

Doing and Making Authentic Literacies



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Principles
in Practice

LITERACIES OF THE
DISCIPLINES

Principles in Practice

The Principles in Practice imprint offers teachers concrete illustrations of effective classroom practices based in NCTE research briefs and policy statements. Each book discusses the research on a specific topic, links the research to an NCTE brief or policy statement, and then demonstrates how those principles come alive in practice: by showcasing actual classroom practices that demonstrate the policies in action; by talking about research in practical, teacher-friendly language; and by offering teachers possibilities for rethinking their own practices in light of the ideas presented in the books. Books within the imprint are grouped in strands, each strand focused on a significant topic of interest.

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Why Move toward Authentic Literacies?

Young people are capable of extraordinary things. At age sixteen, Nikhil Goyal, spurred by his sense that the education system remained “a 19th century factory-based model,” began writing op-ed pieces and engaging in public speaking. At seventeen, his book, *One Size Does Not Fit All: A Student’s Assessment of School* (2012), was published (see <http://nikhilgoyal.me>). Malala Yousafzai, a young Pakistani activist who argued that young women deserved quality education as much as young men, was nominated for the International Children’s Peace Prize by Desmond Tutu at age thirteen and nominated for the Nobel Peace Prize at sixteen. She now has a popular book out: *I Am Malala: The Girl Who Stood Up for Education and Was Shot by the Taliban* (2013). Finalists, ages thirteen to eighteen, in the global Google Science Fair created a new anti-flu medicine, a battery-free flashlight, and bioplastics made from a banana peel. Two talented Atlanta sisters, Chloe and Halle Bailey, ages fifteen and thirteen, embarked on acting and singing careers and now have a YouTube channel with more than 200,000

subscribers. Several years ago near Los Angeles, nine-year-old Caine Monroy spent a summer building an arcade from cardboard boxes in his father's auto parts store, and when a local filmmaker made a short video of his construction, the video went viral. Currently, almost \$250,000 of college funding has been donated on Caine's behalf, and an annual Global Cardboard Challenge has been instituted, involving more than 85,000 people in forty-six countries—and Caine isn't even a teenager yet. On a less lofty note, check out the amazing number of DIY room decorating and book trailer videos now on YouTube generated by adolescents.

What if we were to take advantage of the tremendous potential young people possess, and the “out-of-the-box” thinking they are capable of, to design environments in which all can unleash, develop, and publicly share their talents? Instead of “doing school”—working from textbook-driven, often contrived “school subjects”—what if we aimed for something else with our students, something closer to the public, energized achievements of accomplished adults? In too many cases, we would argue, students aren't seeing themselves as “doers” and “makers,” authentically engaged in disciplines, with real prospects for using these lenses for their future lives and work. In some situations, teachers have felt so pressured to engage in coverage of ever-expanding topics and in test preparation that they haven't allotted the time or created the space for youth to experience the exhilaration of trying on adult roles and literate identities as they learn. There is little time for play and experimentation in many schools. But in the age of the Internet, it becomes ever more evident: virtually every accomplished individual plying a trade or working in a profession—from musician to engineer to social worker to scientist—engages in “doing” and “making.” They apply their hard-earned knowledge to creation; they make “stuff” ranging from symphonic performances to designs for motor vehicles to plans for strengthening social capital on behalf of struggling families to new methods for generating energy. Professionals do not only “do” and “make,” applying the knowledge and skills they've learned to use in order to create. Inevitably, they also communicate, enthusiastically and meaningfully, to various others about these creative acts across a range of modes and media. They experience “flow” (Csikszentmihalyi, 1990)—that state in which a person is so immersed and energized by the task at hand that he or she hardly realizes time is passing.

While the three of us believe wholeheartedly in the need for schools to strive toward authentic doing and making, we've also learned firsthand to attend closely to the development of disciplinary literacies. In fact, we think that for work in classrooms to be truly authentic, students must engage in the actual, rigorous practices of thinking, reading, talking, and creating that exist in every disciplinary subject and are applied in work and citizenship. These practices are foundational, but they really can't be separated from their purposeful uses. What if we were to revise classroom emphases so that young people could see *why* they were learning

chemistry or history and *how* they could actively apply their learning, stepping into the space as apprentices in a grown-up world? What if the power of the extracurriculum—sports competitions, musicals, science fairs, and comic book clubs, all happening after school, on weekends, and in summers, as a few examples—was leveraged for all students during the school day? What if new forms, such as “maker spaces” and “DIY clubs,” were recognized as places where both literacies and identities are built? Mightn’t it make a big difference in students’ levels of engagement and achievement? Mightn’t it lead to the strengthening of students’ sense that they are people who can use their talents and their voices to change our world for the better—with no need to wait until adulthood?

Who We Are

As authors of this book, we (Linda Denstaedt, Laura Roop, and Steve Best) believe there is a traceable path toward this vision of authentic literacy. Our task in writing this book is to outline concrete steps along the way and render them “learnable” by others. For the three of us, growing interest in and commitment to understanding authentic learning and the role of disciplinary literacies has shaped our teaching practice and our professional learning trajectories. Two of us (Linda and Laura), English teachers by training, went into the profession believing in the power of authentic work. Laura had the good fortune to have a writing workshop teacher in high school for creative writing and journalism, so when she became a teacher, she pictured her students publishing newspapers and magazines and giving readings of their work, just as she had. Over the years, though, she has realized that there are additional skills educators need to develop to deepen their understandings of disciplines and fields and to create opportunities for students to share their work publicly and to build the partnerships needed to push school cultures and systems away from a nineteenth-century model. Directing a National Writing Project (NWP) site, Laura also learned that, when working with practicing teachers in various subjects, generic strategies in reading and writing don’t get us very far. For the last six years, she has been collaborating with mathematics teachers, mathematicians, and other educators from the Algebra Project, a national education improvement network, aimed at learners in the bottom quartile.

Linda shifted her view on teaching and learning after she connected with the Oakland Writing Project (OWP), an affiliate of the National Writing Project, in an effort to become a better teacher of writing. Her experience in OWP led her to create a poetry portfolio and submit it for admission to the Vermont Studio Center, a residential community for artists and writers of all genres. There, she worked with poets Stephen Dunn and Robert Pinsky. When she returned to her classroom, student and teacher talk changed. Although she had previously incorporated

cooperative learning protocols for talk and writer response groups, she now began talking to students the way professional writers had talked to her—as a fellow writer—and she encouraged her students to see themselves as writers and to write for publication beyond school. Every student submitted work; some were published or won competitions. Eventually, Linda designed and facilitated the Communication Arts Center in her school that supported the creation and implementation of high school teacher and student learning in project-based, authentic disciplinary work. For example, a social studies teacher wanted to learn how to write editorials and to create a unit so his students would be able to submit editorials to a local newspaper’s competition, while a teacher of Japanese wanted to understand the software technology as well as the elements of storytelling so that her students could create digital animated stories told in Japanese. Most recently, Linda conducted ethnographic research in a construction trades classroom to understand how the instructional practices of an authentic learning environment impacts student identities and agency. She applied this learning as she worked as an embedded consultant and coach in a low-performing high school. Working side by side with teachers and students transitioning from textbooks to authentic literacies, Linda also learned that attention to student identities is key, regardless of the disciplinary context.

Steve, a mathematics and science teacher by training, began introducing authentic reading and writing through academic projects to enhance student understandings and connections to science and mathematics. While he recognized the need to develop these skills in authentic discourse for his students, it wasn’t until he became immersed in one of these projects, a solar car design project, that he specifically began collaborating with both writing experts and disciplinary partners in materials and electrical engineering to foster authentic literacies. This work was the catalyst for his subsequent efforts to engage other teachers in authentic disciplinary investigations with their students on a range of topics, including ecological and environmental protection, materials design, civil and architectural engineering, energy systems, and climate change research. Through these activities, Steve recognized that teachers could not understand this engagement without participating in such efforts collaboratively themselves. Therefore, his workshops and design work with teachers involved the creation of collaborative project design activities that used lesson study as a means to engage multiple teachers in design and action research on authentic disciplinary studies within their own classrooms.

Individually and together, we have learned that a collaborative, interdisciplinary stance is necessary in growing our understandings of authentic learning and literacies in the disciplines. What’s more, we’ve learned that we must think hard about how to consciously structure and offer opportunities for authentic application of disciplinary reading, writing, speaking, listening, and representing—otherwise, we haven’t sufficiently considered students’ motivation and identity

development. We've merely tweaked a model that is leaving far too many young people behind.

NCTE Policy Research Brief on Literacies of Disciplines

In the fall of 2011, the National Council of Teachers of English (NCTE) published a policy research brief on disciplinary literacies. The brief argues for a “much more nuanced approach to disciplines” (p. 16) and for the affirmation of “the plurality of literacies.” The brief also notes that “the boundaries of disciplines are increasingly flexible and porous” (p. 15) but that there are ways to “identify general qualities—problem solving, empirical inquiry, research from sources, and performance—that distinguish academic areas from one another.” This research brief, which is reprinted in the front matter of this book on pages xi–xv,¹ is part of the impetus that led us to develop the framework behind this book.

Like many involved in teaching literacy, we were steeped in “writing across the curriculum” and “reading in the content areas” before our understandings began to evolve in response to what we saw as we partnered with teachers and faculty in diverse disciplines. We were excited to see NCTE colleagues embracing a new angle on literacy—one that digs deeply into particular literacies and emphasizes using reading, writing, speaking, listening, and viewing to take action in specific contexts, engaging with issues and problems of particular subjects as well as in the world more broadly. The research brief led us to heighten our attention to the diverse contexts in which we have been working and to ask ourselves whether we might have something to contribute to a larger conversation.

Why Shift to a Disciplinary Literacies Model?

Back when we entered the profession, the terms du jour were *writing across the curriculum* and *reading in the content areas*. And in fact, for almost forty years our professions have invested in the concepts of writing across the curriculum and reading in the content areas—the former initially in colleges and universities and the latter in K–12 settings and eventually K–college. Typically what people have meant by

The Benefits of Literacies of Disciplines

Students

- Develop ways to represent and generate knowledge
- Transfer prior knowledge
- Become learners who solve problems
- Engage with discipline-specific language
- Focus on a few issues at a time
- Receive feedback throughout the learning experience

these terms is the intentional incorporation of informal writing into subjects and lessons, or the explicit teaching of particular strategies in reading or writing, all with the intention of strengthening student understandings. The pioneers of writing across the curriculum, including James Britton (1970), Anne Berthoff (1981, 1984), Toby Fulwiler (1987), Art Young (Young & Fulwiler, 1986), and Anne Gere (1985), have made valuable contributions to literacy learning. The pioneers of reading in the content areas, including Richard Allington (1980, 1983a, 1983b, 2006), Annemarie Palincsar (1982; Palincsar & Brown, 1984), P. David Pearson (Pearson & Fielding, 1991; Pearson & Gallagher, 1983; Pearson & Johnson, 1978), and Michael Pressley (Pressley & Afflerbach, 1995; Pressley et al., 1994; Pressley et al., 1992), have also contributed mightily to our understandings. In particular, at colleges and universities, where students' literacies have been measured at point of admission, the disciplinary focus in departments, along with a host of performances, presentations, research projects, clubs, and teams, makes the study and enactment of writing across the curriculum and reading across the content areas fairly fruitful. Faculty have found that by adding quick-writes to stimulate student thinking, and by having students think carefully about formats, audiences, and purposes, students can deepen their understandings of various topics in measurable ways. And university administrators have supported faculty in this pursuit by establishing writing centers, where both students and faculty can further pursue their literacy questions.

We would argue, however, that within secondary schools writing across the curriculum and reading in the content areas have had a more superficial impact on teaching and learning across that same time frame. The professional development opportunities that have accompanied school or district inquiries have often been too generic or too superficial to make much of a difference in student learning, and the reasons for writing and reading in mathematics, chemistry, history, and the like have often been driven by state testing mandates—a far cry from authenticity. Too often initiatives have operationalized writing across the curriculum and reading in the content areas as “one size fits all.” Hence, we’ve seen school improvement plans that introduce one strategy to the entire school and require all teachers to implement it without nuance, regardless of content area or years of experience teaching. We’ve also been involved with schools and districts that have claimed to be pursuing reading in the content areas or writing across the curriculum, but that pursuit has been limited to a couple of professional development sessions and meetings over the course of a school year or two. In one relatively affluent district, we witnessed the establishment of a high-tech, interdisciplinary high school writing center, which, after making good headway for four or five years, was disbanded when the district hit a rocky patch financially. And too often, teachers and administrators aren’t really looking deeply into the issues that struggling students are

facing or aren't accepting that there really is a need to teach disciplinary ways of reading and writing as part of the actual substance of subject area classes.

Perhaps because we have witnessed and participated in so many lackadaisical or short-sighted efforts, we began to question their efficacy. We saw how many practitioners would apply a new strategy they had learned without necessarily thinking through its appropriateness. Elizabeth Moje, a colleague of ours, articulates the limitation of a strategy approach: “[S]trategies—absent some level of knowledge, a purpose for the literate practice and an identification with the domain or the purpose—will not take readers or writers very far” (2011, p. 52).

Our observations have been confirmed recently by Applebee and Langer's national study of writing instruction, conducted in five states from 2008 to 2011. We were part of the research team collecting data in Michigan. Applebee and Langer found that while writing may be occurring a bit more frequently in disciplinary classrooms than it did thirty years ago, and while writing instruction and scaffolding in tasks has grown more sophisticated, its incorporation has not necessarily been transformative for schools or for student learning. Students still spend relatively little time engaged in actual writing, and when they do, it is often timed writing in response to prompts, filling in blanks, or copying (Applebee & Langer, 2011).

In the 2012 article “What Is Disciplinary Literacy and Why Does It Matter?,” Timothy Shanahan and Cynthia Shanahan explain a difference they see between content area reading and disciplinary literacy. Content area reading “emphasizes techniques that a novice might use to make sense of a disciplinary text (like how to study a history book for an exam), while disciplinary literacy emphasizes the unique tools that the experts in a discipline use to participate in the work of that discipline” (p. 8). Shanahan and Shanahan trace the roots of disciplinary literacy to content area reading, studies of expert readers, and functional linguistics. As National Writing Project–influenced folks, we would add studies of expert writers and writing across the curriculum to our sense of the roots of “disciplinary literacies.” For us, disciplinary literacies are an aspect of the larger push toward authentic learning that can transfer from a school setting to a larger world.

The efforts of Nichole Pinkard and the Digital Youth Network in Chicago have generated a philosophical framework and curricular model that can provide inspiration about a sensible direction as we journey toward authenticity. Pinkard's Digital Urban Youth curriculum model is designed to engage urban youth in authentic roles in goal-based scenarios that provide multiple pathways to new media literacies. She contrasts the public clarity of the pathway to accomplishment in basketball with the opacity of routes to other, equally interesting futures—graphic arts, cinematography, or game design:

[T]hose wishing to be good point guards understand that they need to learn to dribble, shoot, and pass the ball while students focused on becoming good centers know they need to learn to post up, defend the basket, and rebound. Once students develop some of these abilities, they recognize that they must be able to read the floor, run plays, and predict opponents' actions. . . . However, if we were to ask a group of young people from the inner city about the roles or developmental stages of becoming a graphic artist, recording engineer, cinematographer, or game designer, most would not have a realistic picture in mind. (Digital Youth Network, n.d.)

Pinkard's Digital Youth Network initiative focuses on communication arts and begins to map out the terrain we might all work as we begin to design programs developing the needed literacies—during and after the school day—as young people step into authentic tasks and roles tied to career and citizenship.

Other Research Supporting This Shift

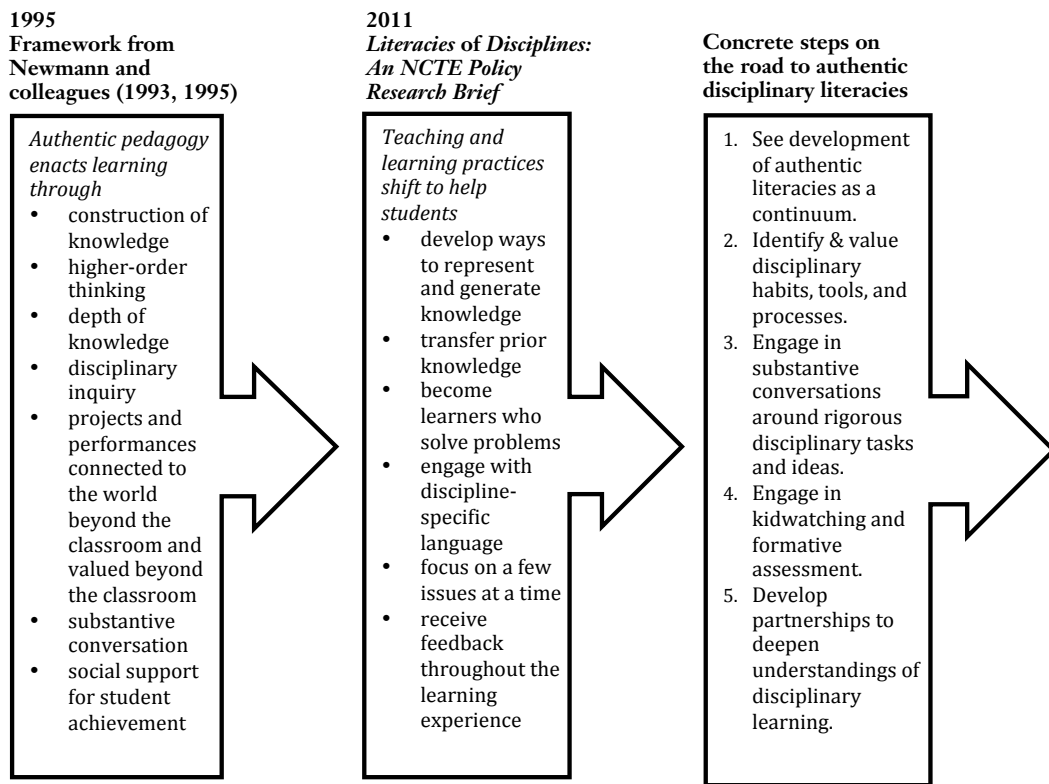
For us, NCTE's *Literacies of Disciplines* policy research brief echoes the call for deeper, more authentic academic work in secondary schools that has been longstanding in our careers. One of the most important contributions to this call and major influences in our work in the late 1990s was a framework developed by Fred Newmann, Walter Secada, and Gary Wehlage while they were part of the University of Wisconsin Center on Organization and Restructuring of Schools. In the early nineties, Newmann and Wehlage (1993) described five standards associated with authentic pedagogy: (1) higher-order thinking, (2) depth of knowledge, (3) connectedness to the world beyond the classroom, (4) substantive conversation, and (5) social support for student achievement. In another important work, *A Guide to Authentic Instruction and Assessment: Vision, Standards, and Scoring* (1995), Newmann, Secada, and Wehlage argued for assessing the quality of intellectual work students were experiencing in K–12 schooling according to three main criteria: (1) student construction of knowledge, (2) disciplined inquiry, and (3) value beyond the classroom. This framework has been used by practitioners and education researchers to assess the level of tasks assigned, the level of instruction offered, and the level of student thinking and performance in schools and classrooms. And more recently, through the Center for Authentic Intellectual Work (<http://centerforaiw.com/aiw-framework-and-research>), the framework has been used to design job-embedded professional learning.

Newmann and colleagues (1993, 1995) were on to something important when they identified and pressed for the implementation of this framework. The school districts we worked with in the 1990s that were studying the framework and considering standards for quality work were, in our experience, making positive gains before the twin juggernauts of standards-based tests and the No Child Left

Behind law swept through, crushing much thoughtful work and discussion in their wake. We believe it makes sense to return to that sensible work and use it, along with other interesting contributions, revising for the twenty-first century.

For us, Newmann and colleagues (1993, 1995) established a foundation that opened conversations among teachers about what authentic learning looked like and sounded like. Their framework provided a set of lenses for designing and evaluating tasks, practices, and student work. And this enabled us and our teacher partners to begin to see that there are differences in the ways disciplines read, write, think, and inquire. Disciplinarity matters. We could no longer provide a one-size-fits-all fix for all disciplines. When we read NCTE’s policy research brief, we saw an opportunity to connect these ideas to the conversation on disciplinarity. Building on these sources, we offer five concrete steps on a journey to understand and engage students in disciplinary inquiries and experiences. The graphic in Figure 1.1 illustrates the relationship of Newmann and colleagues (1993, 1995)

Figure 1.1. The road to authentic literacies.



and NCTE's policy research brief to the concrete steps on the road to authentic disciplinary literacies.

Contexts We Are Drawing On

In writing this book, the three of us—Linda, Laura, and Steve—draw on the kind of thinking just discussed about disciplinary literacies and authentic academic work. Equally important, though, are the amazing opportunities we have had, as professional developers, coaches, and teacher-researchers, to spend years in secondary classrooms in multiple subjects. We've learned so much from observing, coaching, and co-facilitating. Several important local contexts have shaped our thinking about what classrooms might look like if we were to place a premium on “making” and “doing” disciplines.

Construction

One of the most influential contexts has been the construction work sites of Dick Moscovic and Duane Olds, two teachers in metropolitan Detroit. As they have worked with Linda over six years to strengthen and make explicit and intentional students' learning of discourse practices in construction, we came to appreciate the concrete, tangible nature of workshop elements in construction teaching and the cognitive dissonance for us as teachers of academic disciplines. Duane and Dick are definitely doers and makers; they worked on their first construction crews at the age of seventeen. One became a carpenter; one became a mason. Subsequently, they went on to college, became secondary teachers, and, simultaneously, became owners of construction companies. The students working with Duane and Dick literally construct or rehabilitate houses on behalf of Lighthouse International, Grace Centers of Hope, Rebuilding Together, Waterford Township Community Development, and the city of Auburn Hills, Michigan, as part of their coursework.

In the context of the construction site, the students are applying mathematics, reading, writing, and other literacies while engaging in rough carpentry, masonry, painting, landscaping, and more. The abstract ideas of geometry take on a sudden power and significance when the roof of a house is improperly framed. Students in Dick and Duane's classrooms are *doing the discipline* or, more accurately, *doing the applied field* using skills, strategies, habits of action, habits of mind and conversation that construction tradespeople use. They are acting *as* construction tradespeople. Strikingly, many of the students at these construction work site classrooms have not succeeded in more conventional school settings. Something magical is going on as the work plans they generate become actual staircases and houses. The stakes are high, but very real.

Mathematics

Two other settings that have sparked our imaginations were influenced by the Algebra Project, a national network that has spent thirty years determining what mathematics to teach and how to teach it so that struggling students, especially students of color and students living in poverty, can learn it deeply and powerfully. The first setting was Algebra Project founder and civil rights organizer Bob Moses's secondary mathematics classroom laboratory, where he worked with struggling ninth graders for two weeks over three summers at the University of Michigan's School of Education. The second setting was the high school classroom of James Tuttle, who observed in Bob's mathematics laboratory, participated in Algebra Project professional development, and enacted its curricular materials with his Ypsilanti high school students. Both classrooms—James's high school classroom and Bob's highly documented lab classroom—have helped us begin to learn what authentic mathematical work and talk can look like.

In her role as outreach director for the University of Michigan (UM) School of Education, Laura was part of a team that planned student trips, presentations, and summer institutes for the students in James's classroom and in the mathematics laboratory over the course of five years while conducting research, so she had incredible opportunities to observe teaching and planning, to listen to students learning, and even to “do the math” using Algebra Project materials.

English

Multiple English language arts classrooms—connected to our local National Writing Project site, the Oakland Writing Project—have influenced our thinking: the high school classroom of Laura Mahler in Clarkston, Michigan, and the Oak Park High School Department of English in Oak Park, Michigan, among others. Laura Mahler's Advanced Placement (AP) English program has threaded opportunities for serious aesthetic writing toward publication with analytical reading and preparation for the AP assessment. Laura argues that without a fairly substantive “writerly” understanding of literary works, students aren't well positioned to engage in the kind of focused critical writing the exam calls for. For the last three years, Oak Park High School (OPHS) English teachers, as well as teachers from other disciplines at the high school, have been experimenting with Literacy Lab, an effort to infuse reading and writing across disciplines using Smart Boards and complex texts. They've also been conducting teacher inquiries and engaging in Reading Apprenticeship training, all with the aim of improving student outcomes at their school.

Multidisciplinary Teams

Grades 5 and 6 Team: English Language Arts, Social Studies, Mathematics, and Science

Yet another classroom that inspires us to understand the potential of taking authentic doing to its logical extreme is that of our Oakland Writing Project colleague and friend Rick Joseph and his teaching partner, Pauline Roberts. These two Birmingham, Michigan, teachers, who team-teach in grades 5 and 6, recently won an international prize and traveled to Poland to present their “sciracy”—scientific literacy—project, *Doing Business in Birmingham*. Students inquired into environmental sustainability and then began a campaign to get local businesses to adopt more sustainable practices. Working in teams, they created brochures and a Web-based honor roll, eventually cold-calling nearly every business in their town.

Grade 11 New Tech Team: Science (Chemistry), English Language Arts, and Social Studies

We have been significantly influenced by the team of Ypsilanti New Tech chemistry teacher Melanie Depray Learst and English and social studies teacher Marcy Sliwinski, who partnered with former New Tech teacher Hans Sowder and his colleagues from the UM College of Engineering to co-develop and pilot a study of climate change as viewed through several disciplinary lenses and multiple competing arguments. Actually, the New Tech network, model, and specific local enactment are inspiring in and of themselves; New Tech is an innovative small school design that promotes collaboration; cross- and interdisciplinarity; project-based, one-to-one learning; and the structuring of an environment that encourages professionalism and character development. This national network includes schools in California, Texas, Indiana, Ohio, and Michigan. Marcy and Melanie, who recently became an interdisciplinary team, stepped right into the challenge of co-developing and piloting a study on climate change in collaboration with a team of scientists and engineers who were in the process of building new, more accurate climate impact models for the Great Lakes.



Other practitioners and school staffs are featured in this book as well. Without collaboration and partnership with everybody whose work is discussed here, this book couldn't have been written. The teachers, teams, and school staffs featured are not “perfect” practitioners but instead are learning, growing teachers who sometimes face big problems and sudden changes in circumstances that make their best intentions hard to enact. Some of these teachers have attained certification from the

National Board for Professional Teaching Standards; all are recognized by their peers for their dedication, thoughtfulness, and deep commitment to learning for the sakes of their students. We honor their voices, struggles, questions, and triumphs.

Practices on the Road to Authentic Literacies

As we have worked with these teachers in their diverse settings and subject matter contexts, we've noted four key teaching and learning practices that cut across the disciplines to engage students in powerful learning: (1) constructing opportunities for authentic work, (2) fronting disciplinary lenses, (3) creating opportunities for disciplinary talk, and (4) engaging in formative assessment along the way. We've also identified one crucial professional practice, partnering, that is the foundation on which educational improvement is built.

Chapter 2, "Constructing Opportunities for Authentic Work," introduces an important question we have learned to ask and a continuum of authentic disciplinary literacies that can be used to examine unit, project, or program plans. We look closely at two classrooms well on the way to authentic disciplinary learning. Authentic work requires us to design real-world work spaces and to assess the opportunities we provide: are we developing usable expertise that can be deployed with relation to new problems or projects? As a result of such experiences, students can enact performances closer to those of disciplinary experts, with fluent retrieval of content knowledge as well as broader structural knowledge of disciplinary concepts, decision making, problem solving, and self-monitoring and regulating of processes and social norms (National Research Council, 2000).

Chapter 3, "Fronting Disciplinary Lenses," illustrates a second important teaching and learning strategy. Think of putting on a pair of tinted glasses: a disciplinary lens "tint" would be the habits of mind, the tools, and the intellectual framework of a particular discipline. In this chapter, we explore vignettes from mathematics and science to discuss some of the essential aspects to consider and some of the complications that must be navigated along the road. We compare and contrast two science classrooms where both teachers are trying to front disciplinaryity, but one teacher is able to come closer to authenticity.

Chapter 4, "Creating Opportunities for Disciplinary Talk," introduces a third teaching and learning practice: creating spaces for disciplinary talk. It has been said, "Whoever is doing the talking is doing the learning." However, it could also be said, "Whoever is doing the talking has the power." In this chapter, we examine the role of informal, working talk as it occurs in various disciplinary classrooms where students are engaged in "doing the discipline" or "applying knowledge in a field." We demonstrate how teachers working toward authenticity

learn to position students as disciplinary knowers through language and role. We also illustrate how teachers can design opportunities for meaningful talk around disciplinary tasks, such as “turn and talk” partnerships, writer response groups, and mathematical explanations.

In Chapter 5, “Engaging in Formative Assessment along the Way,” we explore assessment as a dynamic process occurring in the midst of disciplinary instruction that enables learners to move from what they know to what they are able to do next. *Formative assessment* can be defined as a repertoire of information-providing strategies demonstrated through research to have a strong impact on student learning. In our experience, however, such strategies must be nested in a joint, engaged conversation between students and teachers that is integrated in a larger cultural shift in classrooms and schools.

Chapter 6 describes a professional practice that we have come to regard as foundational to teaching growth: partnering for learning. Teaching in a rapidly changing world, with so many forces influencing practice, from new technologies to new policies, may seem virtually impossible unless you build a network of relationships and friendships that help you both keep up and weather the storm. This chapter focuses on the kind of partnering that practitioners must do to move into the kind of deep work that is essential if students are to leave high school with a set of real literacies and learning strategies useful in work and citizenship.

Nikhil Goyal, the young man with whom we began this chapter, urges us in *One Size Does Not Fit All: A Student's Assessment of School*, to change how we do school: “Let’s shift classrooms into ‘lifelong learning incubators’—student centered and well networked with a level of spontaneity” (2012, Chapter 1). As a young man who has found conventional school tedious and out of touch with the learning he has experienced elsewhere, he asks, “Why are school and life distinguishable? The world should be our school” (Introduction). On behalf of all young people, let’s answer Nikhil Goyal’s call by stepping down the road to more authentic literacies.

Too many students don't see themselves as "doers" and "makers" of authentic work in any of the disciplines of high school. No wonder, then, that they make no connection between high school coursework and their future lives and work. But what if we took advantage of our students' tremendous potential by designing environments in which they can unleash, develop, and publicly share their talents? Instead of "doing school"—working from textbook-driven, often contrived school subjects—what if students worked toward something closer to the public, energized achievements of accomplished adults?

This book features educators in construction trades, English, math, and multidisciplinary teams who have created empowering disciplinary classrooms and projects that allow students, particularly those who are sometimes disenfranchised by the larger culture and current institutional structures, to gain new identities as makers and doers. Building on foundational work in authentic literacies and supported by NCTE's policy research brief *Literacies of Disciplines*, the authors center their examples in a continuum of disciplinary literacy learning, demonstrating how it can be used to look at and reconfigure lessons, units, courses, and programs.

This book is proof that classrooms like these are indeed possible in all schools and educational settings. In fact, they are necessary if we expect today's students to successfully bridge the gulf between learning and doing.

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