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ENERGIZE

RESEARCH READING & WRITING

Fresh Strategies to Spark Interest, Develop Independence, and Meet Key Common Core Standards

GRADES 4–8

Foreword by Lucy Calkins

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To Yesenia.
For It All.

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FOREWORD

Look over your shelves of professional books. There are the beautifully written pages by writers like Georgia Heard and Katherine Bomer. These are the books we turn to when we need reminders of why we chose this profession, when we find ourselves needing to remember that the work we do is not just a job, it's a calling. These books help us to feel, inside our chest, a great, welling sense of life purpose.

Then there are those call-it-like-it-is books that startle us with the way they capture the absolute honest truth of teaching. They don't dress teaching up. They don't pretend that all our lesson plans work or that all our kids will listen intently and then eagerly traipse off to work on everything we ask them to do. Instead, they are filled with students who are as real and as funny and as challenging as the impossible, difficult, wonderful children who keep us sleepless at night. These books make us feel less crazy and less alone. They make us laugh at the absurdity of the jobs we are asked to do, even as we work intensely to do them better.

Of course, you also have how-to books on your shelves. They may even be the most dog-eared, as these days we are asked to somehow be miracle workers in every area of curriculum possible. The only way to pull it off, frankly, is to lean on books full of classroom-tested, ever-so-practical strategies. These books usually cut to the chase. They have charts full of great ideas and lists of tips, resources, and techniques. We duplicate pages of these books to distribute at grade-level meetings. It's illegal, we realize, as we stand in front of the duplicating machine, but so what? Arrest me for wanting to teach well and for wanting my colleagues to do so as well.

Then there are the books that give us philosophies that anchor us. They tend to be slim, which is a good thing because we can only read them in small doses. One can only take in so much at a time of Jerome Bruner's *Process of Education*. But these are the books we call on when we need to chart our course in the world. They give us words that clarify our stances and inform our choices.

Here's the reason I love Chris Lehman's newest book: it is all those books rolled into one. There are patches of sheer beauty, places where you find yourself believing that teaching kids to conduct research is not just a requirement of the Common Core but is, instead, one of the most important gifts we can possibly give to our children. Then there are the down-and-dirty sections in which Chris could absolutely be the teacher next door, the one who is always cracking you up with his witty comments about kids and teaching and the pressures of today.

Those parts provide the framework. The real stuff comes in the pages that brim with ideas for how to transform research from those reports of yesteryear to something current and vital and important and, yes, aligned with the Common Core. Then, too, there are the small sections in which this book speaks beyond research and comments on all of teaching, addressing the values and choices that undergird everything we do.

You'll probably read this book because it is absolutely the right book at the right time. The Common Core State Standards require that you and your colleagues think carefully about ways you can make research—especially the quick, everyday sorts of research that are the trademark of any scholarly life—into your classroom. But you'll reread this book, share it—and, yes, duplicate its pages—because Chris is able to be a pastor, a keynote speaker, a witty and blunt confidante, a generous coach and mentor, a philosopher . . . and he makes us know that we can be all these things as well. After all, the trademark of great teaching is that we can assume these different roles when our students need us to do so.

—Lucy Calkins

ACKNOWLEDGMENTS

Whenever I hear someone refer to teachers as being "on the frontlines" I cringe a little. Who are they fighting, anyway? The students?

This day, though, that metaphor is ringing more true. Within a world that seems to be continually in flux and a climate that is whipping education into a frenzy, we *are* on the frontlines. We fight alongside our students, their families, our colleagues, and anyone who would care to join. In this profession we fight until every child, everywhere in the world, is educated, well fed, and strong. No one disagrees that learning can, should, go even better. But I raise this question: when have teachers ever stopped aiming to improve?

I would first like to extend my gratitude to just some of the many educators I have been lucky enough to work alongside. You have shaped me, just as you shape your students and this profession.

First, thanks to the many literacy coaches and coordinators that make the world go round: Brian Sweeney, Brenda Dolan, Maureen Cassarino, Kendall Latham, Belinda Bean (and Brazilian lunch), Maysoon Massoud, Taraf Ghanem, Cynthia Augello, Nora Lichtenstein, Jane Wind, Carrie Tenebrini, Sheila Mason, Michael Flaherty, Barb Rogers, Kathleen Mallon, Elizabeth Lacey—when do any of you ever sleep? Barbara Newkirk for reviewing versions of chapters and for ever-positive support. Ronda Baker for your passionate and steadfast belief in all learners—child and adult alike. Each one of you is a rock your colleagues stand upon; you raise us all higher.

Hundreds of teachers impact my thinking, daily. Amidst data and phone calls, meetings and memos, you still save the greatest dose of energy for your students. I have witnessed miracle moments in the lives of young people at your hands. Particular thanks to Barbara Makrogiannis, Kevin Hernandez, Ryan Dunbar, Ben Raikes, Dana Stachowiak, Rebecca Victoros, and Gabby Deveaux, for your efforts for this book and in your classrooms. As well as teams that help me study and reflect including those at IS 230, MS 67, St. Hope Leadership Academy, Union County Public Schools, Orchard Valley Middle School, Our World Neighborhood Middle School, Burnet Hill Elementary School, Woodward Parkway Elementary School, PS/MS 19, Muskego-Norway Schools, Taipei American School, the Queen Rania Teacher Academy, and hosts of others.

And, essentially, the vision-focused administrators that dare to publically learn, lead, and take risks. You are under the pressure of the world and yet manage to hold back the dark clouds so students and teachers can shine. In particular my gratitude goes to Sharon Terry, Ron Zirin, Lisa Steiger, Elaine Bakke, Patrick Klocek, Trish O'Regan, Montrio Belton, Kevin Plue, and John Jones for years of partnership, example, and more importantly, your continued bravery.

Equally on these frontlines are the literacy leaders I have come to call family. Thanks to Lucy Calkins, for your leadership, your insight, and endless drive. I have come to find the engine of your work is your undying mission that every child has a voice. I am tremendously thankful for your mentoring and belief. Thanks as well to the tirelessly working leaders at the Reading and Writing Project and to my fellow Staff Developers: I know no more caring and passionate people all collected in one place than here.

I would not be able to publically join in this education conversation if not for my friends at Heinemann. Enormous thanks to Kate Montgomery for first seeing the potential in these ideas and most importantly, for connecting me with the greatest editor known to man, Tobey Antao.

Tobey, I think I need seven more pages to appropriately thank you for your wisdom, kindness, and wit. I left every conversation feeling more energized than before. You always kindly suggested any revisions were my own—but I'm on to you, it was your talents that make the final version of this book as much yours as mine. It is such a gift to work with you.

Victoria Merecki, production editor extraordinaire, I do not know how you have your pulse on every point—every word—so well, and to you and Monica Crigler for the exciting design. David Cottingham, I can't think of any less interesting task than correcting my errors, yet you did more than just look for dangling modifiers—you brought your keen, artful eye for the experience readers will have with this text. And thanks to every working magician behind the scenes in production.

I close with the most important people, *mi corazón*: Yesenia, Tahlya, and Marcos. It feels fitting that you are in mind as the page turns and the book begins. When people have asked me, "How do you write *and* have a family?" it is truthfully a hard question to answer. Hours in front of the computer are hours not together. I am grateful for the times you let me lock myself in a room—and more so those times when you did not. A walk together through the aquarium or spaghetti around the corner is my lifeblood. All I do is for you and from you.

CHAPTER 1

Research the Way It Was Meant to Be

A Re-Introduction

Researchers are game changers, innovators. Research—be it that of scientists, historians, journalists, musicians, architects, artists, doctors, or teachers—is the way we as humans evolve. Literally. Our life expectancy is longer than ever, recent technological achievements compete with science fiction, and the amount we collectively know and share is greater than at any time in history.

Now, with this in mind, with all the exciting, glorious, thank-you-for-your-gifts-to-the-world feelings welling up inside of you, pause. Shift your thoughts to school, to rows of students doing "research projects."

I'll give you a moment to recover.

Walk the hallways of almost any school and there is a good chance that colorful (and well-intended) projects will line the halls or hang from classroom walls and ceilings: mobiles of famous historical figures, essays on science phenomena, reports on authors in English Language Arts. But look closer, past the clip art and poster board, and you will probably find that most of these "projects" contain, at worst, text lifted directly from sources or, at best, lists of dry facts in the general shape of paragraphs—both of which, let's be honest, are an incredible bore to read. What's even worse, walk over to that project's creator and ask her to tell you what she learned, and in many instances she will talk broadly, cautiously about the generalities of her topic, but will lack the depth of knowledge the time spent working on that project should have delivered. Too often, what students produce at the end of a "research project" is little more than proof that they skimmed a few books or web pages and took some notes. Research becomes a task to complete, not a means of deep committed learning, not a drive to inform others.

This book is intended to be a call for research the way it was meant to feel, for reading and writing about research to matter to our students—to give them the tools needed to be successful learners and leaders in college and beyond. This is an argument for making our teaching of research warmly invite our children and young adults into the fold of inquisitive, innovative thinkers. It is intended to teach research skills in ways that encourage engagement and independence.

Standards and Testing Highlight the Essential Role of Research Skills

Echoing this call for meaningful research instruction is the Common Core State Standards and the new standardized tests, both of which see research skills as integral to college and career readiness. An entire strand of the writing standards K–12 is devoted to "Research to Build and Present Knowledge," and in general many other "skills important to research are infused throughout the document" (p. 8). The standards expect students to learn to *independently* use a whole host of research-related skills, to be able to do things such as:

- "conduct short as well as more sustained research projects" (writing standard 7)
- "gather relevant information from multiple print and digital sources" (writing standard 8)
- "integrate and evaluate content presented in diverse formats" (reading standards 7, 9, writing standard 8, speaking and listening standards 2, 3)
- "assess the credibility and accuracy of each source" (writing standard 8, reading standard 7)
- "acquire and use accurately a range of general academic and domain-specific words and phrases" (language standard 6)
- "draw evidence from literary or informational texts" (writing standard 9, *which references that students must use the skills of all 10 reading standards!*)

They must then be able to use all of the above to produce a range of writing and speaking types and genres (writing standards 1, 2, even 3; speaking and listening standards 4, 5, 6; language standards 1, 2, 3) through an internalized writing process (writing standards 4, 5, 6).

Phew.

It is not surprising, then, that the two groups developing the standardized tests that aim to assess student progress with the Common Core State Standards are also highlighting research skills. Nearly half of CCSS adopting states have joined the PARCC (Partnership for Assessment of Readiness for College and Careers), which states that a key piece of students' standardized tests will be "performance-based assessments" of which they plan one to be a "research simulation task" where "the student will demonstrate the ability to read and comprehend a range of sufficiently complex texts independently, to write effectively when using and analyzing sources, and to build and present knowledge through integration, comparison, and synthesis of ideas" (p. 2, PARCC Item Development ITN FAQs, Dec. 2011). Other CCSS adopting states are members of the SMARTER Balanced Assessment Consortium, with some states acting as members of both groups. In a recent draft of their "Content Specifications," this group explains that they intend to highlight research within the assessment, giving students an "Inquiry/Research Score" making up one of five areas that will add up to a student's total assessment score. As with PARCC, students taking this test will again most likely be involved with "extended response/performance tasks," where students might read or view informational articles or personal accounts "and then be asked to respond to a research question posed" or even "collaboratively generate and explore a variety of potential digital and print resources," and then "individually, students [will] prepare and present their results to show that they can draw conclusions that integrate or analyze information" (pp. 49–50, September 19, 2011 v19.0).

In essence, the standards and the tests that will assess them are expecting that students become researchers—not graphic organizer filler-in-ers, not text copiers, but independently thinking, curious, and rigorous researchers. Taking time to teach students to research well is taking time to teach them the skills of the standards. Teaching students to research well is teaching them to learn well.

Using This Book to Energize Your Teaching

Cover to cover, this book aims to tell a new story of more engaged, more student-driven, more independent research instruction. It is written to also serve as a friend on the shelf that you turn to with a specific need, jumping to a particular section to find the right strategy for the right lesson.

Chapters 2–6 are divided into some of our greatest concerns when it comes to the teaching of research skills: from helping students find their own sources to teaching students to cite accurately. Each chapter is full of fresh, practical strategies to support you in teaching research skills that help students become more independent researchers.

Chapter 7, "English or Content Areas, Long Studies or Short Projects: Turn Strategies into a Study That Matches the Needs in Your Classroom," then aims to help you put everything together, helping you to use the strategies described in the book to plan either full, multi-week studies or short research projects.

Differentiating Research Across Content Areas, Across Many Grades

A particular aim of this book is to support you in making choices. There is no one-size-fits-all magic cure for reaching all learners; instead, it takes smart teachers, like you, making decisions based on the needs of your students. As a Staff Developer with the Reading and Writing Project, I have been lucky enough to study with hundreds of teachers in elementary and middle schools, in English, Social Studies, and Science classrooms and to ponder, study, and revise issues facing students in the company of my colleagues. What I have learned from living within communities of educators is that good teaching is good teaching, no matter what the content. The methods of clear and engaging instruction apply across grade levels. The difference comes not in how you teach, but in what you say—both the language you use and the rigor of strategies.

To support you in making decisions for your classroom, there are a few features throughout the chapters:

- **Samples of grade-level language used in teaching examples:** Whenever I include sample language for lessons, I begin by telling you the grade level in which that language was used. When you see, "When teaching a class of fourth graders, I might say . . ." it doesn't mean seventh graders cannot use that strategy, it is just to indicate the age level of the descriptions and examples used in the demonstration. I always aim to speak to older students as young adults and to make sure that examples with younger students match what they could do themselves. Adjust any example to meet the needs of your class.

- **A range of content examples:** To show how these strategies might live in an English Language Arts, Social Studies, or Science study, throughout the book a variety of content examples are given, from researching historical events, to science concepts, to living things. They are intended to help you see your own course material throughout the book, but are provided only as examples.
- **At-a-glance guide for differentiation:** At the start of every main topic you will see a progression that suggests a simple three-level range of instruction, from "teaching for more emergent researchers" up to "teaching for more experienced researchers." It is there to show how ideas from the upcoming section could be targeted to the needs of your students. (See Figure 1–1.) If your students have more emergent research skills, then read the first box for a general image of the ways you might adjust your instruction to support their development. With that image in mind you will be better equipped to decide which strategies to select for your class and which to either skip over or change.
- **Additional strategies for your particular needs:** Each of the strategies described within a chapter is followed by a text box with information to support you in differentiating for your students. (See Figure 1–2.) The section provides

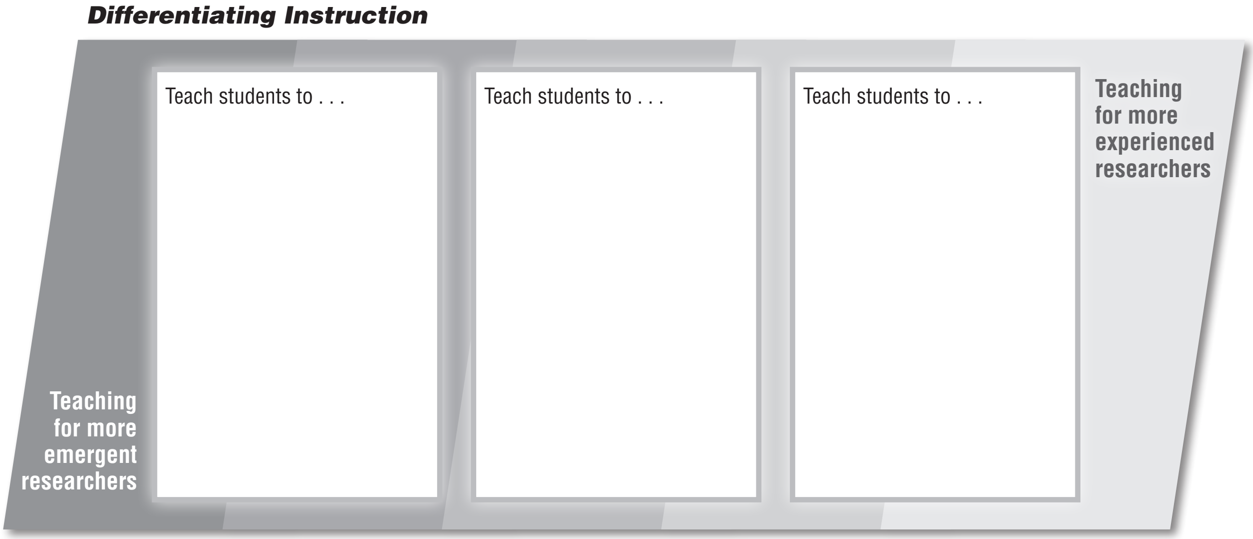

Differentiating Instruction
Teach students to . . .
Teach students to . . .
Teach students to . . .
Teaching for more experienced researchers
Teaching for more emergent researchers

Figure 1–1

Figure 1–2

- **More Experienced Researchers May Benefit From:**
- **More Emergent Researchers May Benefit From:**
- **Using in Content Area Classes:**
- **Additional Strategies:**

an extension to each strategy that adds to the number of strategies you could choose from. The aim is not to be an exhaustive list, but instead to inspire your creation of further strategies.

- **Discussion of the Common Core State Standards:** Throughout the book I aim to not just point you to standards, but help you understand the expectations they imply and to suggest teaching. Whenever a standard is discussed, see it as an invitation for you to reference your grade level's specific expectations and consider any revisions to the demonstration. This does not mean that you should only teach the standards; instead, use them as the endpoint and decide where on that road your students are currently standing.
- **A chart in the Appendix for Common Core State Standards references:** "Looking Between the Standards and These Strategies: A Conversation" can help guide your students toward particular standards. When writing *Pathways to the Common Core: Accelerating Achievement* (2012) with Lucy Calkins and Mary Ehrenworth, we dove into an intensive study of the entire Common Core State Standards document, its development, and its implications. It was remarkable how talking, rereading, researching, and then doing it all again continued to uncover levels of nuance and points of connection. My hope is that the references throughout this book help you in your own study of these new expectations and serve as one part of that conversation.

A brief note about sources: Throughout this book I interchangeably use “sources” and “texts” to mean anything students can use to learn new information. I believe—and the Common Core State Standards echoes this—that students should learn to “read” a variety of sources, both print and digital, written words, images, video, interviews, and so on. It is a big world of information worth exploring.

Now, together we get to dive in to our own study and begin our own research on teaching research skills—considering methods to use, content to demonstrate, and planning for different types of studies. Expect that, like every research study, this one will be full of curiosity, false starts, retries, and new understandings. Even when things seem to not be going right, when students are doing those things that students sometimes do, consider that your research can serve as a model for their own studies. You can start a lesson by saying, “I’ve been studying something this month, something really important actually: I’ve been studying how what I say and think and do affects your learning. And more importantly, how what you say and think and do affects *my* learning.” You are their most important example; your work sets the vision for theirs.

So, grab your notebook, a pen, maybe some colleagues, and let’s go into your classroom together.

TAG
EXPOSITORY
FIRE DRILL

CHAPTER 2

No More Handouts

Teach Students to Narrow Down Topics and Evaluate Sources Independently

Research should be messy and exciting. Often one is armed with curiosity and a general direction. Right there in the term is the word "search," and from its earliest uses "research" was always used to not just describe *looking*, but really *investigating with great care* (OED online Dec. 2011). The term invites a driven, inquisitive mind, one that is trying to actively solve problems or gain new understandings. Are you buying a car? Having a baby? Wondering where the water from your faucet comes from? Or how languages spread across the globe? We progress through our life researching, seeking out answers to our questions, trying to find solutions to our struggles and fears. We do not always know which book is the best, which website to stick with, which personal advice will pan out. But we bravely forge ahead, taking right turns as well as wrong ones—getting stuck and then catching a lead that pushes us, with great momentum, ahead.

Teaching students to research, then, does not begin by assigning finite topics and handing out preselected sources. Instead it begins by embracing the uncertainty all of us feel when first researching a topic, then teaching budding researchers to do the things we have learned to do. For example, before our daughter was born and my wife and I first became parents, we collected a mile-high stack of books on pregnancy, babies, and parenting, not to mention the bookmarked websites and all the personal advice we could gather. We did not know what, exactly, we were looking for. We just knew: "We must learn about babies."

From the huge set of sources we decided that the best way to start is to just start, so we cracked open books, started surfing through sites. Through our research we learned which information was useful, which was not, which sources (and people) to listen to and which to avoid. For example, we got to the point where my wife refused to read anything on the Internet that I had not predetermined the anxiety-inducing level of. Some questions led to new questions and other searches; some ended up in dead-ends we knew weren't worth continuing down.

Even if someone had said, "Read these two books and then answer these six questions," there was a good chance those sources or those questions would not have been answers to questions we were still searching to find. The skills of research begin from the very first: "I must learn about . . ." We need to teach from that starting point and not jump too far down the line.

DEVELOPING HOW
Students Choose Topics and Gather Sources

The first link in the chain begins with how your students decide upon their topic and begin to gather sources. Sometimes in an effort to help students, some teachers assign a specific research topic, hand out sources, and even spell out what each paragraph of a final paper should contain. They do all of this because they want to get students to "the real work" of research projects: note-taking and writing about the topic. Unfortunately, when we are the ones rushing students ahead, engagement drops dramatically as we take the intellectual rigor out of the job. Probably half of the work of research is just figuring out what you want to say and who or what will help you say it. Taking this out of the equation is removing some of the most important work. The Common Core State Standards expect that all students, beginning in fourth grade, are able to gather information from multiple print and digital sources—*independently* (writing standard 8). Better for them to start practicing with you now than waiting for the new standardized tests, or later trouble with high school or college work, to let you know what they can and cannot do alone.

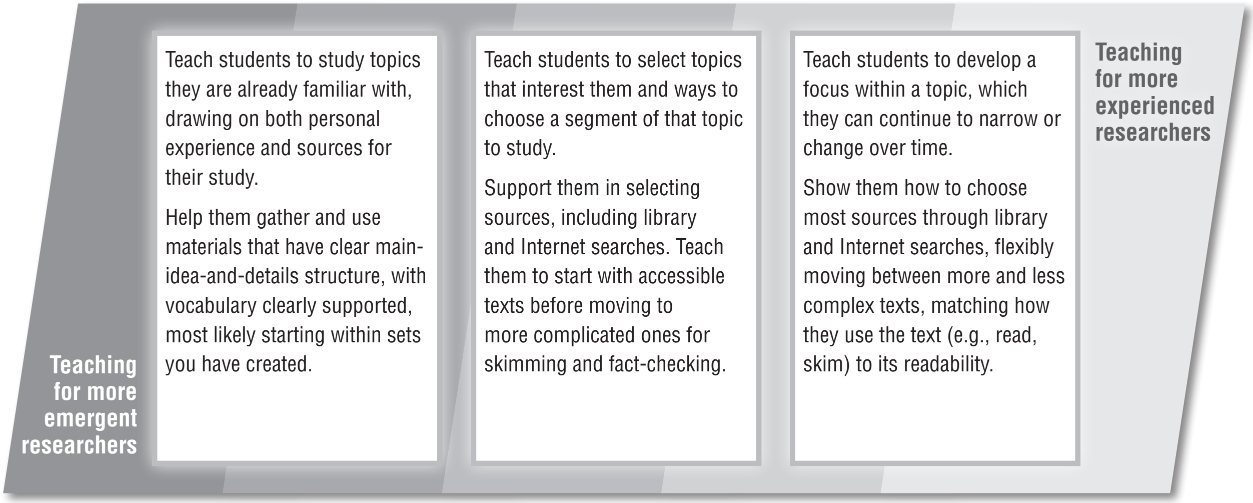
Additionally, handing students topics and preselected sources removes a natural and important step of learning to do anything: making errors. If we are developing students to be creative, flexible, independent learners, then we cannot scrub away opportunities for mistakes to be made and corrections to be learned. Often times we learn more from what did not go well and we have learned to fix.

There is one more critical point to consider in regard to the sources our students choose. No matter how well executed a lesson, how engaging and clear, if students cannot read the texts they have in their hands they simply cannot apply your teaching. Just sit next to any student who generally seems to have difficulty not completing class work or homework and ask them to read out loud a small bit of the texts they have been "reading." In many cases that lack of productivity is not just laziness; it's often a sign of real struggle. Education researcher Richard Allington even titled an article on content-area reading with a quote from a consistently struggling high school student: "You Can't Learn Much from Books You Can't Read" (*Education Leadership* 2002, pp. 16–19). In the article he writes: "The idea of harder textbooks has captured the attention of educators and policymakers interested in raising academic achievement. But harder books won't foster the growth of content learning. Think about your own attempts to acquire new content knowledge. Imagine you want to learn about building a website. Do you reject many of the books you might use because they are too easy? Do you say to yourself, 'Gosh, only 11 words on this page that I can't pronounce—not hard enough for me!'" So, do open up a wider net of sources for your students, being vigilant that what they choose they are able to actually use. (See "But What if They Want to Research Unicorns or the Cure for Baldness?: Teach Students to Let Available Sources Select What Is Possible to Study" for more on choosing sources.)

Whether you are a Social Studies teacher using some of these strategies and methods as your students spend a day or two reading texts on the Civil War, or an English Language Arts teacher beginning a unit on research reading and writing in which they may be reading texts for a week or more before moving to writing, we need to equip students with the tools to dive bravely and carefully into any new content that comes their way.

Here, for example, is how you might differentiate support for your students in gathering sources. Consider their level of familiarity with the topic being researched, the breadth or focus you will teach them to have, where they get their sources, and how you will teach them to use them.

Differentiating Instruction for Gathering Topics and Sources



Teaching for more emergent researchers

Teach students to study topics they are already familiar with, drawing on both personal experience and sources for their study.

Help them gather and use materials that have clear main-idea-and-details structure, with vocabulary clearly supported, most likely starting within sets you have created.

Teach students to select topics that interest them and ways to choose a segment of that topic to study.

Support them in selecting sources, including library and Internet searches. Teach them to start with accessible texts before moving to more complicated ones for skimming and fact-checking.

Teach students to develop a focus within a topic, which they can continue to narrow or change over time.

Show them how to choose most sources through library and Internet searches, flexibly moving between more and less complex texts, matching how they use the text (e.g., read, skim) to its readability.

Teaching for more experienced researchers

▶ Investigation Starts with "I": Teach Students to Find Their Own Research Topics—Because They Will Have to Eventually

Teach your students a range of strategies for gathering many potential topics, so later they can evaluate and choose between them. One strategy is to start with prior knowledge, listing topics they know a lot, some, and only a little about.

It helps our learners if we break complex, abstract tasks (like coming up with compelling research topics) into smaller steps that are more easily replicable. Then, as they become more proficient and automatic, we can take those strategies away. In other words, you may teach students to make a chart, like the one I describe below, until they become so good at it that they can do that thinking internally. It is the pedagogical concept of "scaffolding." Of course, this means they cannot only do a strategy once; it is repetition that allows for scaffolding to be removed. Luckily, the Common Core State Standards expect that students will undertake not just long research projects, but also brief, fast bouts of research many times throughout the year (writing standard 7). Chapter 7 suggests ways to build in this level of repetition and quick practice throughout the school year.

Teach students to begin with an analysis of their own expertise, allowing each area to spark other potential topics. One version of this is to make a three-column chart: list topics you know a lot about in the first, topics you know some about in the second, and topics you do not know much about but would like to learn in the third. Once students amass several, teach them to choose a few to jot a couple paragraphs about, testing out their knowledge.

When demonstrating this strategy for a sixth-grade class I could say:

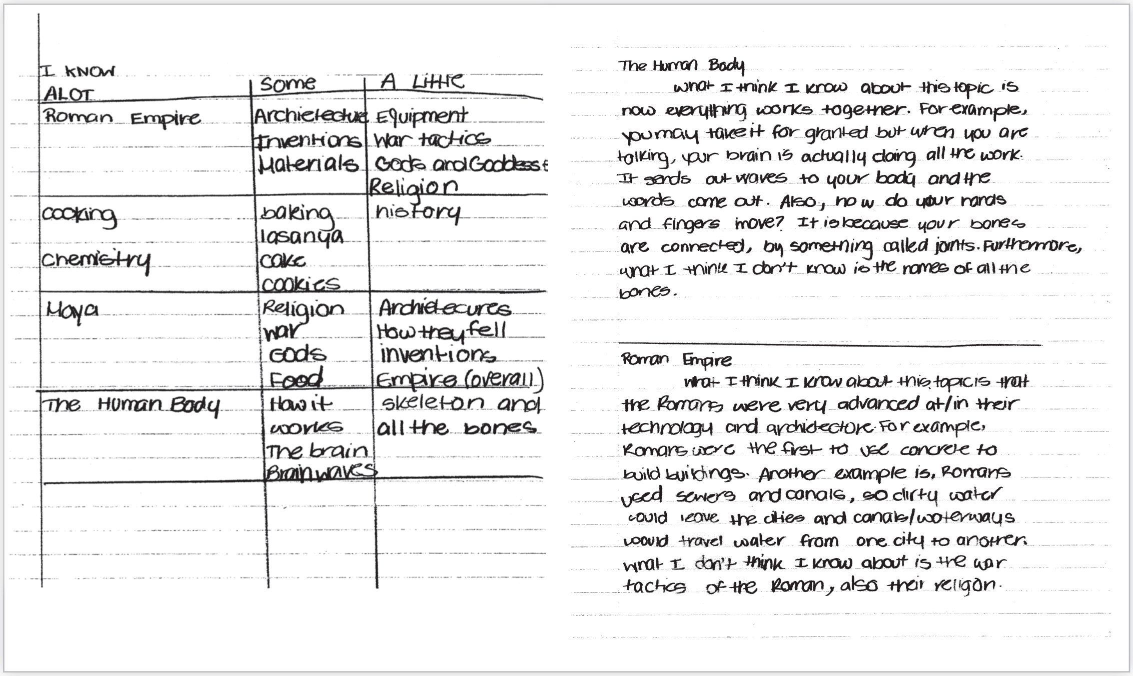
> **"Writers start with what they know best first, then they go from there. The same is true for great researchers—scientists, historians, journalists, authors—anyone who makes research a part of their lives begins with what they know. A scientist trying to find a cure begins with everything that is already known before starting out on a new quest for answers.**
>
> **"One way to do this is to ask yourself, 'What am I an expert in already?' and then use that to brainstorm a bunch of other topics you could research. I made a fast chart in my notebook with three columns and labeled them 'topic I know a lot about,' 'some about,' and 'not much about.' Watch how I use this to help me brainstorm.**
>
> **"I know a lot about cooking, or at least how to make some meals really well. So I could put 'cooking' in this first column. Now, if I keep that idea in mind, I feel like I can jump right over to this middle column and jot down 'baking' because I know *something* about that, but am also pretty terrible at it. I usually burn cookies or they turn out too thin. Which leads me right to this last column. I realize I don't know much about *why* things mix to make food great or terrible, to make cookies rise or lie flat and just burn. So I could put 'the chemistry of cooking and baking' in this last column. I also could put, 'where food comes from' in the second column, because I know a little bit about this from what I have seen on TV, but I feel like I could really research more.**
>
> **"Okay, I am going to freeze here for a second. Did you notice how I started in one column but then I didn't just stop there? I held onto the ideas I was working with a bit longer and used them to jump from column to column and back again. Once I run out of steam with one idea I can begin a new one. I can think of things I like to do, things I see around, things I have heard in the news, things I am learning in Science or Social Studies. My goal is to fill this list up with many different ideas as quickly as I can. Once I have made a sizable list, I can begin free-writing about any of the topics I jotted. Not whole entire essays, just lots of little paragraphs about different topics to really see how much I know and what more I want to know. Watch quickly how I do that . . ."**

That last bit there, where I stopped to put into words what I had just done, is crucial to helping our students develop learning *habits* that can become internalized, not just enact *assignments* that are later forgotten. To help our students transfer what we are teaching into their own practice, we need to ensure that we are as explicit and clear in our teaching as possible. Having a balance between demonstrating a strategy and explaining the parts of it helps to achieve just this. Any effective lesson will have a teacher both doing and explaining.

When Murshea tried this strategy she filled her list very quickly, then picked one to write briefly about on the following page, then another from her brainstorming, and so on. (See Figure 2–1.)

At the end of a lesson like this I will often say that this same habit can be accomplished without the three columns, that students can choose to make columns or little paragraphs or bulleted lists or some other way of organizing their ideas. The goal is the thinking involved, not the perfect enactment of the strategy I showed.

Figure 2–1 Murshea's Listing and Longer Writing Entries



I know ALOT	Some	A Little
Roman Empire	Archietecture Inventions Materials	Equipment War tactics Gods and Goddess Religion
cooking chemistry	baking lasanya cake cookies	history
Maya	Religion war Gods Food	Archietecures How they fell inventions Empire (overall)
The Human Body	How it works The brain Brainwaves	skeleton and all the bones

The Human Body

what I think I know about this topic is now everything works together. For example, you may take it for granted but when you are talking, your brain is actually doing all the work. It sends out waves to your body and the words come out. Also, no w do your nands and fingers move? It is because your bones are connected, by something called joints. Furthermore, what I think I don't know is the names of all the bones.

Roman Empire

what I think I know about this topic is that the Romans were very advanced at/in their technology and archidectore. For example, Romans were the first to use concrete to build buildings. Another example is, Romans used sewers and canals, so dirty water could leave the cities and canals/waterways would travel water from one city to another. what I don't think I know about is the war tactics of the Roman, also their religon.

DEVISING TEACHING THAT MATCHES YOUR STUDENTS

- **More Experienced Researchers May Benefit From:**

More experienced researchers could be taught to not just write from topics, but to narrow them. This strategy could be varied by stopping after jotting a few topics, then choosing one topic to lift onto a new page and repeating the same three columns, only this time for narrowed versions of that topic—again, with the goal of collecting many, many potential topics. So “where food comes from” could go at the top of a page and be narrowed down and written within those columns: “how eggs are gathered and sold,” “where meat in the supermarket comes from,” “how chemicals (that I can’t pronounce) on food labels are made and why.”

- **More Emergent Researchers May Benefit From:**

More emergent researchers tend to begin with large topics. Time and teaching can help them narrow them more. For students that may find this strategy complicated, fight the urge to assign them topics and instead forgo the multiple columns. Students can list topics they feel they are already somewhat expert in or would like to be expert in and go straight to writing a little bit about each to explore their thinking.

- **Using in Content-Area Classes:**

In a content-area study, you may decide to begin by providing students with an “umbrella” topic (say, the Civil War) and giving them a bit of introduction. Some brief video clips, a general lecture, looking at period artwork, or looking at collections of primary sources can give students just enough background knowledge to make educated choices about topics, without having to study too much up front. Then have students use the above strategy: “What I know a lot about [the Civil War], some about [the Civil War], not much but would like to know more about . . .” And then again write longer entries trying these out.

- **Additional Strategies:**

On any day of collecting, teach students to move very quickly from listing to writing longer thinking entries. These are a bit like conversations with oneself, testing out how much a writer knows and needs to learn as well as seeing how interested he or she is in potential topics. Teach students to write about both what they already know and what they hope to learn, perhaps using phrases like, “What I think I know is . . .” and “I am not as sure about . . .” or “I really want to find out . . .”

▶ But What If They Want to Research Unicorns or the Cure for Baldness?: Teach Students to Let Available Sources Select What Is Possible to Study

Teach students to narrow down their topic ideas. One important strategy is to look for available sources and allow their number and their readability to narrow down and refine topic choices.

After even just a class period or two of collecting potential topics, the number of ideas swirling around the room can feel both exciting and a bit intimidating. Of course you could have every student turn in a card with their topics written down so you can cross off the pie-in-the-sky ones and circle the topic you know will produce the best outcome. However, this would again scrub away the chance for students to learn how to do this kind of evaluation for themselves. Additionally, it would erase for you the chance to see what they do when left to their own devices. Their successes and flops help you in your role as personal trainer, deciding which strategies will develop their research independence.

One strategy for narrowing down topics is to let sources be a guide. With a visit to a library, searching digital sources, or even looking through bins of books and articles in your classroom, our researchers can learn to cross out those pies-in-the-sky before we have to.

If you schedule a visit to your school or public library, first, have your students narrow down their listed topics to the top three or four and go with those in mind. Teach them to choose those they feel the most compelled to study, and even more importantly, believe they will find the most information on. Once there and before they rush to grab books off the shelves, teach them to evaluate each potential topic by looking at how many sources are available for each. Sometimes, you will need to teach them to widen or focus topics in order to find sources. With a class of fifth graders you might say:

> **"Sometimes researchers just can't learn what they hope to learn, because there aren't any materials on that subject, or there aren't the right instruments to use, or the knowledge they would need to gather just isn't available yet. So they are limited by what is currently known, what sources are available. This leads them to refine their first plans.**
>
> **"So today, we are going to let the books available help us narrow down our topics. To start, don't pick up every book you see. Instead, first look to see how many**

> **books exist on *each* topic you brought with you. Then consider, from what is available, which topic you will be able to learn the most about. Watch me for a moment while I try this:**
>
> **"I have three topics that I want to check on—where does food I buy at the store come from, what was the first ancient bird, and I want to learn about the American Revolution because I'm studying that in Social Studies. Watch as I walk over to each of those sections to see what is available. If I find a lot of books on the American Revolution and very few on cooking, I might decide to go with the Revolution topic. Let's see . . ."**

After you let your class loose, predictably, within the first several minutes of the library visit you will want to call your class back together. Some will have found a topic with a bunch of books; some will not but will naturally refine their topic or change it just enough to expand their search. Still others will just feel stuck. For example, one year I was working with a fifth-grade team at a school in Queens, New York. On our library visit day I was talking with one student, Dominique, who had trouble finding books that matched her topic. After talking with her, I thought her experience would help the entire class, so I gathered them together and taught them to refine their search before giving up on their topic. I used Dominique's example (though I made sure when I talked about her I highlighted what she had learned to do, rather than make it look like she had done something wrong):

> **"Dominique just did something really smart that I wanted to share with all of you. She was looking for books on one of her topics, 'kids' games in the Dominican Republic, and she couldn't find any. Instead of just giving up on the topic, because it really interested her, we talked about maybe first revising the topic she was searching for. I suggested—and I think all of you could do this too—that she ask herself if there is a larger category her topic could fit inside of, or, if it was already big, were there smaller topics that could fit underneath?**
>
> **"Dominique thought kids' games in the Dominican Republic could be both big and small. If it were big, it could have small categories like maybe 'checkers, dominoes, and soccer.' It also could fit inside of larger categories like 'life in the Dominican Republic' or 'people in the Caribbean' or 'kids games.' She thought about all of these and realized that she liked the larger category options; they were more interesting to her. And you know what? When she went back to the shelf she found two books on the Dominican Republic and a bunch of others on life in other Caribbean countries.**

> **"So, if you find yourself getting stuck for books—and later when you look online for articles and websites—first stop and ask yourself if your topic could have larger or small categories."**

Using the actual available sources not only can teach students to find the most profitable topic for their research, it also can provide a concrete way of looking for broader or narrower topics.

DEVISING TEACHING THAT MATCHES YOUR STUDENTS

- **More Experienced Researchers May Benefit From:**

Experienced researchers will benefit from learning how to search the library independently, both physically and electronically. Invite your library/media specialist to talk briefly about the Dewey Decimal system of organization, showing students that with topics in mind they can already chart a path around the book collection. Show them that they can then plot their course before actually getting up to look.

- **More Emergent Researchers May Benefit From:**

Teach students to judge up front which sources are most useful to them at the beginning, middle, and end of their research reading. Show students how to make a plan for digging into the topic, deciding how to progress across the materials they have gathered. I will often suggest that students put sticky notes on the front of their books labeled with phrases like "start with this" (for books they feel they can read fluently and will provide the most general overview of important concepts and topics), "read later" (for ones that they will need some background knowledge on first), "good for skimming" (for ones that either feel very complicated or perhaps very specific in scope, useful for pulling out important information but difficult to read from cover to cover).

- **Using in Content-Area Classes:**

Most science trade books offer cover-to-cover coverage of a topic (such as, everything about "electricity") and often Social Studies books do the same, often in a mix of expository and literary nonfiction ("the revolutionary war" told through anecdotes and facts). Teach students to also use the table of contents and the index to see if the part of the larger whole they are interested in is handled by that text. Just because the book title is Civil War does not mean it will talk about "childhood during . . ."

- **Additional Strategies:**

Teach students that researchers walk around day in and day out with their topic swimming inside their minds, looking for new information and interesting connections. Help them see that sources need not always be print—that Internet videos, television shows, activities they do in class or at home, even interviews are all additional and very valuable sources. Plan to support students in getting as much as they can from these additional sources. For instance, you may decide to teach a few interview strategies, like how a good journalist will always try to ask one or two follow-up questions. Or perhaps you will demonstrate how to search the television guide for channels and shows that could add to students' topics, like the History Channel or Animal Planet. Certainly if you engage your students in an activity in class, like a science experiment, you will want to highlight that connection as well.

▶ I Feel Like We Have Met Somewhere Before:

Teach Students to Find a Unique Focus for Their Research by Considering Their Audience

Teach students to consider their potential audience and use those imagined readers to guide their research process. One way to do this is to write brief entries considering what you assume your readers do not already know and what you have to research to support their learning.

If students are researching merely because it is an assignment, then their engagement with the process and their learning will only be a fraction of what it could be. Think about the moments you have researched in your life. When a friend had a new baby on the way, the audience for your research was those new parents, and you looked for books to buy for them that matched their personality and needs. If you became passionately involved in a cause, you may have conducted research to help you convince politicians or write a letter to an editor. If you were contemplating a big career change or move to a new city, the research audience may have been you yourself, and all of your hopes and trepidations came into account as you chose sources. It is essential, then, to have our students begin to consider their audiences now, as imagined readers will affect not just what they write later but also what they collect and consider now.

In *Assessing Writers* (2005) Carl Anderson writes, "Students tell me time after time that they are writing for 'the class.' While the class is a perfectly good audience, I want children to learn that they can write pieces for specific individuals in the class (friends or classmates with similar interests) or outside the class (relatives or community leaders) and also for a more general audience (readers of the school or local newspaper)" (p. 44). Anderson explains that people generally initiate writing because they have a real audience in mind, and if our students want to be truly independent writers, then they need to do the same.

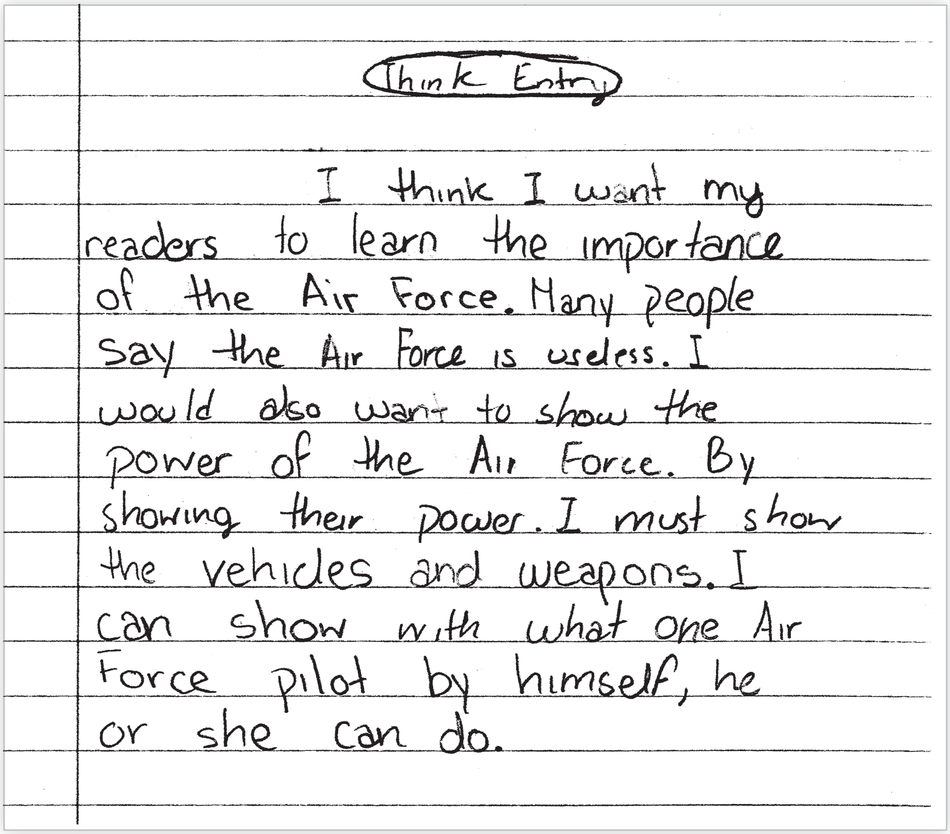
One strategy is to teach students to write brief entries in which they consider what their readers may not already know and what they will need to research to fill those holes. When demonstrating for a seventh-grade class I could say:

> **"When we research we often do so in order to teach ourselves or others something new. Sometimes in school, though, we feel like research is just an assignment to be completed, something that only 'your class' or 'your teacher' will care about. I would like us to treat this study differently, to make our study matter and be important beyond just this classroom.**
>
> **"So an important place to start is to ask yourself, 'What do I think people who might learn from my research may not already know?' and then, 'What will I have to find out so I can be sure they learn about those parts of this topic?' Watch how I try this with the topic I am studying, the solar system. Let me first think before I write . . . I think people that learn from my research may not already know . . . well, I actually think most people know how many planets there are and the order they are in. So, I guess I don't need to spend too much time studying those obvious facts. . . . But, they probably won't know what the planets are made of, at least not specifically. And more importantly, how what the planets are composed of is so different from one planet to another . . . so that means I would have to research the chemical makeup of the planets and start comparing them to each other . . .**
>
> **"Do you see what I'm doing? I'm taking a moment, very early on in collecting sources and starting to read, to think about my audience and what they might need to know. It is helping me focus or narrow my research, so I spend time learning those things that I think readers will most need to learn."**

Harmukh wrote an entry where he considered what his audience would need to know. He did not just think of information they were lacking but also their feelings or attitudes toward the topic and how he hoped his research could affect or change them. (See Figure 2–2.)

From this entry you can sense how much more focused his search for sources and information will be, but you can also hear how passionately he is engaging with his topic. He has a real sense of purpose now, not just an assignment to complete.

Figure 2–2 Harmukh's Audience Brainstorming Entry



Think Entry

I think I want my readers to learn the importance of the Air Force. Many people say the Air Force is useless. I would also want to show the power of the Air Force. By showing their power. I must show the vehicles and weapons. I can show with what one Air Force pilot by himself, he or she can do.

DEVISING TEACHING THAT MATCHES YOUR STUDENTS

- **More Experienced Researchers May Benefit From:**

More experienced researchers could be introduced to a strategy in the best-selling book for college and adult researchers, *The Craft of Research* (2008), in which the authors suggest trying out active verbs within potential research topics. Teach students to write out a sentence like "I want to find out about . . ." and then instead of simply writing a topic, "chimpanzees," make a full sentence that contains a verb like "contributes," "conflicts," or "develops." The idea is that richer research topics consider something active, like how one part of a topic "contributed to" a larger part, or how one part "developed" into something else. So a potential research statement could sound like: "I want to find out about how chimpanzees in the wild contributed to the study of humans."

*** More Emergent Researchers May Benefit From:**

More emergent researchers can be taught to first plan for particular audiences, just as that quote from Carl Anderson was suggesting. It may seem like a minor exercise, but pays tremendous dividends. Teach students to assign themselves very specific readers, perhaps in addition to larger audiences if they are really set on that as well. Choosing "I'm writing this with my friend Kyle in mind and other fourth graders" leads students to collect sources, choose information, and even write with the very particular needs of that person in mind. In turn it leads to a more purposeful research process. Just be sure to have students return to this person over and over by doing so with your own choice in your lessons.

*** Using in Content-Area Classes:**

In a content-area study, the direction of narrowing a topic could be a bit more defined. Teach your students the kinds of thinking most often carried out within your discipline. For instance, in the study of historical figures, there may be fruitful research in looking at how that person's early life affected them, or what other figures' ideas influenced his/her own. In science, as so much is interconnected, looking at a phenomenon within a larger system can potentially help students find an interesting topic, or looking at debates that exist in the scientific community can often be a good jumping-off point.

*** Additional Strategies:**

Students can assume who the audiences could be for their research, which would be a fine start, or you could teach them to research this as well, to discover just who particular audiences may be. One way to do this is to locate issues attached to their topics. You can for instance teach students to search the Internet for terms like "petition," "conserve," or "save." Typing "petition" and "sharks," for example, reveals several active groups involved in causes like stopping shark finning or protecting other species. Another is to keep your eyes open for types of experts and specific organizations quoted within sources and then research those—for instance, noting that someone quoted is called an "astrophysicist" and then finding out what such a person does. Again, this has the effect of helping students not just learn more about the world of their topic, but also narrowing down their topic.

DEVELOPING HOW
Students Evaluate Sources

The Common Core State Standards place a focus on students being able to evaluate sources and information. Fourth and fifth graders, they expect, should draw on "relevant information" in their research to prepare them for being middle school and high school students who can also assess the "credibility and accuracy" of sources that information comes from (writing standard 8). The purpose for this seems tremendously clear: it creates more cautious and careful consumers and citizens. Instead of taking an infomercial's claims of "tighter abs in thirty days, just by sitting!" at face value or listening to competing politicians argue polar-opposite claims, our students could potentially live their lives with the same thoughtful and open eyes that they have through the process of research.

Now ask yourself, "Do I ever, really, ask my students to evaluate their sources?" In most classrooms—including my own—it could be quite rare. We hand them what we hand them, and both they and we take them at face value. A seventh grader once said to me, when asked if he thought everything he was reading was true, "Well, it's in a book, isn't it?"

The need for students to have a range of strategies to draw on is made even clearer when teaching them to evaluate sources. There is no one way to know if a source is right for what you are trying to say, no one magic test to signal whether this particular article is accurate and relevant. It takes a trained eye, with a bunch of little "tests" to run, to find the most useful and most accurate information. What needs to go on in our students' minds is a bit like a page from a dog-eared medical book on a shelf in my parents' bedroom. In *Taking Care of Your Child: A Parent's Guide to Medical Care* (1977), each section lists potential childhood ailments, along with a flow-chart of questions and answers intended to calm the nerves of worried parents and help them provide proper care for their woeful child. The page on "Fever" has a flow-chart with this text:

> *Is the child less than four months of age? Yes—See physician now; No—Is there stiffness of the neck, confusion, marked irritability, lethargy . . . ? Yes—See physician now; No—Has the fever lasted more than 24 hours?*

We need to support our students in having these same sorts of flow-charts for assessing accuracy, moving from one test of relevancy and accuracy to the next. Of course, the level of each student's sophistication will be determined by how long and nuanced these internal checklists are.

Here, for example, is how you might think about supporting your students in evaluating sources, adjusting the level and amount of your support based on their development. In this case, it means teaching tried-and-true rules of thumb, noticing overtly opinionated pieces (as those will be the easiest to learn these skills from), and considering texts within and against a larger body of knowledge.

Differentiating Instruction for Evaluating Sources

Teaching for more emergent researchers

Help students follow a few rules-of-thumb for checking the reliability of sources, like "check the publication date" and "choose websites from colleges, and familiar organizations (like PBS)."

Teach students to read asking themselves, "Is this text more informational or more opinion based?" They will most likely have greater ease in evaluating opinion pieces. Teach them, then, to notice when a claim is made and check if support is given or when support is lacking. Help them carry this to video and eventually to expository texts as well.

Show students how to evaluate sources in comparison to one another, noticing when contradictions arise. Teach them to determine if the conflicts are based on point of view or serious inaccuracies. Additionally, teach them to do "background checks," to research individuals' or organizations' potential biases.

Teaching for more experienced researchers

▶ I Know Because Your Voice Goes Up a Little When You Lie:

Teach Students to Look for Signs of an Opinion Being Passed Off as a Fact

Teach students ways to evaluate an author's claims. One is to look backward (and when needed read forward) to see if the author's ideas are clearly supported and described for readers or if they appear weak or missing.

Concrete, memorable images often help make abstract ideas stick with our students. When talking with students about evaluating the claims made within their sources, I will often speak of it as if authors are building a path of stones from you, the reader, to their idea. Careful and thoughtful reading (or viewing) involves pausing when you notice an idea is being stated and then going back to see if you can find the stepping stones the author left for you. Stopping at the point of an idea to look at how it was supported is work the Common Core expects of students in elementary school: "explain how an author uses reasons and evidence to support particular points in a text." In middle and high school, then, it is also necessary to step back, look at that path, and evaluate how sturdy and substantial those stones appear: ". . . assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims" (reading standard 8). The metaphor is great because you can easily say, "Would you feel safe walking across those very few, small, slightly cracked rocks?"

When demonstrating this, I often choose to start with a text that is obvious in its flaws—the lesson is the time for all of us to "get it"; the first introduction should not be so challenging that it is hard to decipher. Perhaps you find a text or you write one yourself, like this one I wrote for a demonstration with sixth graders:

> *Cuttlefish live in the ocean. They look a great deal like squid with their long tentacles and a large "head," called the mantle. They eat crabs and fish and sometimes small shrimp, which they hunt, often by sneaking up on their prey by first camouflaging themselves. Perhaps no ocean creature is as unique as the cuttlefish. It uses the suction cups on its tentacles to grab the prey and pull it to its mouth.*

With this text I can now teach students to stop when they hear an opinion, what the Common Core State Standards seem to refer to interchangeably as "points," "arguments," or "claims" of an author. Then, either in writing or in their minds, hold that claim and go backward to find the stepping stones that lead up to it. In this instance I could read this little paragraph and then stop at the opinion and jot it down:

> *Perhaps no ocean creature is as unique as the cuttlefish.*

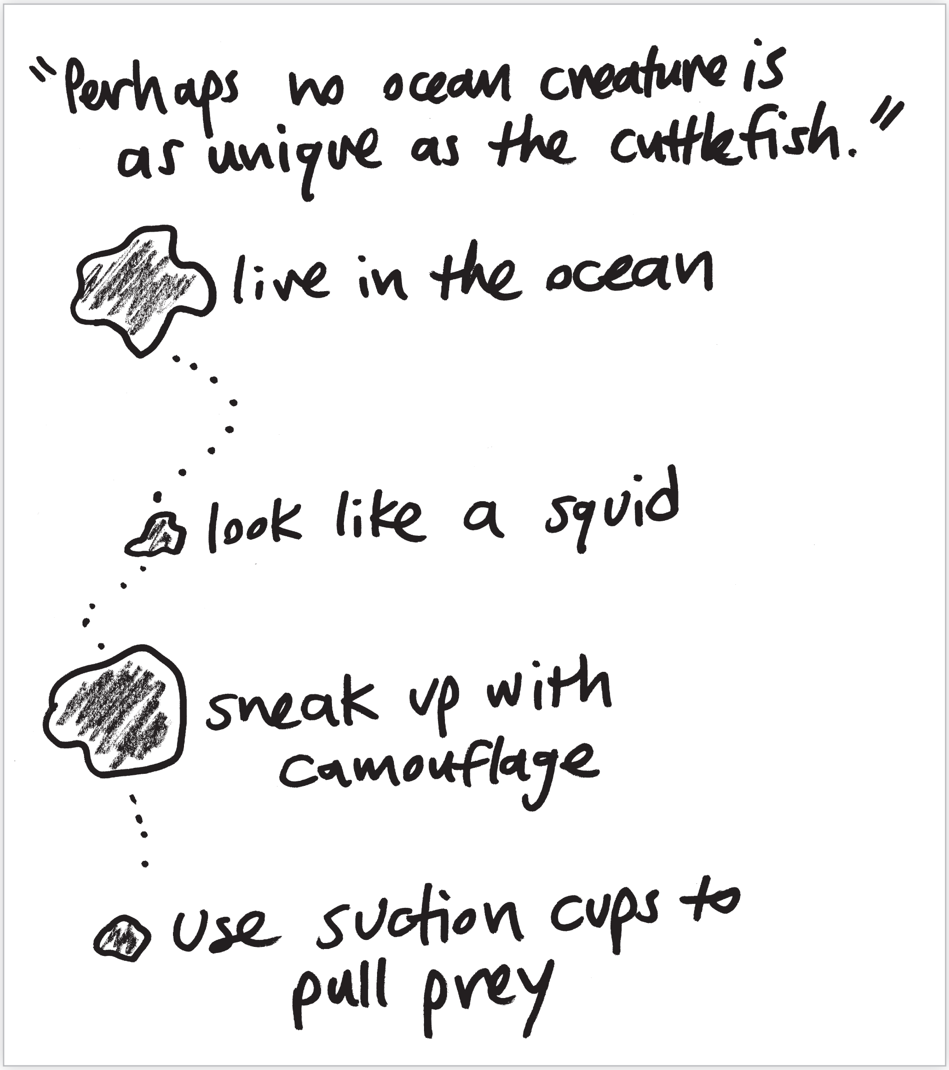
Then say:

> **"Now that I've found a sentence that feels like an opinion, I'm going to try to figure out if the author is building a path for us to walk on—from us to this idea. If this idea is really well supported, then there should be a bunch of really solid stones laid out for us to walk across; each fact is another great big stone. We can back up and reread and also read forward a bit to see how many stones there are—the facts—and how sturdy they are—how well they connect to this idea.**
>
> **"Let's go back and make a quick map of those stones—I'm going to jot them down so we can talk about them, but I could also just do this quickly in my mind. Let's try it, first sentence: 'Cuttlefish live in the ocean.' Is that a fact that connects in any way to this idea, that no ocean creature is as unique? Mmm, maybe . . . I guess so. It is letting us know they live in the ocean. Okay, I'll add that stone to our path.**
>
> **"Now the next sentence: 'They look a great deal like squid.' Does that get me closer to knowing they are more unique than any other ocean creature? Well, it**

> **is about ocean creatures, but is it a fact that supports them being very unique? Mmm, not really; in fact it says they are a lot alike. Though just because they look like a squid doesn't mean they are completely like them . . . maybe we will write it down, but I'll draw it a little bit smaller than the first one. Let's keep reading . . .''**

I demonstrate this thinking and then invite students to talk with a partner briefly, considering the other sentences. I now have a chart like the one shown in Figure 2–3.

Figure 2–3 Stepping Stones Chart


"Perhaps no ocean creature is as unique as the cuttlefish."
live in the ocean
look like a squid
sneak up with camouflage
use suction cups to pull prey

This is where the expectations of the Common Core State Standards stop for elementary school students; being able to look at claims and trace an author's evidence is described as fifth-grade level work. This does not mean we must stop here; in fact, it's not a stretch for upper elementary students to consider how substantially those bits of evidence support the author's idea. Next, I can say to the class:

> **"Now that we have a path laid out, let's go back and ask ourselves, could we walk across those stones to get to that idea? Do they feel strong enough to support us? If we can't safely get across, then we know this author did not support this idea enough. We know we may not be able to believe it just from this one person and this one source. We would have to go to other sources to make sure this idea is really true.**
>
> **"Okay, let's try it. Looking across the stones in our path, does it seem like there are enough, and is each strong enough, to get us across? Tell your partner what you think and which stones are making you feel like the idea is well supported or not."**

The metaphor is helpful, because it is both engaging and helps to turn an abstract concept into one that is a bit more concrete. For your own classroom, use whatever metaphor or language will be most familiar to your students.

DEVISING TEACHING THAT MATCHES YOUR STUDENTS

- **More Experienced Researchers May Benefit From:**

  More experienced researchers can look for patterns across sources covering the same topic. Any break in the pattern invites further analysis—for instance, if three books on sharks all talk about their habitats, their hunting patterns, and their life cycle. Then one has a whole section on saving sharks because they are misunderstood. Teach readers to stop and analyze the accuracy of that viewpoint. A deviation, as in this example, does not mean the text is necessarily wrong; instead it just means a reader should activate their internal flow-chart to check reliability.

- **More Emergent Researchers May Benefit From:**

  More emergent researchers will benefit from learning general rules of thumb for checking the reliability and accuracy of sources, like checking for a recent publication date. For online sources, Harvey Daniels and Stephanie Harvey's book *Comprehension* *and Collaboration: Inquiry Circles in Action* (2009), has a section on finding reliable Internet information. You might look to their book or to your own library/media specialist for the latest thinking on this constantly changing topic. For instance, the rule of thumb about steering students toward websites that end in ".org" or ".edu" as being the most reliable is changing as we speak. Now anyone, even you or I, can purchase an ".org" address without actually having an organization.

- **Using in Content-Area Classes:**

Primary sources become an interesting consideration, especially in a Social Studies classroom. This does not necessarily mean checking on how authentic they are—that feels like more graduate-level work—but instead considering the point of view or bias presented within them. We need to teach our students to hold the context of primary documents in mind while reading them. Just because a writer says leeches cure all disease does not make it automatically true.

- **Additional Strategies:**

Students can also be taught to perform secret-agent-style "background checks," hunting for less-obvious information. One way is to research the author or publisher of information to find out their background and if they have a particular point of view or even a deeper bias. Often this is more fruitful for online or video sources, though it could be practiced on many sources. Another way is to question if there are points of view or sides missing from the sources they have collected so far, for example, are there people saying sharks are actually quite dangerous and should be feared more than protected? Or is Britain's point of view during the American Revolution written about?

Reflecting on Student Growth

Take stock of your students' practices with narrowing down topics and evaluating sources both before and after you have taught some strategies and given them time to practice. Aim for your teaching to increase both the *quantity* of strategies they know and the *quality* with which they develop topics and select sources.

To assess quantity, notice times when students get a bit stuck. Students who have limited ways to gather and narrow topics, for instance, will often jot an idea or two and then drift away—either staring out the window or into a distracting conversation. This is an indication that the student needs to learn more ways of working and have more time to practice each. Ask yourself:

- Which strategies have I taught this student? How many different approaches to this skill does he/she know?
- How much *repeated* practice have they had with any one strategy? Have they just collected one topic and stopped? Could I suggest they try to gather a few others and in the end choose the best?

To assess quality, look at students' behavior—as with quantity—but also consider their work within a progression of sophistication. Is their work rigorous enough for the grade level? It helps to not just think about your school or district, but to picture all students in the entire country in your students' grade level. How would their work stack up? Ask yourself:

- If this student is distracted easily, is it because they are either having difficulty or they find the task too easy? Is there a new strategy (or a variation to the one they are having trouble with) that I could share with them?
- Compared to the Common Core State Standards from this grade level, how are students beginning to compare to the expectations of both the "Research to Build Knowledge and Present Knowledge" strand from the writing standards and the "Integration of Knowledge and Ideas" strand of the reading standards?
- When I look at the progressions presented in this chapter (see pages 12 and 24), is this student moving up and ready for additional, more advanced kinds of research teaching?

With the help of your careful eye and expert guidance, your students can move away from overly orchestrated topics and preselected texts and enter into a more exciting, more authentic research experience.

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