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Teaching Struggling Adolescent Readers to Comprehend What They Read

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Middle and high school teachers face a daunting challenge when they attempt to use reading as a primary means of stimulating higher level learning and thinking among their students about important topics within the various disciplines (Alvermann & Phelps, 1998; Davey, 1988). As we show in this chapter, the unfortunate fact is that the majority of adolescent readers in our schools routinely struggle when it comes to comprehending what they read as part of their academic assignments. Although part of the challenge stems from the poor quality of textbooks teachers usually have on hand (Commeyras & Alvermann, 1996; Paxton, 1999), another part arises when students experience cognitive roadblocks as they attempt to negotiate complex texts for academic purposes, whether those texts are well-written or not (Block & Pressley, 2002). In this chapter, we argue that a solution lies in asking teachers to use instructional interventions that help learners "fend for themselves" as they resolve difficulties encountered, regardless of the quality of the texts they must face, and we explain the designs of three classroom-based instructional interventions aimed at doing just that.

Data from the most recent National Assessment of Educational Progress (NAEP; 1998) suggest that far too many eighth- and 12th-grade students do not have the capacity to perform the higher order cognitive work required for deep learning of content through reading. According to the NAEP rubric, a "Basic" level at eighth grade means that readers can

- demonstrate a literal understanding of what they read,
- [are] able to make some interpretations,
- can identify specific aspects of the text that reflect overall meaning,
- can extend the ideas in the text by making simple inferences, [and]
- can recognize and relate interpretations and connections.

In contrast, eighth-grade students performing at the "Advanced" level can

- describe the more abstract themes and ideas of the overall text,
- analyze both meaning and form and support their analyses explicitly with examples from the text, [and]
- extend text information by relating it to their experiences and to world events.

Advanced performance is characterized by student responses that are "thorough, thoughtful, and extensive." Similar distinctions between "Basic" and "Advanced" reading performance apply to the reading achievement descriptors at the 12th-grade level in that Basic performance indexes an incapacity to be successful at higher order reading tasks.

How do older readers fare on these national assessments? Table 7.1 presents the NAEP-reported average reading scores for adolescents and young adults over the past decade (the "Basic" score band for eighth grade is 243–281, for 12th grade 265–302). In the current era in which higher order literacy performances are required for effective functioning in the workplace, community work, and politics, these data suggest that the pool of older readers whom we might characterize as "struggling" is quite large. To sharpen our focus on precisely who these learners are, consider the average scores in 1998 for older readers based on their eligibility for free or reduced-price lunch (Table 7.2). It is interesting to note the average scale score for low-income 12th graders is about the same as the average for

TABLE 7.1. Average NAEP Reading Scores over Time for All Readers

	8th grade	12th grade
1992	260	292
1994	260	287
1998	264	291

TABLE 7.2. Average NAEP Reading Scores (1998) for Readers Based on Socioeconomic Status

	8th grade	12th grade
Eligible for free or reduced-price lunch	246	271
Not eligible for free or reduced-price lunch	270	292

higher income eighth graders. Even though the NAEP performance levels are far from perfect (see DeStefano, Pearson, & Afflerbach, 1997, or Linn, Glaser, & Bohrenstedt, 1997), the performance of students, particularly economically poor students at eighth and 12th grade, as it might be indexed by any standard, is inadequate compared to the expectations of subject matter curricula, texts, and teachers.

In this age of high standards for complex learning, during which no child is supposed to be left behind, and in light of the NAEP data, which show that the average adolescent is indeed being left behind, we argue in this chapter that these forgotten readers ought to receive at least as much intervention—and attention—as beginning readers have received in recent years. Richard Vacca, former president of the International Reading Association, has characterized the current state of affairs involving middle and high school learners as "the benign neglect of adolescent literacy" (Vacca, 1997, as cited in California Department of Education, 2000, p. 1). We only wonder if the characterization of the neglect as "benign" is appropriate; the costs of this neglect to our society in terms of economic productivity, civic participation, and personal efficacy are certainly not benign. The three instructional projects discussed in this chapter have identifiable approaches to adolescent literacy that have been tested in the real world of middle and high schools with culturally, linguistically, and economically diverse student populations, populations likely to include more than a fair share of adolescent readers at or below NAEP's "Basic" level of performance. Recognizing that not nearly enough research has been conducted to provide a universal solution to this problem, we offer these approaches partly as interventions that might be emulated in schools, and partly as design models that might guide colleagues in inventing, modifying, and validating even more ambitious and even more effective programs.

By way of preview, we simply assert that each of the models presented embody what must surely by now be commonsense assumptions of literacy instruction with no need for further documentation: When instruction is designed to engage students in more reading and in reading more widely than they might otherwise do, when instruction is planned so that students write about their reading, students build their capacity to comprehend. These assumptions are born out by the NAEP data, crude as the NAEP

survey instruments are: Students in eighth grade who reported reading more than 11 pages per day scored roughly 25 points higher than students who reported reading fewer than 5 pages per day; 12th-grade students who reported reading more than 11 pages per day scored roughly 30 points higher than students who reported reading fewer than 5 pages per day. Moreover, students in both eighth and 12th grade who reported having assignments in school during which they wrote long answers to questions at least once per week scored between 30 and 40 points higher than students who reported hardly ever or never engaging in writing activities that involved reading. Granted, these are broad correlational findings, but they come with the support of research from natural experiments (e.g., Anderson, Wilson, & Fielding, 1988; Langer, 2001), as well as instructional experiments and analyses of best practice (Langer, 2001).

Our focus on instructional interventions delivered when learners are adolescents and young adults should not be taken as evidence that we believe that the challenges of teaching students to comprehend should be postponed until children actually reach these age levels. The past two decades of work among comprehension researchers have yielded considerable evidence that comprehension instruction should be carried out for all schoolchildren regardless of age or developmental level, even as early as the primary grades (Pearson & Duke, 2002). The current emphasis on decoding and fluency in the elementary school, necessary as these elements are as a foundation for comprehension, may actually exacerbate the problems of struggling adolescent readers. As they move through the grades, learners must process increasingly more information from increasingly more complex texts; at some point, the knowledge acquisition task posed by these texts reaches the point at which getting the words right and reading with greater facility and expression just does not cut it. An early emphasis on decoding and fluency must be truly balanced with a deliberate and systematic approach to comprehension from the earliest stages of formal schooling. We make the argument that just as an instructional imbalance with a tilt toward meaning may create students who cannot read the words accurately, an instructional imbalance with a tilt toward fluency may create students who can rattle off the words but cannot fathom the ideas, much less their significance.

CRITICAL RESEARCH

Reading educators have attended to the notion that comprehension depends on fluency and have taken seriously the role of word perception in the construction of meaning, leading to an intense instructional emphasis

on print skills (Adams, 1990; Pressley, 1998). Indeed, the call from the 1990s for balanced instruction with decoding at center stage has had an influence on how teachers are prepared to serve as reading teachers in classrooms, if the reading methods textbooks published for use in preservice programs can be counted as indices of the content of teacher education programs. Recently, however, reading educators have begun to build a case grounded in empirical evidence for a balance that does justice to issues of comprehension, writing in response to reading, and critical examinations of text. Block and Pressley (2002) and others have argued persuasively that exemplary reading instructional programs provide students with rich opportunities to learn to comprehend printed text, while still providing a focus on the teaching of decoding skills, promoting growth in sight words, and providing opportunities and incentives for easy recreational reading.

It seems clear that although an intense instructional focus on fluency may pay short-term dividends, the cost–benefit analysis of such an emphasis for adolescent learners looks less attractive. We are not the first to point out that too many learners move from elementary into secondary school with serviceable levels of skill in decoding and fluency, yet are unable to comprehend what is read (Brown, 2002; Greenleaf, Jiménez, & Roller, 2002; Wilhelm, 1996). In California, where a heavy emphasis on instruction in fluency in the elementary grades has been the state's prescription for several years now, standardized test data reveal a sizable drop in reading comprehension scores across the state when students make the transition to secondary school. Table 7.3 summarizes the percentage of students scoring at or above the 50th national percentile rank on the Stanford 9 Test given each year to all of California's students and shows quite clearly the magnitude of this drop (California Department of Education, 2002). Fluency—along with its attendant correlates, accuracy and automaticity—may indeed be a necessary, but surely not sufficient, condition for comprehension.

So what does research say about how we intervene to teach struggling adolescents to comprehend what they read, once we have agreed that a

TABLE 7.3. Percentage of California Students Scoring at or above the 50th NPR by Grade Level between 1998 and 2002

	1998–1999	1999–2000	2000–2001	2001–2002
4th grade	41	45	47	49
8th grade	47	49	50	49
9th grade	34	35	35	34
11th grade	35	36	37	37

focus on comprehension is an instructional necessity? We might begin by scrutinizing what researchers mean by "struggling" and by "intervene." Researchers have pointed out repeatedly that "struggling" is definable only with reference to a particular context and a particular standard; there exist, out there somewhere, a situation and a criterion that will reduce all of us to the "struggling" label under certain circumstances (e.g., O'Brien, 2001). The competencies that emerge quite readily in some contexts (e.g., home or community settings) may not show up in the classroom (Rogers, 2002). Even so, teachers do indeed sometimes encounter high school students reading at a second-grade level, who struggle with decoding and fluency issues for which specific interventions related to technical skills may be needed. Let's be clear about our sense of the nature of the struggle in question: Far too many adolescents struggle when they must use literacy as a tool for academic learning. That said, it seems equally clear that interventions must help learners bridge from strengths to new capabilities, from home and popular discourse to academic discourse. There is no longer space for models of instruction driven by theories of deficits and remediation.

Lately, the term *intervention* itself has been explored in an effort to unpack assumptions sometimes surrounding it (Greenleaf et al., 2002). Jiménez wrote about a concern with the term stemming from "the idea that we . . . as educators . . . can enter a setting for a limited period and believe that as a consequence we bring about permanent and lasting change" (p. 485). Jiménez added, "We have to move away from the view of interventions as *deus ex machina*-type events and move toward more collaborative-type affairs involving researchers, teachers, students, and their families" (p. 487). We agree with Jiménez that the notion of intervention ought not be construed as a "quick fix" and argue that an intervention, in order to promote genuine learning potential among students, must possess two characteristics: a commitment to long-term, durable, permanent, measurable change, and an inclusive, collaborative framework of activity for involving all participants in the local setting in the work of raising the performance levels of struggling adolescents. Brief encounters with an isolated teacher in an isolated classroom, while everyone else goes on with business as usual, will not help students meet the textual challenges they face in schools.

The collaborative spirit must extend to teachers who engage in the design of the learning environment and to students who actually use the strategies taught to them in these learning environments. Interventions ought to be carefully crafted on the basis of strong theoretical knowledge of the basic processes of reading comprehension and learning from text *and* rich knowledge of local contexts, after which interventions should be

refined on the basis of carefully designed local experiments and finally validated in something approximating randomized experiments. Our fear in the current milieu is that, in our rush to find panaceas to fix the problem that vexes us all, we will inadvertently ignore all but the last step in the scientific process. That would be a mistake, because we would end up trying to validate interventions that had neither the backbone of sound general theory nor the grounded validity of local knowledge.[1]

Fortunately, the good work of the past several decades has provided useful theoretical tools to organize instructional interventions with the promise of making a real difference in the academic lives of students. Here, we define *instruction* as *a staging of purposeful activity over an extended time frame. Furthermore, we expect that instruction will help students comprehend text and learn something about how one comprehends within particular academic discourse settings—settings that self-consciously integrate knowledge, cultural, and language resources brought into the classroom by the learners.* Just as researchers have said for many decades, instruction includes planned activity for purposeful learner engagement in cognitive and metacognitive work before, during, and after reading; our definition of *instruction* makes explicit the notion that the intellectual capital learners bring with them to learning activities must play a vital part in advancing their academic capital.

In the following paragraphs, we lay out a model of four levels of instructional interventions and tie each of these levels to research in reading comprehension. These levels are nested, in that the characteristics of a level 1 intervention are necessary but not sufficient for a level 2 intervention; similarly, the characteristics of a level 2 intervention are necessary but not sufficient for a level 3 intervention. As the level of the intervention rises, characteristics are added to the intervention, not taken away. In general, interventions at levels 1 and 2 are rooted in comprehension research done in accordance with an information-processing model of reading, which assumes that information is taken in and manipulated via cognitive processes such as attention and memory, so that readers construct mental representations of the propositional content of texts (e.g., Kintsch, 1998). By studying the kinds of cognitive processes good readers use as they construct these mental representations, researchers have identified a list of cog-

[1] *Local knowledge* is a term that the eminent anthropologist Clifford Geertz (1983) popularized to describe the power of the belief systems of particular cultural groups in explaining their worldviews and everyday activity. We use it here as a rough approximation to Collins, Brown, and Duguid's notion of situated cognition (1989). Our emphasis is on the notion that cognitive strategies that are not culturally adapted are not likely to succeed, prosper, and achieve any sort of continued cultural transmission across generations.

nitive strategies that are appropriate as a focus for instruction (see Dole, Duffy, Roehler, & Pearson, 1991).

We propose that instructional interventions aimed at helping older struggling readers comprehend texts in an academic discourse setting can have a greater effect on a larger number of learners when the elements of information-processing models (e.g., Afflerbach & Pressley, 1995) are integrated with social and cultural models (e.g., Smagorinsky, 2001). The result is a level 3 intervention. To explain what we mean by this integration, we have created a three-part conceptual framework for comprehension instruction that we believe captures lessons from research over the past few decades and points in the direction of future interventions that meet the Jiménez criteria of permanent change and local collaborative work.

Level 1 interventions focus primarily on the reader and the text, and aim to teach learners cognitive strategies for creating mental representations of the content of a text (what Kintsch has called a *text model*). As Anderson and Pearson (1984) and others have demonstrated, the role of prior knowledge in comprehension is a critical consideration in planning instruction to help readers activate, draw on, and build schemas before, during, and after reading—and learners need opportunities to examine how prior knowledge works during reading, a characteristic of level 1 intervention. As Rosenblatt (1978) explained, the activity of the reader as he or she moves through a reading event is shaped by the stance the reader takes toward the text along an aesthetic–efferent continuum (in which aesthetic stances privilege impressionistic reader response, and efferent stances tilt toward the workman-like extraction of meaning from "the text")—and teachers using a level 1 intervention provide opportunities for students to take up and examine their thought processes at various points on this continuum. As Meyer, Brandt, and Bluth (1980) and Taylor (1980) demonstrated, good readers look for structure in texts and differentiate between important and less important ideas; level 1 interventions include the teaching of strategies such as graphic organizers to help readers gain control of the macrostructure of texts. Level 1 interventions aim to help readers develop the cognitive and metacognitive strategies that good readers use to create mental models of texts.

Level 2 interventions include all of the characteristics of level 1 interventions but bring the author into the equation. Much of the research done over the past few decades to illuminate the cognitive processes of expert readers has used think-aloud methods (Afflerbach & Pressley, 1995; Kucan & Beck, 1997). Findings from these studies converge on the point that expert readers are active, that they question not just the text, but the text and its author(s), and that they engage, sometimes automatically and

other times self-consciously, in all of the cognitive behaviors identified by researchers as central to effective comprehension (Dole et al., 1991). Level 2 interventions include learning activities related to constructing a mental representation of text, but they also teach learners to use their own knowledge and understanding as the basis for asking and answering questions that involve the learners "on their own," and that involve "the author and you" as per the instructional strategy Question–Answer Relationship (QAR; Raphael, 1982, 1984, 1986). Beck, McKeown, Hamilton, and Kucan's (1997) work with the strategy Questioning the Author is an example of a level 2 intervention. Using this strategy, teachers help learners understand that texts are framed or staged by an author to work in particular ways more or less effectively; authors are seen as fallible and intentional, and readers have the right to question them.

Level 3 interventions extend the explanatory power of information-processing theory to account for the emergence and deployment of cognitive behaviors within particular sociocultural contexts and activity settings (cf. Smagorinsky, 1998). Instructional interventions designed to stimulate the higher order cognitive behaviors of expert readers must take into account the relationship between the social context and these cognitive behaviors. Smagorinsky (2001) has developed a cultural model of reading that could form the basis for an exploration of level 3 activity, with an emphasis on the relationship between cognition and context in reading events. Smagorinsky's model is grounded in activity theory and "rel[ies] on the notions of tool and sign to describe what a text is and how a reader constructs meaning through joint activity with the text and other mediators . . . [and views] culture [as] the basis for meaning, serving to mediate the development of what Vygotsky (1978) called higher mental processes" (p. 134).

In a level 3 intervention, there is concern with academic discourse as one of many contexts of language use that readers must master, but there is also a concern for the reader's identity as an "agent of culture" rather than simply a "bearer of culture" (Ochs, 1996, p. 416), and with motivation for and access to legitimate participation in communities of literacy practice (Lave & Wenger, 1991) in just and fair ways. There is also a focus on structured opportunities for teachers to collaborate as they build a common professional knowledge base about instructional practices, examine student work for insights into the effects of practices, and articulate strategies for engaging learners as responsible agents in the academic culture of schooling. At the heart of level 3 intervention is the goal of helping learners regulate their own cognitive and social activity, in and out of the classroom, in ways that balance their own perspectives with the perspectives of the communities in which they engage in literacy acts.

Baker (2002) has provided a useful perspective on the relationship between metacognition and comprehension instruction: "Just as the engagement perspective and the learner-centered principles have made it clear that we need to go beyond cognitive factors to understand reading comprehension and learning, so too do we need to recognize that motivation and social interaction also influence metacognition" (p. 78). Baker discusses the importance of affective and motivational factors in metacognition, grounding her arguments in the Vygotskian notion of internalization: "There is a sequence of development from other-regulation to self-regulation. This notion provides the framework for virtually all instructional programs in which the goal is to enable students to take responsibility for their own learning" (p. 78). From this point of view, motivation and emotional states are central to accomplishing the cognitive goal, because it is unlikely that behavior will change in the absence of volition.

Motivational orientations are linked closely to social environment (e.g., Covington, 1992). If motivation and affect are central to cognition/comprehension and metacognition, if achievement motivation and overall affect are shaped at least partly during social interactions, then comprehension instruction itself must be social and cultural, both in theoretical grounding and in everyday implementation. From the perspective of cultural–historical psychology, teaching sequences designed as comprehension instruction qualify as "practices" or "activities" or "events" and ought to be examined in what Cole (1995) has called "the supra-individual envelope of development: activity and practice, situation and context." Cole employs Engestrom's basic structure of an activity system as a useful "framework for understanding the development of thought in culture" (p. 117). A number of recent reading and literacy theorists have echoed in one way or another Cole's insistence on the examination of individual behaviors, including reading behaviors, as inseparable from the materials, resources, affordances, and values of the social and historical surround (e.g., Gee, 1996; Rogers, 2002; Sarroub, 2002; Smagorinsky, 2001; Street, 1984, 1993). We agree with Baker in her argument that instruction in cognition and metacognition must involve concerns for motivation and affect, and we find the elaboration of this argument by anthropologically or socioculturally oriented literacy theorists (e.g., Gee, 1996) useful in our effort here to transform a *theory* of comprehension instruction for older readers, who all struggle at one point or another, into *practices* that add value to the their lives.

To expand our understanding of level 3 interventions, we see a need for researchers to address the role of context in reading far more explicitly than in the past, with an eye toward revising the role of the teacher from coach of the learning team to player (or perhaps a player/coach) in the

learning game. Moreover, the roles and status of learners must be explored in an effort to provide social scaffolds that compel them to become more deeply involved in complex learning in classrooms. The three approaches we describe in the next section point in these directions. We also envision a level 4 set of interventions on the horizon, involving intermediality and the Internet (O'Brien, 2002) and film, together with other visual symbols systems. We return to a brief discussion of level 4, an admittedly speculative and sketchy construct in our minds, in our conclusion.

Over the past 25 years, important insights into reading comprehension and instruction have been generated in cognitive psychology, reading education, and English education. Programs and practices have been reported in the scholarly literature that should have had a major impact on student achievement, but the promise of this scholarship has not been realized in everyday classroom practice. The question is not, How do we teach learners to comprehend?—though many perplexing research issues remain in answering that question; the question is, How can we help teachers implement instructional interventions that integrate and capitalize on family, community, and school resources in a way that actually makes a permanent difference in the lives of students? We argue that attention to the levels of intervention framework can help.

AN ONGOING LEVEL 3 INTERVENTION: THE PATHWAY PROJECT

The Pathway Project, a collaborative intervention between the University of California, Irvine, a California Writing Project (UCIWP), Santa Ana Unified School District (SAUSD), and Santa Ana College (SAC), began during the 1996–1997 year after getting funded via the University of California Regents Diversity Initiative (see Olson, 2003, for a thorough report on the project). At this writing, the Pathway Project receives funds from the U.S. Department of Education Office of Bilingual Education and Minority Languages Affairs (OBEMLA). Designed specifically to provide a pathway of language arts classes to prepare English-language learners (ELLs) for effective participation in academic literacy settings at the high school and college levels, this intervention serves a student population made up almost entirely of minority groups: 88.9% Hispanic, 5.6% Asian/Pacific Islander, 1.3% black—75% of whom live below the poverty level. Santa Ana College is significant in the partnership, because 53% of all SAUSD graduates matriculate to SAC, where they must apply whatever skills they have developed in academic literacy during their high school years. Indeed, the vision has been to develop learners' academic English proficiency using all of the cognitive strategies identified in the research; to

keep these learners in high school; and to see them go to 2- or 4-year postsecondary institutions.

The Jiménez criteria of durability and local collaboration as nonnegotiable characteristics of an intervention are well exemplified by the Pathway Project. Having sustained itself for 7 years with an accumulation of data providing an evidentiary basis of its effectiveness, the project has mobilized large groups of individuals involved in schooling in articulated, coordinated activity keyed to the goals and vision of the project. In answer to questions about reasons for the project's success, Olson (2003) points to the stability and commitment of teachers, motivated by their own professional growth and by the long-term development of the literacy of their students, who participate regularly in school site teams, grade-level teams, and vertical (6–12) cluster teams, including 6 full-released days at UCI per year.

The project has grown from 14 teachers and 490 students in 1996–1997 to 46 teachers in 54 classrooms in 9 middle schools and 4 high schools, and 1,890 students in 2002–2003. Even the project evaluation strategy was designed to get real, useful information back to students through the deployment of UCI undergraduate students as raters of the learners' pretest essays. Learners get their pretests back with feedback from a Pathway Project reader, then revise their pretest timed essay into a multiple-draft essay, using cognitive strategies taught in their class. Weeks later, they evaluate their pre- and posttest essays, and write a reflection on their growth as learners. Pathway Project teachers come to adopt a strong cognitivist orientation toward comprehension pedagogy, in that the menu of strategies often associated with comprehension instruction (e.g., Dole et al., 1991) are staples of instruction. Olson (2003) summarized this orientation as follows:

> One of the key principles of instructional scaffolding is internalization—the transferring of control from the teacher to the students as they gain competence and can apply the strategies independently. To do this, students need to move beyond declarative and procedural knowledge to develop conditional knowledge, to know when and why to apply various strategies and to "orchestrate" their use (Paris, Lipson and Wixon, 1983).

This emphasis on extending beyond declarative and procedural knowledge into conditional knowledge (the why and when of strategy use) is another aspect of the Pathway Project that moves it to a level 3 intervention. To learn conditional knowledge, students must be construed as participants in activity settings, and, of course, the activity settings in the Pathway Project necessarily entail those in which one form or another of academic dis-

course is critical for successful performance. Although the Pathway Project appears not to have a strong, or at least a transparent, focus on developing identity and agency, it brings together resources to help learners gradually assume more responsibility for completing academically valued work and for participating meaningfully in academic discourse communities.

Data supporting the effectiveness of the Pathway Project are impressive. The main instrument used to measure growth in reading and writing is a pre- and posttest, timed direct-writing assessment administered in October and again in April/May. The prompts direct students to write an interpretation of a literary work, a well-structured essay with evidence, supporting details, comments, and interpretive statements—precisely the sort of work the NAEP might classify as "proficient" or even "advanced." Since 2000, an average of 3,000 learners, 1,500 Pathway and 1,500 controls, have taken the pre- and posttest each year. Pre–posttest differences in gain scores between Pathway and control students have been statistically significant for 6 consecutive years. Other measures have favored the Pathway cohorts as well. Six variables are reported in Olson (2003) for 2000-2001: GPA, absences, SAT-9 Reading and Total Languages scores, and fluency. The Pathway group was statistically superior in every comparison except for days absent, suggesting that it is not mere presence that matters most, but what the students do while they are present in the school setting.

ANOTHER LEVEL 3 INTERVENTION: THE PORTFOLIO PROJECT

Designed and implemented during the peak of interest in alternative assessments of the 1990s, in particular, portfolios, we refer to the second instructional intervention we discuss as "the portfolio project" (see Murphy & Underwood, 2000; Underwood, 1996, 1998, 1999; Underwood, Murphy, & Pearson, 1995). This project resulted from the collaborative efforts of teachers in an English department serving an ethnically and linguistically diverse population that attended an urban middle school in northern California to create classroom cultures that invited learners to take up responsibility for their own learning.

For one thing, the idea was for students to develop literacy work habits like those seen in craftspeople or artists. Indeed, the intervention was grounded in the metaphor of the artist's portfolio, as Wolf (1987–1988) expressed it:

> First, in the arts, the ability to find interesting problems is . . . as important as being able to answer someone else's questions. . . . Second, learning in the arts often occurs in very large chunks spread out over a long period of time. . . . Third, it is

> essential for young artists . . . to develop a keen sense of standards and critical judgment. Consequently, in the arts, [work] cannot be restricted to highly structured problems or just to finished products. (pp. 26–27)

The intervention was also rooted in what Bereiter and Scardamalia (1987) termed the *intentional model of learning* in contrast to the *knowledge-based model*:

> Within [the knowledged-base model] . . . the competence that a student will display depends on interest and intention, and these in turn influence the constructive activity that lead to future development. . . . [But] at any one moment student motives are taken as givens, [though] they are also thought of as evolving and capable of being stifled or nurtured by the teacher. The same notions apply to the [Intentional Learning model], except that in [this model] interests and intentions are not just mediators of competence, they are *part of a person's competence—something to be developed*. (p. 14, emphasis added).

The starting point for this intervention, then, was a theory of the learner as an agent with aesthetic inclinations responsible for developing not only academic knowledge and skills but also dispositions and habits that could sustain challenging and complex literacy work over time.

This theory of the learner was also informed by the work of researchers in the area of achievement motivation, who examined the centrality in academic accomplishment of the will and the drive to learn and to improve in life (e.g., Covington, 1992; Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990). Beginning in the 1970s, achievement motivation theorists developed a goal-oriented model of motivation that aligned well with the student-as-artisan aspect of portfolio approaches. Dweck and Leggett (1988) and Midgley (1993), for example, explained that students who persist in the face of challenge, and who engage deeply in tasks, tend to exhibit a learning goal orientation, that is, they exert effort because they believe that effort will improve them intrinsically; students who do not persist, or who do not deeply engage in tasks, tend to exhibit a performance goal orientation; that is, they exert effort only to advance their status, to gain approval, or to avoid disapproval. The portfolio project, with its emphasis on student ownership, choice, task engagement, and reflective analysis, was intended to help students become oriented toward learning goals by helping them to develop interests and intentions, then to satisfy those interests and intentions through reading and writing.

In alignment with California's assessment system and curricular framework for language arts current in the mid-1990s, the English teachers took as their instructional objective the teaching of literary reading, as the con-

struct was defined by Rosenblatt (1938/1983, 1978) and elaborated by Langer (1985, 1987, 1989). According to this perspective, readers transact with texts in one of two dominant stances: an aesthetic stance or an efferent stance. Readers assuming an aesthetic stance in Rosenblatt's sense transact with text in order to evoke an intensely personal inner response, a vicarious experience, the value of which lies in the experience of the event in itself. Readers assuming an efferent stance transact with text in order to carry away information; readers' responses to reading events in themselves are irrelevant so long as accurate or useful information is gained.

Rosenblatt argued that English teachers, most likely as a result of the long "apprenticeship of observation" (Lortie, 1975) they have served in school and university classrooms, have long taught readers to approach *all* texts, even poems, in the efferent stance, by privileging the reader's ability to answer questions or to show evidence to prove that he or she carried away information. The teachers at this middle school were acutely aware that Rosenblatt's model did *not* give readers permission to distort or miscomprehend textual information—neither was the state's reading assessment (long since abandoned) built on this assumption. But they also understood that the essence of Rosenblatt's aesthetic reading is constituted of a reader's response. Taking on the teaching of aesthetic reading as the primary instructional objective fit well with the learner-as-artist metaphor at the heart of the portfolio system, and it opened up space in the classroom for learners to focus their literacy work on their own interests, intentions, and purposes.

The elements of the instructional intervention were designed to engage students in goal-setting and self-monitoring activities, to provide direct instruction in cognitive strategies useful in understanding and responding to texts (e.g., predicting, visualizing, questioning, clarifying, connecting prior knowledge), to give students formal and informal qualitative and evaluative feedback on their work, and to hold them accountable for completing their work in a thoughtful and thorough manner. Students in the intervention classrooms were graded according to explicit criteria spelled out on a rubric. For example, to earn an A, students had to provide evidence in their portfolios of reading done habitually almost every day, often for long periods of an hour or two; of readings that not only entertain but also challenge and stretch capabilities; and of reading widely and experimenting with new authors and forms. Moreover, students had to provide evidence in their daily text logs (learning log–type entries) that they were transferring cognitive strategies taught directly in their classes to the reading of self-chosen books. At the end of every trimester, these students would submit both self-selected and required classwork in their portfolios to a committee of English teachers that examined this work by

applying the criteria of the rubric, issued a letter grade for the students' report card, and wrote individual commentaries for each student describing the student's strengths and areas for improvement. (For more information see Murphy & Underwood, 2000; Underwood, 1999.)

A quasi-experimental design was employed to help determine the effectiveness of the intervention using matched pairs of pre–/posttest scores on a reading test representing 246 students from nonintervention classrooms at the three schools and 211 students from intervention classrooms. Patterned after the California Learning Assessment System (CLAS) reading test developed in California in the early 1990s (Claggett, 1996) and vaguely reminiscent of the NAEP performance levels, the test employed at the middle school asked students to write responses to open-ended questions, which were independently rated by two scorers using a 6-point scale wherein score points 1 and 2 represented confused and/or partial understanding; 3 and 4 represented control of the literal facts of the passage, with perhaps some thoughtfulness; and 5 and 6 represented sophisticated, agile, resistant reading, nonetheless evidencing firm grounding in the text. Table 7.4 presents mean scores and standard deviations for these students on this measure.

A mixed-model analysis of variance (ANOVA) was conducted, with reading achievement as the dependent variable measured across time, placement (portfolio vs. nonportfolio classroom placement) as a fixed explanatory variable, and the teacher as a nested, random, explanatory variable. There was a significant interaction between reading scores across time and placement ($F_{1, 451}$, *MS* error [1.31] = 7.57, $p < .05$). In other words, participation in the portfolio intervention classrooms had a statistically significant positive effect on reading achievement as measured by the site's direct reading assessment. According to the Jackson and Brashers (1994) recommendation for analysis of random, explanatory variables such as "teachers," it is probable that the average effect of the intervention on reading achievement, if it were implemented across a wide variety of teachers, would be positive for students' reading achievement. (For a full account of the statistical analysis, see Underwood, 1998.)

TABLE 7.4. Pre–/Posttest Reading Scores for Intervention versus Nonintervention Students

	Nonintervention students	Intervention students
Pretest	*M* = 2.76 *SD* = .97	*M* = 2.97 *SD* = .83
Posttest	*M* = 2.52 *SD* = .79	*M* = 3.13 *SD* = 1.01

TABLE 7.5. Means and Standard Deviations on Three Dimensions of Goal Orientation

	Approval goals	Learning goals	Advancement goals
Intervention students (n = 265)	M = 21.19 SD = 6.7	M = 27.86 SD = 6.2	M = 32.65 SD = 6.2
Nonintervention students (n = 183)	M = 20.92 SD = 6.6	M = 25.91 SD = 9.9	M = 32.65 SD = 7.3

Students in the intervention and the nonintervention classrooms were also surveyed near the end of the academic year with an adaptation of Hayamizu and Weiner's (1991) achievement motivation survey to gather data regarding three aspects of goal orientation: (1) the learning goal orientation, wherein effort is exerted to acquire knowledge, to improve skills, or to learn about the world; (2) a performance-approval orientation, wherein effort is exerted to be better than others, to gain the immediate social reward of favorable recognition, or to avoid the immediate social punishment of unfavorable recognition; and (3) a performance-advancement orientation, wherein effort is exerted to move forward in the institution in order to enhance one's life chances. Table 7.5 reports findings from this survey for each goal orientation (minimum possible score per dimension was 8, maximum was 40). Simple, one-way ANOVAs used as post hoc analyses, with each scale as a separate dependent variable and placement as a fixed explanatory variable, revealed that students in the portfolio classrooms registered significantly higher scores on the learning orientation scale than did students in the nonportfolio classrooms ($F_{1,\ 446}$, MS error [42.05] = 9.82, $p < .01$), but that there was no difference between the groups on either the approval or the advancement scales. Inspection of the respective mean scores for each group, as reported in Table 7.5, shows that each placement condition was very similar on the advancement and approval scales, but not on the learning scale, where almost two points separated the groups. These analyses suggest that the intervention did indeed have an effect on the motivational stance of students.

A THIRD LEVEL 3 INTERVENTION: THE READING APPRENTICESHIP

Like the portfolio project, the final intervention we discuss, which we refer to after the program designers as the *reading apprenticeship*, was created and implemented during the mid-1990s, also with the firsthand involvement

of practicing classroom teachers (see Greenleaf, Schoenbach, Cziko, & Mueller, 2001; Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999). As head of the English Department at Thurgood Marshall High School in San Francisco, an urban school that opened in 1994, serving one of San Francisco's poorest communities, Christine Cziko began working in 1995 with researchers from WestEd to develop an instructional approach that might solve the problem identified during the first 2 years of the school's operation: "[A] high number of our students were having difficulty getting through heavy reading requirements that our curriculum demanded" (Schoenbach et al., 1999, p. 46). Having tried alternative strategies such as designing and implementing interdisciplinary community-based projects with improvement in student engagement but little consequence for their reading abilities, Christine Cziko and Lori Hurwitz, two English teachers at Thurgood Marshall, decided to require a course called Academic Literacy for all freshmen: "We believed strongly that all freshman could benefit from becoming more conscious of the mental strategies involved in reading different types of texts [and] that diverse readers would learn from each other" (Schoenbach et al., 1999, p. 47).

The result of this decision to create and implement a course aimed at promoting growth in academic literacy among students, most of whom entered ninth grade reading at NAEP's basic or below level, is an approach to instructional intervention that has begun to have an impact across the nation (cf. Greenleaf et al., 2001). The heart of this particular intervention is an instructional framework that recognizes not only the central importance of cognitive strategies and metacognitive awareness in comprehension but also that comprehension in academic settings is shaped by personal and social elements that must be accommodated. During the first weeks of the course implemented at Thurgood Marshall, for example, the instructional focus was on neither text structures nor graphic organizers, but on helping students develop a sense of why anyone might want to read better in the first place: "It was clear to us that unless students could develop their own authentic reasons for reading, there was little chance that anything they learned in Academic Literacy would have a lasting impact" (Schoenbach et al., 1999, p. 59). In parallel with its approach to professional development for practicing teachers, the reading apprenticeship course was designed as an inquiry into reading carried out by these adolescents themselves as apprentices working with their teachers as master readers. As part of this inquiry, students were guided through investigations such as the following: "Investigate . . . the people who read in our society, what they read, why they read, and how reading affects their lives; investigate . . . the people who do not read in our society and how not reading affects their lives" (p. 25).

Just as the portfolio project combined direct teaching of cognitive strategies with plenty of opportunity for students to read self-chosen materials, the reading apprenticeship instructional plan involves reading of common texts using comprehension strategies and the use of Sustained Silent Reading in a closely monitored and collaborative setting. The reading apprenticeship intervention relies heavily on the "mental toolbelt" of Reciprocal Teaching, as this strategy was developed by Palinscar and Brown (1983). In this approach, students are first taught a variety of questioning strategies for several weeks and then to focus on summarizing, clarifying, asking questions, and predicting. Once students have some depth of experience with these strategies in situations in which they have read personally and socially relevant texts, they begin to practice reciprocal teaching by orchestrating all of the strategies at once in small groups. As part of this ongoing work, teachers teach strategies such as ReQuest and QAR, and those who participate in the Strategic Literacy Initiative's ongoing professional development activities devise and revise their own instructional strategies to share with colleagues. (For more information see Schoenbach et al., 1999, or Greenleaf et al., 2001).

During the 1996–1997 academic school year at Thurgood Marshall, students in the Academic Literacy course were tested before and after the course by alternate parallel forms of the Degrees of Reading Power (DRP) test. Because the students in the intervention could not be compared with a control group, WestEd researchers decided to use a norm-referenced test like the DRP to index the growth of these ninth-grade students against "default growth expectations" provided by the national population of ninth-grade students represented by the norming sample. The DRP has an additional attribute that makes it appealing for measuring reading growth: among the indices it provides is one on which both student achievement and text difficulty (using a fairly large sample of classics in children's and adolescent literature) have been scaled. Thus, the DRP can locate the most difficult kind of text a particular reader, with a particular test score, is likely to negotiate effectively. As a group, the ninth-grade students in the original Academic Literacy course gained 4 DRP units over the year, representing a statistically significant difference when compared with what is expected of ninth graders in the larger group ($t = 7.558$, $df = 215$, $p = .000$). When referenced by trade materials, this gain suggests that students improved from the ability to read children's magazines to the ability to read teen fiction and adult fiction magazines. Survey results indicated that students had changed in other ways as well. For example, when surveyed at the beginning of the course, students claimed to have read a mean of 5.58 novels in the previous year; on the end-of-course survey, students claimed to have read a mean of

10.99 books during the year. (For more information see Schoenbach et al., 1999, or Greenleaf et al., 2001).

COMMONALITIES IN DESIGN

Aspects of level 1 comprehension intervention can be found in each of the approaches to instruction we have discussed. The Pathways Project taught students in the SAUSD several strategies to use in constructing the gist of a passage, including ways to identify main ideas in a text and to note organizational patterns. At Charles Ruff Middle School, learners were taught strategies for depicting the content of their readings and writings in ways that promoted the skill of identifying text structures; they were taught simple strategies for story mapping, for example, and they learned to use narrative retelling strategies such as Herringbone. At Thurgood Marshall, learners apprenticed on such tasks as summarizing expository text, previewing, and making graphic organizers, and learned a great deal about structural and organizational shifts in texts. In both schools, teachers placed an emphasis on understanding the propositional content of texts.

Aspects of level 2 comprehension intervention, marked by attention to reader, text, and author, are also present in each of the approaches to instruction. Pathway Project teachers support students in learning to generate questions about topic, genre, author–audience, purpose, and related issues; students learn to analyze the author's craft. At Charles Ruff and Thurgood Marshall alike, teachers were keenly aware of the instructional need to help students find books they liked and that were within reach; readers were encouraged to come to know how and which authors craft the kinds of texts in which they could engage with some enthusiasm. This concern for a reader–text match intersected in both approaches with helping students access challenging texts in a cumulative and frequent fashion to stimulate intertextuality, build knowledge of content and genre, increase fluency, and understand the place of the author in reading events. In both approaches, teachers understood that students need to make a transition from familiar and inherently interesting texts to less familiar texts that actually show up much more often in academic discourse. Holding dialogues with the author—and with characters or figures within texts—also permeated instruction in both approaches. At Thurgood Marshall, Taffy Raphael's QAR was a staple, because it distinguishes so clearly among text- and reader-based activity. At Charles Ruff, students questioned the authors and the characters in their text logs, in class discussions, and in role-playing performances.

In each example program, we find several important aspects of Level 3 intervention. First, at the heart of each approach is a concern with the development of the reader's identity as an agent (thus, as a social and cultural being) and as an individual with a clear understanding of what literacy can and cannot do for him or her. This is exemplified in the programs' common insistence on student choice in books, including the right to abandon a book that is not working out. In each approach, local classroom and school libraries became centrally important to student success. To communicate with students about the reality of schooling in the modern world, each approach made full use of the notion of "institutional credit" and "grades" as the cultural capital of school. Indeed, the Pathway Project went to great lengths to help students see the link between their secondary school work and the local community college. The idea was this: Students needed to learn that they could achieve a high level of literacy for their own benefit—and that such achievement was valued in the institution.

Moreover, each approach recognized and took seriously the notion that academic literacy practices entail deep and critical processing of complex text across a range of genres. Learners in the Pathway Project were taught the pinnacle skill of writing an analytical/expository essay stemming from the serious study of serious works of literature. Adolescents participated in carefully scaffolded writing instruction to help them understand the difference between argument, commentary, and evidence. At Thurgood Marshall, the main goal of the class was to promote growth in students' capacity to engage and learn from nonfiction texts, to develop persistence and stamina, and the will to read complex texts. Like the Pathway Project, at Charles Ruff, the main goal was to create students who could participate effectively in the kind of reading and interpretation of literature that English teachers have long valued in schools. Reading was seen as a way to think and participate within one or more disciplines, a theme that was discussed explicitly with students. To build capacity to teach students academic ways with words involved changing how teachers went about their work in classrooms, to be sure, but it also involved collaboration across classrooms in an effort to create a culture of literacy for students that spanned classrooms. In both approaches, the aim was not simply to prepare teachers for the delivery of one or another instructional model, but to change the very nature of student–teacher interactions.

It is not irrelevant in these approaches that teachers *volunteer* to teach in a manner consistent with the routines and practices of the approach; teacher attitude and motivation are central to the intervention. Just as students worked at choosing books for themselves, the teachers worked at choosing how best to teach their students based on their growing under-

standing of theory and practice in an environment of inquiry and experiment. But let's be clear: This is not pedagogical or interpretive relativism, where anything goes for either teacher practice or student interpretation. Students and teachers exercised agency and choice but always within the context of providing evidence, argument, and warrant for the choices they made and the stances they took.

Assessment in level 3 interventions also tends to be broader based than that in lower levels. In each approach, students were given frequent opportunities to reflect on and assess their work in both informal writing and class discussions. Self-assessment and self-regulation were emphasized in a context of accountability and responsibility, where effort was prized and willingness to work through bouts of confusion was valued. But external assessment was also valued. The Pathway Project assessed students using a direct writing assessment strategy and standardized test data; at Charles Ruff, students took an externally scored reading exam and submitted their portfolios for external evaluation as a measure of pre- and postperformance; at Thurgood Marshall, students took a commercially prepared reading test to serve these purposes. In each approach, qualitative and quantitative data alike were collected on issues of student motivation, attitudes, and engagement.

CODA

We are encouraged by both the content and the results of these Level 3 interventions. Our encouragement stems from several key features of the interventions. First, each manages to balance the potential conflict that arises regarding the question of which of the four faces of reading comprehension (reader, text, author, or context) should be privileged in building a program for adolescents' text comprehension. Second, each faces up to the accountability of external assessment by recognizing that a good program should help student achievement in not only its own curriculum-embedded assessments but also in more general indicators of student progress, such as standardized tests and standards-based measures. Third, each does what all good programs should do: It turns over the reins of responsibility for text understanding just as soon as possible to those who deserve to control these processes and activities—the students. But each program is careful not to turn over this responsibility too soon, not before the students can handle it under supported learning conditions. In a sense, each embodies the principle of "gradual release of responsibility"(Duke & Pearson, 2002; Pearson & Gallagher, 1983) in its instructional delivery. Fourth, each provides practical tools that students can use on a daily basis to negotiate the

slippery slopes of complex, conceptually dense, and sometimes inconsiderately written subject-matter texts. And it is this last point upon which all reading interventions for adolescents should be judged, for it remains the Achilles' heel in the lives of so many of our older readers and a thorn in the side of so many secondary school subject-matter teachers.

One final parting note: It was just beyond our conceptual reach (and way beyond our empirical evidence) to work out a level 4 in our conceptualization of comprehension instructional approaches. Whatever we do in level 4, it will involve a shift to an even broader view of context than is present in level 3 (which already includes reader, text, author, and social context). We see at least two big changes in level 4—what counts as text, and what counts as context. What counts as a text in level 3 remains largely a traditional written text, probably one that would most likely be encountered in schools. Many scholars and teachers have been at work trying to expand our notion of what counts as text, extending the construct to imaginal texts, electronic texts, hypermedia texts, and experiential texts—all of which would be in level 4. The biggest shift in thinking required in expanding the notion of text is the resulting expansion of the construct of intertextuality, which necessarily entails the juxtaposition of just about "everything" (very much in a Bakhtinian tradition). When the definition of comprehension instruction stretches to include guided activities not only in negotiating meaning with printed text in its local context but also in linking strings of meaning created in transaction with printed and other textual utterances, as well as in response to nonlinguistic elements, layers of instructional complexity emerge. Clearly, the requirements of long-term memory and socialization processes become central issues—learning as development, in short.

This expansion of the notion of text requires a parallel shift in our thinking about context, for it suggests that what is "read" as a text in one setting might well serve as context in another. Hence, what is text and what is context depends entirely on the purpose and focus of a particular reading situation. Another topic that has received much recent attention from scholars and teachers alike, family literacy, will also figure prominently in any interventions that qualify as level 4. As a dominant part of the context that is currently neither understood nor accommodated instructionally, family literacy and the related question of funds of knowledge, to borrow Moll's (1992) term (cultural and multicultural capital), will be privileged—and assessed—in level 4 instruction. That said, we are not quite sure where to go with level 4, because we cannot point readily to any clear programmatic instances of it. Even so, we mention it in the hope that we can interest others in working either in partnership or in parallel efforts to lay out and assess the efficacy of some exemplars.

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