How to think about bringing the ideas in the book into your own instruction with the ‘Try This’ section in each chapter

Introduction

This book introduces an approach to teaching that deeply engages students in their learning by building lessons out of students' curiosity. Rather than basing instruction on a set curriculum, you start with kids' interests. Using an inquiry approach, students explore and investigate rather than sit, listen, and absorb a textbook. Students become partners in their own learning as they explore the world while teachers navigate a role that alternates between expert, facilitator, and lead learner. So, what exactly does this look like?

In one first-grade class that has already adopted an inquiry approach, the teacher stands at the front and models how *she* approaches a question she has been wondering about, "Is our school in 'Tornado Alley,' and what does that mean?" Then on a piece of chart paper she writes down students' own questions such as:

- Why do zebras have stripes?
- What causes a shooting star?
- Why isn't everything free?

After this brainstorm, students are released to explore answers to one of these questions and choose to work with a laptop or not, and work with a partner or not. While this is an exciting approach to teaching – for both teachers and students – it does require both courage and adjustments on the part of the teacher. Most schools still have required curricula, standards, and standardized tests. However, it is possible to address these requirements *and* provide an inquiry approach for students. To do this, teachers need to shift their thinking from, "How can I cover the curriculum?" to "How can I make the required curriculum into questions kids can't resist investigating?" This book helps teachers by introducing some simple inquiry-based *structures* to get started, as well as tips for finding the time to address students' interests while still covering the official curriculum.

None of the teachers featured in the book leapt immediately into an inquiry approach. Instead, they began with a few small structures – modeling their own questions, setting up wonder walls to capture students' questions – that are described in the book. Then, when teachers and students became comfortable with these smaller structures, they moved on to larger ones such as a weekly Genius Hour or approaching a required curricular unit by asking kids, "What questions do you have about _____?" (the required unit – insects, Wisconsin history, weather, etc.) Still later, teachers were able to implement even more complex inquiry projects by allowing students to respond to the typical issues that arise during the school year – a classmate who had a house fire or the death of the class pet – by discussing, learning, examining, and then taking it one step further by raising awareness, advocacy, or other forms of action.

Daniels argues that the time is ripe to shift our approach and implement a curriculum based on student curiosity. After surviving an era of test-obsessed school reforms, educators are ready to turn to flexibility and choice. Further, research has come out that shows that curiosity and creativity *boost* learning. And we have access to more existing models and tools to support inquiry learning – everything from project-based learning from The Buck Institute to the work of Expeditionary Learning (now ELS) and Responsive Classroom. Given the plethora of technology tools in schools, students have unprecedented levels of access to information and methods to investigate, share, collaborate, and teach. In addition, the power of curiosity to drive learning is also not a new concept. It has deep roots in the ideas of John Dewey, Jerome Bruner, and others.

What is Student-Directed Inquiry?

The excerpted chart below was co-created with Stephanie Harvey to provide an overview of some differences between an inquiry and a typical coverage approach: (See p. xxii for the full chart.)

<i>Inquiry Approach</i>	<i>Coverage Approach</i>
<ul style="list-style-type: none">• Student voice and choice• Collaborative work• Authentic investigations• Student as knowledge creator• Teacher as model and coach• Real purpose and audience	<ul style="list-style-type: none">• Teacher selection and direction• Solitary work• Proxy learning• Student as information receiver• Teacher as expert and presenter• Extrinsic motivators

This book describes an approach called "student-directed inquiry" which is a bit different from other student-centered learning approaches. In this approach, student voice and choice are tantamount. Teachers co-plan with students and the planning starts from kids' interests rather than standards or tests. Teachers honor students' curiosity all day long, even to interrupt a lesson. This approach emphasizes collaboration, empathy, and authentic audiences with authentic assessment.

How do we Assess Student-Directed Inquiry?

Assessing student-directed inquiry will look different from more traditional tests and quizzes. At times you may simply observe students for just 5 or 10 minutes for their engagement and comments without even using a rubric. One idea is to keep a journal with several pages per student to record these types of observations. You can also ask students to take some responsibility for assessment with their own journals and portfolios. It is useful to hold frequent student conferences in which students can describe what they are working on. Also, be sure to document student work by taking photos and videos, and collecting artifacts of student learning through portfolios, writing, charts, and more. When you want to conduct a more formal assessment, you can co-construct a rubric with students or use a generic inquiry rubric like the one excerpted below: (See the full rubric on p. xxix of the book.)

Generic rubric for mini-inquiry process			
<i>Can the student...</i>	Yes	Developing	Not Yet
Pose a question or topic of curiosity?			
Locate information about that topic from different sources?			
Evaluate and choose relevant information?			
Synthesize learning from multiple sources?			
Collaborate on research with others when needed?			
Share results using varied representations with appropriate audiences?			
Respond to and ask appropriate questions about peers' inquiry projects?			

Structure of the Book

This book presents 10 increasingly complex structures to incorporate inquiry learning into your classroom. One structure is introduced in each chapter. Daniels and colleagues have tested each of these structures in their work with educators throughout the country. Each chapter contains case studies from real teachers' classrooms as well as tips, pointers, and resources so you can adapt and adopt these structures for your own classroom. To cause you to stop and think, each chapter has a 'Try This' suggestion like the one below:

Try This

Think back to a time you were curious about something – it could be from outside of school or even from your childhood. Find an instance when you lost track of time, felt energized, persevered, felt pleasure, remembered what you learned, and found time to pursue it. Next, answer these questions (alone or with a study group), and compare this experience with your own classroom:

- What was the topic or activity?
- How did you get hooked?
- Where did this happen?
- Was anyone else involved?
- How did you feel?
- How would you describe your state of mind?

Chapter 1: Demonstrate Your Own Curiosity

WHY?	It's a great way to show that <i>you</i> are an engaged learner in real life by sharing what you are reading, watching, following, or investigating yourself.
WHAT might we say to kids?	"Let me show you something I have been reading about... Here's how I have been investigating..."
HOW long will it take?	2 to 10 minutes. You can do it daily, weekly, or throughout the year.

As teachers, we have all been told *not* to befriend our students and to keep our personal lives separate from school. However, research has shown the benefits of developing strong relationships with our students. Donald Graves said that we are not ready to teach a student until we know ten things about her, but perhaps students are not yet ready to learn from us until they know something about our own real lives. One way to begin to help students tap into their curiosity is to model our own curiosity.

Daniels models how teachers might do this by sharing his own list of real-life questions. He does this by creating a two-column chart, like the one excerpted below, to share his *self* questions in one column – his personal and local wonderings – and his *world* questions in the other – wonderings about wider issues that others might also wonder about.

Self	World
Why is dry cleaning so expensive?	What international relief agencies are most trustworthy?
Which "super foods" should I be eating?	Will the drought in the southwest USA continue?
What was that masked animal at my window last week?	How can we enlist more people of color into the teaching profession?

Next, Daniels invites students to create their own two-column list of wonderings. This is just one way to let students into our curious lives to help them begin to explore their own questions. The chapter includes four different examples of ways teachers shared their own curiosity with their students in a way that helped to spark the students' own questions, one of which is below.

A Second-Grade Teacher at Glenwood School Shares Her Terrible Feet

To develop a positive culture in her classroom, the teacher tries to learn one new thing about each of her students each *week*. This means learning something about five or six students each day. To complement this, she tries to share one thing about herself each day, or about 180 things for the year! Sometimes she shares a bit about the book she is currently reading, other times she tells them about a strategy she just learned in a teacher magazine, and still other times she shares tales about her own six-year-old son. One day she shared the following tidbit: although she had always been a runner, she had to give it up years ago because of a problem with her foot. Finally, after many years, she was feeling healthy enough to start again, and her goal was to run three times a week, working her way up to four miles. The teacher hung up a calendar in her classroom to write down her time and progress each day. Then students started checking in, "Mrs. D., did you run today?" "Mrs. D., you know if you don't run in the morning, you won't do it!" One day she gave out sticky notes and asked the students, "What's *your* goal?" Students came up with both academic goals ("I will finish the *Magic Tree House* series") as well as outside goals ("I will play outside one hour each day" or "I will swim the length of the pool nonstop.") Students asked for their own blank calendars so they could chart their progress like their teacher did. After this, the teacher made sure the class celebrated every time any student achieved a goal!

Regardless of how much of your personal life you feel comfortable sharing, there is a clear benefit to “getting real” with students and revealing something other than the expert teacher face at times to show that you are also a thoughtful, curious, and resourceful learner.

Try This

Surface your own inquiry questions by filling out your own two-column list of wonderings introduced in this chapter. If you are having trouble, use the topics below to help you think of questions to ask:

- A book you are reading
- Items on your bucket list
- A topic from your childhood
- A place you have always wanted to visit
- A person who has puzzled you recently
- Something you have always wanted to explore
- An item you saw in the news
- A purchase you are pondering

Chapter 2: Investigate Ourselves and Our Classmates

WHY?	Delving into the questions <i>Who am I?</i> and <i>Who are we?</i> helps to create a class culture in which curiosity and risk taking are welcome.
WHAT might we say to kids?	“There are so many interesting people here – what can we share about ourselves? The better we get to know one another the better we can work together, have fun, and explore new ideas.”
HOW long will it take?	5 to 10 minutes per session. Repeat five to ten times early in the school year.

“My kids could never do that!” This is a real concern teachers have about their students working collaboratively on inquiry projects: that they just can’t be trusted to get along. However, teachers often don’t realize the role they can play in developing this trust. They just assume that some groups of students can handle inquiry, and others can’t. But there are proactive steps teachers can take to create the type of classroom climate in which challenging, collaborative inquiry projects are possible.

To establish this type of culture, teachers must help students build *identity* and strengthen *acquaintances*. In the classroom, students must develop a strong and positive identity because psychologists have shown that, “When people feel bad about themselves, they are more likely to show bias against people who are different.” This suggests that students who are aware of their own traits, interests, character, experiences and beliefs are better equipped to interact with their peers. Once they are more aware of their own identity, students will be more open to others. Further, the more they learn about their classmates, the less likely they are to hate or bully them, an important factor when kids need to work closely together to investigate or explore topics.

Daniels reminds us that “getting acquainted” is really just beginning to share bits of our identity with others. When we meet another teacher for the first time, we might ask, “What grade do you teach?” When the person responds, “Third grade,” we might respond, “Me, too, small world!” The brief activities in this chapter help students build identity and then get acquainted with their peers.

Exploring Identities, Similarities, and Differences

Below are three different ways kids can represent their own identities. Rather than having to announce who they are out loud, kids can use these graphic models to quietly think about and present themselves. Furthermore, these activities not only help kids understand who they are, but they are useful in learning about others and for surfacing ideas that might lead to inquiry projects later.

Identity Maps

Identity maps are similar to webs students use for brainstorming. Students start by putting their names in the center of a large sheet of paper and then draw branches to note what is important to them – family, favorites, etc. This, and all of the activities in this section, works best after the teacher has *modeled* his own version. Giving students plenty of time to go deeper allows them to add interesting details, explanations, or illustrations. You might propose a list of identity topics like the following to get their juices flowing:

Personality	Age	Favorite Foods	Family	Nationality
Opinions/Beliefs	Language	Religion	Culture	Celebrations

Partner Venns

In pairs, students draw a Venn Diagram on a large piece of paper. Then they list their traits, likes, dislikes, and other characteristics on the diagram, using the overlapping space in the middle for items the pair has in common.

Activities like these work well early in the year. Students can share them with a partner, a group, or even the whole class, depending on comfort level. After sharing, students can hang up their work and walk around to put sticky notes on each other’s with comments or questions. Next, they should discuss the items they have in common and continue to look for other commonalities. Hanging these diagrams allows students to do a gallery walk and examine what classmates have drawn.

Step in, Step Out or Cross the Line

In this activity, students cross a line or step into the middle of the room to share their opinion about something. For example, the teacher or a student says, “I like pizza” and everyone who agrees steps into the center of the room to “vote.” After starting with lower-stake opinion questions, you can move to more controversial topics such as “Boys are better in math than girls” or “People should learn English if they move to America.” Older students might move to four corners instead of simply crossing a line with the corners labeled *strongly agree*, *agree*, *disagree*, and *strongly disagree*. Whichever type of opinion statements you use, it’s important to engage students in discussions about what they think and why they’ve crossed the line.

To develop and maintain the high level of trust needed in an inquiry-friendly class, it is important to continue to use these types of get acquainted and identity activities throughout the year, not just at the beginning.

Try This

Daniels reminds us that “getting acquainted” is really just beginning to share bits of our identity with others. When we meet another teacher for the first time, we might ask, “What grade do you teach?” When the person responds, “Third grade,” we might respond, “Me, too, small world!” To remember what this is like, find a staff member you would like to know better and take some time to get acquainted by discussing neighborhoods where you grew up, accidents that have affected your life, or favorite family stories.

Chapter 3: Capture and Honor Kids’ Questions

WHY?	If we want to build our instruction around kids’ questions, we need a structure and culture that solicits questions, captures them, and provides time for kids to pursue them.
WHAT might we say to kids?	“What are some topics you’re curious about inside and outside of school? Let’s make some lists.”
HOW long will it take?	Students take 1 to 5 minutes a day to post their questions in a notebook or on a public chart. At another point in the week students pursue answers to those questions.

When Daniels observed one first-grade class, he watched as a girl unobtrusively got up in the middle of a lesson, walked to the “Wonder Wall” in the back of the room, wrote a question on a sticky note, posted it on the chart, then quietly returned to her chair. This class had set up the structure and culture for students to raise their questions and begin to explore topics they are curious about.

In a different class – a sixth-grade class – the students created “noticing books” to take with them over the summer break. The journals were for everything from notes on their readings, journal entries, used tickets, photos, and more. When they returned to school in the fall, these pages served as fodder for a deeper and more thoughtful “What I did last summer” exploration. In fact, the journals were so powerful that a number of the students asked to continue to use them throughout the year.

Honoring students’ questions may take many different forms in different classrooms, but in general it means that we:

- regularly solicit kids’ wonders
- are open to students’ questions
- model our own wonderings
- allow ourselves and our classes to be interrupted by kids’ questions
- reserve a space for kids’ questions and regularly return to them
- provide time for students to pursue answers to these questions

Below are some structures to put in place to begin to capture and honor students’ questions.

Set Up and Maintain a Wonder Wall

Classroom wonder walls provide an excellent way to foster curiosity. The wall serves as a structure for students to ask questions and seek answers and to foster their curiosity as well. In one particular classroom, students post their questions with sticky notes on the wall throughout the week whenever questions pop up – during independent reading, at the end of a lesson, whenever. These questions can be about any topic, both inside and outside of school: *If I swallow a seed, will it grow in my stomach? What is the most famous book ever written? How did the first person on Earth get here?* Then on Thursday and Friday the class engages in a “wonder workshop” where students read articles, examine artifacts, and record their new learning. On Thursdays, together with the teacher, the class organizes the questions by putting similar ones together and then chooses the top five or six topics they would like to investigate. Students sign up for one of the five or six areas, and these become the groups that will conduct investigations. Each group searches for resources for their topic in print and online and puts the information in a basket. The teacher supplements this material by finding additional resources and places those in each group’s basket as well. On Friday, the groups get to delve into their baskets and explore their questions further. By the end, each group creates a “wonder poster” that includes the facts, writings, pictures, and diagrams that represent the thinking the group has done around their topic. Finally, students share what they have learned, decide which questions have been adequately addressed, and hang the posters. The next week, this curiosity cycle continues.

Use Idea Notebooks

Some teachers, in addition to or instead of using a wonder wall, have their students use an “Idea Notebook.” In one particular class, the first half of the notebook is used for writing ideas and drafts and the second is for more general questions and wonderings. It helps when the teacher carries around her own Idea Notebook to model having a curious life and using writing to spur thinking.

At times, the teacher plans to intentionally use the notebook – for example, when there is a lesson on Gail Gibbons’s text *Knights in Shining Armor*, the teacher might have students write down questions they have about knights and castles. At other times, the use of the notebook is completely student-driven and not tied to the curriculum at all.

Ignite Community Curiosity

In one school, the principal wanted to make sure that the *parents* had an understanding of the school’s inquiry-based approach and were able to support it at home. To do this, the school decided to spark the curiosity of families by transforming the usual Open House evening into an adventure for travel – families would receive a blank “passport” upon arrival and go to different “countries” (rooms in the school) to get “visa stamps” (typical tasks parents need to accomplish like signing up for lunch plans, getting school photos taken, etc.) In order to help parents understand what it meant to “live a curious life,” a wonder wall was placed outside of each classroom that families visited with a title that read, “What do you want to learn in ____ grade this year?” With the markers and sticky notes provided, students and their parents could write and post their curious questions. These Family wonder walls were kept on the walls for several weeks of school.

Although students enter kindergarten full of curiosity and wonder, they often lose this natural spark by around fourth grade. By using the tools in this chapter, teachers can support and fuel student curiosity to help them sustain their intrinsic motivation in school.

Try This

Commit to writing down the questions and wonderings that *you* have over the next 48 hours. To do this, you must be aware of the activity, people, scenery, and world around you. What grabs your attention? What do you want to learn more about? To do this, you will need some type of portable device to capture your wonderings – anything from a phone to a notepad will work.

Chapter 4: Begin the Day with Soft Starts

WHY?	Letting students ease into the day with an independent activity of their choice activates their curiosity and spurs self-direction.
WHAT might we say to kids?	“Good morning. Let’s take a few minutes first thing each day this week to pursue a topic you are curious about.”
HOW long will it take?	10–15 minutes per day. Try this for one week and consider adopting it for the year.

In another classroom that Daniels visited, a neatly stacked pile of shoes was outside of the classroom door. It was first thing in the morning and inside the classroom kids were sprawled on the couch, lying on the rug, or at their desks. Most were reading books or tablets, some were writing in a journal, others were speaking quietly. Even the teacher was on the floor. This is a “soft start” to the day. Schools have been so focused on getting kids on task and teaching “bell to bell” that they haven’t considered that perhaps students don’t benefit from overworking themselves. When we immediately hand out worksheets and tasks as soon as kids enter the door, we may be recreating the frantic pace of the modern office. Do we need our students to be exposed to this stress so early? The idea of “soft starts” -- beginning the day with individualized and gentle tasks -- emerged as a better way to set the tone and mindset for genuine engagement and challenging inquiry later on. The fifteen minutes spent on a soft start is well worth it to maximize the rest of a kid’s seven-hour day. Below are a few structures teachers have adapted to implement soft starts. Some are more structured than others. Some involve the same activity every day, while others include different soft starts for each day of the week.

Put Play First

Play time has been cut from many lower-elementary classrooms due to the emphasis on testing. However, there are a number of research studies that are beginning to show not only the social benefits of play, but the cognitive ones as well. One idea is to bring back a half-hour of open-ended play time at the beginning of the day so students can explore relationships and learning. The key is to create the spaces in the classroom and have the materials – blocks, dress-up clothes – for students to explore and engage.

Provide a Daily Soft Start Theme

An alternative to giving students complete freedom in how they start their day is to provide a theme that will structure what students are doing on each day of the week. In one classroom, the teacher has created the following schedule:

Monday: “Weekend Wrap-Up” – Students share news of their weekends in pairs.

Tuesday: “Talking Tuesdays” – Students read an article the teacher has chosen that relates to their unit and then list questions they have about the topic.

Wednesday: “Wonderopolis Wednesdays” – The teacher assigns a question of the day (from the bank of questions on this website: <https://wonderopolis.org/>) and students spend a few minutes researching the question on the web or reading articles.

Thursday: “Throwback Thursdays” – The teacher projects a historical photo on the class Padlet and students digitally post their thinking about it.

Friday: “Fuel for Thought Fridays” – The teacher chooses a quotation from *365 Days of Wonder* by R.J. Palacio. She projects it, has a class discussion about it, and ends with a quick whip around the class to hear everyone’s thoughts about the quotation.

Give Students a Range of Soft Start Choices

In one classroom, each day the students are given the choice to: (1) read independently, (2) free write, (3) scan the headlines, (4) work on their passion projects (personal inquiry projects), or (5) post comments to their book clubs via Edmodo.

While we may be habituated to starting the day with a teacher-directed, whole-class activity, it doesn't have to be this way. We can find a way to empower students with a choice that provides them with a thoughtful and personalized activity to ease into the day.

Try This

Think back to your own elementary school years. Try to remember how any of your teachers started the day (National Anthem, Pledge, play time, teacher-directed lesson, seatwork, class meeting, music, movement, a read-aloud, a bell ringer, etc.) Reflect on this routine alone or with colleagues. Now think about your own routine for starting the day – are you pleased or do you need new ideas?

Chapter 5: Check Our News Feed

WHY?	The news taps into kids' curiosity and serves as one of the best sparks for inquiry projects.
WHAT might we say to kids?	"Let's see what's in the news today... maybe we will find something we want to learn more about."
HOW long will it take?	Perusing the news can take 5 to 15 minutes or several classes if kids choose a topic to investigate.

When Daniels taught students in Santa Fe, he felt fortunate to have a class subscription to the *Santa Fe New Mexican*. He would have students spend the first five to seven minutes of the day looking through this small-town newspaper. Next, he would conduct a discussion that focused on an article nominated by a student. Everyone would go back and read that article, the student who chose it would describe what spoke to her in the article, and then the class would discuss it for two to three minutes. This would repeat for a few more student-nominated articles.

Set up a News Ticker

When we have kids explore the news, we want to ensure it is age- and content-appropriate. One way to do this is to compile resources we can trust. For example, you can use a web tool like Symbaloo (you just need an email address for an account) to bookmark all of your class' news sources on one page – like a modern-day news ticker! Below are some trusted sources you might include:

National Geographic, *Time for Kids*, Newsela, *Tween Tribune*, Wonderopolis, PBS Learning Media, Kids Discover, KidRed, DOGO News, The Kid Should See This, *Sports Illustrated Kids*, Around the World, Teaching Kids News, AEA Online, Today's Meet, Edmodo, Multiple Intelligences, *Everyday Math*, Khan Academy, Edmodo, Seesaw, Photos of Class, KidBlog, Piktochart, Venngage, Smore, Smithsonian, Scholastic, and more!

After spending the beginning of the year setting your students up by modeling how to access the sites and find articles, you can set aside regular time for kids to explore the news. For example, one teacher provides 20-30 minutes on Thursday mornings for students to explore news sites. She ensures that students look for school-appropriate topics and read at the right reading level (important for Newsela). Students take notes in their notebooks or on sticky notes and then share new learning and any outstanding questions. Not only does this spark curiosity, but it helps students develop the habit of regularly reading and critically thinking about the news.

Follow a Webcam

One class observed the life of an eagle family every day via a webcam. Mounted in the tree where the family was living, this webcam provided 24-7 access to the lives of these eagles. When students arrived, the nest was already projected on the Smart Board. Every day students spent time observing and jotting down notes about Mom, Dad, and the eaglets. Because of the students' curiosity, the teacher decided to leave the webcam on all of the time. Did this disrupt class sometimes? Once during reading workshop the Dad was delivering a fish to the young eagles and the kids just had to grab their observation notebooks – so yes, it did, but it was worth it!

There are a number of interesting webcams that can fuel students' curiosity, such as the following: San Diego Zoo, Earth Cams for Kids, Smithsonian National Zoo, Alaska Department of Fish and Game, and Animal Planet. Also, SkylineWebcams.com includes views of cites, world heritage sites, natural wonders, and oddities (like doggie day care!)

Try This

For a typical weekday, jot down every news source you consult: magazines, books, television, radio, the web, apps, etc. Think about which ones you could use or adapt for your students. In addition, explore other kids' news sources introduced in this chapter. Which ones might you use with your own students?

Chapter 6: Hang Out with an Expert

WHY?	To help kids learn authentic and reliable information, we need to connect them with real-life experts. This also allows them to witness what it is like to be passionate and devoted to a specialty.
WHAT might we say to kids?	“We have been studying our local watershed through readings, videos, and the web, so now is a good time to learn more from a real expert who works on the environment every day.”
HOW long will it take?	15-20 minutes for a recorded or live video visit or an hour to meet an expert in person

Daniels’s sixth-grade students couldn’t get enough of the book, *The Emotional Lives of Animals*, but luckily their inquiry didn’t have to end with the book. The author, Mark Beckoff, offered a telephone conference from his home in the Rocky Mountains. During this phone call, he patiently answered over an hour’s worth of questions from the class. When another group of Daniels’s students were studying nuclear weapons, he called the Los Alamos National Laboratory (just 30 minutes away) and ordered up a nuclear physicist! There are tremendous benefits to introducing students to adult experts to help bring learning to life. Further, even the busiest and most famous of adults enjoys helping kids learn and will set aside time for them. By compiling a file of experts -- including parents, community members, employees of local businesses and nonprofits, professors -- you can have ready access to some of the best and most worthwhile resources for your students’ inquiry projects. This type of access can take several forms, as described below.

Book a Personal Appearance

When one first-grade teacher did a read-aloud of Seymour Simon’s *Super Storms*, her kids became riveted by hurricanes, tsunamis, tornadoes and more. In the course of investigating, the word *meteorologist* kept appearing. So, the teacher reached out to the local TV station and arranged for a real live meteorologist to visit the class. To prepare for her visit, the class learned more online, searched the web for videos of this meteorologist in action, and compiled the questions they had not been able to answer through research. They had so many questions -- *What makes lightning white? Is there such a thing as blizzard alley? What type of storm is the deadliest?* -- that the meteorologist didn’t even get through her presentation. The students were completely engrossed, learned a ton, and the visit was absolutely free (most TV stations send their on-air personalities to schools as a public service and to increase viewership!)

Host a Live Video Visit

Sometimes an expert doesn’t live close enough to visit a classroom. For example, one class became immersed in forming a theater company, but they needed to learn more about the business side of running a theater – how to make money! It turned out that the uncle of one of the students owned a theater company and knew all about the business side. However, he lived in Miami and this class was in North Carolina. They decided to set up a virtual interview, something you can do with programs like Skype or FaceTime. Whether you plan to bring a guest “into” your classroom virtually or in person, below are tips for successful visits with guest experts:

- **Where to find guest experts** – Start locally with parents and the school community and then ask local businesses, organizations, government agencies, and colleges.
- **How to coach experts** – Talk to the expert beforehand to share the project and what you want the students to gain from the experience. Also, determine the speaker’s comfort level with the age of the students. Don’t forget logistics (what is the space like, are there any technology needs, etc.) Be sure to share some of the students’ questions and answer the guest’s questions.
- **How to coach the students** – Prepare students with enough background for a successful visit and plan questions ahead. Discuss how to ask follow-up questions, take notes, and what the class plans to do with the new information they’ve learned.

If you can’t host a live video visit or bring an expert into your classroom, there are still other options. For example, students love to hear from the authors of their favorite books, but these experts often have the busiest schedules. You can find and show pre-recorded videos of them being interviewed on several websites:

- **Reading Rockets** (readingrockets.org/books/interviews) has a large collection of interviews of authors such as Chris Van Allsburg and Patricia Polacco.
- **NBC Learn** (nbclearn.com/writers-speak-to-kids) has interviews with Jacqueline Woodson, Mo Willems, Gordon Korman, and others.
- **ChildrensBooksabout.com** provides the life stories, not interviews, of authors such as Roald Dahl, Beverly Cleary, Dr. Seuss, Maurice Sendak, and others.
- **YouTube** has a number of resources – just search your favorite authors!

Try This

Think back to your own school experiences and try to remember what field trips or expert visits you can recall. Have you found ways to connect your own students with experts?

Chapter 7: Pursue Kids' Own Questions with Mini-Inquiries

WHY?	Children often come up with questions that are far more interesting than those from adults. Providing time for kids to investigate <i>their own</i> questions makes for engaging and authentic inquiries.
WHAT might we say to kids?	“What a great question! I don’t know much about that myself, so let’s take time to look into it.”
HOW long will it take?	5 minutes to answer a simple question and longer for mini-inquiries – from an hour to weeks

One kindergarten teacher didn’t plan on teaching about bees. But then during an activity, one of her students asked, “What color are bees’ wings?” Everyone started yelling out answers so the teacher projected an image of bees on the computer and this led to another debate: Do bees die when they sting you? The class became engaged in investigating more. So, during her prep, the teacher created a chart with three columns, *Bees Can*, *Bees Have*, and *Bees Are*, and gathered resources for the kids to explore. That afternoon, the kids dove into research mode and wrote down facts on sticky notes that they hung on this chart. This was a mini-inquiry that wasn’t planned; it resulted from kids’ own questions. Even though teachers follow students’ leads, they are far from observers. As you can see above, teachers play an important role in facilitating the research and providing a structure to gather and present content. Below are a few structures teachers have used to implement mini-inquiries in addition to the spontaneous approach described above.

Schedule a Genius Hour

Like some progressive, high-tech companies that allow employees to explore projects of their own interest on top of doing their regular jobs, some teachers schedule one hour a week when students can investigate their own questions. To ensure this is productive, teachers don’t simply carve out an hour and expect it to be *genius*. Rather, they plan all week. For example, some teachers model their own questions and research throughout the week. They also have students keep lists of their questions/curiosities/wonders in either a private notebook or on a public chart in the classroom, “What Are You Curious About?” One teacher has boxes in the room, “Wonder Boxes,” so students can contribute questions privately and anonymously, and then have them read to the whole class on Fridays. One teacher notes that the act of reading student questions aloud validates them, gives students ideas, and helps to form inquiry groups when students have similar questions. During the actual Genius Hour, students can work alone or in groups. Working at tables, on the floor, on the rug, wherever, students use books, articles, and technology to research and record what they learn. The teacher’s role is to confer, facilitate, encourage, direct, and offer feedback. A simple checklist with the names of students, their inquiry questions, and the status of their work, is useful. At the end of the hour, students might gather and share a few facts they’ve learned about their topics.

Run a Recurring Inquiry Project

In one school, the fourth-grade teachers run a recurring inquiry project called “Travel Tuesdays.” At the beginning of the year each student writes down the name of the place she most wants to visit in the world. These papers are folded and put into a jar. Then each Tuesday, one paper is drawn from the jar and the class conducts a group inquiry into that location. Interestingly, this is a *rapid* inquiry project. Sometimes, as teachers, we draw things out and students lose steam when studying a topic. In these classrooms, as soon as the travel destination is chosen, students have *just a few minutes* to fill out the following on a note-taking form: what they know and questions they have about the location. Next, the teacher asks students to state what topic they want to explore. For example:

Teacher: OK, who has a topic?

Student: Alaskan animals.

Teacher: You mean pick one and research it? Got one in mind?

Student: Bears.

Teacher: Who else wants to study Alaskan bears? One, two three, OK, grab a computer and dig in. Who’s next?

Topics are handed out in *less than five minutes* and then the teacher opens a Padlet page and creates a box for each research team (chart paper also works). Now the teacher’s role is a light one – she comments, suggests, and coaches the students as they engage in research. Finally, students must synthesize what they’ve learned and post the most important points on the Padlet. There is no final ceremony or gathering, just the Padlet posting. And the entire research takes just 20 minutes.

Try This

Take a look at the questions you were curious about in Chapter 1 (or if you didn’t do that activity, take time now to write down 10 questions you are curious about). Choose one and spend 15 minutes exploring it right now. Google it, hit the library, phone a friend – however you want to research it. You may have more questions now than when you started and you may be planning to spend additional time doing even more research – both of which we hope will happen for the students we teach!

Chapter 8: Address Curricular Units with Mini-Inquiries

WHY?	To build engagement for units that may be less interesting to children, start with kids' questions.
WHAT might we say to kids?	"You know we are going to study our state's history – before we start, let's try this..." Or, "Now that we have studied our state's history, choose something you were curious about to delve in deeper."
HOW long will it take?	10 to 15 minutes at the beginning of a required unit or at the end of a unit for kids to research their own interesting questions about the subject

All teachers have had the experience of wondering how to hook kids on material that is, at least initially, not very engaging. However, if we can find a way to flip on their "curiosity switch," research shows that they are much more likely to engage in and persevere with subject matter they would not have chosen on their own. So, it helps to try to find the most outlandish, disgusting, or implausible aspect of the required unit to turn an otherwise boring topic into a fascinating one. You can start a unit with this captivating material as a way to hook students. Studying electricity? Share that Edison once electrocuted an elephant to prove the superiority of his direct current. Or, after you've taught the subject matter, you can let students choose something in the unit they found compelling or intriguing to research further. Below are two ways to engage students in those required units.

Provoke Students' Interest with Your Own Story

One teacher knew she had a weather unit coming up, so she decided to share her own scary and exciting personal encounter with a tornado. She shared that she and her husband were driving in Wisconsin when all of a sudden there were tornado sirens, fist-like balls of hail, and green skies. She took cover under a bridge for over an hour. This experience made her realize that she really knew very little about tornadoes. Once she shared this with her students, the questions came flying. She noticed a theme in a lot of the questions – the kids were concerned about their *safety*. So, in addition to studying tornadoes, the class asked the principal about the protocol for tornado drills and the kids crafted a 'tornado plan' to use at home with families. Because of these and other activities about tornadoes, these students became some of the most informed citizens in all of Chicago when it came to tornadoes!

Use students' own questions to set up a curricular topic

In one school, the teachers collect students' questions at the beginning of each unit and use these questions to guide the learning. Just like with other structures introduced in this book, the teachers gather students together to brainstorm questions they have about the upcoming unit, provide time for discussion so kids can elaborate on these wonderings, and then post the questions for all to see. Some of the questions – "quick finds" – don't take much time to research and students end up grabbing time whenever they can to answer these questions: when settling in for the day, after finishing other schoolwork early, during recess, etc. Investigating their own questions helps to engage them in the unit.

Whether you tap into students' own interests at the beginning, middle, or end of a unit, when the learning is more kid-directed you may find that you can "cover" even more material than you had anticipated.

Try This

Choose a piece of the curriculum that you have to teach. Now try to find some interesting, crazy, or unexplored aspect of the subject that you could use to hook your students. You probably won't find this in your textbook. You can find juicy material on the web but you will most likely end up with adult resources that need to be adapted for kids. Try Googling, "weird (fill in your state) history." For example, if you search for "weird Texas history," you'll find some strange laws that exist:

In Texas, you may not shoot a buffalo from the second story of a hotel.

In Corpus Christi, it is illegal to raise alligators in your home.

In Texas, it's against the law to have a pair of pliers in your possession.

Chapter 9: Lean into a Crisis

WHY?	Crises are inevitable. After reacting with our hearts, we can use inquiry strategies to help kids cope and build understanding.
WHAT might we say to kids?	"I know you may be feeling upset and worried. I am, too. Shall we talk about it? What are you wondering? Are there things we need to do?"
HOW long will it take?	There are no limits. Find a balance between exploring these pressing issues and not allowing kids to wallow in sadness for too long.

Inevitably, when you spend 180 days with students, sad or bad things happen. A class pet dies, someone moves away, a family member is in a car crash, or a bullying incident occurs. Often there isn't time to go home and plan a unit over the weekend to address the issue. It is something you need to address *right away*. In addition, you very well may not be the expert on the topic or how to handle it. Our first response should be with our heart – to help kids manage their worry or concern. But after this, these occasions often provide *entry points for inquiry*. If you have already created an inquiry-friendly class with the routines introduced so far, then much of what you need is already in place.

When a Classmate is Hurting

In one second-grade class, the mother of a student, John, died unexpectedly. Although the teacher had seventeen years of experience, she had no protocol for this. Fortunately, she was able to speak to a guidance counselor, read about the grief children experience when losing a parent, and confront her own emotions *before* John returned to the class. She began by sharing the news in a straight-forward way, letting the kids know how sad she was, and telling them that she trusted the class to help John through this difficult time. She shared what she had learned when researching this type of grief and allowed students to express their own feelings as well. It was also important to let the students know what to expect when John returned – that he might not want to participate in all class activities, he might keep to himself, and he might not want to talk about his mother. As a result, some students were not sure how to interact with John when he returned. Because this was a class used to inquiry structures, one student suggested they create a T-chart with a column for what they might *say* to John and the other for what they might *do*. Examples included, “walk with him to recess,” “ask to be his partner in math,” and “put dinosaur pictures in his mailbox.” Overall, because the teacher had previously set up structures to support inquiry learning, she was able to tap into these during this crisis. Here is some of what she did:

- she conducted her own research into the topic
- she modeled her own ways of coping
- she acted as the lead learner in the room
- she let kids speak and ask questions
- she helped students identify and plan possible actions
- she was authentic about her own thinking and feeling
- she didn’t assume an expert role
- she gathered kids as a community
- she scribed kids’ thinking on charts
- she built lessons based on kids’ wonderings and worries

Address an Upsetting News Event

In this day and age, we can no longer keep upsetting news items from the eyes of our students. We live in a hyperconnected world and there is just no way for our students to avoid scary or painful world events. When topics are particularly painful or shocking, rather than delving directly into inquiry, it is best to first provide students with comfort and assurances of safety. If it is developmentally appropriate and students are asking a lot of questions, *then* you may want to let them explore further. For example, one class was deeply disturbed by images of mass graves of Syrian children and wanted to know what was being done to help these refugees. After doing some research, the teacher found the Karam Foundation, an organization that builds both awareness and encourages action. This information ignited a fire for this class. The students not only read up on the subject, but they planned a fundraiser – making bracelets – to raise awareness and funds. Not only did they raise \$400, but after making a YouTube video about their project, another school in Illinois decided to join them and raised over \$800. Again, this was possible because the teacher had created the structures – the physical space of the classroom, the collaborative tools, and the habit of relying on student voice – so students had a foundation from which to plan this project. If the crisis is too painful to address in this manner, see pages 168-169 in the book for a list of suggestions compiled from the *American Psychological Association*, *American School Counselors Association*, and other respected organizations.

Try This

If you feel comfortable, think back to when there was a crisis or bad news in your school growing up – either from world news or when something happened to a member of your school community. What memories do you have of the event? How did your teacher handle it? Consider alternative responses and how this might have impacted the students.

Chapter 10: Learn with Partners and Pioneers

This chapter introduces three schools that have adopted an inquiry or project approach to teaching across the school. Take a look at the chapter to learn more about Duke School, Glenwood School, and Eason Elementary. While there isn’t enough space in a summary to capture the approaches each of these schools uses, there are some key takeaways to help schools and districts implement an inquiry approach across the organization, some of which are below:

- *Hire with inquiry work in mind* – If you want your school to be infused with inquiry, look for teachers with this experience.
- *Create a schedule that supports inquiry learning* – Students will need longer blocks of time to do project work and teachers will need collaborative planning time.
- *Use coaches as inquiry learning resources* – Coaches must get into classrooms, observe, co-teach, and provide resources.
- *Help teachers make the transition to student-directed inquiry* – Don’t assume everyone is ready. Reassure teachers that it is OK to let their fears go, take risks, and even have fun! Then be sure to support a culture of sharing and learning from one another.
- *Don’t just have teachers “do” inquiry with the students, but engage them in “living” it themselves* – Ensure teachers have opportunities to practice inquiry *outside* of the classroom as well: in committee meetings, for professional learning, etc.
- *Create an overall plan for inquiry learning* – This can be in the form of a map (see p.187 for a sample district plan for inquiry) or a list of core values (like “we nurture curiosity and wonder.”)
- *Administrators must be actively involved* – They should attend workshops alongside teachers and be present in classrooms.
- *Bring the parents and community along in their understanding of inquiry learning* – It’s not enough to send out a newsletter; instead use an inquiry approach to educate parents (see the videos one school created on p.186 about their inquiry-based curriculum.)
- *Document the work* – Because inquiry projects often get repeated in subsequent years, keep a bank of local experts to call on and document the projects and student work. Documenting student learning also allows students to assess what they have learned and the school to share that learning with parents.

THE MAIN IDEA's Professional Learning Suggestions for *The Curious Classroom*

Follow the Professional Learning Suggestions Already in the Book

Smokey Daniels is a master of professional learning, so the best thing you can do is to go back and *do what he says* in the “Try This” section of each chapter.

Have Teachers Experience Inquiry Learning Firsthand

If you are a school leader and want to steep your faculty in the ideas of the book, one of the best things you can do is to have your teachers *experience* each of the structures in the book as if they were the students. Not only will this help them to deeply understand these inquiry structures, but it is always best to have the adults in the building practice what they preach. How can the leaders and teachers advocate inquiry learning if they don't practice it themselves!?

Below are some suggestions for how to do this.

Chapter 1: Demonstrate Your Own Curiosity

- Take five minutes out of a faculty meeting to ask teachers to come up with their own self and world questions like the ones below.

Self	World
Ex. Why is dry cleaning so expensive?	Ex. What international relief agencies are most trustworthy?

Chapter 2: Investigate Ourselves and Our Classmates

- Take time out of a staff meeting for the adults to get to know each other better. Ask them to pair up with a person they do not know well, and have each pair fill out a Venn Diagram about themselves using the overlapping section for commonalities.

Chapter 3: Capture and Honor Kids' Questions

- In a room where you have staff meetings, reserve a section of one wall for teacher questions and label it, “Wonder Wall.” Then, when you are having a professional learning session – let's say on ELL/ENL strategies – take 5 minutes for teachers to write questions about the topic on Post It notes and post these on the Wonder Wall. Then, let teachers know that you will be leaving the Wonder Wall up and they should feel free to post questions during any meeting or any time they have questions about a professional learning topic.

Chapter 4: Begin the Day with Soft Starts

- Help teachers and leaders experience the *benefits* of soft starts by starting faculty or team meetings with soft starts. Instead of diving right into the agenda consider the following: provide snacks, leave out articles to read, post quotations around the room and have teachers comment on them, project a poem onto a screen for teachers to discuss, guide them through a seated meditation, leave out 3D puzzles to solve, or any of innumerable options to ease them into the meeting. Even better – give them choices and let them choose!

Chapter 5: Check Our News Feed

We expect teachers to stay current in their fields, but we rarely provide them with time to do this. Bookmark a bunch of websites or use Symbaloo to create a news ticker with education news and websites and apps that will encourage teachers to do some professional thinking. After giving teachers time to read and explore, ask them to share what spoke to them in the resources or post questions on the Wonder Wall.

Chapter 6: Hang Out with an Expert

It might be expensive to get the author of a professional book to come in and do a full workshop with your staff, but what about asking an outside expert in the field of education to do a Skype meeting for a half hour to answer questions about a book or a topic? I know it would be a lot easier for me (Jenn) to answer questions about a book featured in *The Main Idea* than to fly to Nebraska. Think about ways to book a video visit with someone who can enrich teacher or leader learning at your school.

Chapter 7: Pursue Kids' Own Questions with Mini-Inquiries

To truly model giving students the time to pursue their interests, try setting up a modified “Genius Hour” to give teachers or leaders regular time to explore their professional (or personal!) interests. Set aside a regular time when the adults can explore a professional question (Ex. How can I get students to persevere when solving difficult problems? Or How can I teach the Civil War in a way that students will truly understand both sides?) and dig into resources to help them address this question.

Chapter 8: Address Curricular Units with Mini-Inquiries

Almost every teacher has had the experience of needing to teach a part of the curriculum that students do not find that engaging. Plan to have teachers bring this topic/unit to a staff meeting and give them time to work on finding more engaging ways to hook students into this learning. It would be helpful to have teachers team up – by subject or grade – to work on this together.