

# CHAPTER

# 1

## A NEW VISION OF ADOLESCENT LITERACY

### CLASSROOM CLOSE-UP



#### A Twenty-First-Century Classroom

Tom Howard's eleventh graders are using a fishbowl format to discuss an immigration crisis in their community. The students vary in their reading and writing skills as well as in their cultural backgrounds, but most of them love this talking format. All are aware that U.S. immigration policies are a big subject of debate in the country—they know, because many students in the school have recently immigrated from Central and Latin America or Asia. Also, their town is grappling with an immigration crisis. Federal immigration officers raided a factory in their community that employs several hundred Mexican women, most working in the United States illegally, and quickly deported many of them to an immigration detention center in Texas. The eight students in the inner circle are talking about what happened and how this current immigration conflict relates to earlier waves of immigration to the United States. Fifteen other students are sitting in a larger circle around the speakers, listening and taking notes.

*Mr. Howard:* Okay, you in the fishbowl, from your reading and Internet search of press releases and reports, what happened at the New Rialto leather factory?

*John:* Immigration authorities burst into the plant and hauled away workers.

*(Continued)*

## 2 Supported Literacy for Adolescents

*Tomas:* Just ones who couldn't show papers, but it was over three hundred people. And the factory was paying practically nothing and had terrible work conditions. And the factory is still open!

*Teresa:* They put hundreds on planes to Texas to detention camps. Some of the women have little children.

*Oscar:* Detention centers aren't prisons, though they can have bad conditions. Social service people flew to Texas to see who has kids and needs to be home.

*Ruben:* Some parents have kids in our school. I've been to meetings with them.

*Emma:* We feel badly for these workers, but you know, *they're illegal* [speaker's emphasis]. My uncle is here *legally*, and he should have one of those jobs!

This discussion comes at the end of an eight-week unit on the causes and impact of immigration to the United States since the end of the nineteenth century. The unit is organized around questions of current interest: Why do people emigrate to another country? What different waves of immigrants have come to the United States, and why have they come? What issues and conflicts are arising around current immigration to the United States? The students have constructed family trees at home to learn about their family histories and to be able to bring their family and cultural identities into their understanding of present-day immigration issues.

They are using a multiplicity of literacy tools. They are reading textbooks and reading and listening to primary sources focused on more than a hundred years of immigration to the United States from Southern and Eastern Europe, Asia, Mexico, Central and South America, and Africa. The readings included narratives of earlier immigrants published in print books and on the Internet, online newspaper accounts of earlier immigration issues, and court briefs. They are writing summaries and analyses of their readings, and they bring that writing to peer discussions. Groups of four or five students have studied different immigrant waves and posted write-ups on the class *blog* (a Web site designed for students to post observations and comments) after presenting their findings to the class. Each group investigated why people came, how they were treated when they arrived, their economic situations, and how they fit into the economy at that time. For example, they contrasted the reasons why poor Mexicans are coming into the country now with the reasons why poor Irish settled here in the 1800s.

Mr. Howard encourages his students to connect what they've read about earlier immigrations with what is happening in their own community:

*Ruben:* It's *nativism* [local people's fears that immigrants will disrupt their jobs and way of life]. Like we discussed from studying the Irish immigrations. People are afraid they'll lose their jobs to new people.

*Teresa:* And it's economic. Earlier groups also came for work. I'm from California and illegal immigrants pick our grapes and oranges.

*Tomas:* My group read the Homeland Security Documents on how to treat immigrant detainees. Fine, the rules aren't so bad, but we can't just hold people. My grandparents came here from Russia and they're citizens. How should people get to be Americans?

*Mr. Howard:* When you write up your group investigations next week, find as many connections as you can to this crisis in our own community. We'll record your presentations and post them as a *podcast* [a digital sound file] on our class blog.

The students continue the discussion on the class blog. Emma offers to start the discussion of whether or not illegal immigrants should be allowed some route to legal citizenship. Over the next few weeks, students from two California-Mexico border towns who are also studying immigration issues—as well as living on the front lines of the debate—join the online discussion.

Mr. Howard's students are grappling with a complex topic that affects their community and is part of many of their own family histories. Looking at their family trees fueled their curiosity and influenced their reading, writing, and talking about U.S. immigration history. These students are using the traditional literacies of reading, writing, listening, and discussing in new ways and using new technologies to gather information and communicate with each other and with audiences beyond their classroom.

Their readings come not just from libraries and textbooks but from digitized materials on the Internet that include print, oral histories, podcasts from other classrooms, photographs, video, and film. They are writing in ways their parents never experienced in school—on computers as well as on paper, and to each other and to adolescents anywhere in the world who read their blog, not just to their teacher. Some of the texts they compose integrate oral and visual materials and links to Web sites. But they are not just communicating in cyberspace. Their classroom discussions and interactions are honest and respectful of all students' ideas.

## WHAT IS A PREPARED ADOLESCENT?

The content of Mr. Howard's teaching—immigration history and policies—reflects state and national social studies standards and twenty-first-century issues. His students use a wide variety of literacy practices and tools to investigate the complex question of why people move from one part of the globe to another. Mr. Howard believes that all of his students need to wrestle with historical questions and connect those questions with the present. Like you, and like many teachers across all of the content areas, Mr. Howard wants his teaching to be relevant for a different kind of world than the one in which he grew up.

Mr. Howard's teaching responds to a call for change from education and economic groups in this country and abroad. In *America's Perfect Storm: Three Forces*

## 4 Supported Literacy for Adolescents

*Changing Our Nation's Future* (2007), Educational Testing Service (ETS) calls this a pivotal time in history, in which we depend on education as never before to prepare students to live and work in a global, international society. Reports such as *Tough Choices, Tough Times: The Report of the New Commission on the Skills of the American Workforce* from the National Center on Education and the Economy (NCEE, 2007) and *Results That Matter: 21st Century Skills and High School Reform* from the Partnership for 21st Century Skills (2006) make a strong case to reform education to better serve students. In *A Global Imperative: The Report of the 21st Century Literacy Summit*, the New Media Consortium (NMC) argues that the use of digital and media forms are enhancing learning and that “as young people create casual multimedia, they are also creating the opportunity to experiment, learn, take risks, and become fluent” (2005, p. 3).

These reports urge us to rethink what and how adolescents are learning and what kind of literacy skills they need. The reports converge around the ideas that schools need to reflect the globalized world in which adolescents will work and live as citizens (Gardner, 2006; Suarez-Orozco & Qin-Hilliard, 2004). We use *globalization* here to refer to the process by which countries become more integrated with one another as a result of movements of goods, capital, labor, and ideas (Bloom, 2004). All these global movements pose challenges and present vibrant opportunities:

- *Movements of people.* Recent waves of immigration to the United States from Asia, Central and South America, the Caribbean, and the Middle East are generating diverse U.S. communities and classrooms that reflect the larger world. As we write this, young people from 190 countries or more are getting up to go to school in New York City today (Linares, 2006). Many small town classrooms now have that same diversity. Does yours?
- *Movements of capital.* Since 1990, three billion people in China, India, and the former Soviet Union have moved from closed economies to participating in a global economy (Wilson, 2005). Already, one in five jobs in our country is tied to international trade (U.S. Census Bureau, 2004). Your students' future employers will prize employees who understand economics and can collaborate with colleagues of varied cultural backgrounds and status.
- *Movements in science and technology.* Scientists work in international teams, sharing databases to understand complex scientific questions and create innovative solutions in medicine (Friedman, 2005). They research issues—the spread and responses to infectious disease, the causes and impact of climate change—that have global implications. Your students need a rigorous science and technology education to enter these fields.
- *Movements in popular culture.* Young people around the world wear similar clothes and follow global sports heroes like David Beckham, an English soccer player who lives in Los Angeles (Suarez-Orozco & Sattin, 2007) and Daisuke

Matsuzak (“Dice-K”), a Japanese pitcher for the Boston Red Sox. Because of Internet radio stations, music sites, and iTunes, your students live in a rich world of talk, music, and online discussions. In using social networking sites like MySpace, Friendster, and Facebook, adolescents are part of a larger global community where they discuss a plethora of topics including common interests, international events, and politics.

Your students are part of a generation of Millennials—youth born between 1982 and 1998—that has almost unlimited access to information and to different perspectives to spark their imaginations. According to the National Center for Education Statistics (NCES, 2005a), almost every K–12 U.S. classroom has been connected to the Internet since 2000. Many teens have access at home, libraries, and in community centers (Bruce, 2005). At the same time, many teens lack the skills, aptitudes, and competencies they need to benefit from these opportunities for global learning. Their teachers need to help them think critically about the abundance of information available to them. They need teachers who cultivate their curiosity and knowledge about other cultures.

Mr. Howard engages his students in investigating questions about U.S. history that expand their views of themselves as individuals. While other teachers and schools are also working to educate students to be engaged citizens and ethical human beings, too many schools remain “out of sync with the realities of a global world” (Suarez-Orozco & Sattin, 2007, p. 58).

More than ever before, your students need help to master important information, not as an end in itself but as a foundation for inquiry into questions that are important in your content area and in a global society. But inquiry is not only a process by which individuals develop and learn, it is the way a democratic society examines and renews itself. When Mr. Howard’s students connect their investigation of immigration history to themselves, their community, and their country’s federal policies, they are engaging in a process called *critical inquiry*, linking history with personal identity and social critique. The process deserves that name because it is active and goes beyond simply gathering inert knowledge (Beach & Bruce, 2005).

In arguing for a more relevant way of teaching for a challenging new time, the twenty-first-century learning reports noted earlier emphasize that rigorous inquiry encompasses four kinds of competencies:

- Conceptual understanding
- Critical thinking
- Creative thinking
- Collaboration and communication

The following paragraphs present a brief description of each of these competencies. Because each requires literacy skills—the ability to use reading, writing, discussion, and digital and media skills for inquiry—we use the bulk of this chapter to

## 6 Supported Literacy for Adolescents

define a set of *multiliteracy* tools that students need to build and engage in the four competencies of critical inquiry.

### ***Conceptual Understanding***

Mr. Howard's students' critical inquiry into U.S. immigration leads them to historical information and concepts such as nativism, immigration policy, and the causes and consequences of immigration. Prepared adolescents are able to build a deep understanding of that information and connect those concepts. To be prepared to work and live in the twenty-first century, your students must have a conceptual understanding that encompasses concepts in the traditional subject areas of history, science, literature, and mathematics, as well as new content in areas such as finance, world economics and business, and international humanitarian law.

Your students will develop deep conceptual understanding from asking questions and investigating them in ways that are distinctive in each content area. Scientists pose questions about the world, come up with tentative classifications and theories, design experiments to produce data that test those theories, and revise current theories in light of new findings. Historians investigate the past from existing data—albeit frequently scattered and contradictory fragments of information (Gardner, 2006, p. 28). Regardless of the field, to understand is to be able to apply an idea or concept in a new context (Blythe, 1998). In Mr. Howard's classroom, students apply the concept of nativism first to a historical study of immigration, and then to a current immigration crisis in their own city.

### ***Critical Thinking***

Prepared adolescents have skills in analyzing the source and accuracy of print and digitized information. Your students need to be able to question data, evaluate the quality of the evidence provided for a finding, and determine why the author is providing that particular piece of evidence. They need to consider multiple perspectives on an issue or problem and test alternative views or hypotheses. These are all skills of critical thinking.

Your students also need to be able to detect patterns in information and synthesize information from many different sources. Mr. Howard encourages students to do this as they compare the participants in, and causes and impacts of, different waves of immigration. Howard Gardner argues that “the ability to knit together information from disparate sources into a coherent whole is vital” in a world where accumulated knowledge might double every few years (2006, p. 46). Daniel Pink (2006) argues that the workplace of the future will prize *symphony*, a term he uses for ability to see relationships between seemingly unrelated events or ideas.

As members of the twenty-first-century workforce, your students will need to go beyond gathering and synthesizing information related to a question to taking a stance and arguing their point of view with evidence and logical reasoning. Supporting an argument brings the individual beyond analysis to problem solving and lays the groundwork for social or political action.

### ***Creative Thinking***

Creativity encompasses innovation to sustain economic competitiveness, ingenuity in scientific research, resourcefulness in building human relationships, and imaginative expression in the arts. While the synthesizer puts together what is known into a useful form, the creator extends what we know and “ruffles the contours of a genre” (Gardner, 2006, p. 98). Creativity is the spirit of risk taking, which sends us in new directions and brings us “out of our minds” (Robinson, 2001). Mr. Howard’s students open themselves to new ways of understanding immigration by posing their discussions on a blog and getting responses from students in California.

An international leader in the development of creativity, Robinson (2001) argues that schools are a crucible for helping individuals find their creative abilities and that these abilities take varied forms and show up in different learning styles. He describes Gillian Lynne, the choreographer for the Broadway shows *Cats* and *The Phantom of the Opera*, whose parents took her to a psychiatrist as a child because she would not sit still in school. Fortunately, Robinson jokes, the doctor told the parents that Gillian was a dancer and should go to dance school rather than take medication (Robinson, 2006). Creativity is also highly interactive; original ideas that are important (Robinson’s definition of creativity) emerge in multidisciplinary settings, where people examine issues or dilemmas from very different perspectives.

### ***Effective Collaboration and Communication***

Many twenty-first-century issues extend across national boundaries and disciplines and require people with different knowledge bases, perspectives, and cultures to work together to investigate problems. Prepared adolescents are accustomed to and adept at working with others on a complex question to bring all elements of a problem into its solution.

Teachers like Mr. Howard help build students’ capacity to collaborate by modeling the role of facilitator as students work with each other on inquiry projects. His teaching practices give students responsibility for their learning and promote attitudes of respect for others’ cultural histories and ideas. His use of a class blog extends their inquiry into immigration issues beyond the classroom.

To participate in collaborative problem solving, your students must, like Mr. Howard’s, learn and adhere to standards of ethics and moral behavior (Stewart, 2007). Howard Gardner defines the *ethical mind* for the workplace and for citizenship as “a conviction that one’s community should possess certain characteristics of which one is proud and a commitment personally to work toward the realization of the virtuous community” (2006, p. 129). Ethical collaboration is important in both distant and face-to-face work. Digital and media tools give students unprecedented access to other thinkers and also require that they use and share information with an ethical stance.



## 8 Supported Literacy for Adolescents

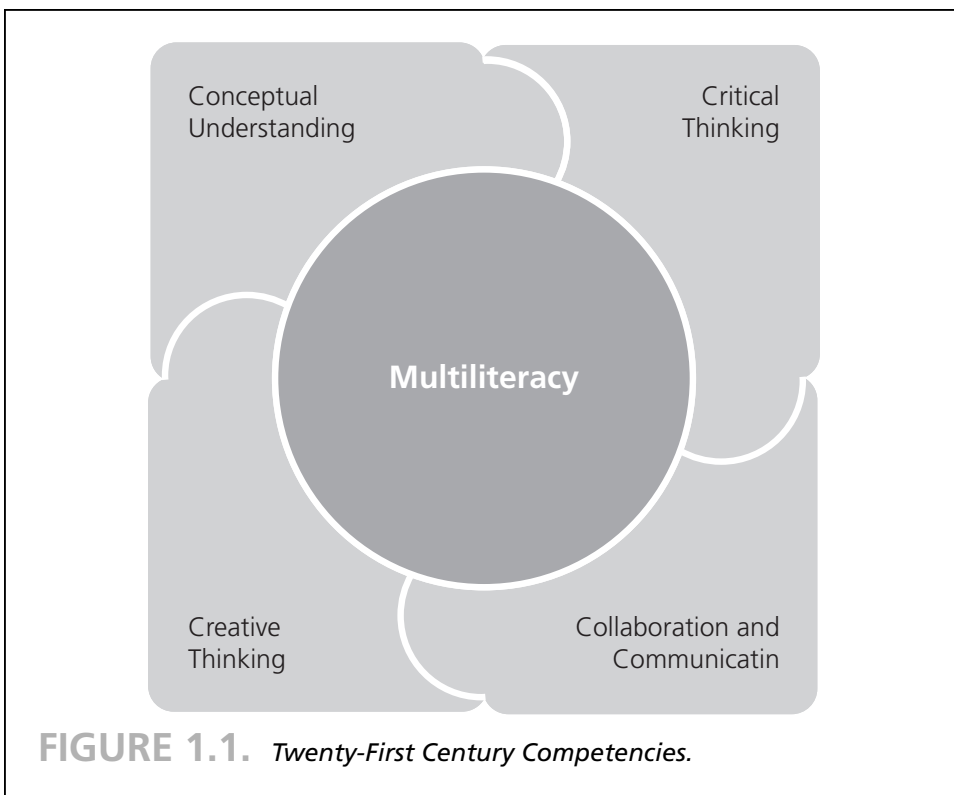
When you support students in developing these four areas of competence, you prepare them for rigorous and imaginative inquiry in their work and lives beyond school. They acquire the abstract reasoning and problem-solving skills to evaluate what they hear and read. They build their capacity to communicate well and to work with others of different cultural backgrounds. From their experience of collaborating with peers, they cultivate the habit of being open to and curious about new ways of thinking. They carry the moral and ethical stances they develop while they investigate issues in your classroom beyond the school walls, helping preserve the democratic values that define the U.S. national culture.

But what literacy skills can you teach to support their critical inquiry into important content areas and global issues and problems? While it is probably true that, as the National Adolescent Literacy Coalition (NALC, 2007) observes, “literacy will divide winners and losers” in efforts to prepare adolescents for the economies and problem solving ahead, what should those literacies be? Is reading still important to your students’ future? How should we define a text, and what reading skills do your students need for critical inquiry, given the many kinds of print and digital texts they access? Can your students learn to “read” visual texts—those that integrate print, video, photographs, and sound? Given the new tools for communicating information and expressing ideas, what classroom writing and discussion practices can you engage your students in to prepare them to work, participate, and reflect in a connected society? If digital and media literacies have value and energy far beyond casual communication and entertainment, what is their role in critical inquiry?

Figure 1.1 portrays literacy (or, as we name it, *multiliteracy*) as the core area of competence that supports students in developing and using the other four competencies. The section that follows defines the particular kinds of multiliteracy skills that students need to engage in critical inquiry and build the other four twenty-first-century competencies.

### **SUPPORTED LITERACY FOR NEW TIMES**

*Supported Literacy* is an instructional framework to guide your students’ classroom learning. It is also a curriculum framework that you can use to create rigorous and relevant new units in any subject or to modify and enrich existing units to better address the four key twenty-first-century competencies. The framework provides you with teaching strategies that help academically diverse groups of students gain a deep understanding of important ideas and concepts in traditional content areas and emerging fields. The strategies focus on fostering students’ use of *multiliteracies*—intellectual tools and techniques that enable learners to access, process, and communicate information and ideas—that extend and enrich their critical inquiry. Using the Supported Literacy Meaning-Making Cycle, you and your students can investigate essential questions that create the conditions that promote critical inquiry and develop the use of multiliteracies.



Over the past decade, we developed the Supported Literacy framework through a series of collaborations between our organization, Education Development Center, Inc., in Newton, Massachusetts, and teams of teachers and administrators in Massachusetts, New York State, and the Southern states of Arkansas, Mississippi, and Louisiana. We supported these teams in working as learning communities to refine ideas, to use the framework to design sample curriculum units, and to develop new ways of integrating twenty-first-century competencies into content teaching (Hindin, Morocco, Mott, & Aguilar, 2007; Kotula & Morocco, 2006; Morocco, Hindin, Mata-Aguilar, & Clark-Chiarelli, 2001). Today, we continue to provide training and technical assistance to enable schools nationwide to use the Supported Literacy framework.

The framework's concept of multiliteracies draws from three areas of literacy research and practice. One area is National Institute of Child Health and Human Development research on reading comprehension that focuses on how students acquire the cognitive processes—such as phonemic awareness, decoding, word attack, and comprehension strategies—they need to understand print texts (NICHD, 2000). The No Child Left Behind legislation emphasizes reading as literacy and has pushed for basic reading skills in all groups of students. While Supported Literacy

agrees with the centrality of reading, it assumes that students need to acquire a broad range of literacies for twenty-first-century learning.

A second area is research on *multiple literacies*—competence in using new technologies such as digital texts, Internet search engines, film and video, and integrated multimedia presentations. These researchers assert that print and nonprint literacies occur together in students' lives outside school and that students build their reading and writing skills, as well as their sense of personal identity, as they use a wide range of literacies (Alvermann, 2007). Many teachers espouse this view as they integrate the Internet, blogging, *Web quests* (guided information searches on the Internet), podcasts, and multimedia tools into their teaching.

Supported Literacy multiliteracies also reflect a third area, new literacy research, which looks at the social contexts in which literacy occurs—in school, on the Web, shopping, and applying for a job. These contexts call for varied forms of participation and ways of using reading, writing, talking, listening, and digital and media activity (New London Group, 1996; Pahl & Rowsell, 2005). New literacy uses the term *discourses* to refer to the norms for how members participate, interact, and use language in these different contexts (Gee, 1999a, 1999b, 2003). Researchers in new literacy assert that students' literacy reflects the skills and discourses they learn in their families and cultural groups, at school, on the Internet, and in peer groups. They posit that schools will be more equitable, motivating, and successful if teachers encourage adolescents to bring their diverse literacy-related skills and discourses through the classroom door (New London Group, 1996).

As a strategic fusion of these three strands of literacy research and practice, Supported Literacy encompasses cognitive, social and cultural, and technological components. The framework identifies four multiliteracies that students need to master:

- Reading for deep understanding
- Writing to build and express meaning
- Accountable talk
- Digital and media fluency

Teachers will not always be engaging students in critical inquiry and in the kind of extended investigations that we present in this book. When they do, these four multiliteracies have a core role to play and a wide application across the different content areas. They support students' inquiry by helping them “extract meaning from experience as they engage in efforts to address questions meaningful to them” (Beach & Bruce, 2005, p. 153). As you engage your students in content inquiry, these tools support the kinds of questioning, drive to understand, critical and creative thinking, and communication and collaboration that are the hallmarks of twenty-first-century learning.

### ***Reading for Deep Understanding***

As historical texts become rich and conceptually dense, readers may slow down—not because they fail to comprehend but because the very act of comprehension demands that they stop to *talk* with their texts (Wineberg, 2001, p. 69).

Almost every existing text is becoming available through scientific and historical Web sites, Web archives, school and online libraries, publishing companies, family archives, and blogs. Those texts bring a variety of data sources and different perspectives that can shape an inquiry. While acquiring basic decoding skills and fluency will continue to be important for some adolescents (see Chapter Six), reading instruction needs to focus on higher-order reading skills and on questioning the meaning of the text. It is especially important for students with reading difficulties to grasp the ideas in the texts and to connect those ideas to scientific, historical, and literary questions. To gain a deep understanding of a text, *all* students must develop the skills to read strategically, notice how texts are organized, think critically about the text, and build word meaning.

***Read Strategically.*** To read hard-copy or online texts of all genres, your students need to acquire the habit of strategic reading. A number of comprehension strategies have a strong research base, including asking questions to help make sense of what students read and to connect the text to their big questions, as Mr. Howard’s class does in asking, “Why do people want to come to the United States?” (See this chapter’s Classroom Close-Up, p. 1.) Strategic readers connect their reading with what they already know about a topic. They predict what might happen next in a reading, identify the most important ideas, summarize what they understand, and organize information visually with graphs and charts (NICHD, 2000). They notice their thinking as they read and they use that *metacognitive awareness*—or “ability to monitor one’s current level of skill or understanding and decide when it is not adequate” (Bransford, Brown, & Cocking, 2000, p. 47)—to choose a better strategy when they bog down.

***Notice How Texts Are Organized.*** To read for deep understanding, your students must recognize how different kinds of writing are structured. They should be aware that a history textbook often organizes the material chronologically and uses a time line as shorthand for that chronology. They should know that many science texts use a research report structure that begins with a purpose or question, provides background research, and presents a hypothesis, data-gathering procedure, data from empirical studies, and analysis and discussion. Good readers look for other kinds of patterns, such as the argument form, in which an author presents a position and then supports the position with evidence and reasoning. Comparison and contrast is a text pattern that occurs in almost every content area: comparing waves of immigration (history), results of experiments (science), or characters in a novel (literature). Attending to these patterns can be a good strategy (Langer, 1986).

**Think Critically About the Text.** Your students need to be able to evaluate the source, accuracy, and completeness of what they read in a print or nonprint text. Students tend to think that texts are the truth, that they have the *right answers* to their questions, rather than seeing texts as “live artifacts with a story and system behind them” (Pahl & Rowsell, 2005). In the history classroom, students need to go beyond finding the main idea of a document to noticing the language the writer uses to convey a point of view. Sam Wineberg (2001) has his students notice that their textbook writer uses the word *atrocious* to label an early skirmish in the Revolutionary War and the word *patriot* to describe the farmers involved. Without noting who fired the first shot, the writer is constructing the event as a massacre by the English. Wineberg wants his students to read texts as authors’ voices to decode and “keys to unlocking the character of human beings, people with likes and dislikes, biases and foibles, airs and convictions” (p. 74).

**Build Word Meaning.** As you guide your students in considering twenty-first-century questions, they will encounter new technical vocabulary. Knowing the term *nativism* helps Mr. Howard’s students read and understand local reactions to the factory raid in their community. Science texts include technical language having to do with scientific inquiry such as *data*, *evidence*, *hypothesis*, and *claim* and with particular fields—astronomy, earth science, or biology. A host of texts and teacher guides offer strategies for vocabulary development, such as using unfamiliar words as springboards for increasing content knowledge. For example, Allen (2007) observed a teacher pre-select challenging new words before starting a science unit on digestion and engage students in building background knowledge through interesting short readings and writing activities.

### **Writing to Build and Express Meaning**

“Meaning is remarkably elusive. . . . Putting an idea into written words is like defrosting the windshield: The idea, so vague out there in the murk, slowly begins to gather itself into a sensible shape” (Zinsser, 1988, pp. 14–16).

Writing is the companion of deep reading and the workshop of thought during critical inquiry; it causes students to make connections and see patterns. With reading, observation, and scientific experimentation as raw materials, “writing exercises the intellect as it moves from amorphous understanding toward precision and practical application. In the end, committing thinking to paper pushes us to discover and produce thought in its clearest and most potent form” (Schmoker, 2006, p. 64). It stimulates deeper thinking than conversation or inner reflection.

In a twenty-first-century inquiry, students’ writing practices go beyond writing final lab reports, essays, and tests (presentational writing) to writing throughout an investigation. They write to summarize several articles and documents, to prepare for a small group discussion, to express their ideas informally to others and get feedback, to give others access to their ideas, and to change or deepen their own understanding (exploratory writing). They also post their writing on a class blog to continue

## SNAPSHOT

### Reading for Deep Understanding in Your Classroom

To emphasize deep reading for inquiry learning, you need to teach and talk about specific comprehension strategies with your students because most students do not learn them otherwise (RAND Reading Study Group, 2002). You cue your students to the important features of the text that help them build meaning, for example, the structure of a lab report, the chronology embedded in a history article, or the story elements—setting, plot, climax, resolution—that underlie a work of fiction. When a reading includes technical terms and new concepts, you introduce them before students read, and you ask them to talk about the new concepts in their discussion. To build students' critical inquiry skills, you usually refrain from telling them what a text means. Instead, you encourage them to struggle for meaning through reading, writing, and discussion. You demonstrate critical thinking about texts by thinking aloud your agreements and disagreements with the text and how it advances the class inquiry.

Just as Mr. Howard's questions stimulate his students ("What does this writer say—or mean—about why natives may dislike new immigrants in their community?"), your comments push your students to connect what they read to their key questions. And you are explicit about the kind of talk—discourse—you expect around a text. For example, you support students in talking about where writers agree or disagree on a point. Visitors to your classroom see students sharing divergent points of view, contesting interpretations, and negotiating the interpretation of texts (King & O'Brien, 2005).

conversations after class, as do Mr. Howard's students. In *Education Leadership*, a teacher wrote, "What I didn't realize was how powerfully revising scripts for broadcasting would improve students' writing" (Dlott, 2007). The increasing use of writing for blogs and podcasts in middle school classrooms is motivating students to write comments, broadcasts, and arguments with distant audiences in mind. To successfully build and express the meaning of ideas, students need to master several writing skills. They must be able to use writing and drawing to comprehend texts, use writing to think critically about content, and write clearly for many purposes.

**Use Writing and Drawing to Comprehend Texts.** Writing and drawing aid students' comprehension (Applebee, 2000; National Writing Project & Nagin, 2006). Written comprehension strategies include students' writing summaries of what they read,

posing and answering questions to activate their critical thinking, and connecting new content with what they know. Organizing information in a chart helps students remember it. Using these writing strategies makes students grapple with the meaning of a print text.

Students can also use writing strategies to make sense of visual texts such as graphs, data tables, still media images and photographs, and moving images. They can write their interpretations of information in a numerical graph or data table. They can write about their emotional responses to a film and also describe the strategies they used in making meaning from it. These strategies might include the prior knowledge they brought to the film, their predictions about what would happen, and the inferences they made about a character's thoughts and emotions from dialogue, facial expressions, and actions.

***Use Writing to Think Critically About Content.*** Writing is a natural medium for synthesis and analysis; we associate one event with another as we write and see connections that we did not consider previously. In charting the different sources, points of view, and data sources of three Civil War documents, students prepare to articulate the explicit and implicit messages these documents contain. In using writing to engage in critical thinking, students learn the academic language of a content area. In science, students use writing to represent data visually in charts or graphs, articulate hypotheses, summarize data, and discuss conclusions. In writing about the themes of a novel, students use the academic language of literature study, including terms such as *character development*, *point of view*, *scene*, *plot*, *image*, *theme*, and *metaphor*.

***Write Clearly for Many Purposes.*** In twenty-first-century classrooms, students understand the different features of an effective story, technical manual, Web page, book review, editorial, memoir, biography, oral history, podcast, multimedia presentation, or persuasive essay. They consider what form will be the most effective way to communicate their messages to a particular audience; they can give form to feeling and thought with poetry, drama, memoir, and fiction.

Comparison and contrast, a kind of thinking that can be used as a critical reading strategy, is also an important way to organize a piece of writing. In Chapter Five, a special education teacher teaches that structure for students to use in reading and writing about a novel. Another genre that is important in critical inquiry is argument—taking a position or claim and supporting it with evidence and logical reasoning. Lisa Delpit (2006) writes that argumentative literacy defines intellectual maturity and prepares us for an adult life. A supported argument draws on many twenty-first-century competencies, particularly conceptual understanding, considering multiple perspectives, and synthesizing information to take a stance. Each content area has a version of this important genre, which requires learners to take a stance on what they have read and explain it to others. In a democracy, this form of writing is a basis for policy, legislation, and community action.

## SNAPSHOT

### Writing to Build and Express Meaning in Your Classroom

To help students vary their writing appropriately, you provide them with models of good writing. You respond with specific feedback to their writing, so that their writing moves forward and uses evaluation criteria that fit the purpose of the writing. You integrate group writing—texts on the board or on chart paper that connect and synthesize many students' ideas—into discussions that you facilitate with all your students. You teach your students to use technology tools and multimedia environments as well as paper and pencil to express what they learn and to move their audiences to action. You help students master the tools of grammar and punctuation to strengthen their public writing. Including all your students, you build a writing community whose boundaries extend beyond students' local—classroom, school, community—world to embrace a global community of authors and readers.

### ***Accountable Talk***

Accountability to rigorous thinking involves both the teacher's efforts to promote students' reasoning to support their ideas and the students' own elaboration of their logic (Wolf, Crossen, & Resnick, 2006).

Expressing ideas and building on others' ideas is a foundation of critical inquiry into twenty-first-century issues. Discussion is *accountable* when students not only express their ideas out loud but do so in a way that builds on others' comments and ideas (Wolf et al., 2006). Discussions that stimulate thinking and build understanding are also authentic, in that they are exchanges of ideas without a predicted outcome. They extend over time and push participants' thinking as they “make predictions, summarize, link texts with one another, and with background knowledge, generate and answer text-related questions, clarify understanding, muster relevant evidence to support an interpretation, and interrelate reading, writing, and discussion” (Applebee, Langer, Nystrand, & Gamoran, 2003, p. 693).

Accountable conversations have results. Students who talk about their positions and arguments with each other before they write about them produce better essays than students who write without discussion (Reznitskaya et al., 2001). In an urban seventh-grade classroom, we observed a group of students from low-income families, many of whom were members of underrepresented groups and two of whom had learning disabilities, argue about whether a character in a novel had any choice in how her peers treated her. In the novel, students harass the character for her dark color and her independent ways of dressing. From a close analysis of the

seventh graders' discourse, we found that they were asserting interpretive claims, elaborating interpretations, questioning each other's statements, and revising their interpretations—high-level argument skills that are critical to intellectual growth (Morocco & Hindin, 2002). Typical students, students with disabilities, and English language learners all learn more content when they engage in classroom discussion (Nystrand & Gamoran, 1991).

Technology-based tools such as e-mail, blogs, and online discussion environments open unlimited opportunities for conversations that extend beyond the classroom. They enable students to express their own perspectives and seek perspectives from other communities. Other oral language practices besides peer- and teacher-facilitated discussions can also help build students' understanding and engage them in critical and creative thinking. For example, students can dramatize a scene from a play to represent an interpretation of the meaning of a scene. They can present an oral monologue to express a point of view of a historical figure or a literary character. Or they can collect oral histories that provide resources for understanding a historical issue.

It is possible for every school to realize a vision of twenty-first-century classrooms in which students direct their own conversations about the issues they are investigating. To reach that goal, however, students must master several discussion skills. They need to know how to use conversations to make sense of a text, to manage responsible roles in peer discussion, and to engage in critical or creative thinking through discussion.

***Use Conversations to Make Sense of a Text.*** Authentic, accountable talk helps students think about what they read, understand it better, and comprehend better on their own (Beck & McKeown, 2006). Discussion engages adolescents intellectually and emotionally in their reading and in assignments (Guthrie & Humenick, 2004). Regardless of the content area or global learning topic, asking questions that call for students to make inferences and comparisons invites them to judge and evaluate the content of the text, makes the text relevant to their lives, and helps them comprehend more deeply (Probst, 2007, pp. 52–53).

***Manage Responsible Roles in Peer Discussion.*** Peer discussion formats can include literacy circles, critical friends groups, group projects, or group exhibitions. Skills in setting ground rules, facilitating a peer conversation, documenting ideas contributed, presenting results to the class as a whole, and evaluating the group's productivity help the group collaborate to investigate a complex topic. Skills in getting the floor and recognizing others' contributions make the conversation more accessible. If small working groups in science classrooms are not taking up worthwhile ideas of students with identified disabilities, for example, “the guided inquiry process has been turned into a form of popularity contest” (Cutter, Palincsar, & Magnusson, 2002, p. 192).

***Engage in Critical or Creative Thinking Through Discussion.*** Conversation is a visceral and social form of thinking. When adolescents participate in thinking creatively

## SNAPSHOT

### Accountable Talk in Your Classroom

Your students build deep understandings of what they read and investigate as you create opportunities for them to build on one another's ideas ("Do you want to add . . . ?") and reformulate students' comments ("So what I hear you saying is . . . "). In your coaching, you help students follow each other's ideas (Wolf et al., 2006, p. 12). You teach students the various roles they can play in peer discussions, give them challenging discussion tasks, and monitor the quality of student participation. You support students in using online discussion environments to extend their talk beyond the classroom and to listen to podcasts from other students. You also encourage students to use creative oral language forms to express their ideas, such as dramatizing a scene from a novel or play. Students are comfortable bringing their voices to your classroom.

and critically about concepts and issues aloud with their peers frequently over time, they begin to integrate those processes into their own thinking.

Content areas require somewhat different ways of thinking. As a result, critical thinking conversations will sound different from classroom to classroom. For example, in a science conversation about sinking and floating, students talk about what they observed, and they examine different claims about what makes things sink. In a literature circle, they take on a challenging question about a character, state their interpretations of the text, listen to different interpretations, and reword their own interpretations. Discussion is a tool and medium for engaging in the synthesis and perspective taking that characterize a prepared adolescent. In thinking aloud with others, in a common physical or virtual space, around a common topic, students practice the critical thinking skills that will serve them well in future learning communities.

### **Digital and Media Fluency**

"Using the Wikibooks.org Web site, we [eleventh-grade English class] . . . set up an annotated text to work alongside our study of the novel. . . . By the end of our study of the novel, we'd created a readers' guide to *The Stranger* that was multi-modal, completely owned by each of the students in the class, and receiving a large, and validating number of hits each day. . . . Sam explained, 'I think that makes this the first book I've really read'" (Kadger, 2007, p. 223).

New technology tools have several benefits for critical inquiry. They are practical, designed by the very people who need and use them, including teachers and

students (and even dropouts, jokes Bill Gates, who dropped out of Harvard to invent Microsoft). They are integrated, in that many tools converge in a learning environment that includes ways of gathering, organizing, and analyzing and representing information related to an issue. They are also democratic, in that they give individuals control over how they interpret information, in contrast with the control exercised by, as one teacher put it, “media empires and moguls . . . who have the power to both entertain, inform, and manipulate” (Mustacchi, 2007).

These environments and tools bring an almost unlimited array of continually changing literacy practices inside and outside the classroom and take advantage of the collective intelligence of a group of students. For example, Wikis, Wikipedia, wikiquote, and wikibooks—which Kadjer (2007) describes in the quote just presented—are Web sites that are entirely created, edited, and monitored for inaccurate information by users. Students can also use online environments to retrieve and organize information, including conducting Internet searches and using graphics to display information. They can share ideas with others in remote communities by designing blogs, e-mailing peers worldwide, and developing multimedia projects. They can use software such as PowerPoint and Photoshop to create print and multimedia documents. And they can learn concepts through simulations and model building and distributing documents and events such as blogs and podcasts.

Online learning environments can bring new forms of collaborative investigation, by linking students’ individual thinking with ideas from their classmates and from communities beyond the classroom. Jim Burke’s (2007) high school students use corporate style discussion facilitation tools like Open Space ([www.openspaceworld.org](http://www.openspaceworld.org)) and Save the Last Word for Me ([www.nsrharmony.org/protocol/doc/save\\_last\\_word.pdf](http://www.nsrharmony.org/protocol/doc/save_last_word.pdf)) to guide them in substantively reading, writing, and talking about their chosen topics. His students carried on a threaded discussion of summer reading about strong women characters and feminist issues on School Loop ([www.schoolloop.com](http://www.schoolloop.com)), an integrated communication service for students and teachers. Other new practices support students’ efforts to organize and connect ideas. Computer-supported collaborative learning (CSCL) tools help students organize their ideas around the key questions of their inquiry. Sentence starters such as “I hypothesize that . . .” and “I observe that . . .” prompt students to communicate like scientists. In a Midwestern middle school organized around science inquiry, all sixth- through eighth-grade students use a CSCL tool called Knowledge Forum to post their questions for a unit on pollution (for example, “What is pollution?” “What is humanity’s role in causing it?” “What can we do?”). They link the information they gather to those questions in a Web format (Morocco, Brigham, & Aguilar, 2006).

These technology practices help students build their conceptual understanding and collaboration and communication competencies. At the same time, these practices require students to develop new skills. Students must learn how to use technology tools to represent complex concepts in multiple ways (Roschelle, Pea, Hoadley, Gordin, & Means, 2000) to sort, categorize, and attribute information, and to compose with digital and media tools.

**Represent Complex Concepts in Multiple Ways.** As they jointly conduct lab experiments, students need to learn the various ways that technology tools can organize, manipulate, and display their data. They can learn to rotate the planets and observe them from different positions in space, examine and rotate a DNA molecule, and view a virtual night sky from any point on earth. With Protein Explorer, a program for Grade 9 through college, students can visualize the three-dimensional structure of protein, DNA, and RNA macromolecules and their interactions.

Students can use digital technology to represent geography concepts visually. Google Earth enables students to explore absolute and relative location, and the British Broadcasting Center's Landscapes enables students to build maps. The *National Geographic's* World Music Web site allows students to learn about a country through its art by searching music by country, region, and category. The River City Project is a virtual world where students can collect data and use the scientific method to explore the causes of a town's health problems.

**Sort, Categorize, and Attribute Information.** Students can choose from a rich array of sources that provide them with varied perspectives, and digital and media skills are an invaluable aid in this process. Yet they must be able to deftly sift through this data and identify and discard inaccurate or incomplete information. They must also be able to categorize the importance of information—what is more essential and what is less essential. And they must understand how to properly attribute sources—what they can include from the Internet in their own work and how to fairly credit Internet sources.

**Compose with Digital and Media Tools.** Students need to be able to use multiple forms of representation to make their results and ideas accessible, understandable, and relevant for others. By understanding the visceral and emotional immediacy of a presentation such as Al Gore's movie, *An Inconvenient Truth*, students can reflect on the personal impact and the messages that they communicate using multimedia tools. These skills transform students from consumers to authors who can themselves use new forms of communication to reach audiences beyond their own classrooms. The New Media Consortium, author of *A Global Imperative*, argues that twenty-first-century literacy includes creative fluency as well as interpretive facility: "21st century literacy implies the ability to articulate and create ideas in these new forms, as well as to understand the layers of meanings they may convey" (2005, p. 2). Thinking about who will hear their podcasts keeps students focused on how to make their messages clear and, where appropriate, emotionally powerful. They "learn first hand how writing is a communicative act; they learn to take responsibility for their words, to defend and modify them based on reaction from the real people sitting around them" (Kutz & Roskelly, 1991, p. 263, quoted in Kadjer, 2007).

### ***Integrating the Multiliteracies***

As Figure 1.1 indicates, the multiliteracies described in this chapter are the core competency that links all twenty-first-century competencies for critical inquiry. Reading

## SNAPSHOT

### Digital and Media Fluency in Your Classroom

In your classroom, the Internet is one source of information, along with libraries, museums, professional experts in the community, hands-on experimentation, and students' own experiences. Your students move seamlessly from print to nonprint forms, from communicating with their classmates face-to-face to communicating with others through e-mail, podcasting, and video broadcasting. You teach students to use a wide variety of tools to express themselves, and you help them learn how to select the best medium for their messages. You work with other teachers, the school, and your community to make all these tools for gathering information and expressing ideas available to all of your students.

for deep understanding, writing to build and express meaning, accountable talk, and digital and media fluency will help your students grapple with complex issues and learn and think together about their world. These are the intellectual tools and techniques for building conceptual understanding, for critical and creative thinking, and for collaborating and communicating in inquiry. Students draw on all these multiliteracies in understanding issues well enough to take a position and argue it with reasoning and evidence. For critical inquiry, they need to move nimbly from one multiliteracy skill to another—to shift from deciphering graphs on climate change to writing a summary of the trends shown in those graphs to explaining that data to another person. Like Mr. Howard's students, they also need to be able to use their multiliteracy skills to make connections between their personal identities and global issues. This ability not only to master skills but to create and transpose knowledge from one mode to another and from one context to another is the essence of twenty-first-century multiliteracies for learning.

## PUTTING IT ALL TOGETHER

Twenty-first-century competencies and multiliteracies are alive in Mr. Howard's U.S. history classroom (in the opening Classroom Close-Up), and we have provided glimpses of what twenty-first-century learning might look like in your classroom. But what does critical inquiry look like in other classrooms and other content areas? How can you build twenty-first-century competencies and multiliteracies into teaching world history, or science, or literature? What does a curriculum unit look like that

is organized toward outcomes of conceptual understanding, critical thinking, creative thinking, collaboration, and communication? How can you *teach* the multiliteracies?

Putting this vision of prepared adolescents into practice can seem daunting because of the complexity of the content your students need to learn and the diversity of your students' academic and cultural backgrounds. Across Grades 4–12, eight million students perform below the proficient level on national assessments, and more than 7,000 students drop out of high school every school day, in part because they lack the literacy skills to keep up with an increasingly challenging curriculum (Biancarosa & Snow, 2006; Kamil, 2003; Snow & Biancarosa, 2003). Students with disabilities and students who are learning English as a second language have significantly lower reading and achievement scores than those of their agemates who are keeping up. The achievement gap among various racial, ethnic, and socioeconomic groups continues to be troubling, with 39 percent of white eighth graders proficient in reading compared with 12 percent of black students and 5 percent of Hispanic students (NCES, 2005b).

The old model for building literacy skills, where English teachers took responsibility for students' reading, writing, and speaking skills, allocating a portion of each day or week to separate instruction, is not the answer, because these multiliteracies need to be embedded and developed within every content area. Separating literacy instruction from content learning leaves students unprepared to use multiliteracy skills appropriately in the very contexts where they are needed. Students learn the skills of writing a science report best in the context of *doing* science. They learn to ask questions about the source and credibility of historical documents in the context of grappling with important questions about an important historical event such as World War II. Regardless of the subject that you teach, you can support students' mastery of these multiliteracies by modeling the skills, by having students practice the skills, and by creating learning environments that call upon them to use the skills every day.

In Chapter Two, we describe the Supported Literacy approach to teaching these multiliteracy skills to adolescents so that students can use the skills for critical inquiry. History and literature examples illustrate how you can explicitly teach the multiliteracies by demonstrating them and by integrating them into inquiry. By learning them in the context of a content area investigation, students understand how and when to use the skills as tools for building meaning. Chapter Two describes the instructional core of the Supported Literacy framework—the Meaning-Making Cycle, which structures students' inquiry, and the key framework components that support this kind of learning. The framework includes six components that work together in a twenty-first-century unit: a vision, essential questions, Meaning-Making Cycles, resources for teaching and learning, outcomes, and assessment.

Classroom Close-Ups in Chapter Two show you glimpses of the Meaning-Making Cycle in action, as a teacher uses the Supported Literacy framework to develop and teach a world history and literature unit. The unit moves students through a process of building understanding, using the multiliteracies as their tools. From this Classroom Close-Up, as well as subsequent chapters' Close-Ups that focus on applying the Supported Literacy framework to teaching other content—particularly

in science and language arts—and to teaching students with cognitive disabilities, we hope that you will see how you might apply the framework in your own teaching. While it is beyond the scope of this book to provide detailed guidelines for constructing units, we hope that the examples provided will inspire you to further explore the Supported Literacy framework. We encourage you to seek our assistance in implementing the approach in your teaching and in your school.