This book isn’t about technology. It’s about the teaching practices that technology enables.

Instead of focusing on where to point and click, this book addresses the ways in which teachers and students work together to navigate continuous change and what it means to read, write, view, listen, and communicate in the twenty-first century.

Based on Adolescent Literacy: An NCTE Policy Research Brief, Sara Kajder (a nationally recognized expert on technology and literacy) recognizes that students are reading and writing every day in their ‘real lives.’ She offers solutions for connecting these activities with the literacy practices required by classroom curricula.

Through extensive interviews and classroom experiences, Kajder offers examples of both students and teachers who have successfully integrated technology to enrich literacy learning.

As part of the Principles in Practice imprint, Adolescents and Digital Literacies: Learning Alongside Our Students offers critical consideration of students’ in-school and out-of-school digital literacy practices in a practical, friendly, and easily approachable manner.

Sara Kajder is an assistant professor at Virginia Tech whose teaching is anchored in helping middle and high school students connect out-of-school with in-school literacies. Regardless of the tool(s), Kajder focuses on how new literacies can affirm what students already bring to the classroom and how they can help to produce knowledge and put that knowledge to work.

Kajder is a recipient of the National Technology Leadership Fellowship. This is her first book from NCTE.
Contents

Acknowledgments ........................................ vii

Adolescent Literacy: An NCTE Policy Research Brief .... ix

Chapter 1 ......................... Situating the Conversation: New Literacies, Technology, and Learning in the English Language Arts Classroom ............. 1

Chapter 2 ......................... Digital Youth ........................................ 13

Chapter 3 ......................... The Twenty-First-Century English Teacher ............. 34

Chapter 4 ......................... Information Navigation and Critical Evaluation ............. 49

Chapter 5 ......................... Reading and Writing Multimodal Texts ............. 67

Chapter 6 ......................... Writing Together: Participatory Media, Collaboration, and the English Classroom ............. 85

Chapter 7 ......................... Conclusion: On the Horizon ............. 99

Glossary ........................................ 109

Annotated Bibliography ......................... 111

Works Cited ........................................ 115

Index ........................................ 117

Author ........................................ 119
Meet Jassar. He is a student in fifth period, tenth-grade English. At the start of the semester, his name appeared on the initial class roster coated in yellow highlighter and annotated with words he carried like baggage from the previous term—non-reader, below-level, at-risk. He sits in the right rear corner of the classroom, behind more vocal and active students who provide a bit of a shield from the teacher’s questions and eyes. Assessments tell us that he is reading on a sixth-grade level (but it has been a year since he’s been willing to fill out a Scantron sheet), and he struggles to write by hand. By all of the measures that we use in school, Jassar is underperforming and lacking in literacy skills.
And outside of school? Jassar is active in service learning, organizing and leading projects for middle and high school youth through his church. To anchor this work, he has developed an annotated Google Map of the community, placing a “pin” and a written description noting the site, work, and participants in a specific project. So, cursoring over the community center will reveal a description of a project completed in September in which three high school students built a new walkway to support handicapped access to the building, and cursoring over the high school will reveal the ongoing hours for the student-run food bank. Some of the annotations include images of students and community members working together at the corresponding site. The site is open for community access and is “publicized” by flyers Jassar has posted in high-traffic areas (like the teen rec center, the community library, and the local post office) and distributed for peers to hand out within the town. To share the link with digital youth, he has created a Facebook group and a page on MySpace, and is beginning to develop a Ning to support collaboration and community among those who have worked on local community projects. Fueled by his interests in community service, Jassar is now working to build/design a group for American teens that accomplishes the same goals/outcomes as kiva.org, a website which helps to support the work of international entrepreneurs who are working to lift themselves out of poverty.

Across all of his work, Jassar has demonstrated a broad range of literacy practices, none of which he was “taught” inside of school. He has leveraged specific media (e.g., Google My Maps) to create a multimodal resource using both print text and image to organize and archive the work of a community in providing service in a variety of ways and contexts. He has identified the dominant media forms for target populations (e.g., the Ning for digital youth and print flyers for non-digital community members) and communicated both a need for action and organized plans in support of a set goal. As a self-directed learner, he has researched the needs and contexts of individuals within his own community and abroad in an attempt to better position his own work. And he has collaborated with and mobilized peers and adult community members.

Jassar is vibrantly literate in ways that are purposeful and important, and in ways that have a place in a classroom that values bringing together his digital literacy skills; his passion for doing work that “matters” outside of school walls; his need to interact with expert, authentic audiences; and the diverse texts, skills, and experiences that make up our English curricula. This book is about the work of imagining and building the English classroom where Jassar (and his peers) might come alive as engaged readers and writers. It is meant to invite critical discussion around what it means to teach and learn in a digital age steeped in social media while raising ideas about how we leverage that media to foster reading and writing. And, most important, it is about capturing the stories of teachers and students (like
Jassar) who are working to bring new literacy practices into the English classroom in ways that are authentic and meaningful, and that invite (and incite) real participation and learning.

**Teaching in a “New” English Classroom**

This is an exhilarating (and genuinely daunting) time to teach English. We are in the midst of significant changes in how we read and write and where we learn to do either. And it is all happening rapidly. Beginning with Guttenberg’s time, change happened over the course of centuries, whereas the very real and significant changes in literate practice that mark our time have unfolded over only the past few decades. And the rate of change is on the increase.

A handful of words and phrases used throughout our professional discourse and literature capture these changes. We read about new literacies, twenty-first-century literacies, and multimodal literacies, all of which are to lead our work with adolescents who are described as millennials, Generation Y, the ’Net Generation, digital natives, and the MEdia Generation. They have come of age during a time marked by social media and tools that have emerged from what is simultaneously and interchangeably called Web 2.0 and the read-write Web. And when we listen to our students (and our “plugged-in” colleagues), we hear about technologies that allow us to tweet, stream, remix, text, friend, and geocache.

This book is less about “translating” these new technology terms (which will be outdated and obsolete before this book appears in print) and more about how we work as English teachers to navigate a changing landscape—and how we lead our students to do the same. This is work that is about openings, creativity, ingenuity, and rethinking our practice. But it is also about proceeding in intentional and deliberate ways. Early into my teaching, as I worked within a “new” computer lab outfitted with fifteen Apple Classic IIe machines (ten of which worked at any given moment and two of which could be on the dial-up network at a time), my thinking was focused on what I could make a tool do. Now, sitting in classrooms where a single student’s cell phone has more computing power than I had in that early computer lab, my approach has changed to focusing on what I **want** the tool to do. It is a small shift in thinking, but one that has big implications for my teaching. It isn’t about the tools. It is about reading, writing, communicating, and pedagogy.

The kids (and, in some cases, teachers) with whom I work talk daily about their digital lives and online practices in a language that doesn’t sound like anything that appears in my curricular guides or state standards. They play and communicate with different text forms, modes, and media from the traditional content in our curricula and practices. And that is a good thing. I want my students reading
and writing, communicating and publishing. The energy and excitement that come from teaching English now are rooted in the same “core” that I’ve always valued—the opportunity and privilege to help kids work as intentional, self-directed, reflective learners who are able to make meaning from and with a range of texts and then share their knowledge and understandings in smart and meaningful ways. But our work now is about a broader English curriculum, one leveraging the unique practices students bring to the classroom as readers, writers, viewers, and users of a variety of textual spaces (digital and print) in order to teach both traditional practices of reading and writing and new literacy practices ranging from information literacy to working in online communities to composing with a variety of media.

And I can’t make that shift alone. As much as I work to co-construct literacy practices alongside students, whether they are adolescents or graduate students, I also turn to my professional communities for support, insights, and a push to continue to rethink my practice and continue to really see kids. My most important professional learning has always come from my experiences with NCTE, whether reading my colleagues’ work in our journals, engaging in the unique spaces provided at our conventions, or now reading and thinking critically about Adolescent Literacy: An NCTE Policy Research Brief.

"Unpacking" Adolescent Literacy: An NCTE Policy Research Brief

Documents like this often come across our desks or inboxes, offering a summary or synthesis of research and policy recommendations but, for me, rarely impacting much of what I do with my students. That said, Adolescent Literacy: An NCTE Policy Research Brief (AL Brief) is different in that it was written with the goal of pulling together what we know about adolescent literacy right now in an attempt to do something better with and for our students. It came at just the right time as I was thinking deeply about my practice, trying to find new ways to engage and motivate the adolescents in the classrooms in which I work, and seeking a text that could help to move teachers’ practice.2

I asked specific things of the AL Brief, first looking at it through the lens of a teacher and teacher educator working to better understand students; the ways in which they work with and address the dominant media of their time; and the intersections with the English curricula, great books, and practices that I value. I read it also through the lens of a teacher educator and researcher who is seeing changes as she participates in secondary classrooms (seeing literature circle groups that bring in participants through webcams or classes of students that mark up pieces of writing using a smart board), but who wants to know more about the impact of those changes on student learning. I read in a way that is similar to how I approach
research and pedagogical articles, using the findings and ideas captured in the brief as a lens through which my students and classroom might appear different, strange, and new. I used it as a tool, a frame, and a text challenging me to push back. It is that “push back” that I aim to capture in this book as I offer a look at students, learning contexts, pedagogy, and literacy practices in an attempt to better understand where we are and where we need to go next.

So, how does this document work? Starting by establishing need and context (i.e., sharing data that establishes that students’ scores on literacy assessments are far from what we want to see and that students’ success after graduation hinges on skills that, at this point in time, few demonstrate), the document moves into a discussion aimed at debunking many of the things I often hear when talking with colleagues: that “academics are all that matter in literacy learning” or that “students learn everything about reading and writing in elementary school.” As much as I see the realities playing out daily in the schools in which I work, seeing them described here in print challenges me to think about practice differently. I read the realities as almost reminders, as these are challenging ideas that force me to not only tweak a lesson or two but also rethink the bigger structure of and vision within my teaching. It is easy to nod in agreement when I read a myth statement like, “Students who struggle with one literacy will have difficulty with all literacies.” Sure, I know that myth to be false because I see what my students bring to their classroom work. Still, it is much more difficult to make changes in my pedagogy that affirm the ways in which my students come multiply literate and to build scaffolds and instructional tasks that will leverage and build on those literacies. More simply put, using what is said in the “reality” descriptions to inform and guide my teaching is important, yet it is difficult, often messy work.

Immediately following the section on the myths and realities of adolescent literacy, the document focuses on establishing what we know by situating what is changing/different/necessary for us to know in the emerging research. I use this kind of research in two ways: one, to give me a sense of the “substance” behind a new idea or instructional strategy (as I need to see a compelling argument and set of results in order to invest the time needed to build something new into my teaching); and, two, to provide me with “backup” that helps me to explain our work in the classroom to parents or administrators who can sometimes become skittish when an English classroom looks different from what they might expect.

A case in point: At the onset of the semester, I worked with a classroom teacher to “re-invent” a writing activity from one that simply asked students to write a short memoir to a task in which they were asked to compose and produce a two- to three-minute digital story that paired images, narration (of a written script), and motion to create a filmic version of that same piece of writing. And, using ustream.tv, we were scheduled to stream/share these with students in three
other classrooms in the district for their feedback and input as peers and peer reviewers. To do this meant that the students in this class needed access to a computer lab—which also meant that the beginning of the semester setup that was to be run on our cart of laptops had to happen quickly. To move the chain of events, we needed some backup, and so we turned to the AL Brief (all page numbers cited are from the Web version) to help us summarize and present pertinent research to administration (and our tech-support folks), arguing:

1. Adolescents need bridges between everyday literacy practices and classroom communities (3).
2. Caring, responsive classroom environments enable students to take ownership of literacy activities and can counteract negative emotions that lead to lack of motivation (4).
3. Using technology is one way to provide learner-centered, relevant activities. For example, many students who use computers to write show more engagement and motivation and produce longer and better papers (4).

I read the AL Brief in my current role as a teacher educator and researcher working alongside students and teachers in diverse contexts across the United States, and as a former middle and high school English teacher. More important, I come to the brief as a learner working alongside my students to navigate our increasingly digital world. In the pages to come, I both model how I’ve operationalized the recommendations and ideas in the brief and share some of the additional theory and research that inform my work in each of these roles. In doing so, I explore samples of student work, descriptive cases of classroom work and contexts, and instances of “teacher talk” as think-alouds presenting the kinds of moves that we make in planning, executing, and reflecting on instruction that supports the kinds of new literacies learning that the brief recommends.

Reseeing Jassar’s Story

Let me begin this work by looking again at Jassar’s experiences, this time through the lens provided by the AL Brief. Reading across the many significant ideas raised in the brief, I began to generate my own list of “big ideas.” Several of these are now listed on the inside of my lesson planner, as I need regular reminders to think beyond the classroom as I was trained to see it:

1. **Kids come to us multiply literate.**
   At the start of the document, and throughout each section, we are reminded that literacy “encompasses reading, writing, and a variety of social and intellectual practices that call upon the voice as well as the eye and the hand . . . including nondigitalized multimedia, digitized multimedia, and hypertext or hypermedia” (2). Jassar’s literacy certainly
demonstrates this expanded notion of the reading and writing practices in which many teens are engaged—as he creates a variety of genres from pages on social networking sites to flyers. And what is equally clear from Jassar’s story is this: “Many of the literacies of adolescents are largely invisible in the classroom” (2). When I think of what this means for us as English teachers, I recognize we must continually work with multiple texts, modes, and media in an attempt to make meaning and communicate understanding.

2. **Literacy is social, active, and connective.**
Adolescents are, by nature, social. And they use “literacies for social and political purposes as they create meanings and participate in shaping their immediate environments,” much as Jassar did in his mapping project (3). As an English teacher, this idea pushes me to continue to seek ways to create “bridges between everyday literacy practices and classroom communities” and to help students understand that “texts are written in social settings for social purposes,” something Jassar intuitively understands already (3). Connectiveness is about participation and fostering community inside both the classroom and the greater network in which we can work (i.e., alongside experts, peers, colleagues, community members).

3. **Kids need to be able to answer “We are doing this in order to . . .”**
When kids are engaged, as Jassar was in his project, they “demonstrate internal motivation, self-efficacy, and a desire for mastery” (3). The question for us as teachers becomes this: how do we turn our classrooms into sites where the kind of engagement and motivation Jassar exhibits becomes the norm, that grows from a smart, intentional melding of student choice, teacher-constructed instructional scaffolds leading to success, and inquiry-based, real-world experiences for authentic audiences (3)? As we’ll see in the work ahead, technology is just one piece of this; the core is about much bigger ideas (including but not limited to creativity, originality, critical thinking, diverse perspectives, and sustained experiences).

**Reseeing the Classroom through Theory and Research**

In thinking about how new or multiple literacies would have meaning in my classroom work, my natural first step was to think about my own definition of literacy and how it has changed and developed over the years. As a young secondary school teacher, I started where many of us likely did, seeing reading and writing as print-centric. It wasn’t until I spent time in complex, richly diverse classrooms that I started to push against that definition, looking for ways to affirm the many skill sets that students brought into the classroom that provided unique affordances for constructing and communicating meaning, but not always in ways that fit easily into school contexts.
Chapter One

The dissonance that emerged as I thought deeply about what I believed about literacy was the most heightened during activities and projects in which students were using technology—writing digital stories, completing WebQuests, or collaborating with other students (and experts) in online communities. In the early work I did with students using iMovie or Photoshop, the roles of reader and writer seemed blurred, as were those between producer and consumer. Technology provided us (teacher and students) with new opportunities, new tools, new communities—and a complex range of skills, knowledge, and understandings that were ever-developing as the tool set continued to change at an unprecedented rate. But was it the technology that led to these changes or was it a changing understanding of literacy itself? The more I read and the more I thought about what was happening in our classroom, the more I became convinced that the changing motivation and participation I was seeing was less about the specific technologies and more about new ways of thinking about students’ literacies and learning.

As I begin to unpack this, it helps me to think about some of the terms we use to describe the new kinds of learning that are going on in twenty-first-century classrooms. What difference does it make, for example, when we shift our language from literacy to literacies—a shift made even murkier by the multiple terms we use to describe this phenomenon? We talk about multiple literacies, multimodality, twenty-first-century literacies, out-of-school literacy, digital literacy, and new literacies in what is almost the same breath. As I have grown as a teacher and researcher, I found I’ve needed to get a sense of how these terms all worked individually and together in order to make sense out of how they could play into and inform my teaching.

We live in a digital age in which the tools (and the literacies they require and, at times, create) change almost overnight. As Mahiri (2006) argues, “Traditional conceptions of print-based literacy do not apprehend the richness and complexity of actual literacy practices in people’s lives enabled by new technologies that both magnify and simplify access to and creation of multimodal texts” (61). Thinking in terms of multiple literacies allows me to work with multiple communication modes (e.g., linguistic, visual, oral, audio, and kinesthetic) in constructing and communicating intended meaning (Cope and Kalantzis 4). Adding digital literacies to the mix challenges me to examine practices tied to constructing and critically understanding the modes made possible by digital tools.

A further level of important difference comes when we draw out the distinctions between new literacies and multimodality. Researchers, teachers, and students who focus on new literacy studies (New London Group 62) examine people in interaction with one another and what they are doing with texts. Those who focus on multimodalities (Kress and Street vii) study what we understand about the tools that people are using in intentional ways and purposeful contexts. Looking at
our English classrooms through a new literacies lens challenges us to think about the modes through which students are making meaning (inside and outside of our classrooms) and the ways that students do (or don’t) use appropriate, well-chosen modes to communicate their understanding.

The distinction between these two lenses is important, because it suggests that our thinking about multiple literacies doesn’t have to require talk about digital technologies. The notion of literacies (and all that this term implies) is not dependent on digital knowledge or prowess. However, I (and many others) have found it useful to consider the place of digital technologies and multimodalities within the concept of multiple literacies—especially as we think about the skills and practices students now need to be successful readers and writers outside our classrooms and the practices that, once denied, have led them to become increasingly resistant to a classroom that valued and provided opportunities only for exercising print-based literacy. For students in my class to be literate, in other words, they needed to know how to make meaning from different text forms and communication modes and how to communicate through those modes. They needed to know how to use those media to learn, inform, investigate, reveal, advocate, and organize (Rheingold 109). This was a big change, and not one readily found in my curriculum guides.

Like many teachers, my increasing understanding of multiple literacies has been even more complicated by the timing of the research that supported it, coinciding with (and often shelved by) another new set of terms: NCLB, AYP, and high-stakes testing. So as texts and tool sets outside of our classrooms have become increasingly diverse and complex, curriculum and assessments written and disseminated during this time have narrowed our view of literacy. Perhaps that is part of the reason that I find the AL Brief to be so important. Though I have worked throughout my teaching to provide students with rich opportunities to exercise and engage in the literacies that they need to be productive participants in our communities inside and outside of our classrooms, it is compelling that we have a document that brings together the research in adolescent literacy in a way that says you aren’t alone in what you are seeing, what you are doing is in line with what research tells us, and, most important, here is what you do next as new literacies continue to emerge. And it is vital to have such a document in a time of increasingly mandated curriculum and high-stakes testing, as a reminder and a touchstone for ways of teaching and learning that support flexibility, creativity, invention, and facilitation.

There are qualities to the latest rush of new media and new technologies (i.e., Web 2.0) that make them of particular interest to the English classroom. The new media and tools that mark Web 2.0 are often described as participatory tools in that they position the user to create, to interact, to publish, and to share with audiences, groups, and other social environments available online. It is the social nature of this
work that sets it apart from other digital advances as “participatory media shape the cognitive and social environments in which twenty-first-century life will take place in much the same way that print culture shaped the environment in which the Enlightenment blossomed” (Rheingold 98). Thus, students who are literate in Web 2.0 tools (e.g., podcasting, participating in wikis, blogging) are positioned to create and publish knowledge through multiple modalities and, in many cases, collective action. Or, to use the language from the brief, “Adolescents regularly use literacies for social and political purposes as they create meanings and participate in their immediate environments” (3).

In this work, it is important to understand that valuing multiple literacies and finding ways for students to exercise them in the classroom is not a move to threaten or “replace” the print-based work that remains at the core of our formal curricula. One does not replace the other (Mahiri 7; Moje et al., “Teenagers”). Instead, I see this shift as an opportunity to open up what “counts” as valued communication, to invite voices into our classroom that would formerly not be present, and to help students in practicing (and critically unpacking) the dominant modes and media of their time. Adolescents are increasingly finding their own reasons to become literate, especially when learning a literate practice allows them to collaborate with and participate within a group that values their knowledge/contribution (Gee 105; NCTE). When we as teachers open ourselves up to learn about those literacy practices, the ways in which motivation and engagement play into the work, and the communities that develop, we can begin to imagine new ways for extending and elaborating on the literacies students bring into our classrooms, again bridging between the world outside of the classroom and the world we are looking to build.

**Looking into Our Practice**

New literacies, new technologies, new ways of reading and writing . . . In real ways, these are invitations to rethink and reimagine our work as English teachers, as readers, as writers, and as individuals who have our own literacy identities. In the pages that follow, I work to use the ideas, research, and recommendations articulated in the AL Brief as a framework around which to explore classroom practices, student work, and teacher thinking when it comes to teaching with digital tools and multimodal practices in twenty-first-century secondary English classrooms. The goal won’t be to teach you where to point and click when implementing a particular strategy or tool, but to discuss critically the ways that new tools impact our pedagogy, create new roles for teachers and students, and establish new pressures on and opportunities for our curricula and assessment tools. I will talk about the role of creativity and community in our classrooms; about collaborative inquiry,
participation, and what it means to learn with our students; and about how we lead students to be serious students of literature and language while also fostering the multiple literacies made possible in and even required by our increasingly participatory culture.

We can learn from looking closely at our practice, the practice of our colleagues, and the ways that our students move and learn both in and outside of our classrooms. To that end, I work throughout the book to bring together examples from multiple classrooms across the United States in which I’ve worked as a researcher, a “coach,” a coordinator of student teachers, and a teacher educator. In doing so, I hope to present such a varied (and yet rich) range of examples and voices that you’ll see your classrooms here, that you’ll hear an echo of a student whom you know, and that you’ll see possibility in what a colleague with a shared perspective or context was able to move forward. I also hope to be transparent about practice and learning because, for all of us, this is new work, and it requires conversations about change, about struggle, about triumph, and about the days where the power went out.

And the goal? Thinking back to Jassar’s experiences, I can’t help but set my measure for success at whether I am able to mindfully and purposefully engage his work as a reader and a writer within our English classroom. I’ve said that this work is less about the technology and more about the pedagogy. But the most important piece for me is in our students.

In this book, we’ll look into real classrooms with real kids. Some classrooms have little more than one computer and few kids have consistent access at home. It is messy work. So, while these aren’t examples offering an “easy button,” they are examples that will give you access to kids’ voices and a glimpse into what is possible when we bring together the literacies they bring to the classroom and the unique knowledge and goals that we have as English teachers. Our students need us to provide them with rich opportunities to read deeply, think critically, and write for responsive audiences. And they need us to prepare them for a world outside of our classrooms where literacy, texts, and tools will continue to change, be recast, and even reinvent themselves. When I spoke with him about school, literacy, and what was and wasn’t working for him, Jassar shared that “the technology is invisible to me, except when I come into school. It’s like you all haven’t figured out that I’m digital now. I get that [technology] isn’t invisible to you—but how can this place be about learning if it plays like what I see doesn’t even exist?” This book is about ways that we work alongside Jassar to construct an English classroom that engages him through multiple modes, media, and literacies as a reader and writer; sets the bar high; and puts his knowledge to work in relevant, authentic, and challenging ways.
Notes

1. Pseudonyms are used throughout this book for student names, teacher names, and school names.

2. A quick note about the various roles I occupy: I am a former secondary school English teacher, now a college professor of English education. In this second role, I have the opportunity to teach graduate and undergraduate students, supervise student teachers, and constantly visit classes.
This book isn’t about technology. It’s about the teaching practices that technology enables.

Instead of focusing on where to point and click, this book addresses the ways in which teachers and students work together to navigate continuous change and what it means to read, write, view, listen, and communicate in the twenty-first century.

Based on Adolescent Literacy: An NCTE Policy Research Brief, Sara Kajder (a nationally recognized expert on technology and literacy) recognizes that students are reading and writing every day in their “real lives.” She offers solutions for connecting these activities with the literacy practices required by classroom curricula.

Through extensive interviews and classroom experiences, Kajder offers examples of both students and teachers who have successfully integrated technology to enrich literacy learning.

As part of the Principles in Practice imprint, Adolescents and Digital Literacies: Learning Alongside Our Students offers critical consideration of students’ in-school and out-of-school digital literacy practices in a practical, friendly, and easily approachable manner.

Sara Kajder is an assistant professor at Virginia Tech whose teaching is anchored in helping middle and high school students connect out-of-school with in-school literacies. Regardless of the tool(s), Kajder focuses on how new literacies can affirm what students already bring to the classroom and how they can help to produce knowledge and put that knowledge to work.

Kajder is a recipient of the National Technology Leadership Fellowship. This is her first book from NCTE.