



TEN YEARS OF RESEARCH
ON ADOLESCENT LITERACY,
1994–2004: *A Review*



Ten Years of Research on Adolescent Literacy, 1994–2004: A Review

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Introduction

There has been a shift in the field of adolescent literacy in the past 10 years. The focus on cognitive strategy instruction as a way to further the literacy development of adolescents and to “remediate” older, struggling readers has been supplemented with an appreciation of sociocultural influences that shape the literacy practices of an increasingly culturally and linguistically diverse student population. At the same time, a focus on new literacies, digital media, and adolescents’ in-school and out-of-school literacies has influenced both research and practice. However, many interventions for adolescents are still based primarily on the cognitive model of the past. Energy and resources are often expended to find and implement the “best” research-based instructional strategies, but key factors that influence adolescent literacy development are often overlooked. Therefore, this review of 55 research studies published in peer-reviewed journals between 1994 and early 2005 was undertaken to give practitioners guidance in developing teaching strategies and curriculums that will be responsive to the most recent research-based understanding of adolescent literacy. Special attention was given to finding research relevant to students who are often marginalized in secondary content area classes because of ethnicity, language, economic disadvantage, or learning difficulties.

The review focuses on the multiple variables that impact the literacy development of adolescents, divided into four broad categories: developmental variables; social, cultural, and linguistic variables; instructional and assessment variables; and professional development variables. There is clearly a good deal of overlap across the four main categories. For instance, adolescent literacy development is demonstrably influenced by social, cultural, and linguistic variables, and these variables are also essential influences on the effectiveness of instruction, as is professional development. Consequently, the placement of a study within a particular category was sometimes a difficult judgment call, and many readers may legitimately second-guess some of the categorization choices. Cross-references have been made as appropriate, and there is also an attempt to indicate these overlaps in the segues from one section of the review to another.

Studies were selected based on the author’s knowledge of the field, a search of periodical indexes, and a review of articles published between 1994 and early 2005 in each issue of *Reading Research Quarterly*, *Journal of Literacy Research*, and *Reading Research and Instruction*. One article was taken from the International Reading Association’s Internet journal *Reading Online*. In order to limit the length of this review, dissertation studies and research published in the many fine edited volumes on literacy have not been included. Reflecting recent trends in educational research, 14 of the studies in this review used quantitative methods, 34 were qualitative in nature, and 6 used a mixture of qualitative and quantitative methods. Several well-done research studies have not been included because they seemed redundant or did not fit the particular focal points of the review. It is also likely that some worthy research studies have been inadvertently overlooked. Nevertheless, this review represents the work of the very best contemporary researchers working on questions of adolescent literacy.

The order of the four main sections of this review reflects the author’s belief that sound instruction must be grounded on an understanding of the many variables that influence literacy development. In line with the efforts of my colleagues and I to reconceptualize the field of adolescent literacy (Alvermann, Hinchman, Moore, Phelps, & Waff, in press), I have chosen to

begin with studies that describe the development of adolescents' varied literate identities and abilities. This is followed by related research that illustrates how social, cultural, and linguistic variables can affect literacy development. The section on instructional variables features studies of strategy instruction, work with struggling readers, efforts to embed literacy into content area instruction, and research on comprehensive literacy improvement programs. The final section describes some ways that professional development influences teachers' instructional decision-making.

Developmental Variables

Adolescence is often portrayed as a period of immaturity, instability, and turbulence. For instance, teacher candidates in preservice middle school methods courses described early adolescents with terms such as “raging hormones,” “out of control,” and having “lost all ability to reason” (Finders, 1998-1999). Such a one-dimensional and essentializing view does not do justice to the very complex and often sophisticated development that individuals accomplish through their teenage years, when their identities, sexuality, cognitive abilities, social competence, and ethical sensibilities, among other things, are evolving. By the time they graduate from high school, adolescents may have developed very adult capabilities as wage-earners, volunteers, leaders, athletes, artists, musicians, or parents—and, of course, many have developed into accomplished readers and writers.

Literacy-related research on adolescent development reveals quite a different reality from the “raging hormones” metaphor. This section reviews research that demonstrates the very diverse ways in which adolescents develop their identities and their literacy abilities and preferences.

Literacy and Identity Development

One interesting phenomenon is the way in which young people may use literacy as a part of identity development. Nielsen (in press) describes what she calls “touchstone texts” (which might be novels, films, or song lyrics) that allow adolescents to try on and evaluate identities. In an ethnographic study of a group of girls in their seventh-grade year, Finders (1996b) shows how they used various “unsanctioned literacies” such as teen magazines as part of the rite of passage from childhood to adulthood. The “teen zines” were both a symbol of maturity and a guide or handbook to what was appropriate “woman stuff.” The zines also were used to create and reinforce boundaries around the girls’ friendship network, to determine who was in and who was out.

The “social queens” in Finders’ study were largely uncritical in their reading. They did not question either the ways in which the zines situated girls or the gender roles held up as ideals by the articles, illustrations, and advertisements. This is in direct contrast to a study of another kind of zine. In a two-year observational study, Guzzetti and Gamboa (2004) looked at how three girls created a series of “fanzines” featuring social commentary, fiction, poetry, and music criticism, using literacy and technology skills developed for the most part outside of school. The zine, titled *Burnt Beauty*, featured a punk rock “do-it-yourself” sensibility, with articles and art representing feminism, animal rights, and social and economic justice issues. The three high school students communicated their identities through succeeding issues, but their identities also evolved in their mutual collaboration. “Writing in their zine and reading their past articles... assisted them in representing their changing identities and demonstrated the fluid nature of identity representation” (p. 427).

Development of Multiple Literacies

Such sophisticated extracurricular literacy development is not uncommon and can be evident as early as middle school. Kelly Chandler-Olcott and Donna Mahar (2003) present case studies of

two seventh-grade girls who navigated complex online environments to create and share their art and writing, to learn new skills, and to participate in online “communities of practice.” One of these girls, Eileen, learned HTML coding with the help of online mentors, and created her own Web page that explained Web page design to other kids. She culled Internet sources to incorporate various features into her Web design, and she also used Internet activities as a way to assert her developing heterosexual identity. Rhiannon, the other girl, joined a mailing list of people, including many adults, who were interested in animé art. She posted her own artwork and exchanged constructive critique with others on the mail list. Both girls found that their online communities offered them richer and more satisfying social lives than they had in real time.

Adolescent Development in and out of School

All of these girls—social queens, punk-rock zine publishers, and tech-savvy seventh graders—developed and exercised their varied literacies for the most part outside of school, or at least outside of school-sanctioned activity. Not surprisingly, young people find that school does not always feed the development of their diverse interests and abilities. In a survey of more than 400 sixth graders in three economically and ethnically diverse schools, Worthy, Moorman, and Turner (1999) found that students expressed a wide range of reading preferences, with scary stories, cartoons and comics, popular magazines, and sports topping a list of 20 different choices. However, when asked where they got their reading materials, most respondents said they were bought or borrowed from the public library or friends. The availability of the most popular kinds of materials in schools was limited, partly because of lack of resources, but also because teachers and librarians often objected to content or to a particular format. The unavailability of materials was most marked in the preferences of boys and low achievers. Despite evidence that light reading materials are essential for continued reading development, suitable materials are often not available, especially to those who cannot afford to buy books, comics, and magazines.

In fact, research evidence suggests that in many cases, schools may not be very friendly to adolescents’ identity or literacy development. Alvermann, Young, Green, and Wisenbaker (1999) met in the public library in an afterschool book club with 20 students in sixth through ninth grades. These avid readers enjoyed this social outlet and the frequent negotiations over what to read and how to talk about their reading. As they talked, they fashioned new subjectivities as they situated themselves and others in various gender, intellectual, social, or economic roles. They agreed that the library was an accepting space for this kind of talk, but that it could not have worked within the strictures of school.

In a case study of a high school student in an architectural design class, Smagorinsky, Cook and Reed (2005) show how the student’s emerging identity was reflected in his design of a house. However, the student’s unusual design, although it was of high quality, conflicted with the more conventional tract house style expected by the teacher. Although student and teacher were able to negotiate and compromise, and the student’s project went on to place highly in a state competition, the conflict between idealism and pragmatism highlights the ways in which students’ developing individualities often butt up against the more utilitarian aspects of school curricula.

When Ivey and Broaddus (2001) asked nearly 1,800 economically and culturally diverse sixth graders what they valued in their language arts classes, more than 60 percent listed free reading and teacher read-alouds at the top. These students felt that free reading time gave them more chance to engage in thoughtful reading. Less than one third of the students judged reading novels as a class to be a valued activity. The survey echoed the findings of Worthy et al. (1999), in that students reported interest in diverse materials, citing magazines, adventure books, and mysteries most frequently; however, they often did not find what they wanted to read in the classroom. There was a striking difference between school reading and home reading. At home, students read for varied and personal purposes, and pursued topics of individual interest. In class, they were more likely to read “good books” chosen for them by the teacher. Ivey and Broaddus suggest that a curriculum centered on teacher-chosen “good books” may actually limit students’ reading experiences.

In a case study of how schools can sometimes thwart adolescent identity and literacy development, Broughton and Fairbanks (2003) followed four girls, three Latina and one African American, as they moved from sixth grade in elementary school to seventh grade at a junior high. The researchers were interested in the girls’ developing beliefs, self-perceptions, and social behaviors. The move to seventh grade involved continual revision of their self-perceptions and the management of varied social, cultural, and academic commitments. Three of the girls found themselves in remedial reading classes because of low scores on state-mandated tests, and another was moved to a special education resource room for language arts instruction. Their traditional seventh-grade literacy curriculum, structured around grammar study and answering questions at the end of reading passages, did not provide them with any opportunities for identity development. The girls saw their engagement in literacy tasks primarily as preparation for state tests or later years in school.

Just as adolescents vary widely in their reading preferences, they are also quite diverse in their literacy abilities. At all stages of adolescence, there are those who find reading and writing to be very challenging, those who meet the increasing expectations for reading and writing through the grades without fanfare, and those who excel. Patricia Alexander (n.d.), drawing on her own extensive body of research and that of other cognitive strategy researchers, suggests that readers range across a developmental continuum. Reading development can be traced in the evolution and interplay of three fundamental factors: prior knowledge, interest, and strategic processing. At the stage of *acclimation*, readers are just beginning to get a feeling for unfamiliar terrain. Novel tasks require considerable strategic effort; these efforts are often tentative and faltering, and the reader is vulnerable to the negative consequences of failure. As readers develop, they enter the stage of *competence*, where more extensive and cohesive knowledge leads to more efficient processing and fluency. Finally, readers may reach the stage of *expertise*, where comprehensive knowledge and interest result in reading that is highly fluent, creative and analytic. These stages are not grade- or age-specific. Readers may be competent or expert in one kind of literacy task, but drop back to the stage of acclimation when lack of prior knowledge, interest, or appropriate strategies impedes their ability. Readers moving from acclimation to competence will fit varied profiles in the areas of prior knowledge, interest, and strategic processing, and will consequently have varied needs for support and assistance. Seriously challenged readers, such as adolescents who have yet to move beyond acclimation to most reading tasks, will need intensive expert assistance.

The National Assessment of Education Progress confirms that, nationwide, students at 8th- and 12th-grade levels are distributed across a wide range of achievement in both reading and writing (Grigg, Daane, Jin, & Campbell, 2003; Persky, Daane, & Jin, 2003). To get some sense of the actual reading experiences of students of varying abilities, Ivey (1999) spent five months of close observation with three sixth graders representing three levels of reading ability and engagement. Not surprisingly, she found that these middle school students were complex and multidimensional as readers. They declared partiality for a wide range of reading materials, each with distinctly personalized tastes. All were especially motivated to read texts that they selected or that they deemed interesting. Their disposition to read was “dependent on the kind of instructional environments in which they [were] asked to read” (p. 190). Ivey also noted that care must be taken with facile generalizations about students as readers. For instance, the “struggling reader” was often engaged and able to exercise good critical thinking when texts were read aloud. She often demonstrated curiosity about stories and ideas, and she was able to read relatively easily when text was on her instructional level. In terms of Alexander’s (n.d.) developmental descriptors, she moved back and forth between acclimation and competence, depending on the task and topic.

O’Brien (2001) also cautions us not to be too facile in our assessment of adolescents’ literacy abilities. Drawing on his work with so-called “at-risk” students in a high school literacy lab, he argues that students’ full literacy competence is not evidenced solely by the relatively narrow confines of school-sanctioned literacy. Rather, he shows how students can be sophisticated, innovative, and able users of “intermediality,” capable of skillfully combining art, sound, and print in media productions. In order to fully assess adolescent literacies, we must recognize that “‘at-risk’ adolescents can be artistic, creative, innovative, and daring at using a variety of popular media. ... [T]hey are skillful and creative at constructing and interpreting a range of media texts ... using a variety of symbols and signs for conveying and communicating” (O’Brien, p. 3).

Adolescents’ cognitive abilities are also diverse and under continual development. Although not a reading study per se, Kuhn, Black, Keselman, and Kaplan (2000) conducted a study of middle school students’ cognitive development that suggests how literacy development might also be aided by continued practice and instruction. Control and experimental students in an urban middle school worked for six weeks on a multimedia science project that required understanding the additive and interactive effects of variables including soil composition, water deposition, and flooding. Experimental students received explicit instruction and practice on how to recognize, understand, and use the effects of multiple variables in science. Experimental students outperformed the controls on both a soil quality task related to the science project and on a similar multivariable transfer task. This study demonstrates that adolescents’ development of sophisticated cognitive skills can be aided by both direct instruction and by practice.

Summary

There are several notable gaps in recent research on adolescent development and literacy. Most of the studies cited in this section have been conducted with middle school students. Consequently, we do not know as much about the literacy abilities, preferences, and motivations of older adolescents. Many of the ethnographic developmental studies have featured girls, and there is a need for more detailed and nuanced portraits of boys’ development. We need more

studies of adolescent “multimediating,” or literacy in varied media, both in and out of school. There is also a need for research on alternatives to one-size-fits-all curricula and text selection, not only in English language arts classes, but also in other content areas.

The research reviewed in this section implies several conclusions:

- Literacy has an important function in the development of adolescents’ identities.
- Adolescents develop a range of literacies, which are much more complex, dynamic, and sophisticated than the narrow confines of school-based literacy.
- As adolescents develop multiple literacies, they also develop affinities for multiple texts. An expanded concept of “text” must transcend print-based texts to include various electronic media and adolescents’ own cultural and social understandings.
- Understanding the full range of adolescent literacies and texts requires a reconceptualization of what constitutes competent literacy.

Finally, understanding the full range of adolescent literacies and the role of literacy in adolescent development leads to the conclusion that adolescents need spaces in school to explore both multiple literacies and multiple texts; to experiment, to critique, and to receive feedback, encouragement, and guidance from peers and adults. In the next section, on social, cultural, and linguistic variables related to literacy, we will see an example of the positive outcomes that are possible when students are invited to tell their stories and extend their development of self-concept and self-in-society into the literate world (Fairbanks, 1998).

Social, Cultural, and Linguistic Variables

This section looks at how social, cultural, and linguistic variables are related to adolescent literacy, as well as research that suggests how these relationships might be either problematic or capitalized on in school. Variables such as gender, social class, economic position, language, and ethnicity influence and are influenced by adolescents' literacy practices. For example, in a three-year case study, Elizabeth Moje (2000) collected ethnographic data on five boys and girls in seventh through ninth grades who represented Vietnamese, Latino, and Samoan heritages, and who identified themselves as associate or fringe gang members. They used written, oral, and body discourses to communicate their gang affiliations. Not simply idle or deviant literacies, these "language and literacy practices ... are communicative and transformative in the sense that they are used to make and represent meanings, to change or construct identities, and to gain or maintain social positions in a particular social space" (p. 670). Although the literacy activity of these students involved remarkable sophistication, there was no place for their gang-related literacy practices—or for the five students, really—within school-sanctioned literacy. The students were effectively controlled, silenced or dismissed by school literacy. While they were able to use their literacies to navigate their positions on the margins of their community, they had little overt awareness of their own marginalization or of the mechanisms for navigating, reshaping, or challenging dominant discourses. While Moje quite sensibly recognizes the difficulties of importing "gangsta" literacies into the classroom, she does advocate engaging students in the study of problems and issues that are important to them, as well as providing them multiple forms for representing and discussing these topics with their peers.

Gender Influences

In a study described in the previous section, Finders (1996b) showed how a group of girls, nicknamed "social queens," used literacy as part of the process of developing gender identities. In another report, Finders (1996a) contrasts the literacy practices of the "social queens" with another group she calls the "tough cookies." Both networks of girls used literacy to create social boundaries and demonstrate group solidarity and membership. The "tough cookies" resisted sharing and cooperation in school literacy activities in favor of maintaining their independence and privacy. The "social queens" used sanctioned and unsanctioned school literacy events as a means to assert their emerging sexuality and group membership. For instance, they used note writing, with its own conventions of form and content, to position themselves in opposition to school culture. They were careful to display only certain kinds of books during independent reading in school, although some would hide their true reading interests to protect their social image. Finders concludes that "the social processes in operation in any classroom are knottier and rougher" (pp. 121–122) than most advocates of student-centered pedagogy are willing to admit. She calls into question the concept of the classroom as a "safe place" for student voices, and argues for an emphasis on critical discussion that will allow students to negotiate their social roles and attitudes.

Barbara Guzzetti and Wayne Williams (1996) also call into question the notion of classrooms as "safe places," especially for girls. They investigated gender differences in student talk in two high school physics classes taught by Williams. They found pronounced differences in the ways in which boys and girls participated in class, especially during lab work and during what they

called “refutational discussion,” when students were asked to defend or refute certain scientific principles or conclusions. During lab work, boys tended to dominate procedural talk and handle the equipment, while girls tended to take notes. In the male-dominated “refutation discussions,” girls spoke rarely, and when they did, it was always the same few. The boys argued, while the girls posed questions. When these differences were pointed out to the students, the boys were proud of their abilities, while the girls were more fatalistic and resigned to a situation they felt they had little control over. Guzzetti and Williams concluded that both teachers and students need to be aware of and focus on gender equity. They recommend same-sex groupings for activities that tend to bring out gender differences.

On the other hand, in a study of three male working-class high school students, Hinchman, Payne-Bourcy, Thomas, and Chandler-Olcott (2002) found that while the boys’ literacy practices were quite diverse, none of them really conformed to stock depictions of male privilege and hegemony. Each boy lacked confidence in certain settings, and each used literacy in ways particularly tailored to his needs and desires, including the navigation of peer group social hierarchies that favored athletic boys. Hinchman et al. concluded that “considering individuals in terms of such usually essentialized constructs as gender, race, and class may be overly simple, and not reflective of the actual fluidity of identity that must be developed to survive in the postmodern world” (p. 242).

Cultural Influences

Two interesting studies demonstrate the reciprocal influences of culture and literacy. Epstein (2000) asked 10 high-achieving students in the same 11th-grade U.S. history class—five African Americans and five European Americans—to select important historical actors and events from sets of pictures. Students were asked to explain the paradoxical tension in U.S. history between individual rights and racial oppression. Epstein found that individual students’ perspectives aligned with their racial identities. White students saw European Americans as the major historical subjects, emphasized individual rights and democratic rule, and attributed the denial of rights to abstractions such as “slavery” and “segregation.” Black students, on the other hand, saw a nation marked by racial domination and struggle, and named white people or racism as the causes of oppression. These 10 students, sitting in the same classroom with a teacher who gave a balanced and thoughtful picture of U.S. history, show how comprehension is influenced by social and cultural experiences.

The second study is a year-long ethnography of two 10th-grade English classes who were reading literature by and about people from diverse cultures (Athanases, 1998). The students themselves were ethnically diverse, coming from African-American, European-American, Latino, Filipino, and Chinese heritages; nearly half of them were bilingual. For the most part, students identified strongly with works that reflected adolescent and family concerns, that reflected pride in their culture, and that helped them to develop their own gender or cultural identities. For instance, one Chinese-American girl reported resonance with *The Joy Luck Club* (Tan, 1989) because it helped her to understand her relationship with her mother and to become proud and unashamed of her cultural heritage. The ethnic literature curriculum helped students to rethink stereotypes about culture and diversity.

Social Class

Payne-Bourcy and Chandler-Olcott (2003) report on five years of data collected on Crystal, a working-class female from rural New York, as she moved through high school and on to university. In high school, Crystal was able to pose as middle class through her adept use of various language and literacy practices. Because she was academically proficient, she was able to go on and complete undergraduate studies at a large urban university. However, as she moved through her college studies, she felt progressively alienated both from her fellow students and from her professors, in large measure because of differences in language and literacy practices. She found it harder to pose as middle class with her peers, who represented a much broader income range than the students back home. She also was frustrated by her inability to use popular culture texts in college classes as well as by the level of abstraction required in analysis of college-level readings. The authors of the study suggest that social class might be a useful focus of inquiry in high school, through reading works such as *Of Mice and Men* (Steinbeck, 1965) or through the study of language patterns as indicators of social position.

Linguistic Variables

Linguists and scholars of African-American culture have long recognized the richness and power of African-American vernacular (Perry & Delpit, 1998.) However, teachers too often simply hear nonstandard usages that to their ears indicate deficiencies to be corrected. Many African Americans are themselves ambivalent about the use of vernacular. Robert Fecho, a European American teaching a class of African-American students in Philadelphia, was surprised at the apparent resistance and hostility from his students when he read poems by Nikki Giovanni in class (Fecho, 2000). When he asked his students what the matter was, they told him they were offended that this apparently white poet was making fun of the way that African Americans talked. Fecho informed the class that Giovanni was in fact African American herself, and this opened up a yearlong discussion of when it was appropriate to use certain language registers, how language usage positioned people in society, and the communicative power of different dialects. There were strong differences of opinion within the class regarding issues such as the use of dialect and profanity. However, Fecho reports that students gained considerable awareness of the power of language within social settings and of the language options that are available.

In another study of African-American language and literacy abilities, Lee (1995) asked whether these students' linguistic competence could be used as a scaffold for interpreting complex fiction. Specifically, Lee wished to show students in four English classes how "signifying," the African-American language practice of informing, persuading, or criticizing through irony, double entendre, satire, and metaphor, could be transferred to the analysis of literary works. Using the model of cognitive apprenticeship, in which students are progressively taught higher-level literacy strategies through teacher modeling and incremental guided practice, Lee and her colleagues began by leading students to analyze transcripts of "signifying" episodes and the use of proverbs in the everyday speech of the African-American community. They then moved on to read short stories and novels, applying the analytical tools they had developed. Throughout, Lee emphasized the importance of backing up interpretive claims with evidence.

By the end of the year, students were talking more and were more frequently initiating interpretations and questions. In a year-end test on a chapter from a novel, students in the four experimental classes outperformed control students on short-answer questions requiring both literal and complex inferential interpretation. Lee argues that students bring cultural “funds of knowledge” which can be made explicit and applied to tasks such as the interpretation of complex fiction.

One area of research which is still very much in its formative stages is the knowledge base for teaching literacy to English language learners (Jiménez, 1997). There is considerable debate, both academic and political, over how to best teach reading and writing to students who are learning English. Part of the difficulty is that terms like “English language learner” or “bilingual” are much too broad, masking the reality that students from widely divergent linguistic and cultural backgrounds actually range across a continuum from beginner to fluently bilingual. Another complication is that English language learners develop social competency relatively quickly, while academic competency with English may take six years or more to come to the point of parity with native English speakers (Cummins, 1994). Because of a paucity of research on literacy learning for English language learners—especially adolescents—and because so many teachers are themselves monolingual, English language learners are often met with little understanding or appreciation for the sophisticated language abilities they possess.

One example of students’ ability to work across languages and cultures is the role of young people as translators for their families. Orellana, Reynolds, Dorner, and Meza (2003) studied 18 pre- and early-adolescent bilingual students of Mexican heritage, each of whom served as the “designated translator” for the family. Observing these students in school and at home, Orellana et al. showed how they translated across a wide variety of domains and genres. Students’ translating work contributed significantly to family health, well-being, and survival. Family translation episodes often involved a good deal of negotiation of meaning between languages and among family members. This literacy work was very different from what students experienced in school, where texts were less diverse and less difficult, work was more adult-centered, and there was less negotiation of meaning. School reading was generally less authentic in its purpose, in the sense that it never was aimed at taking action in the real world—the exact opposite of family literacy activities.

Students’ native language and literacy abilities are often overlooked, and even when they are assessed, the usually do not count in an academic system where only English-language competency is rewarded. Consequently, many English-language learners are labeled “at risk” or consigned to special education programs for students with learning disabilities. Robert Jiménez (1997) looked at five seventh-grade Latino and Latina students, three in special education classes and two in a special bilingual class for students deemed “at risk.” His concern was to understand how students’ native-language strengths could be used to help them learn English-language literacy. Drawing on previous research on literacy learning by English language learners, he proceeded from the assumption that successful students understand the relation between language systems, transfer knowledge and abilities from one language to another, look for cognates, and reflect on their reading in either language. He observed the students in their classes, interviewed them, and taught them a series of eight “cognitive strategy” lessons that emphasized new vocabulary, asked questions about the reading, and called on prior knowledge,

all in the context of reading culturally relevant texts. Initially, he found that reading was “an almost complete mystery” (p. 235) to these students. However, as a result of the brief strategy instruction, they indicated important shifts in their thinking. They understood that reading required thinking and that they had strategies which they could name and employ. Jiménez concludes that culturally responsive teaching—in this case meaning culturally relevant text, use of native language skills, and appropriate strategy instruction—can be effective with at-risk English language learners.

Cultural and linguistic variables are intimately connected and have a strong impact on classroom learning. Moje, Collazo, Carrillo, and Marx (2001) studied a seventh-grade science class in an urban school with students who were primarily bilingual Latinos and Latinas. The teacher was from the Dominican Republic, and he and his students frequently code-switched between English and Spanish, even though instruction in this class was supposed to be “English only.” The researchers were interested to see how a yearlong, project-based science curriculum would be implemented. They found that different discourses—defined as ways of speaking, thinking and behaving (Gee, 1996)—often competed and conflicted. There were discourses of science and of the particular classroom as well as the everyday discourses of the culturally diverse students and their community. As a result, students and teacher often used the same words but meant different things. Assignments often asked students to respond in narrative or fictional modes, and were consequently completed with little relevant science content. Community and everyday discourses were often elicited, but then left unintegrated with scientific discourse. The researchers argue that teachers need to be explicit about different discourses, and must work specifically toward integration of discourses and discussion of the differences. They also should model which discourse is most appropriate in a particular situation.

Culturally Relevant Instruction

Moje, Ciechanowski, Kramer, Ellis, Carrillo, and Collazo (2004) detail how urban Latino students draw on funds of knowledge learned from family, community, peers, and popular culture to create a “third space,” a cultural space where students make connections across various knowledge sources, including the school science curriculum. However, Moje et al. found that these connections were rarely called explicitly into the discourse of the science classroom.

When a curriculum is designed specifically to draw on students’ cultural and linguistic resources, however, the results can be dramatic. On two projects with high school and middle school students in the urban Midwest and Southwest, Fairbanks (1998) illustrates what is possible when the curriculum makes a place for the contemporary realities and concerns of adolescents. In both sites, students of diverse ethnic and socioeconomic backgrounds were involved in collaborative inquiries into topics such as divorce, homelessness, violence, and class differences. Students researched, wrote, and debated about things that had immediate personal relevance to them. They explored different life choices, and argued about their conclusions. Fairbanks cautions, however, that such democratic conversations are not always comfortable. Echoing the questions about “safety” raised by Finders (1996a) and others, Fairbanks details the uproar that resulted from a student’s written characterization of social class differences between two high schools involved in a publication project. Although the ensuing discussions between students in the two schools

were often heated and emotional, Fairbanks asserts that it is important that such below-the-surface issues be brought out into the open and that healthy differences of opinion be aired.

In a study discussed earlier in this section, Lee (1995) described the use of African-American cultural and linguistic knowledge as a bridge to the analysis of complex literature, part of a long-term project to reform the English curriculum in an urban high school. In a further look at this project, Lee (2001) acknowledges students' reluctance and resistance to reading and close literary analysis, brought about by years of reading culturally unfamiliar texts and filling in answers to end-of-chapter questions. However, by leading students to analyze their knowledge of African-American language conventions, Lee shows how they were able to move to sophisticated interpretation of culturally relevant texts, and finally toward more canonical literature. She presents detailed classroom scenarios of students engaged in intellectual argument and interpretation. Lee concludes that students' cultural and linguistic funds of knowledge offer "a fertile bridge for scaffolding literary response, rather than a deficit to be overcome" (p. 101).

Summary

All but one of the studies reviewed in this section are qualitative in design. While ethnographic studies are useful in understanding socially-situated literacy practices, many case studies are limited to one or a handful of individuals, making broad generalizations problematic. There is, therefore, a need for more quantitative and large-scale qualitative studies of social and cultural variables, especially classroom studies such as those by Lee (1995, 2001) and Fairbanks (1998). The need for research on the literacies of adolescent English language learners is especially acute.

Research on cultural, social and linguistic variables related to adolescent literacy implies the need for teachers to be knowledgeable about their students, as these variables are inextricably bound up with student literacies. This research suggests the following:

- Males and females bring different discourse styles and ways of understanding to the classroom.
- Social and cultural variables influence adolescents' literacy development and their understanding of what they read in school.
- Many adolescents find themselves marginalized in school due to social, cultural, gender, or linguistic variables.
- Teachers should try to appreciate the cultural and linguistic resources that students bring to class, and consciously look for ways to integrate those resources with the curriculum.
- While understanding that diversity is important, we should take care not to make facile generalizations about students based on their gender, race, social class, or language.

Finally, as several of the studies reviewed here demonstrate, when these variables are featured as topics and vehicles for learning, student motivation and achievement increase (Athanasios, 1998; Fairbanks, 1998; Fecho, 2000; Jiménez, 1997; Lee, 1995, 2001).

Instructional and Assessment Variables

Quantitative research is more evenly represented in this section than in the previous sections. This is not surprising, as developmental and social variables lend themselves more to ethnographic approaches than to random sampling, controlled conditions, and pre- and posttesting, while instructional approaches are more likely to involve the kinds of classroom conditions that can be molded to experimental or quasi-experimental research designs. In an earlier review of research on adolescent literacy, Alvermann and Moore (1991) noted that experimental research had convincingly demonstrated that explicit strategy instruction was effective in controlled settings, but they questioned the ecological validity of much of this work. They called for more qualitative studies to help explain which factors might be critical to success in specific, authentic contexts. To put it plainly, quantitative research can suggest “what works,” but qualitative research can give us insights into “why, how, and with whom it works.”

The National Reading Panel (NRP) report on comprehension strategies (National Institute of Child Health & Human Development, 2000) was an attempt to answer the question of “what works.” The report listed seven categories of comprehension instruction that met the panel’s criteria for strong quantitative research support: comprehension monitoring, cooperative learning, graphic and semantic organizers, question answering, question generating, text structure, and summarization. (Some of these approaches will be discussed in this review as well.) However, most of the research upon which the NRP report was based is 20 or more years old, there are significant omissions in what the panel looked at, and little of the research was conducted with adolescents (Alvermann, 2002), so we must be cautious in applying these findings to adolescent literacy.

Some clear instructional implications come directly from research reviewed in the previous sections. Various developmental studies of reading preferences and motivation call into question the “one book/whole class approach” (Broughton & Fairbanks, 2003; Ivey & Broaddus, 2001; O’Brien, 2001; Worthy, Moorman & Turner, 1999.) The work of Fairbanks (1998), Jiménez (1997), Lee (1995, 2001), and Moje et al. (2004) demonstrates the effectiveness of using texts and teaching approaches that are culturally relevant to students. In the rest of this section, we will look at the value of direct instruction, efforts to improve the abilities of struggling adolescent readers, literacy in content-area classes, and results of coordinated, multifaceted curricular reform. We also briefly consider assessment of literacy.

Direct Instruction in Comprehension

There is a substantial body of evidence that testifies to the success of direct instruction in comprehension (Alvermann & Moore, 1991; National Reading Panel, 2000). That is, when teachers explicitly explain and model a comprehension strategy such as question-generating or summarizing, followed by guided practice and independent practice and with continued feedback and discussion, students of diverse abilities and backgrounds have been able to learn and use the strategy with positive effect on their reading or writing achievement. This has been the case in quantitative studies of single strategies, as for example the ability to summarize expository text (Wood, Winne, & Carney, 1995). Positive results are also evident when direct comprehension strategy instruction is included in a comprehensive, multifaceted approach. This was illustrated

in a yearlong study by Stevens (2003) that involved nearly 4,000 urban middle school students. Traditional, basal reading and language arts instruction was compared with a curriculum that integrated high-quality literature, writing process instruction, cooperative learning, and strategy instruction in summarizing, understanding main ideas, and clarifying.

Reciprocal Teaching

One type of combined strategy instruction that has received considerable research support is reciprocal teaching (Palincsar & Brown, 1984). Reciprocal teaching involves direct instruction in comprehension strategies, most often the strategies of predicting, questioning, clarifying, and summarizing. Strategy instruction is provided with authentic classroom reading materials, either narrative or expository, instead of worksheets or other materials designed specifically for skill instruction. An important feature of reciprocal teaching is the use of an instructional dialogue in which the teacher initially leads in modeling the comprehension strategies, but then gradually turns the responsibility for leading the dialogue over to students.

In a review of 16 research studies on reciprocal teaching, Rosenshine and Meister (1994) found that this combined approach was effective in promoting student comprehension, especially when the teacher-student dialogue was of high quality (i.e., it engaged students with ideas, not just performance of skills). Of the 16 studies, most were concentrated either at the middle school or adult level. (It is noteworthy that none of the studies in this review were done at the high school level. Rosenshine and Meister speculate that reciprocal teaching may be too “strategy intensive” for high schools, where there is concentrated focus on covering content curriculum and preparing students for high-stakes examinations.)

One high school setting where content coverage is *not* the primary objective is in remedial reading classes, where students are ostensibly receiving help with moderate to severe reading difficulties. Alfassi (1998) studied 75 students in high school Chapter I reading classes. The experimental classes were given reciprocal teaching training for five consecutive days, followed by 15 days of practice. Control classes were taught reading skills through traditional workbook methods. Eight weeks after the practice stopped, the reciprocal teaching students had significantly higher comprehension scores on experimenter-designed tests with two passages of ninth-grade level expository text.

In Rosenshine and Meister’s (1994) review of reciprocal teaching, they found no apparent difference in the effect magnitude when the number of comprehension strategies varied, which raises the question of whether single-strategy instruction would be equally effective. In a subsequent review of research on question-generating strategies, Rosenshine, Meister and Chapman (1996) found that teaching students to ask questions about the texts they have read resulted in gains in comprehension. When reciprocal teaching studies were compared to “question-generating only” research, no difference in effect magnitude was found. The authors concluded that the key to effective strategy instruction was not so much which strategies were taught, but rather the importance of careful scaffolding of instruction. That is, teachers should present strategies in small steps, guide student practice, provide ongoing feedback and correction, and engage students in extensive independent practice.

Skill Practice or Strategy Instruction?

A traditional approach to adolescent literacy instruction, especially for students with reading difficulties, has been the use of commercially prepared instructional materials, derisively dismissed as “skill and drill” by proponents of constructivist, strategic approaches. There are two arguments for traditional skill instruction and practice. The first is that most secondary teachers are not well prepared to teach reading skills, and therefore need to rely on authors and publishers of reading series and workbooks. The second is that struggling adolescent readers have specific skill deficiencies that must be remediated before they can meet the challenges of secondary-level content texts. However, studies in which strategic instruction is compared to traditional skill-based instruction would seem to support the superiority of the former, both at the middle school level (Schorzman & Cheek, 2004) and in high school (Alfassi, 1998).

In a comprehensive study of middle and high school classrooms, Applebee, Langer, Nystrand, and Gamoran (2003) compared several instructional variables to students’ end-of-year performance on state and district literacy tests. Their investigation involved 64 classrooms in 19 schools across urban and suburban districts in five states. They found that students of different ability levels received qualitatively different kinds of instruction. Students in higher tracks were engaged in more open discussion, were more often encouraged to express their understanding, and were generally subjected to higher academic demands than students in lower tracks. However, high-quality discussion and high academic demands were significantly related to higher literacy achievement at the end of the year for students of *all* ability levels and racial/ethnic groups. The researchers conclude that strategic instruction is more appropriate and effective for students of all ability levels than more traditional skill-based approaches.

Frederick Hamel and Michael Smith (1998) reached similar conclusions in a qualitative study of two lower track 11th-grade English classes taught by the first author in a suburban high school. Smith systematically taught students how to evaluate the reliability of the narrator in literature, starting with comic strips and short stories. Students then applied what they had learned as they read *Huckleberry Finn*. As a result, students were able to engage in critical interpretive discussion of the novel. They applied their personal experience and knowledge of the world, questioned the motives of the narrator and characters in the story, and generated complex inferences that went well beyond summarizing factual details. Classroom talk was dominated by students, who talked to and with each other rather than through the teacher. This demonstrates how lower track students, given appropriate, scaffolded strategy instruction, can discuss and interpret canonical literature in sophisticated ways.

Teaching Struggling Adolescent Readers

Whether they are labeled at-risk, struggling readers, or striving readers, the fact is that a significant minority of adolescents have great difficulty meeting the increasing literacy demands of secondary school. Reading or writing difficulty is one of the most prevalent symptoms of adolescents classified with learning disabilities. Consequently, a good deal of research has focused on improving the literacy of underperforming students. In a review of experimental and quasi-experimental research on teaching reading comprehension strategies to students with learning disabilities, Gersten, Fuchs, Williams, and Baker (2001) looked at studies involving

both narrative and expository texts. Most of the studies of narrative text were done with elementary students, while secondary-level students were most often the subject of expository text studies. Gersten et al. assert that expository text is more challenging than narrative for students with learning disabilities. They conclude that strategy instruction appears consistently to improve comprehension, although students with learning disabilities require longer treatment durations than regular-functioning students. Their review also supports the concept of instructional scaffolding that includes modeling, feedback, guided practice, and independent practice across a variety of materials.

A group of researchers at the University of Kansas Center for Research on Learning has pursued a particularly interesting and extensive line of investigation on teaching content to secondary students with learning disabilities. (This work is summarized in Deshler et al., 2001.) They have developed what they call instructional “routines,” or lesson structures that present content information using several teaching strategies validated by previous research. Among these strategies are the use of graphic organizers and mnemonic devices, and relating new content to students’ prior knowledge. They have taught these routines to teachers, and then followed up in classrooms to determine how well teachers implemented the routines and what the effects were for students of varying abilities in inclusive classes, but most especially for students with learning disabilities. While some of these studies do not directly involve reading, they employ the kinds of strategies that are frequently recommended for content teachers to help students learn concepts from reading and other learning experiences. The researchers have consistently found teachers able to implement the routines and students to have higher achievement as a result.

For example, Bulgren, Deshler, Schumaker, and Lenz (2000) investigated what they called a “concept anchoring routine” that helped students explicitly see analogous relations between their prior knowledge and new concepts in science and social studies through the collaborative completion of a graphic organizer. In a series of three studies, they demonstrated that teachers quickly mastered the routine and that the routine was effective for students of all achievement levels when it was used in a seventh-grade life science class. Students, including those considered at-risk, were able to perform at commonly acceptable levels on subject area tests.

In a summary of their work, Deshler et al. (2001) concluded that students with disabilities will need increasing levels of intervention, depending on the severity of the disability. In Level 1 interventions, subject matter teachers compensate for the literacy difficulties of some students by modifying content in ways that enhance comprehension and recall. Such routines not only help many students with literacy difficulties, they appear to improve learning for all students. When Level 1 interventions are not sufficient, teachers can use Level 2 interventions, in which they incorporate explicit strategy instruction into core curriculum courses—instruction that features the kinds of direct, scaffolded instruction described in many of the studies we have reviewed. Students with even more severe difficulties will need progressive levels of instruction from someone other than the classroom teacher. Deshler et al. acknowledge the pressures of extensive and demanding curricula under which secondary content teachers work, and several of their studies show that many teachers simply do not feel they have the time to go beyond Level 1 interventions, even though those strategies may not be sufficient for some students with literacy difficulties. (This issue will be revisited in the section on professional development variables.)

Embedding literacy strategy instruction in the core curriculum may be easier in middle school, where instruction is often more student-centered (and developmentally appropriate) and language arts classes may still be concerned with teaching basic reading and writing strategies. Morocco, Hindin, Mata-Aguilar and Clark-Chiarelli (2001) worked with seventh- and eighth-grade teachers in a low-income middle school to implement what they called a “supported literacy” curriculum, wherein students were involved in authentic, student-centered literacy tasks, cognitive reading and writing strategies were embedded in the curriculum and explicitly taught, and learning was socially mediated through small-group and whole-class activities. Students were regularly given journal writing assignments that served as a basis for peer discussion of the literature they were reading. The school served a population that was 48 percent minority, mostly Hispanic. Students in the school had the lowest reading scores in the district. Of 163 students included in the analysis, 35 were classified as having learning disabilities. The researchers found that students with disabilities in the supported literacy environment performed similarly to normally achieving and honors students on measures of writing fluency and quality, and they concluded that for these students, a curriculum of authentic reading and writing was superior to an emphasis on isolated skills and mechanics.

One study stands out in contrast to the many studies of comprehension strategy instruction for students with reading difficulties. Catherine Penney (2002) theorized that some high school struggling readers were in need of instruction in decoding, so she implemented a series of one-on-one tutoring sessions for students in a remedial reading course. In these tutorials, students were given intensive work with letter patterns that appeared in words they had misread in initial readings of their workbook texts. Students who received decoding instruction outperformed their control-group peers on word attack, word identification, and passage comprehension subtests of the Woodcock Reading Mastery Test. It is not clear, however, just why this intervention achieved positive results, and it certainly should not be interpreted as a blanket endorsement for intensive phonics instruction for struggling adolescent readers. Students were not given instruction in the sounding out of individual letters, but rather with phonograms, or groupings of letters that are common to many English words. The tutoring was intensive, individualized, and focused on specific words that students had miscued, whereas comparison students in the control condition continued receiving workbook-based skill instruction in a large-group setting. However, the author contends that for some high school struggling readers, comprehension strategy instruction alone may not be sufficient.

Teaching Literacy in Content Area Classes

Since Harold Herber first published *Reading in the Content Areas* in 1970, authorities on adolescent literacy have recommended that subject-area teachers incorporate literacy-related instruction and activities into their curricula. However, many content teachers have resisted this because of deeply embedded values, beliefs, and practices (O’Brien, Stewart, and Moje, 1995). The extended work of Deshler and his colleagues, discussed elsewhere in this paper (Bulgren, Deshler & Schumaker, 1997; Bulgren et al., 2000; Deshler et al., 2001; Scanlon, Deshler & Schumaker, 1996), demonstrates how many secondary teachers simply do not feel they have the time to include explicit strategy instruction in their already crowded curricula. Three studies, two of high school science classes and one in an English program, give some specific insights into the issues inherent in teaching literacy in the content areas.

Elizabeth Moje (1996) conducted a two-year observational study of a high school chemistry teacher in a mid-size agricultural/industrial community that served predominantly European-American students. The teacher made a special effort to incorporate literacy into her chemistry classes because of her student-centered beliefs about teaching, her philosophy of science as “organized knowledge,” and her understanding of chemistry as ideas and facts to be accumulated and organized. She used literacy strategies such as SQ3R, note taking, graphic organizers, and summary writing primarily as organizational tools. Students made an effort to use the various literacy strategies not because they saw inherent value in them, but rather because of the positive relationship they had with their teacher. Moje speculates that the use of literacy strategies in content-area classes may depend on shared values and backgrounds between students and teachers.

In an attempt to incorporate adolescents’ out-of-school literacies and technology into the science curriculum, Behrman (2003) proposed a summer high school biology course that would combine classroom and workplace learning. The course, taught to 18 students of varied ethnic backgrounds, featured five modules, each tied to an actual workplace site and a real-world project. Students could use the Internet, text resources, workplace information, and various human contacts to provide expertise and information in the completion of their projects. In actuality, students relied mostly on human resources and the Internet and very little on traditional science texts. At the end of the course, students expressed a strong preference for project-based learning. While some students developed a sophisticated understanding of science concepts, others had only partial or surface-level mastery. Behrman concluded that this attempt to bridge adolescents’ varied literacies with content literacy was partially successful, although he questions whether similar workplace-based courses would be possible during the school year, when five or more classes must fit into a rigid daily schedule.

Another attempt to capitalize on adolescents’ multiple literacies was documented in a study of a yearlong 11th-grade English curriculum designed around critical media literacy (Hobbs & Frost, 2003). Teachers focused on gender representation in advertising, magazines, television and radio, and nonfiction journalism, along with reading traditional literature. At year’s end, students were asked to analyze construction techniques, authors’ points of view, possible omissions, and authors’ purpose or target audience in various print and non-print media selections. On measures of comprehension and analysis, the 293 students in the media curriculum outperformed a comparison group of students in a traditional English curriculum at a demographically similar high school. The authors concluded that the traditional English curriculum, with its focus on canonical literature and essay writing, is based on a narrow conceptualization of language and literacy. Instead, they suggest that a more comprehensive and effective English curriculum should explore the social and ideological aspects of English across genres and media.

Curricular Questions: Shaping Instruction to Account for Multiple Variables

Some of the studies already discussed have shown mixed results when curriculum is reshaped to account for developmental, social, linguistic, or instructional variables (Behrman, 2003; Lee, 1995, 2001; Moje et al., 2001; Morocco et al., 2001; Stevens, 2003). This raises the difficult question of what critical factors account for the relative success or failure of adolescents to achieve acceptable levels of academic literacy.

In a large-scale study of English classes, Langer (2001) explored the multiple factors that differentiated high-achieving classrooms from demographically similar settings where students were more typical in their performance on high-stakes assessments. She found marked differences across six key factors: approaches to skills instruction, approaches to test preparation, connecting diverse ideas, teaching enabling strategies to students, conceptions of learning, and classroom organization.

Schools and teachers that “beat the odds” used varied means of skills instruction, integrated test preparation into ongoing lessons, and made overt connections between skills and ideas across classes and grades. They also explicitly taught students strategies for planning, organizing, and reflecting. They conceived of learning as the ability to think about and use new knowledge, not just a collection of facts and ideas. Finally, in “beating the odds” classes, students worked together, in interaction with others, to develop understanding. While schools with typical performance may have had some of these features, none of them combined all the features. Rather, it was “the whole cloth environment, the multilayered contribution of the full set of these features . . . that distinguished the higher achieving programs from the others The overriding contributor to success was the whole-scale attention to students’ higher literacy needs and development throughout the curriculum, which shaped what students experienced on a day-to-day basis in their regular classrooms” (Langer, pp. 876–877).

This would suggest that, to be effective, successful efforts at curricular reform must be multifaceted and comprehensive. In a widely cited program, Greenleaf, Schoenbach, Cziko, and Mueller (2001) incorporated multiple research-supported elements, including much of what has been featured in this review regarding developmental, social, cultural, and linguistic variables, into a literacy program for ninth-graders in an ethnically and linguistically diverse San Francisco high school. As an alternative to traditional skills-based remedial reading instruction, they developed a yearlong course in academic literacy that featured what they call reading apprenticeship. Conceptualizing adolescent readers as inexperienced rather than deficient, expert adults inducted academic apprentices into the strategies of subject area literacy by systematically showing them how to improve. The assumption was that ninth graders could decode and comprehend, but that they needed to expand their fluency and experience with more diverse kinds of texts, with direct, expert guidance on how to read more challenging material.

The academic literacy course was divided into three units: reading self and society, reading media, and reading history. Throughout the year students read, wrote, and talked about a variety of texts in various media, including literature, history texts, and print and broadcast advertising. Each unit incorporated reciprocal teaching, direct instruction in text structures, note taking and paraphrasing, vocabulary study, and regular independent reading of self-selected works, followed by response log writing and sharing.

The program resulted in significant gains in reading comprehension on a standardized test. In one year, students’ average scores progressed from late seventh-grade to late ninth-grade level. Gains continued at an accelerated rate for a smaller representative sample tested in 10th grade.

The results of the academic literacy course suggest that separate literacy classes in middle school and high school can be effective for a broad range of students, if the classes are based on

academically challenging, content-based, scaffolded instruction with a variety of texts. Reflecting on the growth of a student named Rosa as a capable and strategic reader, Greenleaf et al. contrast their reading apprenticeship approach with traditional skills-based remediation:

Imagine, for a moment, that Rosa had been in a reading course focused on building basic reading skills. While such a course may have strengthened her word analysis and vocabulary skills, we doubt that Rosa would have developed the kind of intellectual and ethical engagement and personal agency she demonstrates here. When we imagine such a limited outcome, we are struck with a keen sense of loss and unfulfilled potential, not only for Rosa, but for the many young people with whom we work (p. 110).

Assessment Variables

A search for research on assessment of adolescent literacy turned up only two studies dedicated exclusively to that topic. In the first, Blachowicz (1999) used case studies of two seventh-grade struggling readers to show how a reading specialist can assess vocabulary and how that can lead to decisions about instruction and referral. She describes a fairly sophisticated use of an informal reading inventory that would only be feasible for an experienced specialist in reading instruction and assessment working one-on-one with students. This leaves subject-area specialists with little specific, recent data-based guidance on how they might assess their students' literacy abilities or how they might best prepare students for high-stakes state or district testing. The need for such guidance is reflected in Morocco et al.'s (2001) conclusion that teachers in their middle school study would need stronger writing assessment skills to strengthen their instruction.

The second study examined the effects of using writing portfolios in an urban high school (Clark, Chow-Hoy, Herter, & Moss, 2001). Through observations, interviews, and analysis of portfolio development and content, the researchers showed how the portfolios aided students' developing concepts of self, of various writing tasks, and of their place within classrooms, the school, and the community. As students developed their own standards for "good writing," their engagement and motivation also increased. Rather than simply being a means of assessment, the portfolios served as social sites for interacting with others and sharing writing.

Although little dedicated assessment research was found, the studies reviewed throughout this paper employ a broad range of formal and informal assessment approaches. They include standardized tests, teacher- or experimenter-developed tests with short-answer or multiple-choice questions reflecting varied levels of comprehension, cloze passages, and writing rubrics. In reviews of research on reciprocal teaching and questioning (Rosenshine & Meister, 1994; Rosenshine, Meister & Chapman, 1996), the authors noted that experimenter-designed tests were more likely to yield significant and stronger results than standardized tests, and added that this is a common artifact of instructional research. Alfassi (1998) suggests that this was true in her study of reciprocal teaching, because experimenter-designed assessments are usually based on texts and tasks similar to those used in instruction, whereas standardized tests tend to feature short, excerpted passages, preponderantly from narrative text, and multiple-choice questions.

Perhaps the most pertinent finding on assessment comes from Langer's (2001) study of schools and teachers who "beat the odds" by having their students achieve relatively strong performance

on high-stakes assessment. One key factor was that “beating the odds” teachers prepared students for high-stakes testing by carefully aligning curriculum and assessment. They were aware of what students would be asked to do and integrated those kinds of tasks, along with instruction on how to perform them, into ongoing instruction. On the other hand, teachers whose students achieved more typical results were more likely to allocate specific blocks of time specifically to test preparation, usually involving practice and test-taking hints, separate from other kinds of instruction. In other words, the best “teaching to the test” was thoughtful teaching of needed knowledge and skills embedded in the curriculum throughout the year.

Summary

Instructional variables will probably continue to dominate the literacy research agenda. Certainly, we need to continue to learn about what works, how, where, and with whom. It will be important that research continue to look for critical components of effective literacy instruction, especially in multifaceted curricular approaches. There is also an acute need for new research on literacy assessment. This research should focus on ways in which classroom teachers can use designed literacy assessments that will help them to improve instruction. As teachers feel the increasing pressures of accountability, there should also be research on the validity and effects of high-stakes testing, the effective and ineffective strategies that students use when tested, and how best to prepare students for such assessments.

A look at research on instructional variables makes it evident that there is no such thing as a foolproof method or instructional strategy that will improve the literacy abilities of adolescents. In fact, the search for such sure-fire methods is much like the pursuit of the Holy Grail; while it can take us to some interesting places as well as dead ends, it will not accomplish its ultimate goal. Rather, successful literacy instruction for adolescents is localized and multifaceted, tailored to the particular needs of students, teachers, schools, and communities. A single-minded focus on methodology also causes us to lose sight of one critical variable: classroom dynamics. As Ivey (1999) pointed out in her study of what makes middle school students want to read, their disposition to read is often dependent on instructional environments. Rex (2001) illustrates how a high school English teacher was able to create an environment in which regular-track students were able to perform on a par with their honors-track peers. Noting that teaching is always dependent on positive human relations, Lee (2001) cites the “high degree of principled improvisation as a teacher interacts with students on a daily basis” (p. 128), and concludes that “loving and respecting young people is the mortar from which good teaching is built” (p. 133.)

Other important conclusions come from reviewing instructional research:

- Strategic instruction based on authentic reading and writing appears to be more effective than skill-oriented teaching and drill.
- Students need opportunities to discuss what they are reading, both in whole-class and small-group contexts. Applebee et al. (2003) reported that open discussion was one of the most significant variables related to higher end-of-year literacy testing results. In a multisite study of text-based discussions, Alvermann et al. (1996) found that students in middle and high schools saw peer discussion as helpful in understanding what they read.

- Reviews of research on strategy instruction have highlighted the effectiveness of scaffolded instruction (Gersten et al., 2001; Rosenshine & Meister, 1994; Rosenshine, Meister, & Chapman, 1996), and this is a theme that is repeated in most of the individual studies reviewed here as well. Scaffolded instruction and peer interaction also seem to work effectively in tandem (Langer, 2001). When Hamel and Smith (1998) used a scaffolded approach to teach students how to evaluate the reliability of the narrator in fiction, they found that by the end of the year, classroom talk was dominated by students, not the teacher. Scaffolded instruction had resulted in a redistribution of authority and a change in the politics of the classroom.
- Content teachers, especially at the high school level, may not have time to include a significant amount of literacy strategy instruction in their teaching (Deshler et al., 2001; Rosenshine & Meister, 1994). Instead, they need to use teaching strategies designed to make content more accessible to all students. Where this approach is insufficient for large numbers of students, a dedicated literacy course can be especially effective if is designed to be academically challenging and content-based (Greenleaf et al., 2001).
- Many students with reading difficulties will need interventions that are provided outside the content-area classroom, ideally by someone with specific training in remediation.

Professional Development Variables

As we have seen in the previous section, adolescent literacy development is facilitated by experienced and effective teachers. However, many content-area teachers resist incorporating literacy instruction into their teaching due to school culture, beliefs that literacy is not within their province, and the diverse demands and discourses of the various content areas (O'Brien, Stewart, & Moje, 1995). Recent research on professional development gives further insight into some of these issues.

Deshler and colleagues (2001), summarizing a series of studies in which they trained content-area teachers to use various literacy-enhancing routines, concluded that teachers are generally able to adopt routines that modify content in ways that make it more accessible to students, such as using graphic organizers. However, when they are taught routines that involve explicit strategy instruction as well, they do not fully implement those routines because they are too time-consuming and prevent teachers from covering key components of their curricula. For instance, when six middle school social studies teachers were shown a routine for teaching students about text structure and note taking (Scanlon, Deshler, & Schumaker, 1996), the teachers spent only about half as much time on the routine as they had said they would. The reason given was the need to cover extensive amounts of content. As a result, students had few opportunities to practice the strategy, and only about half the students could name the steps in the strategy at the end of the study. Similarly, when they taught seventh-grade science teachers a routine for using mnemonic devices (Bulgren, Deshler, & Schumaker, 1997), teachers used only selected parts of the strategy and student learning of the strategy was mixed. Deshler et al. point out that content teachers' inability to provide learning strategy instruction is a particular disadvantage to students with learning disabilities in inclusion classrooms, because other types of learning support are not available for these students in many high schools.

Of course, there are content-area teachers who believe that literacy instruction should be included as part of their subject area, as in the case of the chemistry teacher reported by Moje (1996). Other researchers have attempted to describe the different influences that might lead teachers to adopt literacy instructional strategies. Agee (2000) videotaped and interviewed five experienced English teachers in order to determine how they defined effective literature instruction, how they gauged their own effectiveness, and how their perceptions informed their instructional decisions.

Each teacher had a different model for what was important and effective in their instruction. Two of the teachers focused on acquisition of subject matter, literary analysis, college preparation, and a relatively narrow range of texts. They tended to be relatively inflexible in these beliefs, especially when it came to working with younger adolescents or struggling readers. Two other teachers were more student-centered, and concentrated on student engagement, construction of knowledge, and student-friendly texts. They were more flexible in accommodating younger students and the less capable readers. The final teacher was in the middle, expressing student-centered ideals but actually employing a more traditional approach. All teachers were able to identify problems in their professional lives, but only the more flexible teachers were self-critical and looked to themselves for solutions. The others tended to blame external conditions or students. Agee concluded that teachers need to be helped to make explicit connections between their ideas, their experiences, and their professional practice.

Elizabeth Sturtevant has researched teachers' beliefs about using literacy strategies, as well as how those beliefs have been formed (Sturtevant, 1996; Sturtevant & Linek, 2003). In these studies, teachers cited conflicts between covering curriculum and including all the learning activities they felt were important, including reading and writing. They also noted contextual conditions such as administrative support, availability of materials, and time constraints as factors in their decisions about what and how to teach. Teachers cited their personal experiences with students and with trusted individuals such as former teachers, spouses (who were also teachers), and colleagues as influences on their beliefs. Teachers were not so much resistant to change as they were skeptical of ideas that were not responsive to their particular situations. Consequently, "top down" dictums regarding curriculum are unlikely to result in much positive change. Rather, staff developers and others need to understand the constraints and beliefs of teachers.

Secondary-school methods textbooks may be another factor in the reluctance or inability of some teachers to adopt literacy-teaching strategies. Draper (2002) surveyed popular content methods textbooks—three each in mathematics, social studies, and science—to determine what messages they transmitted about literacy instruction. She found that while literacy is cited as important, there is little in the way of specific strategies that teachers can use, especially for reading. The omission of suggestions for struggling readers was especially troublesome, and English language learners and other historically marginalized populations were also overlooked. In some cases, there was an implied dichotomy between "reading" and "doing," with reading dismissed as passive learning. Generally, the messages in these methods texts ran counter to the messages in content-area literacy texts, and may be a partial explanation for some teachers' resistance or indifference to helping students with reading and writing in their subjects.

Summary

In their study of teachers who successfully blended literacy and content, Sturtevant and Linek (2003) suggest that "good teaching" may be as much an environment conducive to learning and positive teacher attitudes toward students as it is any particular curriculum or methodology. Research on professional development implies that both pre- and in-service teachers and those who would teach them need to be aware of often unexamined beliefs and personal experiences. In addition:

- Professional development is likely to have positive outcomes for adolescent literacy instruction when it helps teachers to make explicit connections between their ideas, their beliefs, and their practice.
- Effective professional development takes into account the realities of classroom life, including time constraints, curricular pressures, and high-stakes testing.
- There is continued need, especially for preservice teachers, to learn about adolescent literacy, but this would be most effective when it is carried over to their subject-area methods courses and actually utilized in thoughtfully supervised practice with adolescent students.

Finally, given the increasing cultural and linguistic diversity of the school population and the inclusion of students with learning disabilities in regular classrooms, teachers need guidance on how to best serve adolescents who are most susceptible to failure or dropping out.

Conclusions

This research review leads to conclusions that echo those advocated in a policy statement commissioned by the International Reading Association (Moore, Bean, Birdyshaw, & Rycik, 1999). These four experts counseled that adolescents require, among other things, teachers who understand the complexities among individual adolescent readers, a wide variety of reading material that appeals to their interests, instruction that builds students' skills and desire to read increasingly complex materials, assessment that reveals their strengths as well as their needs, and expert teachers across the curriculum. However, this present review does not suggest any foolproof methods or programs that will improve literacy achievement for all adolescents. There is no single "quick fix" for complex reading problems (Allington & Walmsley, 1995). Rather, effective approaches to literacy instruction must of necessity be custom-tailored to localities, comprehensive and multi-faceted, and integrated within and across curricula.

This research review also documents the varied literacies of adolescents. Consequently, effective literacy instruction for adolescents must be designed to accommodate a wide range of individual differences, interests, and literacies. It must account for the proliferation of new literacies, the multiple media literacies that adolescents are so adept at using in various permutations and combinations (Lankshear & Knobel, 2003; O'Brien, in press.) Instruction should also be responsive to the diverse social, cultural, and linguistic backgrounds of adolescents.

Another common theme running throughout this review is the effectiveness of scaffolded strategy instruction. Students achieve maximum learning when teachers present new learning strategies in small steps, model the strategy carefully, and provide opportunities for ongoing feedback as students practice the strategy with increasing independence. Scaffolded instruction appears to work best in classrooms where teachers encourage active, thoughtful participation by students in the discussion of ideas, and where students feel that their voices are welcome and important.

Research also illustrates the constraints placed on content-area teachers by the pressure to cover curriculum and prepare students for high-stakes assessment. In such an environment, there are limits to how much explicit strategy instruction a teacher can provide. Consequently, there will be a need in many schools for dedicated literacy development classes such as those developed by Greenleaf et al. (2001). Instead of an exclusive focus on isolated skill development, such classes should be carefully designed to involve students in challenging, content-based instruction that is tailored to their developmental needs.

Instruction will be most effective when well-informed teachers are directly involved in its design. This means that curriculum reform and development need to be consensual and collaborative, not imposed by decree. This will require attention to the needs, beliefs, and constraints of teachers.

Finally, this review reveals quite a lot that the current research does *not* say, and consequently points out the direction for further research on adolescent literacy. Continued literacy research specific to adolescent populations is needed to provide a fuller understanding of the following:

- The multiple literacies of older adolescents.
- The literacy practices and preferences of boys as well as girls.
- Literacy learning by English language learners.
- Meeting the needs of struggling adolescent readers and students with learning disabilities.
- Critical factors in successful literacy instruction.
- An assessment of adolescent literacy.

As more attention is focused on the needs of adolescent readers and writers, current research provides considerable guidance to providing successful literacy experiences. The many able researchers in this area will continue to produce valuable insights into the complex and fascinating world of adolescent literacy. Policy makers, curriculum developers, and teachers who pay attention to this research will be able to make a difference in the literacy achievements of adolescents.

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