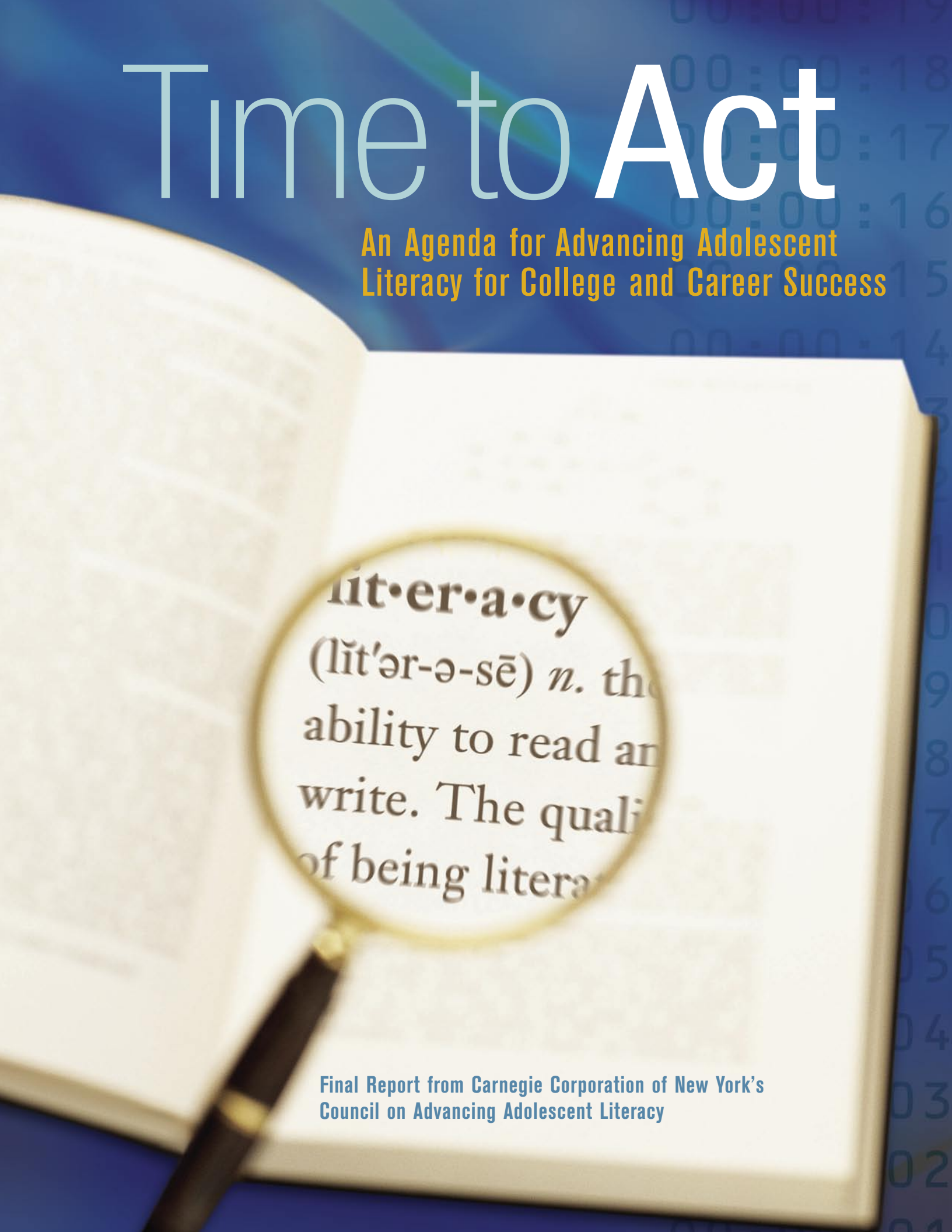
Time to Act

An Agenda for Advancing Adolescent Literacy for College and Career Success



Final Report from Carnegie Corporation of New York's Council on Advancing Adolescent Literacy

Carnegie Corporation's Advancing Literacy program is dedicated to the issues of adolescent literacy and research, policy, and practice that focus on the reading and writing competencies of middle and high school students. Advancing Literacy reports and other publications are designed to encourage local and national discussion, explore promising ideas and incubate models of practice, but do not necessarily represent the recommendations of the Corporation. For more information, visit: www.carnegie.org/literacy.

Published by: Carnegie Corporation of New York.

Suggested citation: Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. New York, NY: Carnegie Corporation of New York.

Time to Act

An Agenda for Advancing Adolescent Literacy for College and Career Success

Final Report from Carnegie Corporation of New York's Council on Advancing Adolescent Literacy

Contents

Acknowledgments

Time to Act: An Agenda for Advancing Adolescent Literacy for College and Career Success would not have been possible without the hard work and myriad contributions of the *Carnegie Council on Advancing Adolescent Literacy*. For more than three years, members of the Council met regularly to discuss the broad issues of adolescent literacy and to review relevant research, state and federal policies, and commission reports. The body of work presented here and other reports commissioned by the Council are listed in Appendix A.

We would like to thank Vartan Gregorian, President of Carnegie Corporation and the Corporation's Board of Trustees for making this project possible. A million thanks to Catherine Snow, who chaired the Council with great diplomacy, humor, and hard work.

Time to Act could not have been completed without the help of Michele Cahill, Peter Heaney, Manami Kano and Nancy Hoffman, all of whom made profound contributions to the development of the report. The editorial support and endless patience of Andrew Wilson and Gina Biancarosa were crucial to bringing this work and many other publications of the Council to fruition.

Early on, the Council's English language learner subcommittee helped to guide the publication of *Double the Work*. Thanks to members Diane August, Gina Biancarosa, Margarita Calderón, Fred Carrigg, Nancy Cloud, Michael Fix, David Francis, Michael Kamil, Delia Pompa, Mel Riddile, Cathy Roller, Maria Santos and Aida Walqui. A big thanks goes to Deborah Short and Shannon Fitzsimmons and the Center for Applied Linguistics for their stewardship of this work and to Michael Fix and Jeanna Batalova at the Migration Policy Institute for their deep-dive study of the patterns of immigration and education that led to the publication *Measures of Change*.

We would like to thank the "panel of five" that drew up the recommendations for *Reading Next*: Don Deshler, David Francis, John Guthrie, Michael Kamil and James McPartland. Thanks especially to Gina Biancarosa for culling through lots of newsprint with barely legible notes to give birth to the publication and to Catherine Snow for her wise guidance. Thanks also to Steve Graham and Dolores Perin for completing the commissioned paper on writing which gave rise to the *Writing Next* report and the journal article, *A Meta-analysis of Writing Instruction for Adolescent Students*, published in the Journal of Educational Psychology.

We would like to thank Dan Mangan and Anne Fuller at the International Reading Association for their guidance and for publishing *Informed Choices for Struggling Adolescent Readers* and *Standards for Literacy Coaches*. Great appreciation goes to Don Deshler, Annemarie Sullivan Palincsar, Gina Biancarosa, and Marnie Nair for their extraordinary effort in authoring *Informed Choices*.

Thanks to early Council members Jacquelyn Eccles and Arturo Pacheco whose schedules did not permit them to participate fully in the Council's activities and to Jacy Ippolito, Trent Kaufman, Bridget Dalton, David Rose, Russell Miller, and Shalom Fisch for their work on commissioned reports that informed the Council's work.

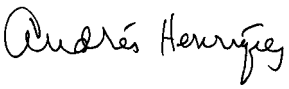
Thanks to the public and private foundations—Bill and Melinda Gates Foundation, Institute of Education Sciences, Leeds Family Foundation, National Institute of Child Health and Human Development, National Science Foundation, The Walmart Foundation, Office of Elementary and Secondary Education, Office of Vocational and Adult Education and Carnegie Corporation of New York—that have participated in the Adolescent

Literacy Funders Forum. This group, formed in 2003, has met annually to discuss the challenges of, and new developments in, the field of adolescent literacy. The increasing popularity of this forum signaled to us the growing recognition of adolescent literacy's significance in efforts to improve America's educational system.

To all of our grantees that we partnered with over the years, many thanks for your contributions to the field and your considerable efforts in communicating your research, advocating for adolescent literacy and translating the work into accessible forms for others to utilize.

Colleagues at the Alliance for Excellent Education have been enormously helpful over the years in co-publishing a number of the Council's works (i.e., *Reading Next*, *Writing Next*, and *Double the Work*). Thanks to Bob Wise, Britt David, M. Miller, Haven Cushman, Jason Amos and Elizabeth Schneider as well as to those formerly with the Alliance who are off to new endeavors: Jeremy Ayers, Rafael Heller, Bethany Little, Cindy Sadler, and of course Susan Frost, who was so inspirational and encouraging in the publication of *Reading Next*, one of our earliest and most widely distributed reports.

Thanks to my colleagues at Carnegie Corporation for all of their support with the nuances of the Council's work: Susan King, Eleanor Lerman, George Soule, Adrienne Faraci and Karen Theroux. Thanks to Michele Cahill for her continued encouragement and support of the initiative. The Council owes a great debt to Sara Wolpert for taking care of all the logistics. Thank you, Sara. Finally, thanks to former Carnegie Corporation colleagues Dan Fallon and Neil Grabois for embracing the importance of adolescent literacy and the work of the Council from the beginning.



Andrés Henríquez
Program Officer and Manager of the Advancing Literacy Initiative
Carnegie Corporation of New York

Council Members

Carnegie Corporation of New York

437 Madison Avenue New York, NY

Council on Advancing Adolescent Literacy (CAAL)

Chair, CAAL

Catherine Snow
Patricia Albjerg Graham Professor of Education
Harvard Graduate School of Education
Cambridge, MA

Council Members

Mary Laura Bragg
Former Director, Just Read! Florida
Tallahassee, FL

Donald D. Deshler
Director, Center for Research on Learning
The University of Kansas
Lawrence, KS

Michael L. Kamil
Professor, School of Education
Stanford University
Stanford, CA

Carol D. Lee
Professor of Education and Social Sciences
Northwestern University
School of Education and Social Policy
Learning Sciences
Evanston, IL

Henry M. Levin
William Heard Kilpatrick Professor of Economics and Education and Director, National Center for the Study of Privatization in Education
Teachers College, Columbia University
New York, NY

Elizabeth Birr Moje
Arthur F. Thurnau Professor, School of Education; Faculty Associate, Research Center for Group Dynamics, ISR; Faculty Affiliate, Latina/o Studies
University of Michigan
Ann Arbor, MI

Mel Riddile
Associate Director for High School Services
National Association of Secondary School Principals
Reston, VA

Melissa Roderick
Hermon Dunlap Smith Professor, School of Social Service Administration
University of Chicago
Chicago, IL

Robert Schwartz
Academic Dean and Professor of Practice
Harvard Graduate School of Education
Cambridge, MA

Council Coordinators

Gina Biancarosa
Assistant Professor, School of Education
University of Oregon
Eugene, OR

Michael Kieffer
Assistant Professor
Teachers College, Columbia University
New York, NY

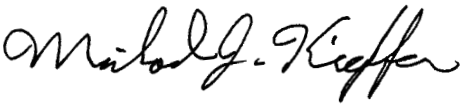
Signatories

Gina Biancarosa

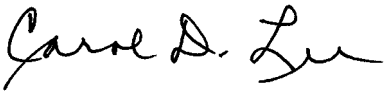
Mary Laura Bragg

Donald D. Deshler

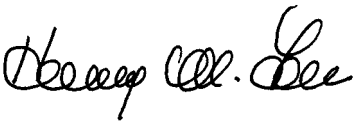
Michael L. Kamil



Michael J. Kieffer



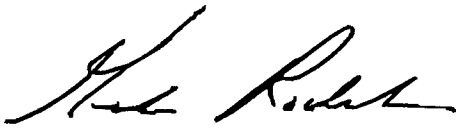
Carol D. Lee



Henry M. Levin

Elizabeth Birr Moje

Mel Riddile



Melissa Roderick

Robert Schwartz

Catherine Snow

Foreword

Since the beginning of the last century, Carnegie Corporation of New York and its U.S.-based sister organizations, including the Carnegie Institution for Science, the Carnegie Endowment for International Peace, Carnegie Mellon University, The Carnegie Foundation for the Advancement of Teaching, and the Carnegie Council for Ethics in International Affairs, have helped to advance American education and the world of ideas. Carnegie Corporation in particular has a long history of convening and supporting study groups and commissions charged with delving deeply into how the quality of teaching and learning in our K-12 school system, as well as in our colleges and universities, impacts the strength of our nation and our democracy. That importance of keeping a national spotlight on this issue was perhaps best expressed by the great education reformer Horace Mann, who believed that "education is the engine of democracy." From the Carnegie Commission on Science, Technology, and Government to the Carnegie Task Force on Learning in the Primary Grades to the Carnegie Task Force on Meeting the Needs of Young Children to the recently launched Carnegie Corporation-Institute for Advanced Study Commission on Mathematics and Science Education, the Corporation has concentrated much of its resources on efforts to enrich and improve education for all American students—who are, after all, our future leaders and thinkers. Without high-quality education at every level, America will lose its greatest asset: a knowledgeable and engaged citizenry.

In that tradition we created the Carnegie Corporation of New York Council on Advancing Adolescent Literacy to explore issues of adolescent literacy and the research, policy, and practice related to the reading and writing competencies of middle and high school students. In particular, the Council has focused on a challenging "disconnect" in our educational system, namely, that while what is expected in academic achievement for middle and high school students has significantly increased, the way in which students are taught to read, comprehend and write about subject matter has not kept pace with the demands of schooling. Students who are not proficient at understanding what they read and in communicating what they have learned are also at a tremendous disadvantage when it comes to succeeding in college and in competing for success in what is becoming an increasingly knowledge-based global economy.

Perhaps part of the problem is that for too long we have ignored a critical but silent factor in the many efforts at school reform that have been launched in recent years: while there is wide access to education in the United States, the excellence of that education and the depth of its content, particularly in our public schools, is often nowhere near what it should be—or needs to be. It is not enough to simply open the schoolhouse doors and invite children in. Once they are in the classroom, providing all students with a high-quality and challenging educational experience aimed at developing intellectual skills, critical thinking and effective communication has to be at the center of everyone's efforts. As *Time to Act*, the capstone report of the Carnegie Council for Advancing Adolescent Literacy, forcefully points out, "Our charge now is to turn our nation's secondary schools into high-functioning organizations led by principals who prioritize instructional excellence (and use detailed assessments to tailor instruction), staffed by well-informed teachers with a strong commitment to academic achievement by all students."

Throughout its work, the Carnegie Council on Advancing Adolescent Literacy, under the direction of chairperson Catherine Snow, and with the

leadership of Andrés Henríquez, Carnegie Corporation Program Officer and Manager of the Corporation's Advancing Literacy Initiative and his colleagues in the Corporation's National Program, has consulted with and gathered knowledge and ideas from experts across the country who served on the Council along with many others representing fields ranging from linguistics to the social sciences to teaching to policymaking. *Time to Act* is the culmination of the best practices, the most cutting-edge research and the most thoroughly complied and analyzed data available on how to help students "read to learn." But it is also a report already in action: many of its recommendations are currently being implemented in school districts all over the U.S.

As a handbook for policymakers, educators, school personnel and the public, as well, this report is invaluable. And in issuing a nonpartisan call for "re-engineering for change at all levels" of our educational system, it sets out a national agenda for fully supporting young learners and using evidence-based case studies to show exactly how schools, districts, and states can help to enrich and revitalize the experience of learning for today's students across the full spectrum of our society. The generation that is in school now, and those who will follow after them, are the people who will envision the future of our nation and chart our course through the 21st century and beyond. We owe it to them and to ourselves to ensure that they can read, write and learn at a high level in every classroom and every school, college and university throughout the United States.

Vartan Gregorian
President, Carnegie Corporation of New York

Executive Summary

Our nation's educational system has scored many extraordinary successes in raising the level of reading and writing skills in younger children. Yet the pace of literacy improvement in our schools has not kept up with the accelerating demands of the global knowledge economy. In state after state, the testing data mandated by No Child Left Behind reveals a marked decline in the reading and writing skills of adolescent learners. School systems are now grappling with the fact that promising early performance and gains in reading achievement often dissipate as students move through the middle grades. As a result, many young people drop out of high school or perform at minimal level and end up graduating without the basic skills that they need to do college-level work, get a well-paying job or act as informed citizens.

The truth is that good early literacy instruction does not inoculate students against struggle or failure later on. Beyond grade 3, adolescent learners in our schools must decipher more complex passages, synthesize information at a higher level, and learn to form independent conclusions based on evidence. They must also develop special skills and strategies for reading text in each of the differing content areas (such as English, science, mathematics and history)—meaning that a student who "naturally" does well in one area may struggle in another.

We have a strong knowledge base of reading instruction for grades K-3. However, literacy supports for adolescents present greater instructional challenges and demand a range of strategies. Middle and high school learners must learn from texts which, compared to those in the earlier grades:

- are significantly longer and more complex at the word, sentence and structural levels;
- present greater conceptual challenges and obstacles to reading fluency;
- contain more detailed graphic representations (as well as tables, charts and equations linked to text) and
- demand a much greater ability to synthesize information.

Also, each content-area has its own set of literacy skills that students are required to master before they can move fully from "learning to read" to "reading to learn." Adolescents who fail to master these more complex tasks in their learning process are likely to become unskilled workers in a world where literacy is an absolute precondition for success.

Luckily, the deterioration of literacy skills in adolescents is not inevitable. States that have invested in adolescent literacy initiatives are already seeing positive benefits for their efforts. Adolescent literacy must now be made an overarching national priority.

To reach the goal of providing quality literacy instruction for all our nation's adolescents, we must systematically link instruction to the growing knowledge base on literacy and inform it with up-to-date data relating to outcomes and best practices. We must also find and support good teachers and provide them with the right professional development opportunities. Schools, districts, states, and federal policymakers all have vital roles to play in the process of re-engineering the nation's schools to support adolescent learning. Accordingly:

1. The Vision: Literacy for All draws on up-to-date research showing that adolescents need a higher level of literacy than ever before, both for college-readiness and employment in the new global knowledge economy, and goes on to describe how our current state of knowledge already equips us to re-engineer schools to support quality adolescent learning.

2. The Challenge: What It Will Take to Get Our Adolescents College and Career Ready details

the specific literacy needs of adolescent learners and shows how these needs can best be met in our nation's schools.

3. The Keys: Underpinnings for Successful Reform shows how professional development for teachers and the effective use of data are the keys to improving adolescent literacy and realizing the ambitious goal of "literacy for all."

4. The Agenda: Re-Engineering for Change At All Levels sets out a national agenda for fully supporting adolescent learners, using case-studies to show exactly how schools, districts, and states can help to re-engineer the experience of adolescent learning.

5. A Call To Action: Where To Begin summarizes the main points of this report by setting out specific action steps for school leaders, district leaders, state leaders, and federal policymakers.

Our common goal must be to ensure that all students receive the support they need for active citizenship, college and career readiness, gainful employment in the global knowledge economy, and lifelong learning. *The time to act is now.*

History of the Report

In 2002, Carnegie Corporation of New York (CCNY) commissioned RAND to convene a small group of scholars and policy analysts to discuss the then-current state of research on adolescent literacy and help lay the groundwork for a long-term effort directed toward supporting and improving the literacy skills of adolescent students in our nation's schools. The resulting task force on adolescent literacy produced a "briefing book" that identified and examined several topics relevant to adolescent literacy about which more thinking was needed.

Despite the recognized importance of specialized literacy skills for adolescents, the knowledge base on this issue was at that time relatively small, with school instruction relying more on intuition than solid evidence and the institutional dissemination of best practices. Notable earlier reports, including *Preventing Reading Difficulties in Young Children* (PRD National Research Council, 1998) and the *Report of the National Reading Panel* (2000) had offered strong arguments and recommendations for systematic literacy instruction in the primary grades even though international comparisons suggested that the performance of American children in the primary grades had long been comparable to that in other developed nations (Martin, Mullis, Gonzalez, & Kennedy, 2003). The specific challenges of adolescent literacy and learning had been comparatively ignored in favor of the "inoculation" model of literacy instruction, wherein later problems are avoided through early efforts at prevention.

The Task Force delivered its briefing book to the Council on Advancing Adolescent Literacy (CAAL), an enlarged group established by the CCNY, in 2004. CAAL members then took on the task of working out how to expand knowledge about the topics identified in the briefing book by overseeing (and in some cases themselves producing) synthetic reports and white papers. Some of these early reports were widely distributed and received with considerable enthusiasm. For example, as of June 2009 over 115,000 copies of an early Council effort, *Reading Next* (Biancarosa & Snow, 2004), had been requested by schools, districts, and state officials (in addition to over 1.5 million web downloads). CAAL commissioned a substantial list of reports and small studies (see Appendices) focused on issues as varied as comprehension assessment, out-of-school learning, second language learners' instructional needs, writing in adolescence, literacy in the content areas, and standards for adolescent literacy coaching. Members of CAAL also contributed to teams that produced a variety of guides for policymakers including governors, state school boards, principals, superintendents, district school boards, and curriculum developers, and have participated in adolescent literacy summits promoted by the Alliance for Excellent Education, which in turn received funding by CCNY (see Appendix A for a list of publications produced by this initiative).

So, largely because of Carnegie Corporation's commitment to improving the literacy skills of adolescents in our nation's schools, we have created a substantial knowledge-base for understanding adolescent literacy and what it takes to implement this knowledge in secondary schools. It is now time to act on what we have learned.

The Vision

1

Literacy for All

During the last twenty years our nation's educational system has scored some extraordinary successes, especially in improving the reading and writing skills of young children. Yet the pace of literacy improvement has not kept up with the pace of growth in the global economy, and literacy gains have not been extended to adolescents in the secondary grades.

Overall, we are failing to create highly literate, college and career ready adults with the literacy skill sets that qualify them for employment in the new global knowledge economy. The most recent data shows poor performance by U.S. students compared to many other nations (UNESCO Institute for Statistics, 2003, 2007). Although U.S. students in grade four score among the best in the world, those in grade eight score much lower. *By grade ten, U.S. students score among the lowest in the world.*

Many of our high school graduates are not prepared for college-level coursework—a widespread problem that has impelled most colleges and universities to introduce remedial reading programs for the large numbers of freshmen unable to cope with the quantity of reading assigned to them college classrooms (NCES, 2001, 2003). Likewise, estimates indicate that private industry now spends up to $3.1 billion (National Commission on

Throughout this report, when we refer to "adolescents" and "secondary" grades, we mean students in grades four through twelve. We use this definition for two reasons. For one, across the US school systems vary in the way they divvy up grades, including the simple K-8 + 9-12, as well as more complicated configurations such as K-5 + 6-8 + 9-12 and K-6 +7-9 + 10-12. More importantly, however, the changes in literacy demands that we outline begin in fourth grade and continue throughout high school.

Writing, 2004) per year to bolster the writing skills of entry level workers. Part of the problem is that societal demands for high levels of literacy have increased dramatically: "The skills required to earn a decent income have changed radically. The skills taught in most U.S. Schools have not" (Murnane & Levy, 1996, p. 6).

> High school graduates today are increasingly expected to judge the credibility of sources, evaluate arguments, and understand and convey complex information in the college classroom, in the workplace and as they exercise their rights as citizens. The ability to reason allows for the systematic development of ideas, the ability to make sound choices, and the ability to make and understand persuasive arguments. (American Diploma Project, 2004, p. 29)

In other words, our adolescents are not being adequately prepared for the demands of higher education, employment and citizenship in the 21st Century (Center on Education Policy, 2007; Lee, Grigg, & Donahue, 2007; Perie, Grigg, & Donahue, 2005). It is a well-publicized fact that young people who fail or under-perform in school are increasingly likely to suffer from unemployment or drastically lower income levels throughout their lives (e.g., OECD, 2007).

This report is driven by a comprehensive vision of literacy for all. Every adolescent must have the opportunity to develop the necessary tools and skill-sets for ongoing active engagement with different kinds of text, critical thinking, and lifelong exploration and development. Improving literacy in grades 4-12 is the key to realizing this essential goal.

We already know enough to raise the overall level of adolescent literacy in our schools. The time to act is now.

Riverside High School: An ideal school experience for adolescent learners

The following is a hypothetical example of an exemplary schooling experience for adolescent learners.

Riverside High School, serving grades 9-12, has rates of poverty and mobility that are higher than its district's average. Nonetheless, it consistently outperforms all other schools in its district on measures of student achievement, teacher retention, attendance (for both students and faculty), graduation rates, and discipline referrals.

Riverside is led by a dynamic principal named Mr. Jackson who has convinced his staff that students' literacy skills are the key to their success across all content areas. He has consistently made literacy achievement the highest priority within the school. Literacy is not "added on to" the list of goals for the year—it is the foundation upon which all the educational goals of the school are achieved.

To drive and oversee all literacy work in Riverside, Mr. Jackson has formed a Literacy Leadership Team, which he also chairs. This team is made up of eight members of the faculty and a counselor. The team meets at least every two weeks to review progress on the implementation of specific aspects of their overall literacy plan for the year. Through the Literacy Leadership Team Mr. Jackson has, in effect, distributed responsibility for leadership of the school's literacy work to key members of his faculty and staff.

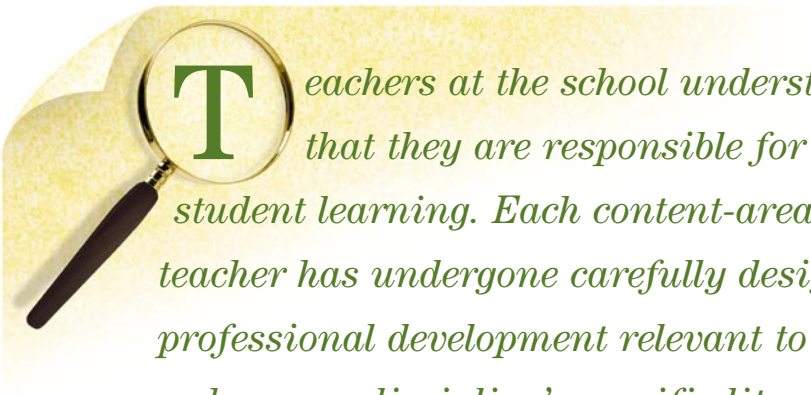
Mr. Jackson knows his struggling students by name, and knows who their teachers are also. He knows which teachers are struggling or inexperienced and thus need more support. This knowledge depends on systematic use of up-to-date assessment information.

Students are screened prior to the school year (using performance on state assessments or other available data) and placed in classes designed to meet individual needs. Those students who do not respond to enriched or intensified instruction are given a diagnostic test to pinpoint specific reading deficiencies and then are provided with more specific and targeted interventions. Mr. Jackson is actively involved in the system of ongoing formative assessments in place at his school. He meets regularly with teachers about student data, and he uses faculty meetings as forums for discussing ways to increase student achievement while addressing most strictly administrative issues through e-mail.

Professional development for Riverside High School teachers is needs-based and carefully targeted. Each teacher has a professional development plan created together with the principal and tied to his or her end-of-year evaluation, thereby holding both the principal and the teacher accountable. Mr. Jackson is also actively involved in setting the master schedule. He uses the reading needs of his students (as shown by the data) to drive scheduling, instead of relying on tradition, convenience, or teacher preferences. He

makes sure that the schedule offers abundant common planning periods for both grade-level and content-area specific team meetings, and due to the ready availability of formative assessment data such meetings are always focused on raising student achievement.

A large number of students at Riverside High School struggle with fluency, and a smaller number of students have decoding issues. Those students may receive full-year intensive reading course (in some cases, a double block of time in addition to language arts), taught by the strongest teachers who have special expertise in teaching struggling readers. These courses are text rich, with an emphasis on reading and writing practice, and the content is taken from core subjects (math, language arts, science and social studies). To motivate students further, these courses count as credit toward graduation.



Teachers at the school understand that they are responsible for student learning. Each content-area teacher has undergone carefully designed professional development relevant to his or her own discipline's specific literacy challenges.

Mr. Jackson's prioritizing of literacy is reflected by his investment in a full-time literacy coach who serves as a site-based professional development resource for all teachers. The literacy coach coordinates school wide assessments, placement of students into intervention classes, professional development of the faculty, and the mentoring of new faculty members. Also, the literacy coach provides content-area teachers with content-specific training and support. The literacy coach models lessons for teachers, provides formal and informal professional development, attends grade-level and content-area team meetings, and discusses student data.

(In other words, Mr. Jackson realized that merely hiring a literacy coach was not enough. The literacy coach at Riverside High works closely with teachers and the principal to help make sure that all students receive the quality literacy instruction they need.)

Riverside High School's prioritization of literacy, combined with its commitment of resources to support that priority, has created a highly coherent school culture. Teachers at the school understand that they are responsible for student learning. Each content-area teacher has undergone carefully designed professional development relevant to his or her own discipline's specific literacy challenges. New teachers arriving at Riverside are quickly socialized into this culture and brought into intensive professional development activities (peer observations, sessions of examining student achievement data) that provide them with needed guidance from more experienced teachers.

Riverside exemplifies a school culture dedicated to academic achievement. Riverside's leadership is wholeheartedly committed to building strong literacy *and* learning skills in its students. This strong academic and literacy focus is fueled by excellent content-area based literacy instruction plus targeted literacy instruction (for students who need extra help), and all instruction is informed by continual, up-to-date assessment of students' needs and progress. Riverside's leadership allocates precious resources to support the school's number one priority: learning.

As a result, of these efforts, Riverside consistently produces:

- Faculty and administrators focused on their own learning as a means to higher student achievement;
- Teachers and administrators focused on student learning;
- Cross-year continuity in the faculty;
- Core subject courses steeped in vocabulary and writing;
- Increasing numbers of students reading on grade level or higher, and decreasing numbers of students reading below grade level;
- Students who have and use a variety of readily available texts—both in classrooms and the media center;
- Graduates who are college and workplace ready because of their ability to deal with complex technical documents;

- Graduates capable of doing college-level work who do not need remedial courses upon enrollment in community colleges or universities.

Conclusion: Accomplishing the Vision

It is worth noting how different Riverside High School is from "business as usual" in U.S. secondary education. In very few secondary schools is student assessment data used as a basis for assignment to classes—sometimes because such data is not available, but more often because convenience-based scheduling defeats the effort. Many schools that do use assessment data as a basis for assigning classes simply assign students to lower and higher tracks, rather than offering targeted instruction to meet struggling students' needs while making sure that all students receive the same instruction in core academic areas.

Riverside consistently assigns the strongest teachers to those students with the greatest needs. But even aside from this key strategy for learning success, the professional development agenda at Riverside is exceptional overall. Much of the professional development in U.S. schools is of the one-off variety—popular speakers are invited to provide motivational jolts, or publishers are invited to provide curriculum overviews. Taking student data as the basis for professional work, linking the achievement data to proposed instructional activities, discussing ways to provide instruction across content areas and across years in a manner that is coherent and leads to cumulative results, and engaging in peer observation and evaluation of instruction (as are all done at Riverside High) are relatively rare activities in the nation's schools, yet these

TABLE No. 1. | *Comparison of Exemplary Secondary School and Typical Secondary Schools*

	Riverside Secondary School	Typical Secondary School
Culture	▪ All graduates college and career ready ▪ All students can learn ▪ Students need time to learn ▪ All efforts are data driven ▪ Goal is continuous, incremental improvement ▪ Teachers work in content teams ▪ Literacy instruction benefits all students	▪ Only some students can achieve at high levels ▪ Time for student learning is held constant ▪ Initiatives are top down ▪ Data is not collected or shared ▪ Goal is to collect the "low hanging fruit" = quick gains ▪ Teachers work independently
Information	▪ Annual diagnostic reading assessments ▪ Curriculum Guides ▪ Common Formative Assessments ▪ Common Summative Assessments ▪ Data is provided on a timely basis ▪ Teachers and entire staff have real-time data on student performance ▪ Programs are monitored closely ▪ Programs are continually evaluated and re-evaluated	▪ No schoolwide reading assessments ▪ Teachers develop their own syllabi ▪ Each teacher individualizes formative assessments ▪ Teachers do not use or share data on student achievement
Resources	▪ Budget reflects literacy priorities ▪ Literacy Coach ▪ Literacy coach devotes 100% of time to literacy (no administrative tasks) ▪ Reading specialists teach reading classes ▪ Intervention classes range from 15-18 students	▪ Budget is divided equally among departments ▪ No literacy coach ▪ Reading specialist works in a consultative mode or one-on-one with students ▪ Intervention classes do not exist. Some succeed, some don't, so what
Leadership	▪ The principal's focus is student learning ▪ Principal is the literacy leader ▪ Principal works in partnership with literacy coach ▪ Initiatives are based on assessed student needs not on adult wants ▪ Master schedule is constructed based upon the needs of the students	▪ Principal delegates key projects. Does not participate in project-related activities ▪ Principal's attention is focused on the high achievers, which represent a specific segment of the student population ▪ Master schedule is constructed on the wants of the staff

TABLE No. 1. | *Comparison of Exemplary Secondary School and Typical Secondary Schools (continued)*

	Riverside Secondary School	Typical Secondary School
Professional Staff	▪ Strong teachers are consistently assigned to teach students with the greatest needs ▪ Professional development is ongoing, connected, and job-imbedded ▪ All teachers are required to participate in regularly scheduled professional development ▪ Teachers are required to demonstrate proficiency in teaching literacy strategies ▪ Peer coaching ▪ Peer observation	▪ The weakest teachers are often assigned teach students with the greatest needs ▪ Professional development is topic specific, not connected ▪ Participation in professional development is optional ▪ No follow-up to professional development activities
Differentiated Literacy Instruction	▪ Multi-tiered interventions based upon assessed needs of students ▪ Differentiated instruction includes phonemic awareness, vocabulary, comprehension, and fluency based on assessed needs ▪ Students have additional time to improve literacy skills. In addition to ELA not in place of ELA ▪ Teachers are trained specialists ▪ Each student has an individual learning plan ▪ Progress is monitored and reported bi-weekly ▪ Literacy courses count to graduation credits ▪ Intervention classes use text from core academic courses	▪ Interventions that do exist are district mandated and are given little attention and resources ▪ Lecture is the predominant mode of instruction ▪ Progress is reported, not monitored, on a quarterly and annual basis
Content Area Literacy Instruction	▪ Literacy is embedded in classroom instruction and is considered a normal part of instruction ▪ Students are not aware that they are receiving literacy instruction ▪ All core classes receive reading and writing instruction ▪ Content teachers must demonstrate proficiency in core reading strategies ▪ Literacy instruction is provided to advanced students ▪ Strategies taught in intervention classes are reinforced in content classes ▪ Writing rubrics developed and used as instructional tools by all teachers	▪ Literacy instruction only occurs in reading classes ▪ Only poor readers receive literacy instruction ▪ School does not use a writing or reading rubric

activities constitute the most effective approach to instructional improvement.

Finally, Riverside High School's commitment to follow-through is unusual in educational institutions. Mr. Jackson recognizes that literacy instruction has not been an inherent part of secondary education and so is subject to inevitable slippage. Therefore, he commissions a yearly audit of professional development and instructional activities to evaluate the timeliness of access to student data, the use of data in planning instruction, the levels of teacher participation in professional development, and so on. Ongoing minor readjustments are needed to keep the system working as intended.

In practice, we recognize that there are many reasons why most schools fall short of Riverside High. We enumerate some these most common obstacles in the section entitled *The Challenge*. However, none of these obstacles will prove insurmountable if we adopt a systemic approach to school reform by enlisting the involvement of actors from the state, the community, the academic world, and the district as well as school and classroom. We lay out a plan for just such systemic action in the section entitled *The Agenda*. But to be successful, the reengineering of our schools requires an in-depth understanding of the typical challenges faced by adolescent learners.

The Challenge

2

What It Will Take to Get Our Adolescents College and Career Ready

In this section we outline the multiple challenges our schools face if they are to become more like Riverside High. Although these challenges are many and often obdurate, research and practice offer us guidance for moving forward. The successes of early literacy school reform provide us with a strong precedent and a foundation for acting now to improve the literacy skills of our nation's adolescent learners.

Early Literacy: Success, but No Inoculation

Despite a number of problems with oversight and implementation and some equivocal quasi-experimental findings (Gamse, Jacob, Horst, Boulay, & Unlu, 2008), a good deal of evidence points to the impact of the federal investment in Reading First. Combined with a strong new focus on the use of research-based approaches to reading and accountability requirements, Reading First appears to have contributed to important gains in performance in the early grades.

For instance, the non-partisan Center on Education Policy (2007, 2008), which has been tracking the implementation of No Child Left Behind, reports that not only have fourth grade reading and math scores for U.S. students been rising since 2002, but racial achievement gaps have also in most cases been narrowing. In nine of the 13 states studied, average yearly gains in reading and math have been greater since 2002—the year NCLB was enacted—than in the preceding years. Of course, it is impossible to disentangle the effects of NCLB from numerous state policies and strategies on literacy that were initiated well before 2002.

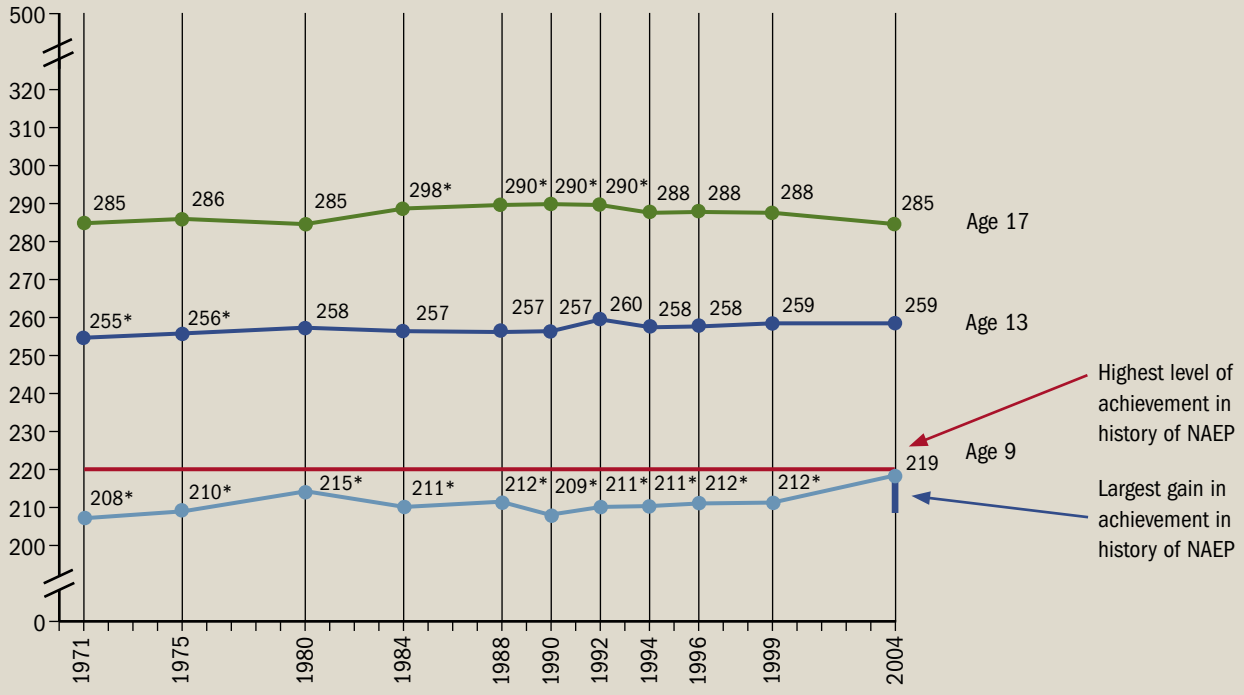
The recent early literacy gains are most apparent in the long-term trend data of the National Assessment of Educational Progress (NAEP). (The long-term NAEP items and sampling are designed specifically to produce a reliable method of tracking student progress over time.) The long-term NAEP data from 2004 include many students who would have participated in Reading First or its predecessor program, Reading Excellence, and the results show **the highest**

achievement in reading for fourth grade students in thirty-three years (see Figure 1). Moreover, the fourth grade gains between 1999 and 2004 are the largest in the history of NAEP, as is the narrowing of racial achievement gaps. Although all groups of students improved between 1999 and 2004, Black and Hispanic students demonstrated the largest gains between two administrations and their highest levels of reading achievement in the history of NAEP (see Figures 2, and 3; Perie et al., 2005). Most encouraging of all, each of these trends continues in the latest long-term NAEP data from 2008 (Rampey, Dion, & Donahue, 2009). Although the gains from 2004 to 2008 do not eclipse the historic gains of 2004 compared to 1999, fourth grade scores rose yet again and racial achievement gaps continued to narrow. Taken together, these results demonstrate that with a concerted effort we can indeed improve the literacy achievement of all our nation's children.

Despite the success we have experienced with early literacy, data drawn from the testing results mandated by No Child Left Behind have confirmed a significant problem in our schools also visible in the NAEP long-term data—namely, a marked stagnation in the literacy achievement of adolescents (see Figure 1). The literacy of our 13- and 17-year-olds has remained stunningly stable over the last 37 years (Rampey et al., 2009). Many school systems are now grappling with the reality that promising early performance and gains in reading achievement seem to dissipate as students move into and through the middle grades (Alliance for Excellent Education, 2007; Lutkus, Rampey, & Donahue, 2006; Martin, Mullis, Gonzalez, & Kennedy, 2003; Rampey et al., 2009).

But deterioration in performance in the middle grades is not inevitable. The next section provides guidance and cases of schools, districts, and states that are using early gains as a springboard for future gains in achievement. However, before we detail these recent initiatives, it is important to understand why early improvements in literacy alone are not enough to guarantee excellent adolescent literacy achievement.

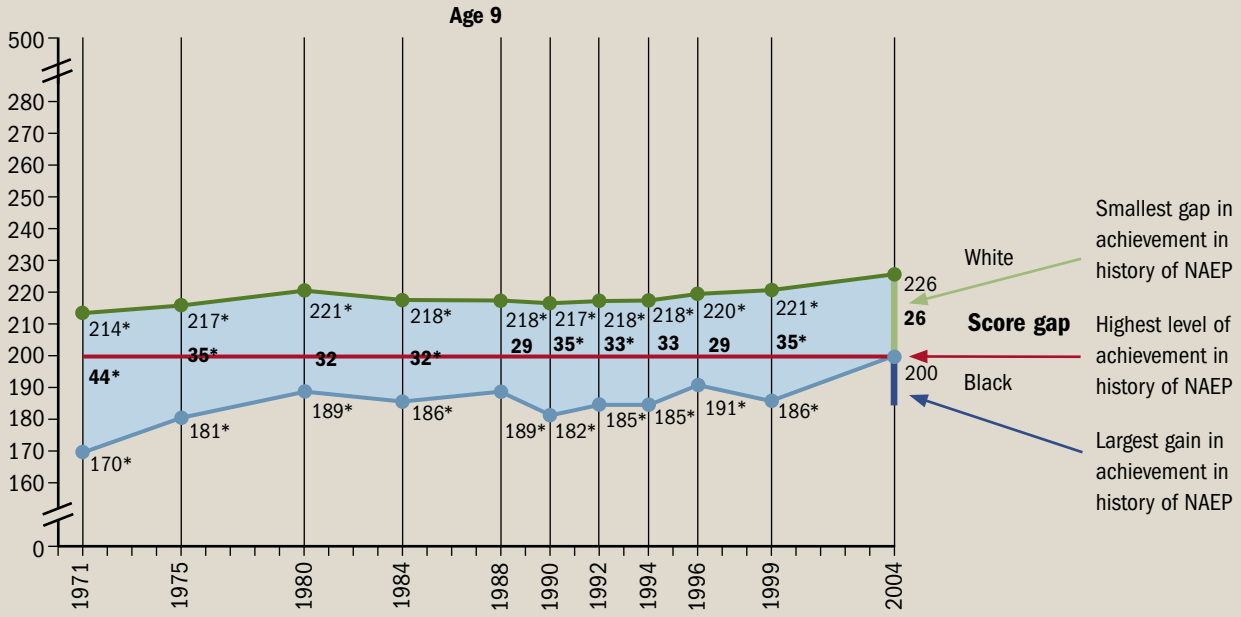
FIGURE No. 1. ***Trends in average reading scale scores for students ages 9, 13, and 17: 1971-2004 (adapted from Perie et al., 2005, Figure 2-1).***



*Significantly different from 2004

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971–2004 Long-Term Trend Reading Assessments.

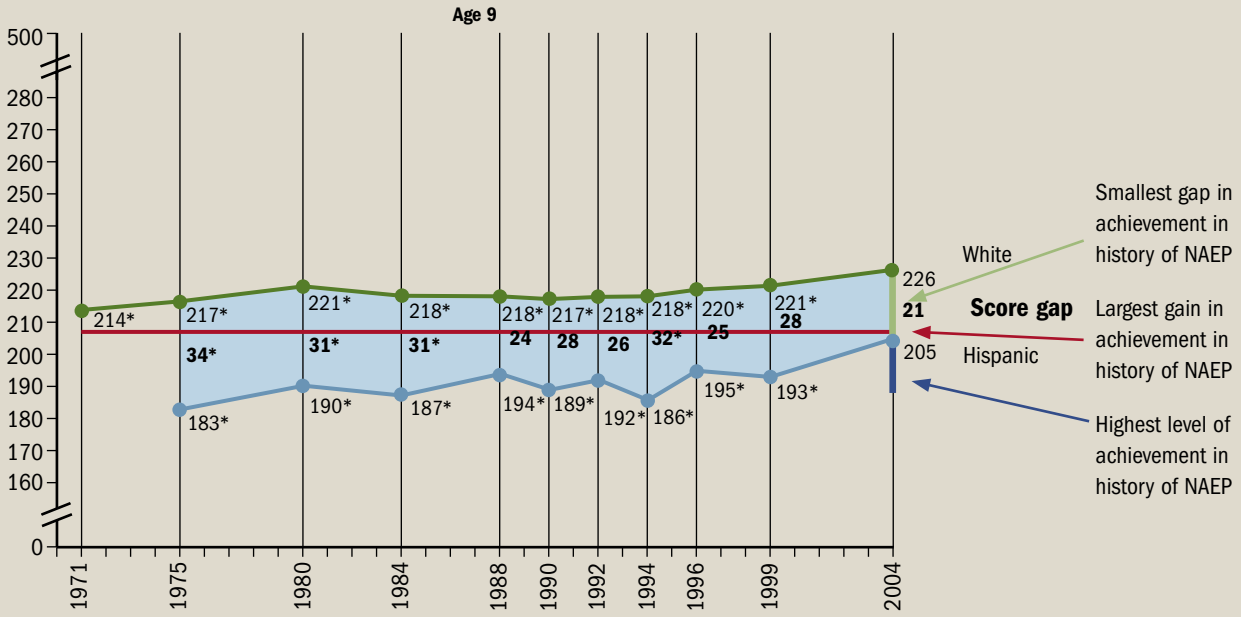
FIGURE No. 2. *Trends in average reading scale scores and score gaps for White students and Black students age 9: 1971-2004 (adapted from: Perie et al., 2005, Figure 3-2).*



*Significantly different from 2004

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971–2004 Long-Term Trend Reading Assessments.

FIGURE No. 3. *Trends in average reading scale scores and score gaps for White students and Hispanic students age 9: 1971-2004 (adapted from: Perie et al., 2005, Figure 3-3).*



*Significantly different from 2004

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), selected years, 1971–2004 Long-Term Trend Reading Assessments.

Adolescent Literacy: Specific Challenges

Why is it that improvements in early literacy do not automatically translate into gains in later grades? Why do so many students do well on third and fourth grade accountability tests, then progressively worse in subsequent grades? In short, why doesn't an "inoculation" approach to the adolescent literacy problem work?

The skills that students learn up until fourth grade are absolutely critical to later success, but they are simply not enough. Adolescent literacy is a shifting landscape where the heights get higher, the inclines steeper and the terrain rockier. Literacy demands change drastically in grades 4-12. So, too, do the students who must meet these demands.

Literacy Demands Change

Literacy demands—meaning the specific combination of texts, content, and the many learning tasks to be performed at any given grade level—change and intensify quickly for young learners after fourth grade. Primary grade students typically read texts containing words they already know, often about topics that already interest them. Comprehension tests require them to summarize stories and to retrieve items stated in the text, while mathematics tests require applying well-learned procedures. By contrast, secondary grade students are expected to learn new words, new facts, and new ideas from reading, as well as to interpret, critique, and summarize the texts they read. The literate practices embedded in these tasks, combining literacy skills and content knowledge, are often invisible (or taken for granted) and yet require a high level of sophistication, making adolescents especially vulnerable to underperformance and failure.

Some educators feel that the "adolescent literacy crisis" can be resolved simply by having adolescents read more books. This idea is based on the misconception that the source of the problem is "illiteracy." The truth is that adolescents—even those who have already "learned how to read"—need systematic support to learn how to "read to learn" across a wide variety of contexts and content.

In Figure 4, we present excerpts from three science textbooks as a way to illustrate precisely how the textual "landscape" changes as students progress through secondary school. Namely:

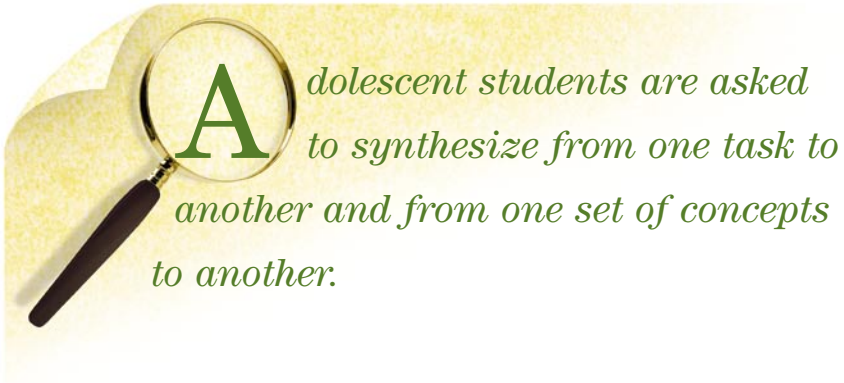
- *Texts become longer.* The length of text devoted to a given topic increases, meaning that students must evolve more sophisticated strategies for getting through their assignments. Although all three of the texts in Figure 4 cover the same topic, they do so in depth that increases with grade level. Those students who lack "reading stamina"' struggle and are sometimes left behind.
- *Word complexity increases.* Post-third grade texts make increasing vocabulary demands that have consequences for word recognition and fluency. Note that although all three textbook samples in Figure 4 include essential terms such as *seed* and *spore* in their discussion of non-seed plants, the technical vocabulary becomes increasingly dense. In the middle school text, the words *vascular*, *fertilization*, and *gametophytes* appear, while in the high school text *osmosis*, *diffusion*, *sporophytes*, and *genus* appear. In addition to the growing technical vocabulary, the texts also make increasing demands on an all-purpose academic vocabulary: for example, *ancient* appears in the elementary text, *ancestors* in the middle school text and *commonly*, *suggest*, and *elongated* in the high school text. Students often need instruction in segmenting and pronouncing such multi-syllabic, multi-morphemic words. Of course, just pronouncing the words correctly is not enough, since students in middle and high school are often expected to learn the meanings of such words from context alone.
- *Sentence complexity increases.* The middle and high school science texts in Figure 4 contain much longer sentences than the elementary text. Such sentences must be parsed automatically while reading if the student is to proceed fluently. Longer sentences often rely on words that are simple to pronounce and recognize, words such as *which*, *who*, *that*, *but*, *if*, *and*, *or*. However, these simple words carry important ideas from one part of a sentence to another part of the same sentence, from one sentence to another, and from one part of the text to another part. Comprehension and learning in the content areas often hinge on students' ability to recognize and use such deceptively simple cohesive devices. What makes them challenging is not the

FIGURE No.4. | *Elementary, middle, and high school level texts excerpts about seeds.*

Elementary school level	Middle school level	High school level
Science (Harcourt Brace, 2005)	*Science Explorer: Discoveries in Life, Earth and Physical Science* (Prentice Hall, 2004).	*Biology: The Dynamics of Life* (Glencoe, 2004)
Plants and Seeds **Plants Without Seeds** You have read that some simple plants don't have roots, stems, or leaves. These simple plants don't have seeds either. They reproduce by spores. The seed is the first stage of growth in many plants that have roots, stems, and leaves. However, not all of these plants produce seeds. Ferns are examples of this type of plant. Ferns, like simpler plants, reproduce by spores. These spores are found on the bottom of the fern leaves, or fronds.	**Characteristics of Seedless Vascular Plants** The odd-looking plants in the ancient forests were the ancestors of three groups of plants, that are alive today—ferns, club mosses, and horsetails. Ferns and their relatives share two characteristics. They have vascular tissue and use spores to reproduce. **Vascular Tissue** What adaptations allowed plants to grow very tall? Unlike the mosses, the ancient trees were vascular plants-plants that have vascular tissue. Vascular plants are better suited to life on land than are nonvascular plants. This is because vascular tissue solves the problems of support and transportation. Vascular tissue transports water quickly and efficiently through the plant's body. It also transports the food produced in the leaves to other parts of the plant, including the roots. In addition, vascular tissue strengthens the plant's body. Imagine a handful of drinking straws bundled together with rubber bands. The bundle of straws would be stronger and more stable than a single straw would be. In a similar way, vascular tissue provides strength and stability to a plant. Spores for Reproduction Ferns, club mosses, and horsetails still need to grow in moist surroundings. This is because the plants release spores into their surroundings, where they grow into gametophytes. When gametophytes produce egg cells and sperm cell, there must be enough water available for fertilization to occur.	**Non-seed Plants** The divisions of non-seed plants are shown in Figure 21.6. These plants produce hard-walled reproductive cells called spores. Non-seed plants include vascular and nonvascular organisms. **Hepatiocophyta** Hepaticophyes (hey PAH tih koh fites) include small plants commonly called liverworts. Their flattened bodies resemble the lobes of an animal's liver. Liverworts are nonvascular plants that grow only in moist environment. Water and nutrients move throughout a liverwort by osmosis and diffusion. Studies comparing the biochemistry of different plant divisions suggest that liverworts may be the ancestors of all plants. There are two kinds of liverworts: thallose liverworts and leafy liverworts. Thallose liverworts have a broad body that looks like a lobed leaf. Leafy liverworts are creeping plants with three rows of thin leaves attached to a stem. **Anthocerophyta** Anthocerophytes (an THOH ser oh fites) are also small thallose plants. The sporophytes of these plants, which resemble the horns of an animal, give the plants their common name—hornworts. These nonvascular plants grow in damp, shady habitats and rely on osmosis and diffusion to transport nutrients. **Bryophyta** Bryophytes (BRI uh fites), the mosses, are nonvascular plants that rely on osmosis and diffusion to transport materials. However, some mosses have elongated cells that conduct water and sugars. Moss plants are usually less than 5 cm tall and have leaf like structures that are usually only one to two cells thick. Their spores are formed in capsules. **Psilophyta** Psilophytes, known as whisk ferns, consist of thin, green stems. The psilophytes are unique vascular plants because they have neither roots nor leaves. Small scales that are flat, rigid, overlapping structures cover each stem. The two known genera of psilophytes are tropical or subtropical. Only one genus is found in the southern United States.
Review question: What is a seed?	Review question: What adaptation allowed plants to grow tall?	Review question: Describe the main difference between bryophytes and psilophytes.

words themselves, or even the longer sentences, but that complex relationships among ideas are signaled through these short connective words set in long and complicated sentences.

- *Structural complexity increases.* Not only do texts and sentences become longer and vocabulary more difficult post-third grade, but the structure of content area texts changes also. In the elementary school example in Figure 4, text structure is signaled explicitly, and only one logical relationship is explained at a time. However, in the high school example, the signals for the text structure are not explicit and there are several logical relationships between ideas. Section headings present terms that students are expected to learn, and the interrelationship of these terms is not apparent from a casual glance at the text. In some ways, the middle school example represents a bridge between these two; the headers present terms to be mastered, but a sentence explaining the interrelationship of the terms is often helpfully bolded in the introductory paragraph.
- *Graphic representations become more important.* Across all three grade levels, students are also expected to comprehend graphic illustrations of the ideas being discussed. (Due to copyright issues, we are not able to fully reproduce the text samples we have quoted, but a glance at the texts gives one a sense of whether and how the illustrations are integrated. Other documents cover this territory more thoroughly (e.g., Lee & Spratley, 2010).) Note that only the high school text makes explicit reference to a figure; in addition, the illustration in the high school text is critical to helping the reader interrelate ideas and synthesize the material presented in subsequent paragraphs. Such is clearly not the case for the elementary and middle school level texts, which stand on their own without illustration. Besides the relationship of illustrations to texts, the graphic illustrations themselves change in complexity. High school science texts include mathematical data in tables, charts, and equations, along with illustrations.
- *Conceptual challenge increases.* As the surface difficulty of texts (words, sentences, structures) increases, the conceptual load also grows. The concepts students are expected to learn become increasingly abstract with the grade levels and rely increasingly on sophisticated knowledge and application of previously acquired concepts (Moje & Speyer, 2008). These differences are notable both in the texts and in the comprehension questions that follow each text in Figure 4. In the elementary text, readers are expected to learn what a seed is and that some plants do not use seeds to reproduce. In the middle school text, readers are expected to learn that plants that do not use seeds to reproduce have two distinguishing characteristics: vascular tissue and spores. By high school, readers are expected to learn all of these facts, as well as to recall several different types of non-seed plants and how they are similar to and different from each other. More to the point, what students are expected to do with these facts changes as they progress through middle and high school. Adolescent students are asked to synthesize from one task to another and from one set of concepts to another, and also to build logical relationships across multiple aspects of a given conceptual domain with the information they glean from texts. Note, for example, how the high school text makes quick references to complex related concepts such as osmosis and diffusion. Although the texts in Figure 4 all cover the same topic, not only do the purposes for reading them differ by grade level, but students are expected to read them more and more independently (high school teachers are likely to assign such reading as homework, assuming that students will use the information as background to the next day's experiment or lecture).



The Battle of Thermopylae from Mathematical and Historical Perspectives

The Battle of Thermopylae is often cited as the epitome of the Greek spirit. In the end, a mere 300 Spartans faced off against a reputed three million Persians.

What were the odds that the Spartans would defeat the Persians?

For the statistician, the answer is clear: 300 to 3,000,000, or 1:10,000. For the historian, the answer is much more complicated and the mathematical answer somewhat beside the point.

True, the straight mathematical odds were quite small, but from the historian's standpoint, the Spartans' odds were improved by superiority of terrain and training, as well as the strategic and emotional advantage of defending their homeland against an invading army. The details that "count" differ depending on the discipline. So, even though a mathematician might contend that information about key variables that could be calculated into the odds is missing from the above paragraph, the mathematician is primarily interested in assigning numerical values to those variables, whereas the historian is interested in social and economic explanations.

- *Texts begin to vary widely across content areas.* Not only do textual demands increase as young people move through the grades, but the types of text used begins to vary widely across content areas. Each content area in middle and high school demands a different approach to reading, writing, and thinking. Texts read in history class are different from those read in biology, which in turn are substantially different from novels, poems, or essays read in English language arts (ELA). As a result, reading comprehension and writing demands differ across the content areas including ELA. Although the use of evidence and the demand for logical arguments constitute cross-cutting expectations, norms of evidence and logic can vary widely among disciplines. For example, while loneliness and ambition might well be invoked as explanations in an ELA essay about the behavior of the characters in *Animal Farm*, they are not characteristics biologists would accept in explaining animal behavior. Similarly, depending on the subject area, different details are valued, and different values are assigned to precision in the reporting of those details (see sidebar). These differences are too large a topic to delve into here, but a report released by the Alliance for Excellent Education and supported by Carnegie Corporation provides some simple examples of the wide variation between subject areas (Heller & Greenleaf, 2007). Needless to say, such textual variation presents special challenges literacy challenges for students and teachers. (For a more detailed discussion of this crucial issue, see Lee, 2004; 2007.)

  As they progress through the grades, students are also expected to supplement their reading of textbooks with reading other texts (such as historical documents, laboratory notebooks, mathematical proofs) that present them with an additional array of challenges too numerous to detail here.

Students Change

Changing texts are not the only challenge to improving adolescent literacy. Adolescents themselves change rapidly during their teenaged years, and each transition creates special vulnerabilities in their cognitive and psycho-social development. Adolescence is a period in which young people are trying to forge a sense of identity, imagining and preparing for future goals and roles as adults, and navigating complex social and emotional relationships (NASSP, 2006; Spencer, 1999). Adolescents often have competing roles to play and needs to fulfill across the everyday settings of their lives. They often struggle with multiple tensions (such as between personal goals and those of their peers, between work/family/relationships and academics) and challenges (such as neighborhood violence, unstable home environments, teen parenting). Many must contend not only with the normal challenges of adolescent development, but also with the additional challenges of minority and/or immigrant status, acquiring English, poverty, resolving gender identity and sexual orientation, or special needs (Spencer, 2006). In fact, many young people face simultaneous challenges in more than one of these areas. Learning to read and write in new ways across the content areas is but one of the multiple needs and demands adolescents must master.

Added to the developmental and real-life challenges faced by adolescents is a wide variation among adolescent students in literacy skills and knowledge. This variability only increases as young people progress through the higher grades. Among the struggling readers in a middle or high school classroom, a few may need help reading words, others with fluency, and most with the higher level processes of making meaning. Still others in the classroom may be excellent readers of narrative, but perhaps challenged and/or unmotivated by the content of science, math, or social studies texts. One of the fundamental challenges schools face is how to organize instruction in ways that meet the needs of *all* students—those struggling, those showing competent development, and those who are advanced—in ways that maximize the opportunity and achievement of all.

Yet Schools Have *Not* Changed

America's middle and high schools are stuck in the 20th century, using outmoded approaches to prepare students for a world that no longer exists.

We have long known that secondary schools actually pose a "developmental mismatch" for youth (Eccles et al. 1993). Just when young people are making necessary forays into the independent practices expected of adults, they are subjected to various measures of control, such as bells ringing to signal their movement throughout the building, hall monitors and passes, hall sweeps, and lockdowns—all features not found in elementary schools. By middle school, students typically travel from classroom-to-classroom and teacher-to-teacher. This structure provides students with teachers who are more specialized in the subject matter at hand, and thus can presumably promote deeper learning of content. But the shorter duration of classes also results in many young people failing to build deep and meaningful personal relationships with adults and with peers (Finders, 1998; Goodenow, 1993). As a result, teachers from different subject areas may have little contact with one another, and no chance to construct a complete picture of their students' strengths and needs.

Added to these problems is the troubling fact that pre-service teacher preparation typically prioritizes content knowledge and gives insufficient attention to the role literacy plays within a content area. Teachers often enter the classroom assuming their students already possess all of the reading and writing skills they need to learn. Moreover, teachers in the secondary grades are often ill-prepared to recognize and address the specific reading and writing interests, needs, and challenges of their students. The fragmentation of the schooling experience into subject areas often only dilutes teachers' sense of responsibility for addressing literacy skills.

There are also more longstanding and pervasive difficulties in our school systems. For example, high turnover of staff makes it difficult to develop an optimal school culture (while conversely, creating an optimal school culture can be a major factor in reducing turnover). Also, in many older schools the opposition to freeing up time in the schedule and finding the space for the needed classes frustrates reform efforts. Some states and districts fail to provide assessment data that is sufficiently informative, or fail to get such data to schools in time for class assignment.

Overcoming the Challenges is Both Possible and Necessary

The recent success of literacy initiatives nationwide in improving the literacy skills of young children shows that comprehensive reform is possible. But instilling basic literacy is not enough. While teaching younger children basic literacy skills prepares them to master the more complex tasks of grades 4-12, adolescents need ongoing support and instruction to do well in school. Although Reading First has been associated with many good outcomes (Herlihy, Kemple, Bloom, Zhu, & Berlin, 2009; CEP, 2007, 2008), most educators now recognize that the "inoculation" model of literacy instruction is not adequate for resolving the adolescent literacy crisis.

Although excellent early literacy instruction lays a foundation for academic success in the secondary grades, it does not ensure success. An adolescent who continues to read as if in third grade will do poorly on a sixth grade test that requires reading more complex passages, synthesizing information, and forming conclusions based on evidence. We must make sure that adolescent students actually do learn the skills essential to college readiness and employment.

Murnane and Levy (1996) identify a set of "new basic skills" that high-school graduates need in our accelerated knowledge economy. These "new basic

skills" are built on the foundation of basic literacy, but also extend basic proficiency in reading into the areas of critical thinking, hypothesis-testing, effective oral and written communication, and the mastery of new technologies. Unfortunately, our schools are systematically failing to provide many students with the guidance, instruction, and practice they need to develop these "new basic skills." The new literacy challenge is therefore to organize instruction in ways that meet the needs of *all* our nation's adolescent students—including those struggling, those showing competent development, and those performing at an advanced level.

Can such a goal be realized? Our answer is yes. Many schools have managed to "beat the odds" even in situations where students have been placed at risk by societal prejudices, economic deprivations, lack of sufficient resources, and personal histories of lower academic achievement that reach and exceed national norms (Langer, 2001; Education Trust, 2000). Such schools offer proof that this problem can be solved. We have no excuse for not acting now.

The Keys

3

to Successful Reform

Despite the many obstacles that stand in the way of making all our nation's schools serve the literacy needs of adolescent learners, reform is absolutely necessary if we are to realize the ambitious goal of "literacy for all". Our charge now is to turn our nation's secondary schools into high-functioning organizations led by principals who prioritize instructional excellence (and use detailed assessments to tailor instruction), staffed by well-informed teachers with a strong commitment to academic achievement by all students.

To succeed in this aim, we must focus on: (1) increasing human capacity through professional development (2) reengineering schools through systemic reform, and (3) using data wisely and consistently to inform these changes. We do not address instruction, accountability, and other crucial underpinnings of successful school reform in this section, because those issues have already been addressed comprehensively elsewhere in Council reports (see Appendix A).

Learning from Reading First

Despite a number of problems with its oversight and implementation, Reading First demonstrated that effective research-based instructional practices can be brought to scale. The five essential factors of Reading First that have proven to be effective in reforming schools to promote a higher level of literacy are:

- improved classroom instruction,
- rigorous assessment,
- carefully designed professional development,
- structured accountability, and
- increased (and ongoing) funding.

As adolescents move beyond grade four they must progressively read more complicated texts, summarize these texts in writing, give effective oral presentations, work effectively together in groups, and conduct independent research using libraries and computers. That is why the basic reading skills students are expected to master by third grade must be extended in fourth grade and beyond as adolescents learn how to synthesize different types of information, form and test hypotheses, and memorize new content-area knowledge.

Because of this need for ongoing literacy development, adolescent students need explicit instruction in reading and writing all the way through grade 12, as well as comprehensive forms of assessment and rigorously aligned standards detailing what they need to know and what they must be able to do both *within* and *across* content areas. Yet our schools are falling short in these crucial areas, with the result that many adolescents either dropping out of school or graduating unprepared for the challenges of higher education, employment and citizenship.

Table 2 shows how the instructional focus of Reading First must be enhanced, extended, and deepened over grades 4-12 in order to fully support our adolescent learners, raise the overall level of literacy in schools, and help our students to become highly literate adults. (See Appendix B for a detailed explanation of the literacy topics listed in Table 2.) Note that successful school reform to support adolescent literacy hinges on having accurate and reliable assessments that enable targeted instruction (see "Using Data Wisely" at the end of this section).

To stop the seemingly endless cycle of failed reform efforts in America's schools, we must re-engineer the schooling experience for adolescents. But achieving this goal on a nation-wide level will require shifting from a partial and haphazard to a systemic and integrated approach.

But before delving into the agenda for action at the school, district, state, and federal levels, we discuss two vital topics that been widely neglected in discussions of the adolescent literacy crisis: professional development of teachers and informed use of rigorous assessments.

Teacher Preparation, Support and Professional Development

One of the keys to improving adolescent literacy is adequate teacher preparation and support. (Note that we do not consider teacher preparation to be a substitute for needed improvements in curricula, assessment, leadership, and other key areas, but excellent teacher preparation is prerequisite to reaping the benefits of investing in these other crucial domains.) Determining what secondary school teachers need to know, ensuring they learn it, and supporting them in implementing that knowledge in classrooms is basic to achieving our goal of literacy for all.

When a school system is functioning well for its students, novice teachers enter the classroom with the basic knowledge and skills to address student needs and receive ongoing support from mentors and colleagues. In such school systems, professional development is focused on the most urgent necessities, specialists are available to provide remedial reading instruction, and principals build instructional leadership to attend to teachers' needs.

Good teachers of adolescent students not only understand their own content-areas deeply, they also understand the specific literacy challenges created by the texts they assign. Such teachers are prepared to address the content learning needs of struggling readers as well as on-grade level readers in their classes. (We are not suggesting that content area teachers should be held responsible for teaching basic reading to students who read at far below grade level. Many students need intensive reading interventions. But, even while receiving help, struggling readers must be able to access the same content their peers are learning.)

Content area teachers must be prepared to support the literacy skills of students who have mastered basic reading skills but who struggle with the more sophisticated demands of reading within the content areas.

Improving teacher education in the area of adolescent literacy demands more than merely specifying what teachers need to know. We must make a systematic effort to analyze what works in teacher education, reform programs in the light of new knowledge, and evaluate those reforms in an ongoing way. Here, as elsewhere, educators must make a strong commitment to evaluate their own efforts through systematic data collection and analysis.

A Major Challenge: The Current High Level of Teacher Attrition

The major obstacle to creating a successful nationwide system to prepare and support teachers is the high

TABLE No. 2. | *Extending Reading First (source: Snow, Martin, & Berman, 2008)*

Topics	Reading First: Focus on primary reading outcomes	Reading First Enhanced: Preparing primary grade students for postprimary reading tasks	Beyond Reading First: Postprimary reading instruction
Phonological Awareness	Systematic instruction in kindergarten and first grade	Systematic instruction for students who need it, limited to no more than 20 hours per lifetime	Not appropriate after first grade
Phonics (Word Study)	Systematically taught in all primary grades	Systematically taught in a way that is integrated with a focus on comprehension	Instruction in attacking long, multisyllabic, multimorphemic, technical words may still be needed
Fluency	Procedures to develop automaticity, e.g., repeated readings with feedback (guided reading)	Motivated repeated readings, e.g., poems, performances, readers' theater, and providing models of fluent reading	Assess and provide repeated reading practice if necessary
Vocabulary	Required (research base from postprimary grades)	Requires systematic, daily instruction linked to spelling, writing, read-alouds, book discussions; provides for active use of newly taught words	Expand to focus on academic and technical vocabulary, polysemy, etymology, morphological analysis
Comprehension	Strategy instruction (research base from postprimary grades)	Multiple forms of comprehension instruction, including discussion of read-alouds with multiple texts, multiple genres, focus on developing world knowledge	Content-area specific reading; explicit instruction in discourse structures, word use, and grammar needed for math, science, social studies, and English language arts
Assessment	Focus on fluency assessments to differentiate instruction	Suite of assessments designed to help in differentiating instruction, guiding instruction, selecting texts	Literacy assessments needed to assign struggling students to appropriate interventions, monitor progress
English Language Learners (ELLs)	Not addressed	Analyzing native language literacy skills with a special focus on using primary language (L1) knowledge in developing secondary language (L2) vocabulary and world knowledge	Responding to variability in ELL population, using L1 and L2 assessment to identify appropriate instruction for late arrivals
Oral Language	Not addressed	Development of oral language skills as a goal in its own right; also a mechanism for developing comprehension skills to be applied to literate contexts	Continued development of oral language performance (academic talk, discourse skills) and use of discussion to promote comprehension
Writing	Not addressed	Part of a rich literacy program; reinforces spelling, vocabulary, comprehension, and world knowledge	Using writing to respond to readings, deepen comprehension, and to practice academic language

level of teacher attrition. About 17 percent of teachers leave the profession nationally each year (Marvel et al., 2006). Novice teachers are in general less effective than teachers with more experience, and the cost of preparing and inducting teachers is high. Also, the development of a coherent school culture is very difficult due to constantly changing faculty, and the incentives for schools and districts to invest in excellent, coherent professional development remain low as long as high turnover exists. These problems are endemic in urban schools where the turnover rate is closer to 20 percent and from which many experienced teachers leave for suburban schools; in Philadelphia, seventy percent of new teachers leave the city's schools within six years. An often-cited cause of this turnover is teachers' sense that they are unprepared to deal effectively with many of their students' needs, and that they are unsupported in trying to teach all students equally (e.g., National Commission on Teaching and America's Future, 2003).

In addition to high attrition rates among new teachers, many of the most experienced teachers now working are fast approaching retirement. This means that in the coming years many of our nation's schools will be staffed by an almost entirely new generation of educators. We must find ways of making sure that this up and coming generation of teachers is prepared to fully support adolescent literacy and learning.

Dispelling the Three Most Common Myths about Teaching

Whenever teacher knowledge and expertise form the topic of public discussion, three overlapping myths about "great teachers" tend to arise, confusing the real issues and distracting attention from the need for a coherent system for teacher preparation and support. Dispelling these popular misconceptions at the outset will help us to focus on the real problems at hand.

Myth 1: Great teachers are born that way.
Myth 2: Great middle and high school teachers are nonconformist, solitary genius or lone wolf types.
Myth 3: Great middle and high school teachers need only know a single content area well.

The simple truth is that all teachers must learn how to teach effectively. Though some do learn faster than others, and different teachers invariably develop different strengths in the classroom, all teachers benefit from extensive help and support systems in their schools.

Excellent teachers possess more than factual knowledge—they also have deep understanding of how to teach this knowledge (Darling-Hammond & Bransford, 2005), including an awareness of the specific literacy demands of their content-area. And even the most successful "lone wolf" teachers readily acknowledge the active helping role of colleagues and/or principals, as well as the tutoring, counseling, and support services of their schools.

Educational success stories such as the ones often seen in popular movies and on television will become a more common reality when the right preparation and support systems for teachers are fully in place.

What Teachers Need to Know: Elaborating a Core Knowledge Base

Recently, the National Academy of Education drew together two councils to answer the question of what teachers need to know and be able to do in the classroom. The first, led by Bransford, Darling-Hammond, and LePage (2005), produced the report, *Preparing Teachers for a Changing World*, a comprehensive review of research on teacher preparation motivated by the challenge of creating more effective teacher education programs. The second, led by Snow, Griffin, and Burns (2006), produced *Knowledge to Support the Teaching of Reading*, a report focused on preparing all teachers to teach reading more effectively. Snow also collaborated with Wong Fillmore (2000) on a report, entitled *What Teachers Need to Know about Language*, which specifically focused on what teachers need to know about oral and written language to fulfill their various roles. We have synthesized from these reports five basic areas of a core knowledge base for middle and high school teachers.

At bare minimum, all middle and high school teachers should possess a working knowledge of:

1. *How literacy demands change with age and grade*,
2. *How students vary in literacy strengths and needs*,
3. *How texts in a given content area raise specific literacy challenges*,
4. *How to recognize and address literacy difficulties*, and
5. *How to adapt and develop teaching skills over time*.

1. How literacy demands change with age and grade:

Because the challenges and demands of reading increase dramatically in the secondary grades, teachers should understand the developmental nature of reading and should also know how to prepare students appropriately to meet the literacy demands of their age group and grade-level content.

2. How students vary in literacy strengths and needs:

Because there is usually a wide range of reading ability found in a given classroom, as the International Reading Association declares, adolescents require "teachers who understand the complexities of individual adolescent readers, respect their differences, and respond to their characteristics" (Moore, Bean, Birdyshaw, & Rycik, 1999). In other words, teachers must be equipped to provide *differentiated* instruction.

The variety of students' skill profiles in adolescence is much greater than in the primary grades, leading to an even greater need for middle and high school teachers who are adept in identifying and addressing the needs of subgroups of students with varying profiles. This increased variety of skill profiles results from the students' diverse histories as readers and learners, and also from the increasingly diverse demands of the content areas. For example, an adolescent who reads well in math may struggle in English and *vice versa*. Moreover, as the school-age population becomes increasingly linguistically and culturally diverse, teachers must also know how to address the needs of students from a variety of backgrounds.

Snow, Griffin, and Burns (2006) provide specific information about how teachers might respond to the needs of students who live in poverty, students who speak a language other than English at home, and students who speak African-American English or other non-prestige dialects. In *Preparing Teachers for a Changing World*, Valdés, Bunch, Snow, Lee, and Matos (2005) document the many varieties of language that all speakers control, as well as the specific language-use challenges of classroom discourse and of literacy, and review methods to promote young people's language development—especially those from homes in which English is a second language.

Teachers also must be sophisticated about language in general so that they can communicate effectively with, assess, and promote in their students the academic and literate language skills they will need throughout life (Wong Fillmore and Snow, 2000). Some of this required teacher knowledge is sociolinguistic: how to evaluate and respond to students' use of dialect features, or the influences of a first language on a second. Some is all-purpose academic knowledge: for example, the knowledge required to explain and to teach about the use of discourse markers (*nonetheless*, *however*), sophisticated conjunctions (*although*, *unless*), derivational morphology (analyzing words like *disestablishmentarianism* or *hydrotherapy*), and so on. Some of the required knowledge is content-specific: knowing, for example, that a word like *factor* or *element* means something specific in math or science that differs from, but still relates to, the general meaning. And some relates specifically to how to teach and support learning in the areas of vocabulary, syntax, and content-area specific types of usage.

3. How texts in a given content area raise specific literacy challenges:

At a bare minimum, content area teachers should become adept at teaching language, reading, and writing skills and reading comprehension strategies specific to their own content areas. According to Moore and colleagues (1999), "adolescents deserve expert teachers who model and provide explicit instruction in reading comprehension and study strategies across the curriculum."

Many states do require pre-service teachers in all content areas to take coursework in literacy, and the experience of members of the Council suggests that many teacher educators across the country are working diligently and thoughtfully to prepare novice teachers to teach literacy in the content areas. However, these courses are far from universally effective, and because of the complexity of this area of instruction, teacher educators have yet to figure out the best way to design pre-service courses. Preparing all teachers to teach content area literacy effectively requires more than a state requirement; it demands a systematic effort to design coursework, hire and train teacher educators with appropriate expertise, create innovative approaches, and refine approaches in light of solid outcomes data.

4. How to recognize and address literacy difficulties:

Teachers should know how to recognize when intervention is required and how to provide interventions and accommodations for students with particular reading difficulties. Furthermore, given the specialized knowledge required to meet the needs of some students, it is the responsibility of schools and districts to create mechanisms (e.g., teaching teams, consulting teachers) to support less experienced or less knowledgeable teachers in this process. The latter is especially important, as teachers often report that they do not feel prepared to teach students with special needs (Lewis & Wray, 1999).

At the same time, however, individual teacher knowledge about struggling readers should not license schools or districts to postpone providing interventions directly. As Moore et al. (1999) put it, "adolescents deserve reading specialists who assist individual students having difficulty learning how to read."

5. How to develop and adapt teaching skills over time:

Much recent research supports the view that the knowledge base requisite for effective adolescent literacy teaching cannot be gained through a single course or series of in-service workshops; rather, a systemic approach to building teacher knowledge and expertise is necessary. Darling-Hammond and Bransford (2005) have summarized new research on methods of teacher preparation that offers support for a developmental view of teacher learning in which clinical practice, supervised internships, mentoring relationships, and other forms of ongoing scaffolded support for novice teachers all play essential roles in building expertise.

Improving teacher education in the area of adolescent literacy demands more than merely specifying what teachers need to know. We must make a systematic effort to analyze what works in teacher education, reform programs in the light of new knowledge, and evaluate those reforms in an ongoing way. Here as elsewhere, educators must make a strong commitment to evaluate their own efforts through systematic data collection and analysis.

Improving Pre-service Initiatives

A major challenge to improving pre-service programs is a widespread confusion that exists regarding the role of content area teachers in supporting adolescent literacy. The simple truth is that content area teachers *do* bear some responsibility for helping struggling readers, as well as other more reading-fluent students, to develop effective strategies for literacy in their content-areas. This responsibility often overlaps with and complements that of literacy teachers and coaches.

Most secondary teacher candidates have been proficient or advanced readers and writers in their disciplines, and so they often fail to appreciate the difficulties their students may experience with text in their content area. But it is the job of teachers to understand their students' difficulties and challenges to learning, and find ways to resolve any problems that might keep students from making progress.

Snow, Griffin, and Burns (2006) offer a developmental model for teacher learning that distinguishes five basic levels of knowledge held by teachers: *declarative, situated procedural, stable procedural, expert adaptive,* and *reflective analyzed.* According to this model, declarative knowledge, acquired through lectures and readings, is transformed into *procedural knowledge* through classroom experience. The typical novice teacher has achieved *situated procedural knowledge*—knowledge that supports the use of a particular curriculum and a particular set of routines, and is probably sufficient to help 60-70% of students in a typical classroom progress. *But stable procedural knowledge, acquired through experience, mentoring, and observation of others, enables the teacher to respond more flexibly, using a wider variety of materials and pedagogical approaches, and to address the needs of a higher percentage of students. Expert adaptive knowledge* enables teachers to respond to the full array of students, because it encompasses specialized information about reading skills, difficulties, and interventions. *Reflective analyzed knowledge* is the level achieved by the master teacher, the type of individual who would ideally be given the responsibilities of mentoring novices, organizing professional development, and leading teacher-learning communities. Ideally, pre-service programs should instill teachers not just with the declarative and stable procedural knowledge that will enable them to function in the classroom, but also with the expectation that they will continue to learn, progressing ultimately beyond the *expert adaptive* to the *reflective analyzed* level.

However, given the historic lack of attention to content-area, or "disciplinary" literacy, the current field suffers from a shortage of research scholars with specialized knowledge about adolescent literacy, as well as a shortage of teacher educators who have performed successfully as teachers of both content and literacy. Meeting this challenge will require long-term investment in training a new generation of teacher-educators who recognize the interconnections between literacy and content and can prepare new teachers accordingly.

In an effort to stimulate further innovation in professional development, Carnegie Corporation of New York began in 2004 an Adolescent Literacy Pre-Service Initiative. Participating institutions—University of Michigan, University of Illinois, Chicago, University of Connecticut, University of Georgia, Teachers College, Columbia University, Michigan State University, University of Kansas, Florida State University, and Portland State University—have been working to radically improve the preparation of middle and high school teachers. As part of this initiative, teachers participate in a consortium and conduct cross-site visits to learn from each other's work. Participating colleges and universities have employed a range of strategies for developing teacher expertise in the field of adolescent literacy.

Here we offer two examples to show how two respected institutions can and are aggressively preparing teachers to support adolescent literacy. These examples show that good pre-service teacher preparation in literacy issues is not an unattainable dream but an ongoing practical reality that demands to be systematized and refined by further evaluation and research.

PRE-SERVICE CASE 1: UNIVERSITY OF MICHIGAN

The University of Michigan (UM) takes one of the more innovative and promising approaches to developing literacy knowledge and expertise in content-area teachers. Faculty members have been experimenting with the pre-service secondary program by offering UM's literacy course to pre-service teachers in cohorts differentiated by academic major. Previously, the content literacy course was taught to an interdisciplinary mix of pre-service teachers and focused on literacy teaching practices appropriate to middle and high school teaching, so the amount of time spent on any given subject area was minimal. In the new approach, the literacy professor is able to assign readings about literacy that directly relate to the discipline in question, rather than assigning a smattering of readings across disciplinary areas. In addition, the literary professor engages pre-service teachers in analyzing the texts used in their content-areas to determine what literacy teaching practices will be most helpful for students. Written and video cases from actual social studies or mathematics classrooms are used to demonstrate historical or mathematical literacy instruction for the pre-service teachers. The literacy professor also works closely with the instructor of the corresponding field-based practicums to ensure that pre-service teachers get the opportunity to use these content-area-specific literacy practices in field sites. Moreover, faculty members meet regularly to fine tune planning and share progress reports, as well as monitoring and sometimes co-teaching each others' courses. The result is a tightly integrated approach to preparing teachers simultaneously in both content-area specific literacy and general literacy practices.

PRE-SERVICE CASE 2: TEACHERS COLLEGE

Teachers College, Columbia University has developed an approach to pre-service teacher preparation in adolescent literacy through a close collaboration between Arts and Sciences faculty. The project specifically addresses the difficulties that many of the nation's fourth to twelfth graders have with reading and writing tasks in subject-area classrooms (that is, "disciplinary literacy").

Although literacy skills are of critical importance in building knowledge, many secondary subject-area teachers are not equipped to address literacy difficulties in their classrooms. To deal with this common problem, two learning communities were formed at the outset. The first comprised faculty from the science, social studies and reading specialist teacher-preparation programs. The second was made up of pre-service teachers who took two courses developed as part of the project. The faculty learning community developed a conceptual framework for adolescent literacy preparation, collected data from a prior cohort, planned and offered two adolescent literacy courses, evaluated progress, and planned for sustainability of the courses at Teachers College. The conceptual framework, as integrated into the course work, expressed the specific missions of the three subject areas covered, conveyed the need for literacy improvement among

groups of students who have good skills in one or more areas but not in others, and described ways in which literacy instruction could be integrated in explicit fashion into subject-area teaching. The first course presented research, theory, and techniques of teaching reading and writing for adolescent students. Its major innovation was to customize this preparation, in the second course offered, for social studies and science. Pre-service teachers learned to embed literacy instruction in their specific subject areas, and Reading Specialists learned to contextualize literacy instruction in the same disciplines. Planned outcomes of the course were: to help pre-service teachers understand the nature of reading and writing processes, to accept the need for explicit instruction in literacy strategies, to be able to analyze the objectives of specific literacy strategies, to identify the intersection between the objectives of literacy strategies and content-area instructional goals, to know how to expand content lessons to build in literacy instruction, and to be able to incorporate literacy assessment.

The second course developed in the project was an interdisciplinary student-teaching seminar which was designed to accommodate existing accreditation requirements, and included six sessions devoted solely to adolescent literacy. The seminar reviewed the concepts and strategies taught in the prior adolescent literacy course, addressed literacy instruction in the student-teaching classrooms, and discussed case studies and problem-solving strategies relating to different levels of literacy ability among the adolescents being taught.

Observations from the student-teaching classrooms were discussed at length, with a focus on changing students' literacy practices over time. In this seminar, the pre-service teachers also developed adolescent literacy teaching tips for science and social studies classrooms based on their student-teaching experience. The adolescent literacy course was found to be highly sustainable; following the end of the grant, all science and approximately two-thirds of social studies pre-service teachers were required by their respective programs to take the course. In addition, the interdisciplinary sessions continue to be included in the student-teaching seminar.

Improving Professional Development Initiatives

It would be foolhardy to expect aspiring teachers to gain all the skills and expertise they need to be effective with adolescents in a pre-service program. Research in teacher education has had only limited success in identifying practices that can be empirically validated by showing effects on student achievement, replicated across sites, and brought to sufficient scale (Darling-Hammond, Bransford & LePage, 2005). Although one can point to isolated programs that dramatically improve the effectiveness of novice teachers, efforts to replicate their success often fail, typically because of difficulties in sustaining interest and support in adopting innovative practices.

The importance of the topics outlined in the "core knowledge base for teachers" often does not become readily apparent to teachers until they are fully immersed in teaching. So, it is crucial that teacher education in adolescent literacy continue after pre-service education via induction, mentoring and ongoing professional development educational opportunities.

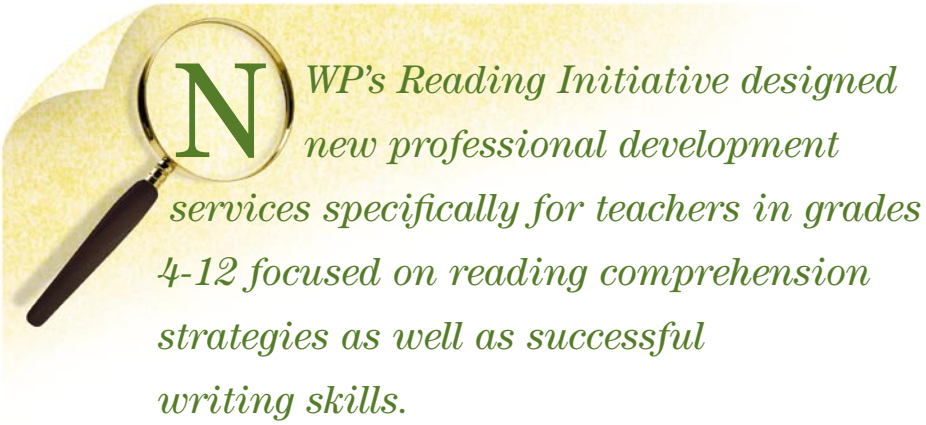
Here we offer specific examples of three of the most common approaches to in-service professional development of teachers. The first, as demonstrated by the National Writing Project, takes a distributed approach to professional development. It maintains a national coherence, while adapting to local problems of practice. The second example, literacy coaching, has become an exceedingly popular approach in recent years. We briefly review its tenets and initial evidence about its effects, particularly in Florida. The third example, Hoover High School, is a classic "homegrown" approach. It is distinguished from many such efforts, however, by its reliance on a university partnership and its efforts to create a homegrown professional development "pipeline."

PROFESSIONAL DEVELOPMENT CASE 1: NATIONAL WRITING PROJECT

An approach to in-service teacher professional development that has a track record of success is the National Writing Project (NWP), a nationwide professional development program for teachers (K-16), founded in 1973 at the University of California, Berkeley. NWP serves teachers of writing at all grade levels, primary through university, and in all subjects. With 197 writing project sites, located in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands and the addition of approximately ten new writing project sites each year, NWP is now pursuing a long-term goal of placing a writing project site within

reach of every teacher in the country. NWP's approach to professional development engages teachers from all subject areas in frequent and ongoing opportunities to examine theory, research, and practice. While adhering to a core set of principles and practices, NWP professional development focuses on local problems of practice. Sites work in partnership with area school districts to offer high-quality professional development programs for educators. NWP sites develop a leadership cadre of local teachers (called "teacher-consultants") through invitational summer institutes. Sites also design and deliver customized in-service programs for local schools, districts, and higher education institutions. Although sites address local problems of practice, they adhere to a set of common principles and practices that serves to give NWP's professional development efforts coherence. The core principles at the foundation of NWP's national program model are as follows:

- Teachers at every level—from kindergarten through college—are the agents of reform; universities and schools are ideal partners for investing in that reform through professional development.
- Writing can and should be taught, not just assigned, at every grade level. Professional development programs should provide opportunities for teachers to work together to understand the full spectrum of writing development across grades and across subject areas.
- Knowledge about the teaching of writing comes from many sources: theory and research, the analysis of practice, and the experience of writing. Effective professional development programs provide frequent and ongoing opportunities for teachers to write and to examine theory, research, and practice together systematically.
- There is no single right approach to teaching writing; however, some practices prove to be more effective than others. A reflective and informed community of practice is in the best position to design and develop comprehensive writing programs.
- Teachers who are well informed and effective in their practice can be successful teachers of other teachers as well as partners in educational research, development, and implementation. Collectively, teacher-leaders are our greatest resource for educational reform.



NWP's Reading Initiative designed new professional development services specifically for teachers in grades 4-12 focused on reading comprehension strategies as well as successful writing skills.

The most recent meta-analysis of research on writing instruction found that explicit teacher training was a major factor in the success of the process writing approach and five of the six studies showing this major impact for training were NWP studies (Graham & Perin, 2007).

Lately NWP has expanded its focus to include reading strategies for adolescents thanks to support from Carnegie Corporation. NWP's National Reading Initiative (NRI) designed new professional development services specifically for teachers in grades 4-12 focused on reading comprehension strategies as well as successful writing skills. Nine national NRI sites were selected to design and develop adolescent literacy modules for implementation throughout NWP's extensive national network. In addition, the initiative worked to increase the numbers of content area teachers participating in this initiative. As this initiative continues to grow, NWP's goal is to address the need and the challenge of providing professional development services to content-area teachers, including better tools to support and link core literacy skills and rigorous content learning. In support of this agenda, NWP is working with partner organizations, including the Strategic Education Research Partnership (SERP), with the goal of accelerating and deepening NWP's knowledge-base in content area literacy.

PROFESSIONAL DEVELOPMENT CASE 2: LITERACY COACHING

Due to the lack of systematic teacher preparation in adolescent literacy, many states and districts have

begun to invest in middle and high school literacy coaches. Unlike the traditional reading specialist who might work with individual struggling students, the literacy coach is intended to be an on-site professional developer whose primary responsibility is to enhance the literacy-related knowledge and skills of teachers in all content areas. Although there is limited evidence to date on the effects of coaching and a rigorous evaluation is needed, there is good reason to believe that a highly skilled coach with a well-defined role can have a positive impact on teacher learning and thereby on student achievement.

But the value of a literacy coaching model, as with other mechanisms for providing professional development, depends on how it is implemented. Research to date has shown marked variability in how coaching models get implemented (Marsh et al., 2008; Roller, 2006). Even within a coaching model where the content and structure of coaching is well-defined, schools can vary significantly in how teachers are coached (Atteberry, Walker, & Bryk, 2008).

The RAND Florida middle school coach study (Marsh et al., 2008) shows that literacy coaching improves student literacy achievement to a small but significant extent in the schools that have used coaches the longest. Outcomes are even better when:

- Schools have used coaches over longer periods of time,
- An individual coach stays at the same school over time,
- Coaches are more experienced, and
- Coaches regularly reviewed assessment data along with faculty members.

The current explosion of the coaching model can result in the appointment of many coaches whose skills and expertise are not quite up to the mark. Districts too often set a low bar in terms of job qualifications in order to fill coaching positions (Allington, 2006). In fact, a recent survey by the International Reading Association (IRA; Roller, 2006) indicates that the basic requirements for coaching jobs are minimal: Bachelor's degree, teaching certificate, and one to three years of successful classroom experience. Less than one-quarter of the coaches surveyed by IRA reported that they were required to have an M.A. or substantial graduate hours and prior experience in reading or literacy.

Furthermore, some schools may not yet have achieved enough internal accountability (Abelmann & Elmore, 1999) and collaborative trust (Bryk & Schneider, 2002) to make good use of coaching resources (Snow, Ippolito, & Schwartz, 2006). Coaches need sufficient teaching experience to achieve credibility in the school setting. They also need deep knowledge about adolescent literacy development and instruction, adequate knowledge of the requirements of the content areas, and the skills to promote adult development without threatening professional autonomy or personal confidence.

Nevertheless, literacy coaching has been embraced in middle and high schools at a fast rate. To help guide these efforts, a candidate set of standards for literacy coaches (2006) has been developed with support from the Carnegie Corporation of New York. The Standards for Middle and High School Literacy Coaches are the product of collaboration among the International Reading Association, the National Council for Teachers of English, the National Council for Teachers of Mathematics, National Science Teachers Association, and the National Council for the Social Studies. These standards offer a good starting point for schools and districts to ensure consistency and professionalism in literacy coaching.

A few studies have shown robust signs of literacy coaching's efficacy in grades K-5 (e.g., Biancarosa, Bryk, & Dexter, 2008; Bryk, Biancarosa, & Atteberry, 2007; Elish-Piper & L'Allier, 2007; Stephens et al., 2007). However, most studies of literacy coaching in middle and high schools have focused on coaching's effects on teachers, and those that have investigated student effects have primarily used qualitative methodologies demonstrating increased reading and engagement (Brown et al., 2007; Kannapel, 2007; Salinger & Bacevich, 2006). Supported by Carnegie, the most recent and comprehensive study to date is the RAND investigation of middle school literacy coaching in Florida (Marsh et al., 2008).

The results of the RAND Florida middle school coach study signal that coaching can be effective and lessons to be drawn about how to improve the impact of literacy coaching in middle schools. Florida began what is the longest and most well-funded literacy coaching effort in the nation in 2002. Scale-up of the coaching

effort has been rapid with Florida's middle school coaches soaring from 34 in 2002 to 532 in the 2006-2007 academic year. As noted above, rapid increase in the demand for coaches is likely to mean that standards for coach hiring and training are lower than in smaller scale efforts. Indeed, one of the key findings of the RAND study is wide-spread concern among school and district administrators, and even coaches themselves, over recruiting and retaining qualified coaches.

On a more hopeful note, coach quality and especially the ability to support adult learners was positively related to better outcomes. This finding tends to support the widespread opinion in the field that being a good teacher of children is a necessary but insufficient quality in coaches; coaches must also understand how to promote adult development (Bean, 2004; Bean & Carroll, 2006; IRA, 2006). This aspect of the job is what previous studies have reported many coaches find most challenging (e.g., Bean & Carroll, 2006), and the coaches participating in the RAND study echoed this opinion. Many Florida coaches reported a need for more professional development in this critical aspect of their jobs, as well as in teaching literacy across the content areas and in helping teachers to support their English language learners (ELLs) and learners with special needs more effectively.

Overall, the results of the RAND study have yielded cause for cautious optimism about the value of literacy coaching. Teachers and principals reported moderate to great positive effects on instruction in their schools. Effects on student literacy achievement are small, but significant for the schools that had coaches for the longest (since 2004); the average, standardized effect size of coaching on their annual achievement gains in reading for all middle grades was 0.06 per year. This means that students in schools with coaches performed 0.06 standard deviations above students in schools without coaches on Florida literacy achievement tests each year; that this difference was very unlikely to be due to chance; and that by the end of four years students in coaching schools outperformed those in schools without coaches by 0.24 standard deviations. Although small in magnitude, this effect should be viewed with optimism for several reasons.

First, both coach experience and teacher turnover were reported as major obstacles to the efficacy of coaching. More experience was associated with many of the more positive outcomes (e.g., a focus on student data, confidence in the role of coach). Yet, **half of all coaches in Florida had been at their jobs for two years or less**. Thus, it is not surprising that coaches who had only been instituted in schools in the last couple years had not yet yielded any significant effects on student achievement. One reason coaching takes time for its effects to reach students can be found in coach reports that it took them upwards of two years to build the rapport necessary for stimulating real growth in teachers. Another reason can be found in some coaches' comments that high turnover in their schools made them feel as though they were "starting over" every year. Overall, coach comments about needing more than a year to understand their role, build rapport, and create change are consistent with other findings in the field (Biancarosa et al., 2008; Brown et al., 2007; Bryk et al., 2007). Despite all of these serious obstacles, coaches still had a small but significant impact on student achievement in Florida.

Second, the RAND results indicate that the more years a school had a coach, the higher the improvement in scores. The study looked at four cohorts and the effect was largest for the cohort of schools who had had coaches for the longest period of time: four years. Newer cohorts showed mixed signs of significant effects. It may simply be that more time is needed for coaches' impact on teachers to translate into impact on students.

Third and finally, RAND also found that the more often coaches reviewed assessment data with teachers, the higher the improvement in scores. This finding is also potentially related to the amount of time schools had coaches because the study also found that more experienced coaches were much more likely to review assessment data with teachers than less experienced coaches.

Thus, the small effects found in Florida can be taken as a sign of future promise for literacy coaching in our nation's schools, but we must continue to research its impact on students. Longitudinal professional development efforts must be evaluated longitudinally, and only two cohorts in the current results had enough data to be considered truly longitudinal (i.e., three years or more). Subsequent years of data and analysis will show more conclusively what the "payoff" is for an investment in coaching. For now, the most obvious lesson is that schools, districts,

and states committed to coaching need to work to find ways to stabilize both the coaching and teaching force if they want to see optimal results.

PROFESSIONAL DEVELOPMENT CASE 3: HOOVER HIGH (ADAPTED FROM SHORT & FITZSIMMONS, 2007)

Since 1999, Hoover High has followed a sustained, mandatory, and consistent professional development program: the Literacy Staff Development Plan. This program incorporates in-service elements, pre-service placements, and an induction program for new teachers designed and delivered in cooperation with University partners. In essence, Hoover has grown not only its own in-service professional development program, but its own professional development pipeline.

As a member of the San Diego State University/ City Heights Education Collaborative Partnership, Hoover staff and partners designed and implemented the staff development and student assessment practices specifically to guide and increase academic literacy among their adolescent ELLs. However, assessment data showed that many ELL and non-ELL students alike lacked basic reading and writing skills and were not making the necessary academic progress to succeed in and graduate from high school.

The student body at Hoover High School is very diverse. In the 2003–2004 school year, 40.9 percent of the student body were categorized as ELLs, 85 percent of whom were Spanish-speaking. Just over 34 percent of the student body were former ELLs. Of the 2,160 students enrolled at Hoover, the ethnic breakdown was as follows: Hispanic, 65 percent; African-American, 14.5 percent; Indochinese, 13 percent; White, 4.8 percent; Asian, 1.1 percent; Filipino, 0.8 percent; Pacific Islander, 0.6 percent; and Native American, 0.2 percent. Hoover is a Title I school with 99 percent of its students eligible for free and reduced lunch.

A major aspect of this partnership is that professors of education at San Diego State University (Douglas Fisher, Nancy Frey, and others) work closely with Hoover's principal, Douglas Williams, and faculty on a daily basis to oversee and advise on all aspects of professional development, instruction and assessment, student support, policy decisions, parent communications, and guidance.

Hoover hosts a complete teacher induction program. The university places student teachers at Hoover, and Mr. Fisher, Ms. Frey, and others teach credentialing classes to them on site. Mr. Fisher serves on the school's professional development committee—along with several teachers and one full time staff developer—and even teaches one class to Hoover students for one quarter each year. This partnership between the university and Hoover brings both financial and professional support to Hoover's day-to-day functioning. (It has also allowed the school to operate somewhat independently of other schools in the district—at this point following its own improvement plan in the midst of district-wide reforms.)

The Literacy Staff Development Plan focuses on teachers' use of seven key strategies for developing students' academic literacy: anticipatory activities, shared reading or read-aloud activities, structured note-taking, graphic organizers, vocabulary instruction, writing to learn prompts, and reciprocal teaching in addition to questioning techniques. The same seven literacy strategies have been the focus of the professional development program since 1999—making it a spiraling curriculum. They are covered in a new way, one-by-one over the course of each school year.

The school has also adopted a "Words of the Week" program to focus on academic vocabulary and serve as another test readiness tool. Five words that are related in some way (e.g., they share a root, prefix, or suffix) are highlighted each week at Hoover. They are taught in language arts classes the first day of each week, and all teachers are expected to integrate them into their classes. Incentives for learning the words include small prizes for passing pop quizzes that administrators might pose to students in the halls. Community members get involved, too, as the words are posted on the marquee (usually reserved for sports events in many schools) outside the school for passersby to note.

Hoover prides itself on the fact that school professional development and classroom instruction are driven by student assessment data. Departments write common course assessments based on state content standards and subsequently conduct item analyses of student results to understand how instruction should be adjusted. This cycle occurs at least twice a year. Thus, the annual staff development meeting at the beginning of each school year that is devoted to an analysis of state standardized test results from the previous year rarely contains surprises for the staff.

The program includes (a) monthly mandatory meetings for teachers during planning blocks; (b) weekly course-alike meetings for teachers in each department to discuss and troubleshoot curricula and pacing guides, student progress, selection of course materials, instructional strategies, content standards, and assessment; (c) collegial coaching; (d) dissemination of information about state standardized tests; (e) department chair meetings on the professional development program; and (f) new and future teacher support including peer coaching, reflective journaling, and participation in collegial coaching training.

Each teacher becomes his or her own "literacy coach," as he or she becomes more aware of the personal and professional strengths among school staff and can seek help from the appropriate colleague.

The staff development curriculum—from the monthly teacher development meetings to the coaching corners—is planned at least one year in advance. All staff members are required to participate in most components of the program and attendance is enforced. This helps to deliver the message to Hoover staff that the professional development work is integrated throughout the school year and is purposeful. Principal Williams, who has overseen the program since its inception, attends and participates in every monthly meeting for every planning block.

The administration supports this effort in a number of important ways. A non-staff psychologist was hired to train department chairs, full-time teachers, student teachers, course-alike team leaders, and other school staff in effective communication and interpersonal skills in order to improve peer coaching and professional development experiences. These trainings have led to more collaboration and effective communication among teachers and administration. Each teacher becomes his or her own "literacy coach," as he or she becomes more aware of the personal and professional strengths among school staff and can seek help from the appropriate colleague.

Hoover's block scheduling gives staff the opportunity to attend monthly meetings and weekly course-alike meetings during school hours. The hub of the program is Room 408—a spacious, bright room that is dedicated to professional development. In Room 408, the staff development committee plans the school-wide program. Because of block scheduling, teachers have enough time during the day to prepare for class work, reflect on their instruction, collaborate with colleagues, handle administrative paperwork, and meet with students individually. Block scheduling also gives teachers a smaller student load (three classes instead of four or more), which allows them to better get to know their students' strengths and needs.

According to Principal Williams "success feels good," and now even initially resistant teachers buy into the program because it is working. They enjoy and avail themselves of opportunities to present what is working in their classrooms during the coaching corners at the monthly meetings. They appreciate the constancy of the professional development, refer to the environment as a "teaching hospital," and note that although they work harder to meet their students' needs and their own professional development needs, they also work smarter.

Because many newly hired teachers do their credential work at Hoover, they already have familiarity with the techniques before the school year begins. The pre-hiring interview at Hoover also asks potential teachers to agree to commit to the values and mission of the school, which includes the rigorous literacy and professional development programs. All of this development and instruction has had an impact on teacher morale and commitment to the school. The extremely low turnover rate at Hoover is due to its newly earned reputation as a model school. In the not-too-distant past, no teachers ever bid to work at the school; there is now a waiting list of teachers requesting assignment to Hoover.

Despite the progress and sense of accomplishment, however, the weight of being a "failing" school in terms of absolute scores on state exams is heavy. Although the school is still far behind the state and district averages in percentage of students passing the standards-based English language arts test, it has exceeded its growth targets consistently and has demonstrated the most growth (+136 points on the state Academic Performance Index of Growth [API]) of all San Diego City High Schools since 1999 (Fisher, 2006). Reported results for this test include an increase of the school-wide average from a 5.9-grade reading level in 1999 to an 8.2 level in 2002 (Fisher, Frey, & Williams, 2002). More recently, Hoover has encountered a number of new challenges including a decrease in Title I funding of nearly $800,000 and a change in district administration. Although these challenges have slowed progress, the partnership and commitment between Hoover and its university partners lives on, as they strive to build on their successes.

Data Collection and Use

Gathering relevant information and making this data readily available, both to educators and to the general public, will be crucial to re-engineering schools to support adolescent literacy. Accumulating data and using it thoughtfully can ensure that we do not waste time "re-inventing the wheel" by re-solving already-solved problems. As John Dewey (1929) wrote:

> The successes of [excellent teachers] tend to be born and die with them: beneficial consequences extend only to those pupils who have personal contact with the gifted teachers. No one can measure the waste and loss that have come from the fact that the contributions of such men and women in the past have been thus confined.

Much previous experience establishes the importance of collecting and using relevant data in school reform. For example, the data generated by NCLB's demands for yearly assessment of math and reading skills has helped to create the national consensus on the need to improve adolescent literacy. Likewise, the consensus needed to achieve funding for Reading First was built on availability of research providing vital information on effective approaches to literacy instruction. Such broad consensus could never have been achieved without a systematic collection of data over a 25 year span comparing the achievement of students receiving different kinds of literacy instruction.

Data on adolescent literacy should be used in a systematic and coherent way to improve the systems supporting young learners. Some types of assessments are best used to help make instructional decisions about individual students at the classroom or school level; others inform policymakers and educators at the school, district, and state levels, helping to evaluate programs and identify areas of need.

Informing Instruction

Formative assessments are used by teachers, inside classrooms, to determine whether students are learning what is taught and to help them make instructional decisions. Familiar examples of formative assessments include end-of-chapter tests and essays written in response to literature. One-on-one conferencing with teachers, or participation in classroom discussion, can also generate formative assessment data. In information-focused classrooms, teachers constantly collect data about student progress and regularly review and analyze this information to determine which students are making expected progress and which need extra help. Such data often enables teachers to identify student difficulties early enough to resolve the problems with targeted additional instruction, before these problems become overwhelming.

Screening assessments are used to identify students who need extra support. Screening tests are typically brief and ideally identify a majority of students as doing well enough for regular instruction. Students who perform poorly on the screeners are provided with additional instruction and/or with diagnostic assessments.

Diagnostic assessments in the domain of literacy reflect the componential nature of literacy skills. If students are struggling with grade level text, they could be having difficulty in: (a) reading the words accurately; (b) understanding the words' meanings; (c) reading fluently enough to focus their attention on comprehending the meaning; (d) accessing vital background knowledge; (e) processing the connections across phrases and sentences in the text. Diagnostic assessment is a way of identifying the precise source of reading difficulty in order to focus instructional efforts.

Assessment of Adolescents Struggling with Literacy is Critical

Difficulties with reading words must be remediated *when they exist,* and an important task for helping struggling adolescent readers is to determine whether this fundamental skill is one they struggle with or not. While national estimates of adolescents struggling with decoding tend to hover around 10% (Berman & Biancarosa, 2005; Biancarosa & Snow, 2004; Kamil, 2003), researchers have found that the percentage can be much higher locally, emphasizing the need for local assessment of struggling readers.

Locale	Students tested	% struggling with word-level skills	% struggling with all reading skills (subset of word-level strugglers)	% struggling but not with word-level skills	Source
Washington	4th graders who failed the state reading test	27%	9%	74%	Buly & Valencia, 2002
Boston	All 5th through 8th graders in a 91% Latino, 79% ELL school	37%	4%	59%	Biancarosa et al., 2006
Kansas	8th and 9th grade struggling readers	67%	61%	33%	Hock et al., 2006
Unspecified	8th grade struggling readers (29% of all students in study) in a longitudinal study from 2nd through 8th grade	72%	36%	15%	Catts, Hogan, & Adlof, 2005
Philadelphia	4th and 5th grade native English speakers with reading difficulties	82%	42%	18%	Leach, Scarborough, & Rescorla, 2003

A final caution: research that traces struggling students over time indicates that a struggling reader's "profile" can change over time, even from year to year (Kieffer, Biancarosa, Christodoulou, Mancilla-Martinez, & Snow, 2007; Leach et al., 2003; Lipka, Lesaux, & Siegel, 2006). This may be one reason underlying the variation in what research has found in regards to struggling adolescent readers and decoding skill. But more practically, it highlights the importance of regularly checking in on adolescents' progress and responses to intervention.

Informing Program and Policy Decisions

Achievement assessments are designed to tell teachers, principals, and superintendents if groups of students are learning as expected. The state accountability assessments mandated by NCLB are examples of this type of assessment. However, such tests reflect only a tiny proportion of the desired knowledge domain. Thus, while they provide a useful snapshot across groups of learners, achievement tests offer limited information about individual students and cannot be substituted for formative or diagnostic assessments. Furthermore, while adequate literacy skills are a prerequisite to good performance on achievement assessments, poor performance may reflect any one of a wide range of problems including but not limited to struggles with literacy.

Formative vs. Diagnostic Assessment

There may some confusion about formative versus diagnostic assessments. Formative assessment is used to guide decision in general classroom instruction. Diagnostic assessment is used for readers who struggle and may fall well below classroom learning. An example of a diagnostic tool is the Woodcock-Johnson Psychoeducational Battery (Woodcock, McGrew, & Mather, 2001). An example of a formative assessment is an end of chapter test or an informal reading inventory.

Program assessments are intended to help measure the effectiveness of curricula, programs, or approaches to instruction, and these are often designed to reflect program-specific features (although sometimes overall achievement tests or standardized tests are used to evaluate programs instead). "Standardized tests" include any kind of test for which psychometric data of a certain sort is available. Standardizing a test is essential if the results will be used to compare individuals or groups of students to norms based on the larger population. In the domains of literacy and vocabulary, where developmental expectations are quite clear, standardized assessments are widely available. One important resource available for choosing among these assessments is a report commissioned by the Council that summarizes and compares a variety of reading comprehension assessments (Morsy, Kieffer, & Snow, 2010). In curricular domains, where content varies more widely across districts and states, it is often much more difficult to find standardized assessments that are aligned to a school's or district's curriculum and therefore that is truly useful.

Status assessments are used to provide information to policymakers about the effectiveness of educational programs. The NAEP, for example, provides comparative information about the abilities of groups of students across the nation. But in order to reduce the testing burden, individual students receive only a subset of the items. By aggregating items across students we get a picture of the entire group, yet the result for any individual student is unreliable and incomplete. The NAEP is valuable in giving us comparative information about groups of students within and across districts, but does not provide information that teachers can use to support individual students.

Innovative Approaches to Literacy Assessment

Most literacy researchers feel that the available comprehension assessments are much less useful than, for example, assessments of early reading skill (Snow, 2003). A detailed analysis of the most widely used comprehension assessments suggests that they vary rather widely on how they operationalize comprehension and how well they reflect the full range of comprehension skills (Morsy et al., 2010). Three studies funded in 2005 by the Institute of Education Sciences represent efforts to improve the state of comprehension assessment, in particular for post-primary students. Two of these projects, one headed by John Sabatini at ETS and the other by Gloria Waters at Boston University, focus on developing computer-based tools to allow efficient testing and to provide diagnostic information about language and literacy skills immediately. Strategic Education Research Partnership's Boston Public Schools Field Site is serving as a first site for developing these tools; a combined battery called the Reading Inventory and Scholastic Evaluation (RISE) will be produced. At the same time, a third study led by David Francis (University of Houston) is focused on developing a comprehension assessment that will provide more information about the literacy skills of English Language Learners (ELLs). When ELLs perform poorly on a typical comprehension test, it is hard to know whether to respond by providing reading instruction, or whether they need help with vocabulary and background knowledge, or with the specifics of literate language use. The Diagnostic Assessment of Reading Comprehension (DARC) is designed to test comprehension with passages that use very simple language; it turns out that many ELLs who perform poorly on standardized comprehension assessments do fine on the DARC, indicating that they need instruction in English rather than instruction in comprehension. All these efforts are designed to ensure that the intervention resources available in schools are distributed to the students who would benefit the most, something that is possible only if the nature of readers' struggles are correctly identified.

Other Kinds of Data

In addition to test data, many other kinds of data can be used by schools and districts to examine the effectiveness of practices designed to improve adolescent literacy. These other kinds of data index conditions under which we can optimize literacy learning and teaching even though they do not specify what is to be taught or learned. Such data include information on the amount of time students spend in school (e.g., rates of absences, tardiness, transience, and dropping out), as well as information on students' educational histories, home languages, and motivational factors.

DATA ON TEACHERS

Districts and schools should consider collecting systematic data on teachers for use in hiring, promotion, and tenure decisions. Recent studies have shown that value-added approaches can be used early in teachers' careers to identify teachers who are most effective in producing student achievement gains (Kane, Rockoff, and Staiger, 2007), although there are also certain conditions that must be in place for these approaches to work (see McCaffrey, Koretz, Lockwood, & Hamilton, 2004). Systematic collection and use of such data could help districts avoid costly mistakes in giving tenure. Also, data on teachers' access to and satisfaction with professional development, helpful student data, and other types of instructional support can provide vital insight into how well district initiatives are working and serve as a gauge of teachers' attitudes, thereby helping to retain good teachers over the long term.

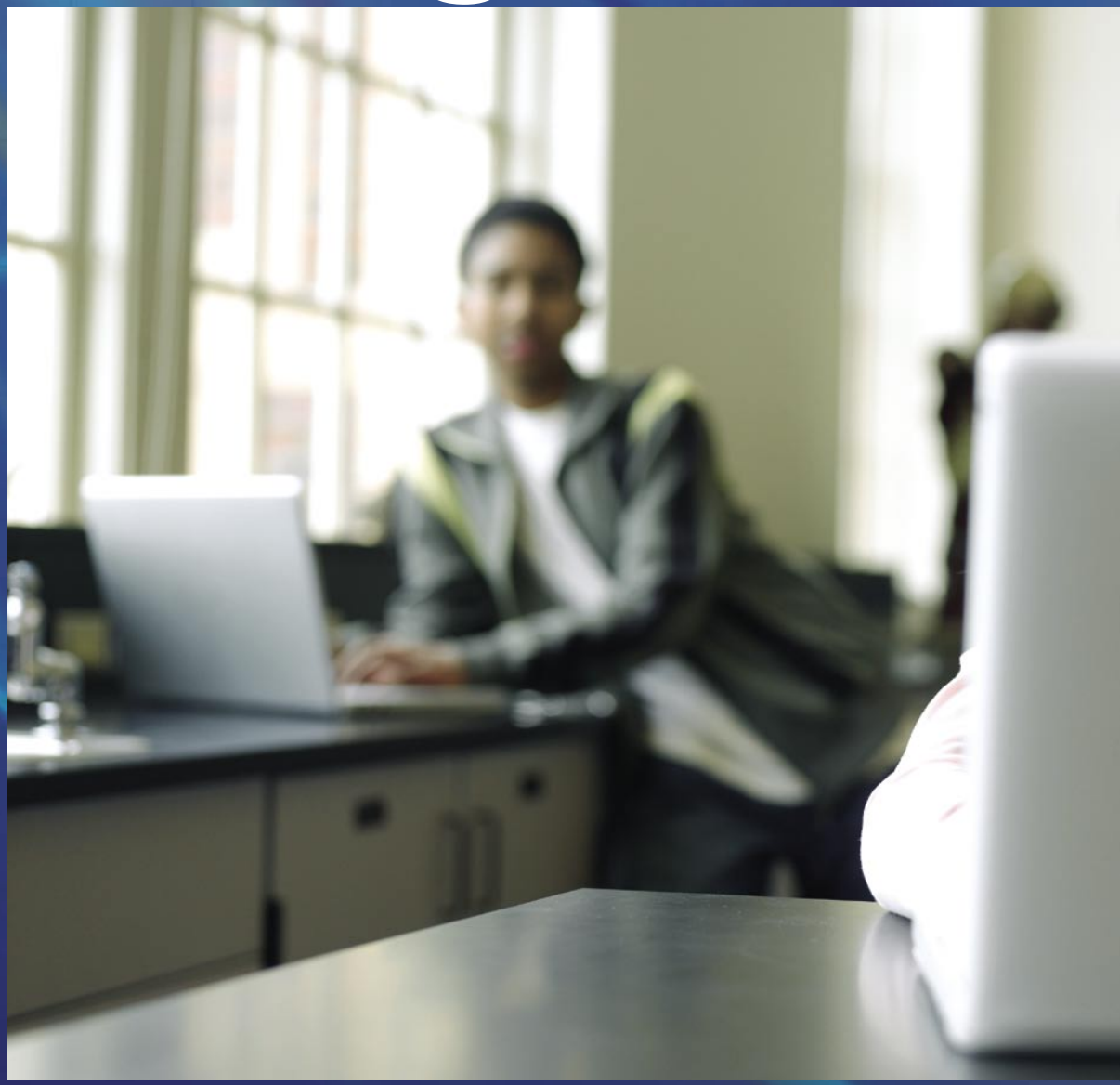
STUDENT PERFORMANCE MEASURES

An especially effective strategy in building public support for adolescent literacy initiatives involves collecting and making public data on measures that reflect student literacy performance and *making sure that such data are presented in a manner comprehensible to the general public.* Student performance measures go beyond performance on state accountability tests and the NAEP to include the percentage of students graduating from high school within four years, the percentage of high school graduates entering college, and the percentage of college entrants who need no remedial courses.

Using Test Information

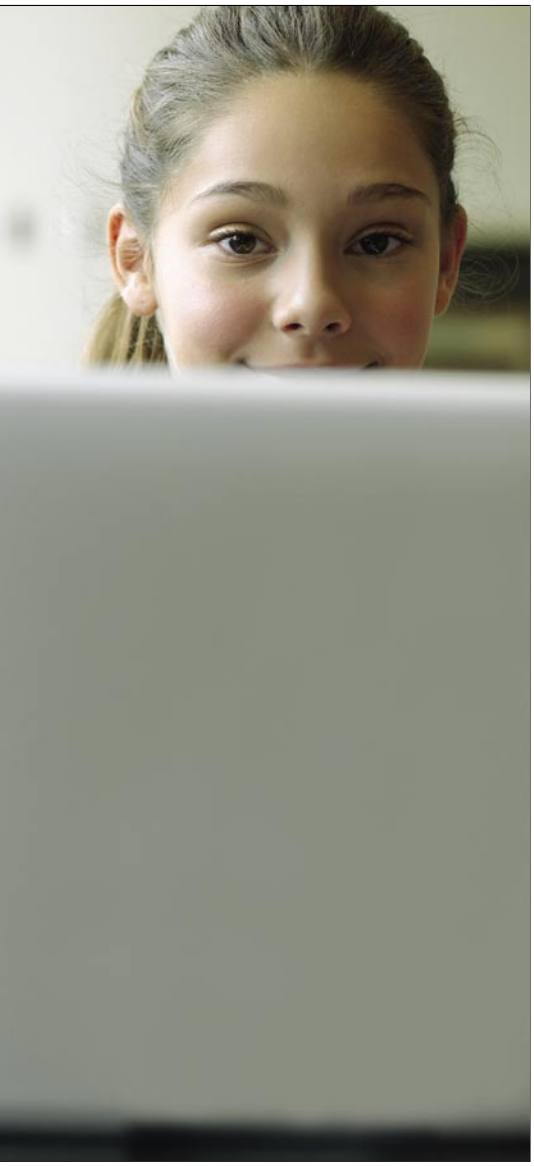
In the next section, we call for using data wisely. It is worth noting here, however, that data collection should always be part of a well-designed plan and should support decision making; otherwise, it is merely a waste of time and resources. Optimally, teachers, principals, and district and state administrators, should have easy access and the know-how to use data to inform their decisions about students, whether those decisions be about an individual struggling student or an entire district facing a range of challenges.

The Agenda



4

Re-Engineering for Change at All Levels



While it is beyond the scope of this report to offer a precise and comprehensive agenda for re-engineering America's schools to support adolescent learners, we would like to highlight some of the key areas of concern which, we believe, should be addressed at the school, district, state, and federal levels in order to realize the goal of "literacy for all." (Our use of case-examples is intended to suggest the variety of possible approaches and solutions that are possible within the framework of such a shared goal. These case-examples are intended to stimulate, rather than limit, further innovation and dialogue on the issues involved in reforming schools to fully support adolescent learners.)

Re-Engineering for Change at the School Level

As the hypothetical model of an ideal school Riverside School suggests, successful "beat-the-odds" schools are distinguished by at least seven vital components:

1. The school culture is organized for learning

Quality instruction is the central task that organizes everyone's work. Thus, teachers feel personal responsibility for student learning, and trust one another and the principal to support them in their work. Because there is a sense of participation in a professional community, decisions are made collaboratively and are based upon data. The staff strives for continuous, incremental improvement of student performance over time. The school provides optimal learning conditions characterized by a warm, inviting, and low-threat learning environment for students and for teachers. Students and teachers are well-known to and by each other.

2. Information drives decisions

Student achievement data drives decisions about instruction, scheduling, and interventions. District- and state-provided test data are used as appropriate for these decisions. In addition, the staff receives support in efforts to gather and analyze real-time data from team-developed formative assessments and use that information to inform instruction and to target remediation. As a result, teaching and learning become a dynamic process based upon the current needs of all learners. Additionally, data are systematically archived so knowledge is accumulated over time regarding the effectiveness of programs and other innovations.

As a result, teaching and learning become a dynamic process based upon the current needs of all learners.

3. Resources are allocated wisely

Time, energy, and materials are focused on areas deemed critical for raising student achievement. Scarce resources are distributed wisely according to student needs. The schedule allows time for teacher professional development and collaborative data analysis as part of regular work. There is also time in the schedule for supplementary instruction in smaller classes to bring struggling students up to grade level. Professional support (coaches, mentors) for promoting literacy skills is available to all content-area teachers.

4. Instructional leadership is strong

The school's leadership works tirelessly to keep student learning the primary goal. Time and attention are distributed according to consensual importance. Leaders work in partnership with subject area specialists, literacy coaches and other skilled experts to ensure successful implementation of critical programs. The principal understands assessment data, knows struggling students and their teachers by name, creates effective internal accountability mechanisms, and manages both the instructional (i.e., curriculum, assessment, professional development) and the infrastructural (i.e., scheduling, budgeting) literacy needs of the school. A literacy leadership team is centrally engaged in designing, supporting, and overseeing the school's literacy work.

5. Professional faculty is committed to student success

Teachers subordinate their preferences to student needs, participate willingly in professional development because it is focused on the challenges they are facing and is designed to improve their work, recognize the importance of literacy skills to content area learning, participate in vertical and grade-level teams, and work with colleagues and coaches in observing, describing, and analyzing instructional practice. Coaches participate in the professional community as colleagues rather than as evaluators or as administrators.

6. Targeted interventions are provided for struggling readers and writers

Multi-tiered, scaffolded instruction helps students to build the skills and strategies they need for success. A logical progression of interventions is available, to which learners are assigned based on their differential needs. Those students lagging furthest behind receive intensive courses that provide explicit instruction on critical reading and writing skills and strategies with ample opportunities for scaffolded practice. Such scaffolding allows for acceleration and help struggling students to tackle rigorous work. Courses aimed at overcoming specific reading difficulties, whether decoding, fluency, or comprehension, are taught by teachers with specific expertise in reading. These courses do not replace instruction in English language arts or other content area classes, and whenever possible carry credits toward graduation.

7. All content area classes are permeated by a strong literacy focus

Teachers naturally address literacy instruction as a normal part of the teaching and learning process. Core classes (math, science, language arts, social studies) have reading and writing (instruction and application) woven in throughout. Content-area teachers have a strong background in their content areas and a metacognitive understanding of the specific types of literacy skills these areas require. Teachers have

strategies for teaching challenging content both to advanced readers and to struggling readers, by identifying critical course content, focusing on the big ideas, and delivering content in an explicit, learner-friendly way. The skills struggling readers learn in reading class are explicitly reinforced in content-area classrooms, and reading teachers use content area materials as a basis for practicing the reading skills they are teaching.

Many schools across the country have already realized this. Here we present only two such examples. The Council has commissioned several reports that provide additional examples of schools that have realized the vision in part or in whole (see Appendix A).

School Case 1: Hopkins West Junior High (adapted from NASSP, 2005)

Hopkins West Junior High, located outside of Minneapolis, MN, is a school where a culture of literacy exists due to the visionary leadership of Principal Terry Wolfson. Hopkins serves 950 students in grades seven through nine; 83 percent of the students are white, eight percent are Black, seven percent are Hispanic, and two percent are Asian or other. About 13 percent of students receive free or reduced-price lunches. The total focus on literacy that permeates the building is one of high achievement for both teachers and students.

Reform at Hopkins began when the school's traditionally high test scores were first disaggregated in 1999. Although the pass rate on the Minnesota Minimum Basic Standards Test was 90 percent, data indicated a wide achievement gap existed for students of color and poverty. This data sparked a conversation among the leadership team to identify strategies for improving the reading ability of lower-achieving students. The reading department chair championed the idea that enhanced literacy opportunities should not be for a chosen few, but rather be directed at benefiting all students.

Wolfson and a core group of teachers first explored strategies to improve their students' literacy skills at the summer 2000 Scholastic Literacy Leadership Institute (jointly sponsored by Scholastic and National Association of Secondary School Principals). This initial foray into improving the literacy skills of their students quickly evolved into a literacy-infused school culture. While the students are the direct beneficiaries of this change, Ms. Wolfson quickly realized the professional learning opportunities for teachers as another key benefit. In addition to learning new strategies at the conference, the team had time to strategically plan together. They returned to Hopkins convinced that if literacy for all was to a goal to be achieved, then all teachers must learn to integrate literacy strategies into daily instruction. With this idea in mind, the administration and staff began to plot the areas of needed improvement.

ORGANIZING FOR A NEW FOCUS

Once the Literacy Leadership Institute had provided the attendees with the motivational spark to return to Hopkins with a strong message to share with the remainder of the school's staff, the original seventh grade team began a pilot program in their classrooms to integrate literacy across content areas. But the school's highly motivated staff quickly picked up the enthusiasm of this initial literacy team and began to explore school-wide options that would focus on adolescent literacy.

The first priority of the literacy planning team was to legitimize the goal of literacy for all; therefore, literacy became a primary goal of the school improvement plan.

Originally, the plan included four goals: diversity, communication, use of time, and literacy. After careful planning and evaluation, the team refined the school's goals to two critical areas—literacy and equity. When this occurred, all fiscal and human resources were directed at developing a school culture that would support literacy and equity for all.

The planning team first evaluated the school's schedule to identify what changes were needed to support teacher planning and instruction. Their findings resulted in revising the existing eight-periods-per-day schedule into an alternating-day block schedule that would allow for extended instructional time. This reform allowed the integration of literacy into daily content instruction, thus creating an environment that was supportive of student literacy, learning, and achievement.

The improved schedule heightened opportunities for teacher collaboration and planning. A block of common planning time permitted teachers to work as a team to evaluate student achievement and work samples, as well as make necessary adjustments

to instruction as they planned lessons together. Collaborative planning encouraged the selection of appropriate literacy strategies and best instructional practices to support learning within each team. Perhaps the greatest value of team collaboration was the opportunity for professional conversations and growth that added to all teachers' knowledge base of literacy strategies.

ASSESSMENT AND PROFESSIONAL DEVELOPMENT TO SUPPORT THE LITERACY GOAL

Ms. Wolfson was quick to stress the importance of a highly effective teaching staff. When she interviewed prospective teachers, she searched for those who could excel at teaching content area literacy. Nevertheless, there still remained a critical need for continuing professional development to support literacy instruction. Since very few content teachers possessed the skills to integrate literacy strategies into their daily lessons, the original literacy planning team identified professional development as a cornerstone for their goal of achieving literacy for all. Understanding assessment was also regarded as a key element of the professional development required to support student achievement.

Several practices are in place at Hopkins to support strong data-driven professional development. The school assessment team, consisting of the administration and four teachers, attend an annual summer data retreat and completely focus on the assessment data. With support from district assessment experts, the team analyzes individual student data and determines instructional needs. This activity puts the focus on student needs, as well as revealing additional professional development required to support student learning objectives.

There are also several practices in place to support literacy professional development. Although Hopkins does not have a literacy coach, several highly effective teacher-leaders on the staff perform coaching duties and support the learning of literacy instructional practices and strategies. Within the planning block, teachers model literacy strategies for one another and hold frequent professional conversations regarding literacy issues. However, Wolfson believes that coaching is still not at the level desired, therefore a full-time literacy coach would benefit for Hopkins' ongoing literacy efforts. Another important structure put in place to support literacy professional development includes seven late start days built into the school's calendar.

INSTRUCTION SUPPORTS LITERACY CULTURE

A Literacy Walk through the school reveals a culture of literacy that permeates the hallways and classrooms. Word walls supporting vocabulary development are found throughout the building. Classrooms contain their own libraries used to support literacy and learning. Teachers actively engage students in thinking critically about text. Science teachers provide a picture of the literacy integration with their creative use of picture books as a pre-reading anticipatory activity to hook students' interest in learning more. In each classroom there is evidence of strategic teaching to help students make connections using pre, during, and post literacy strategies. The Scope and Sequence of Literacy Skills, developed by teachers, includes pre, during, and post literacy instructional strategies. Classroom instruction focuses on literacy strategies for all students.

INTERVENTION TO SUPPORT STUDENTS WITH MOST CRITICAL LITERACY NEEDS

Armed with data, the staff takes a proactive approach to meeting students' literacy requirements. For example, seventh-grade students identified as candidates for additional support attend a four-week literacy-rich, interrelationship-building session. From the 30 students who attend this session, approximately 15 are selected for an intensive reading and writing intervention class. The class meets for 90 minutes per day, and two teachers loop with the students through eighth grade. Ms. Wolfson indicated the original program has been so successful that they now offer eighth and ninth grade versions. Another vital component of the Hopkins' reading program is Scholastic's READ 180. But even with these effective approaches in place, the most critical ingredient for success continues to be placement of the very best teachers with students requiring the most intensive intervention.

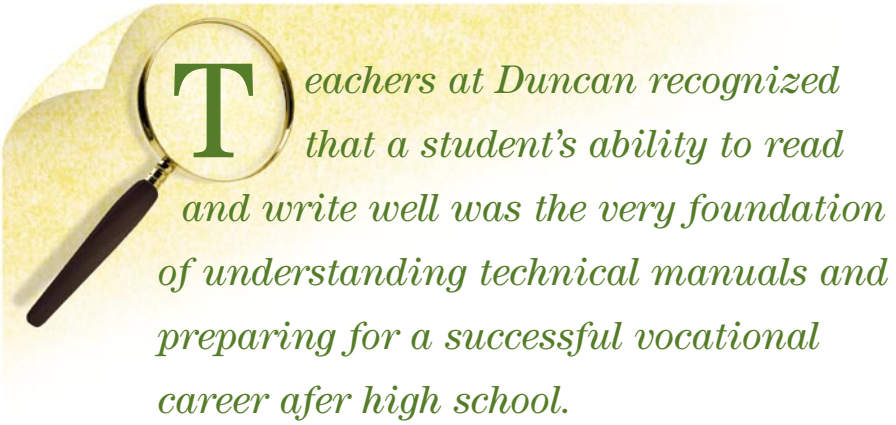
THE LITERACY JOURNEY CONTINUES

The literacy efforts at Hopkins are paying off. While the school's population continues to become more diverse, students scored the best yet on statewide assessments given in spring 2004. But the professional staff at Hopkins understands they cannot rest on their laurels. Careful analyses of data, ongoing professional

development, and nurturing the culture to support literacy is an ever-changing, continuous process. The stage is set for continued success, and students, teachers, and administrators will continue to persist with the mission of literacy for all.

School Case 2: Duncan Polytechnical High School (adapted from NASSP, 2005)

Duncan Polytechnical High School in Fresno, CA, recently won NASSP's Breakthrough High School recognition and *U.S. News and World Report* bronze medal. But during the 1980s, Duncan would have been described as an occupational training school for dropouts or nonacademic students seeking the basics of a vocation. Today Duncan is a vocational specialization school that encourages high academic expectations for all with improved literacy opportunities at the very heart of the transition. Students at Duncan not only learn specialized vocational skills, they also study a curriculum that supports academic rigor and preparation for community or four-year colleges.



Teachers at Duncan recognized that a student's ability to read and write well was the very foundation of understanding technical manuals and preparing for a successful vocational career afer high school.

Duncan serves 1000 students in grades nine through twelve; 58 percent of the students are Asian, 32 percent are Hispanic, seven percent are white, and three percent are Black or other. Duncan students have demonstrated considerable success by meeting the California academic performance index targets as well as the federal yearly progress goals. In fact, the school has surpassed seven other schools within the Fresno Unified School District and is one of the highest achieving schools in California. Duncan students are exceeding all expectations—an outstanding accomplishment considering that 91 percent qualify for free and reduced-price meals and 34 percent are identified as second language learners. Another achievement for Duncan is that 82 percent of their tenth graders pass the California tests for mathematics and reading/language arts. Students enrolled in advanced placement courses have increased from zero in the 2001 academic year to 101 for 2004–05. The remarkable transition that occurred at Duncan is a result of close collaboration, professional development, teacher commitment to student success, and an academic program personalized to meets the needs of all students.

CHANGE BEGINS WITH COLLABORATION

Principal Carol Hansen's philosophy is that "people close to the issues need to make the decisions," so site-based management at Duncan encourages shared decision making and the participation of all stakeholders in every aspect of the school improvement process. Collaborative decisions have impacted all areas of the school's program, from creating the school schedule to developing a highly effective instructional program. This culture of shared decision making and co-ownership for school improvement has fostered a collegial effort to support student success. Teachers at Duncan recognized that a student's ability to read and write well was the very foundation of understanding technical manuals and preparing for a successful vocational career after high school. When the data indicated many students were arriving at Duncan with poor literacy skills, the staff quickly reached a consensus that students would require additional support to graduate with solid vocational and academic skills. Working closely together, staff developed a school improvement plan that was directed toward each student successfully completing a rigorous vocational and academic program.

PROFESSIONAL DEVELOPMENT PROVIDES THE GLUE

At Duncan, the collaborative professional development process began under the leadership of the principal. A careful analysis of student data revealed a stark need

to focus on literacy, and teacher professional learning needs were targeted to address the issue. The initial professional development began on a small scale. During the first year of the plan, departmental groups began to learn strategies to support effective use of the textbooks. This small group evolved into a school-wide effort to learn successful literacy strategies and to fully integrate these strategies into the content areas.

Recognizing the strong connection between reading and writing in adolescent literacy, the centerpiece for the second target of professional development was writing. Eleven teachers attended a week of intensive professional development at the San Joaquin Valley Writing Project sponsored by Fresno State University. The attendees, armed with new ideas and strategies to improve writing, returned to Duncan to share this information with other staff members. Subsequently, a comprehensive action plan was designed to fully integrate writing across the curriculum.

To support the inclusion of reading and writing across the content areas, the administration designated a lead literacy teacher. Although not a literacy coach, this individual had a successful track record of literacy integration. The literacy leader's main responsibility was to model successful practices for other content-area teachers and to assist with integration of reading and writing strategies throughout the school.

Teachers at Duncan have a one-hour lunch block, but 30 minutes of the block are dedicated to professional development. During summer professional days, the teachers and administration carefully analyze student data and plan professional development to support student achievement. The lead literacy teacher works closely with the other teachers to model literacy strategies during the lunchtime professional development period. She also works closely with the Title I teacher to determine the instructional needs of students, and this becomes a basis for professional development opportunities. Every aspect of the professional development program is driven by the instructional needs of the students. At Duncan, falling through the cracks is not an option.

PERSONALIZED INSTRUCTIONAL PROGRAM

The staff also recognized the need to personalize instruction to support academic success. When Duncan students first enter the school, they are given a strong foundation in mathematics, reading, and language arts. The foundation begins by providing students with technological literacy skills as well as the technical and analytical writing skills required for success. Through the structures developed by a supportive staff, students learn to communicate effectively through a comprehensive portfolio development and presentations. Students gain confidence through this process, at the same time learning important communication skills they will need for future success.

At Duncan, Hansen indicates, content-area teachers never say, "I am not a teacher of reading" because they all fully understand the importance of integrating literacy strategies into daily instruction of core content standards. Silent Sustained Reading (SSR) is a daily activity at Duncan that is built into the schedule; students have 20 minutes at the end of first period each day to self-select books of interest for literacy. Teachers model reading and are not involved with other activities during this dedicated reading time. The administrators even take time to visit at least one class per week to share in SSR time with students.

Students are given many instructional supports to achieve academic success. A Summer Bridge Program provides orientation that helps students successfully transition from middle school to high school. Ninth graders needing additional support have the opportunity to take a reading class that prepares them for advanced expository text reading and college-level reading. There are extended learning opportunities, tutorial labs, and a seventh-period intervention class for students requiring additional assistance. Second language learners participate in a companion reading class specifically designed to meet their individual literacy needs. Many of the students maintain a heavy workload outside of school, so teachers open their classrooms for tutoring before school and during lunch. Every effort is made to support students because Duncan's goal is for all students to graduate from high school prepared to enter a community or four-year college and succeed in their chosen career paths.

PROFESSIONAL COMMITMENT ENSURES STUDENT SUCCESS

Visionary leadership, committed instructors, and a common goal to support student success are critical keys to Duncan's accomplishments. Because of a collaborative staff that uses assessment to drive

instructional practices, students at Duncan are achieving ever higher academic success. Duncan has a 97 percent graduation rate. The majority of the students go on to postsecondary programs, and 18 percent of its graduates complete at least a baccalaureate degree. This is a school that truly supports literacy for all its students.

Re-Engineering for Change at the District Level

Although schools can and do "beat the odds," the task of improving adolescent literacy would be substantially easier with appropriate support and guidance from districts. While school districts vary widely in size, organizational details, and resources, they can take a number of concrete steps to help reform schools. Here is a short list of actions that districts can take to improve adolescent literacy, designed to promote the creation and support of schools like Riverside.

1. Organize to promote a culture of learning
District leaders can set the tone by prioritizing adolescent literacy, committing to high expectations for literacy performance, aligning accountability systems to this goal, and allocating resources accordingly. In many cases, this may require reorganizing traditional district hiring, curriculum-setting, and finance practices. Increasing communication and contact between schools is particularly important in large districts in general and in any size district facing large disparities in student achievement and opportunities to learn.

2. Use information to drive decisions
Districts should seek to develop a coherent assessment system based on real-time data that maximizes the utility of information while minimizing the loss of instructional time. Such data can be used to enforce common expectations for students across schools and instructional settings. Meeting this goal will, however, require understanding the varying purposes and uses of different assessments, developing an integrated and easy-to-use management system, and creating systems to ensure that student data is delivered quickly. To support school-level decisions about instructional programs, districts can provide principals with rich information about available programs and curricula, systematically accumulate information about those programs, and evaluate program implementation and impact. Finally, districts can support principals' effective use of data by providing them professional development on good data use, and by minimizing principal responsibilities for the more routine tasks unrelated to improving instruction (such as managing school buildings, coordinating athletic programs, or supervising transportation).

Many adolescent literacy programs lack research-based evidence of effectiveness, making such up-to-date audits especially important for struggling readers in middle and high schools. Mandating a new program on a large scale without evidence that it works for a district's population of students is a risky, but often necessary endeavor. Fortunately, the evidence for what works can emerge not only from published studies but also from a district's own careful evaluation of the chosen program's impact on a subset of schools. To prevent the "swinging pendulum" effect of rapidly changing programs, each district should use evaluation results to implement and refine new initiatives over time, considering and incorporating the positive impact that previous practices may have had on student achievement. Formative and summative approaches, typically linked at the classroom level,

Helping Schools Use Data Effectively

One way to build capacity to use data is demonstrated by the Data Wise project (Boudett, City, & Murnane, 2005). The Data Wise project paired doctoral students in education who had some skills in data analysis with small teams of school practitioners, in a year-long seminar focused on understanding and using test data available in the Boston Public Schools. Each team started with state accountability assessments, looking at patterns of performance within their own schools on different subtests and different item types (e.g., multiple choice vs. open response). They then moved on to other kinds of data, including curricular achievement tests and formative assessments. The school practitioner teams reviewed what they had learned in professional development sessions back at their schools, and shared their learning with their colleagues. The goal was to build the skills of a few individuals within each school, who could then lead similar data-focused sessions to help schools make information-based decisions about individual students and instructional programs.

should also be combined in evaluating programs at a district level. In this way, systematic evaluation can allow the district to build evidence-based instructional strategies that are coherent and consistent over time.

Evaluation of professional development models is especially vital at the district level. Although these models are also inherently harder to assess than instructional interventions because their impact on student achievement is indirect, evaluations should focus on data on data about how professional development leads to changes in teacher knowledge and practice. Linking these changes to student learning takes more than one year, but is still important to pursue. Formative assessment of professional development is also useful for determining whether or not a desired sequence of events is in fact taking place.

3. Allocate resources to support learning priorities

Districts can also work to ensure that resources are allocated in accordance with strategic priorities and the specific needs present in schools. For instance, a commitment to reaching all students through differentiated interventions requires investing in extra time, supplemental materials, and teacher professional development that align with best practices for providing such interventions (see Deshler, Palinscar, Biancarosa, & Nair, 2007).

4. Build human capacity

Districts can develop stronger principals and allocate current principals in ways that align with strategic literacy priorities—for example, by placing the strongest literacy principals in schools with the greatest number of struggling readers, offering incentives when necessary. Districts can also offer effective support programs for principals, such as principal study groups and mentoring relationships targeted around the particular issues of improving instruction in literacy. Districts can take an active role in hiring professional faculty with sustained commitments to literacy in all the content areas. For example, districts can require all teachers to take a course in content-area literacy during the first three years of employment or for re-certification. Districts can also ensure that professional development is embedded in the work of teachers, coherent with instructional priorities, sustained over long periods, and subject to accountability procedures. Districts should also develop central repositories of expertise

and provide the leadership and financial support necessary for the cross-pollination of successful practices across schools. Finally, districts can provide incentives to principals and teachers to teach in schools with large numbers of struggling readers or to develop advanced skills in teaching literacy.

5. Ensure the provision of targeted interventions for struggling readers and writers

Districts can write K-12 literacy plans that specifically address how struggling readers will be identified, diagnosed, and served through intensive interventions. Implementing these plans will require taking steps to hire and train highly effective teachers with deep skill and knowledge in reading instruction, constructing a multi-tiered approach in which learners with different needs are served appropriately, monitoring the plan closely, and revising in light of new data. This will require a commitment to supporting better screening and diagnostic procedures across the district. Districts can also help by identifying promising interventions and accumulating data on those used in the district, eventually amassing information on which interventions work best for students with specific needs.

Engineering districts to support schools in improving adolescent literacy is no insurmountable task. Many both large and small districts across the country have done so. Here we offer one such success story. The good news is that new examples of districts supporting systemic reform to support improved adolescent literacy appear every year (for example, see the Alliance for Excellent Education's spotlight

on Madison, WI: http://www.all4ed.org/events/readingwriting_summit_adlit).

District Case 1: New York City's Region 9

Region 9 of New York City's (NYC) Children First initiative illustrates it is possible to re-engineer the schooling experience for adolescents on a large scale according to clearly thought-out goals and objectives, and consequently to bring lower performing schools into a system that promotes learning achievement for all students.

BACKGROUND

In 2002, the New York State legislature voted to change governance of public education in New York City to a system of mayoral control. This governance reform replaced a thirty-year-old system of a Central Board of Education and 32 semi-autonomous Community School Boards that had resulted in a system with wide disparities in student achievement among districts. The reform was intended to organize the system for higher school performance and redress achievement gaps with accountability lodged with the Mayor.

In the summer of 2002, Chancellor Joel Klein was appointed by the Mayor of NYC and almost immediately launched a large-scale reform, called Children First, with the overarching principle that raising student performance in literacy, mathematics and content area subjects would be achieved through creating a system of good schools. Children First initiated a sweeping move from districts to broader regions. For the 2003-2004 year, Children First created ten broad regional structures, each combining as many as four community districts and the high schools located within old district borders.

Before Children First, citywide, overall student achievement was unacceptably low. In 2001, only 43.9 percent of fourth graders and 33.0 percent of eighth graders achieved proficiency on the annual statewide language arts examination. But in the Bronx district that surrounds Yankee Stadium, achievement levels in 2001 were lower still. There, fewer than 15 percent of students achieved proficiency on elementary and middle school exams; students scoring at the lowest level of the test outnumbered those scoring at the highest level sevenfold. The annual citywide retention rate for eighth graders was less than two percent, while for ninth graders retention rates exceeded 25 percent. To ensure that all students have the opportunity to graduate from high school, Children First reforms determined that the endpoint must be high school graduation, not simply success on the English Regents, since students needed to be able to comprehend text in all subject areas.

Although NYC schools faced the same challenges as many other large urban school districts, such challenges were magnified by the sheer size of the system. In 2002, NYC's roughly 1,250 schools taught about 1.1 million students, including three-quarters of the state's special education students and a population of English language learners big enough to be the largest city in nine different states.

REGION 9

Region 9 was born of this sweeping reform. There were 193 schools in this region, together serving a student population roughly the size of the entire Baltimore public school system. Eighty-five schools in Region 9 held elementary grades, and 81 taught high school students, all in a diverse range of sizes and configurations—grades K-2, K-5, K-6, K-8, 6-8, 7-8, K-8, 6-12, 7-12, and even K-12. Because Region 9 housed roughly one-sixth of the city's high school seats, its student population reached far beyond its geographical borders.

LINKING SCHOOLS TO PROMOTE A CLIMATE OF LEARNING

Under Children First, diverse groups of schools from across Community School Districts were placed in cohorts of only ten to twelve schools each. These cohorts were supervised by a Local Instructional Superintendent (LIS) who, with fewer schools to oversee and fewer operational concerns to manage, could spend far more time in schools than district superintendents under the old structure. The LIS initiated cohort meetings each month for principals and separate meetings for assistant principals, where subject-specific supervisors in secondary school could be brought together. Region 9 included four Community School Districts in an area that ranged from the southern tip of Manhattan to the South Bronx

Overcoming the insularity of many schools was regarded as the major obstacle in this process. Consequently, Region 9's earliest plans for professional development involved considerable inter-visitation among schools so that educators would have access to strong living models than had existed for some only in

published exemplars. Simultaneously, curricular leaders created frameworks and discussion protocols to guide teachers in looking at student work, helping them to analyze not just student products, but how the task assigned related to the outcome. The establishment of these cohorts in Region 9 cohorts made excellent instructional practices more easily observed and discussed by teachers and school leaders throughout the city, creating much more of the atmosphere found in teaching hospitals.

In addition, having teachers and administrators cross school boundaries worked to raise expectations across the board. Teachers in classrooms with a majority of struggling students often stop expecting a high level of performance; conversely, teachers in classrooms with a majority of high-achieving students often neglect the needs of few students who need additional support. Region 9 set out to redress both of these typical classroom situations. The South Bronx housed a Region 9 lab site for working with struggling middle school readers, and regional meetings in which literacy coaches from heavily bilingual schools in East Harlem helped carry strategies for working with English language learners just south to the East Side. Also, regional professional development sessions were scheduled in a variety of neighborhoods and schools. For example, a science professional development center was established within a Chinatown school and a math lab created in Chelsea; Region 9 principals' meetings were held everywhere from Stuyvesant High School to a South Bronx middle school with a history of low test scores.

FOCUSING ON ADOLESCENT LITERACY IN MIDDLE AND HIGH SCHOOLS

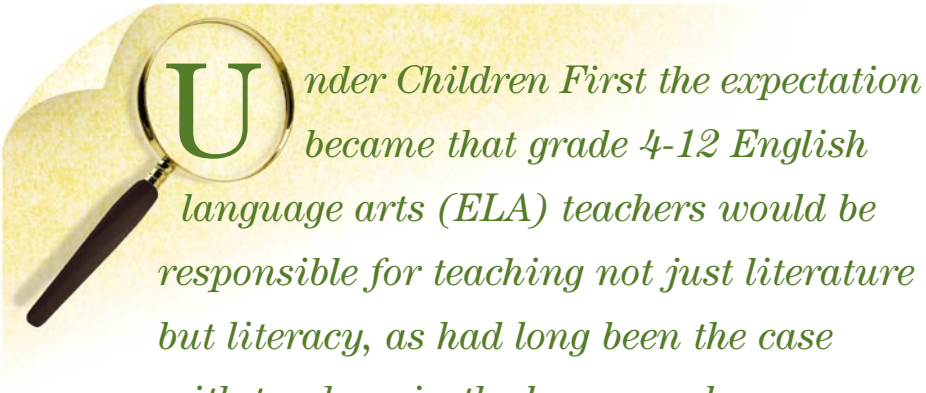
Children First instituted a number of broad changes aimed at decreasing retention rates and improving graduation rates, as well as at improving performance on accountability assessments.

- **Changing the Focus from Remediation to Accelerated Learning:** Children First instituted a citywide literacy program for all ninth graders who scored at the lowest two levels of the eighth grade state language arts test. The goal was accelerated learning, not remediation. A single literacy curriculum was chosen for use throughout district secondary schools and featured a full-year curriculum delivered in a 90-minute period each day, tailored to the needs of adolescents who have not yet experienced academic success. Mirroring best practices from elementary schools, the program offered a set of classroom rituals and routines intended to enable teachers to help students become more motivated and independent learners. To improve adolescents' access to engaging written material, Children First purchased classroom libraries for all classes using the accelerated literacy curriculum, at a cost of $16 million.
- **Retuning the Alignment between Middle and High School:** After conducting a broad re-assessment of the city-wide use of resources, Children First decided that the regional structure, which had re-linked K-8 schools and high schools under the same administrative support, should also make an investment in creating stronger cohorts of students moving from eighth to ninth grades. A middle school version for the same accelerated literacy curriculum was adopted for sixth grade, then for seventh and eighth grade as well.
- **Targeting Intervention for Struggling Students:** To strengthen teachers' capacity to target those students most in need of additional intensive support, Region 9 staff identified and provided professional development on some of the more effective intervention programs. All schools were required to provide targeted intervention to students with delayed reading development using these materials. Citywide, a network of regional intervention specialists was formed to guide schools in matching programs to student needs. In Region 9, intervention liaisons from each school were selected and met regularly with the regional intervention specialist. These support strategies were incorporated into the day-to-day classroom instructional activities as well as the extended day and summer school programs.

INCREASING TEACHER CAPACITY THROUGH RESPONSIVE PROFESSIONAL DEVELOPMENT

Children First focused on developing the capacity of existing teachers, recruiting knowledgeable new teachers, and negotiating contractual agreements that would increase the pool of outstanding teachers in all schools. Coaches, hired under a screening protocol developed by regional staff and placed under the guidance of a Regional Instructional Specialist (RIS) in literacy or mathematics, were assigned to support teachers, and full accountability structures were

put into place to ensure ongoing quality. Literacy specialists selected and assigned a literacy coach to each Region 9 school. The selection process involved candidates viewing video tapes of classrooms and identifying effective teaching practices as well as strategies for improvement. All regional coaches from across the region were brought together on a weekly basis in schools across the region to observe classes and offer suggestions to coaches as critical friends.



Under Children First the expectation became that grade 4-12 English language arts (ELA) teachers would be responsible for teaching not just literature but literacy, as had long been the case with teachers in the lower grades.

Coaches were trained on how to discuss lessons with teachers and how to work with principals and assistant principals to focus supervisory efforts on teaching and learning. Coaches also visited each other's schools, and as time went on it turned out the most effective laboratory sites in Region 9 were often located in the most challenged communities.

Under Children First the expectation became that grade 4-12 English language arts (ELA) teachers would be responsible for teaching not just literature but literacy, as had long been the case with teachers in the lower grades. The Children First planning team decided on an initial five full days of professional development for all teachers and several follow-up sessions. While only language-arts/literacy teachers were required to attend the training for the accelerated literacy curriculum, presentations on the methodology were provided for all faculty members in order that teachers in all content areas could intensify instruction of literacy development strategies.

INCREASING PRINCIPAL CAPACITY

Children First also established a Leadership Academy. Operating as a private nonprofit without public funding, the Leadership Academy tapped into the experience of local leadership programs such as the Community District 2/Baruch College Aspiring Leaders Program and the experience of former superintendents and principals. The Academy developed a scenario-based curriculum and intensive internship program for future principals. Carefully screened participants were assigned to some of the city's most effective principals and were required to take ownership of school projects such as supervising literacy instruction for a particular grade, coaching new teachers, and developing a school leadership team. Aspiring principal interns were required to spend several evenings each week, as well as two summers, attending content and leadership classes leading to State certification in supervision and administration. Graduates of this program were given high priority in placement as principals and received additional support during their first two years on the job. As NYC increased the capacity of school principals to steer the direction of their schools, Region 9 developed a new support structure in an effort to customize leadership development. The region provided a menu of topics for leadership study groups from which all principals and assistant principals could sign up to meet their needs.

RETOOLING INFRASTRUCTURE TO SUPPORT MAXIMUM EFFICIENCY

As curricular support strengthened with the shift from old districts to regions, Region 9 schools took on more operational and budgetary independence and began experimenting with modified school governance structures, using up-to-date budgeting software and widening input into budgetary decision-making. Region 9 also increased the level of control by principals. Finally, schools were empowered to take more responsibility by operating independently of the relatively new regional structure in exchange for more demanding accountability. In 2004-2005 about a dozen schools began working more independently or sharing decision-making tasks with schools in their network.

Human Resources processes and systems were streamlined, and the common practice of passing weaker teachers off to different schools was ended. Also, Human Resources developed an aggressive recruitment plan that significantly increased the pool of talented teachers. Borough-wide hiring institutes were developed to funnel many of the strongest candidates to low performing schools. At the same time, NYC's Office of Labor Relations was able to develop contracts for teachers that offered a significant increase in salaries to compete with suburban school districts. As part of the new contract agreements, teachers were required to work a longer school day that included time for professional development, thereby improving their literacy teaching skills and provide small group instruction. Finally, lead teachers were paid an additional $10,000 in salary if they accepted to transfer to struggling schools where they could serve as model teachers. These teachers were selected by a centrally staffed review committee using a rubric developed by the chancellor's office.

IMPLEMENTING LONG-TERM DATA COLLECTION FOR DECISION MAKING AND ACCOUNTABILITY

During the first year of Children First, staff conducted a careful review and analysis of student data. In subsequent years, New York City schools have worked consistently to expand the variety of data collected and elevate the importance of data to decision-making.

Interim assessments were developed for language arts and mathematics. Schools then gained the opportunity to select from a small menu of pre-designed options or to develop their own interim assessments, benchmarked to state standards and subject to approval by the central staff assessment experts. More detailed information was gleaned by creating a value-added analysis of data wherever longitudinal trends were measured. The resulting information was used to create School Progress Reports—a tool for identifying successful schools and rewarding school leaders, as well as determining which failing schools should be closed and which principals removed.

A process for focused school walk-through visits, originally developed as part of a British state inspection system, was used to establish School Quality Reviews. The purpose of these visits was to investigate the degree to which schools were using data to guide instructional-decision making, its impact on teaching quality, the opinions of staff and students, and other qualitative aspects of school functioning that could not be captured by test scores and other numerical measures alone.

Combined information drawn from the Quality Review and the School Progress Report was then merged into a knowledge management system intended to facilitate analysis and allow school leaders to examine the practices and strategies that other, similar schools were using to improve student performance.

OUTCOMES

Along with a marked change in attitudes towards reading, improved student self-image, and the establishment of classroom environments more conducive to learning, Region 9 literacy classes demonstrated accelerated reading achievement on the Gates-MacGinitie Reading Test after one school year in the accelerated literacy curriculum. All things being equal, students are expected to stay at the same level on the Normal Curve Equivalent (NCE) scale from year-to-year when tested at their grade levels, but the 167 sixth graders and 240 ninth graders in Region 9 made gains of nine and four NCE points respectively.

Across NYC, ELA performance has steadily improved since 2002. Specifically, 61.3 percent of fourth grade students performed at or above grade level in 2008, which is 14.8 percentage points higher and represents a 32 percent improvement over the 2002 rate of 46.5 percent. Similarly, 43 percent of eighth grade students performed at or above grade level in 2008, which is 13.5 percentage points higher and represents a 46 percent improvement over the 2002 rate of 29.5 percent. Moreover, students at every grade level from third through eighth showed gains in ELA scores from 2007 to 2008.

Most promising of all, graduation rates have also risen steadily. Whereas in 2002, 51 percent of high school students graduated in the expected four years, in 2006 (the latest year for which figures are available), 60 percent did. This is a gain of nine percentage points and an 18 percent improvement over just four years. As when any sweeping reforms are undertaken, be they in schools, districts, or states, all of these improvements cannot be directly tied to Children First nor specifically to its particular reforms in adolescent

literacy, but they do point to an overall efficacy for the dramatic approach to change that NYC took.

District Case 2: Union City, NJ (adapted from Short & Fitzsimmons, 2007)

Union City school district is located across the Hudson River from New York City. The area is a traditional immigration site with a large, working class population, and most residents are Spanish-speaking immigrants from the Caribbean and Central America. In the 2007–08 school year, this urban district served more than 12,000 students in its two high schools, one middle school, eight elementary schools, and one early childhood school. Fifteen percent of students were new immigrants. Approximately 92 percent of the students were Latino, and 75 percent of them did not speak English at home. Forty-two percent of them were English language learners (ELLs) and about 40 percent were enrolled in the district's transitional bilingual/ESL program. Close to 90 percent of the ELLs were native Spanish speakers. Other native languages included Gujarati, Russian, Arabic, Italian, and Mandarin. More than 90 percent of all the district's students were eligible for free or reduced-price lunch in 2004–05. Besides serving large numbers of students of poverty and limited English proficiency, the district also had significant student mobility with rates of movement in or out of the schools close to 20 percent.

The Union City school district has made a commitment to academic literacy development for all its students. However, the large percentage of ELLs in the district means addressing the needs of its adolescent ELLs head-on.

In 1989, the district was under a state mandate to reform its educational services within five years due to repeated poor performance on state assessments. Drawing from best practices and state flexibility, a reform committee composed of 11 teachers and three administrators set forth a plan to promote academic literacy for all students. Two beliefs were articulated: "Every student is college-bound" and "No student is unteachable."

This plan involved five key areas of reform—professional development, curriculum, technology, leadership, and community. The district's approach is a pre-kindergarten through twelfth-grade plan to move students up through the grades with eased transitions and monitoring of low achievers across school levels. From 1990 to 1995, the plan was implemented by increments, first in grades kindergarten through three, then the intermediate grades, then middle school, and finally high school.

These reform efforts paid off by the late 1990s Union City was one of the top-performing urban districts in New Jersey, and these efforts and benefits continue today. The district has maintained many of the reforms set in place in the early 1990s and has added additional practices to serve the student population. Union City's core policies touch on the following areas:

- Assessment and targeted support,
- Programs for adolescent ELLs,
- Easing transitions,
- Teacher certification,
- Professional development,
- Data analysis, and
- Dedicated and strategic use of fiscal resources.

ASSESSMENT AND TARGETED SUPPORT

The state Department of Education in New Jersey encourages districts to assess students' literacy levels and content knowledge in English and their native language when they first enroll in school. Policies like this one are particularly important in districts like Union City that face high student immigration and mobility rates. New Jersey uses the Assessing Comprehension and Communication in English State to State for English Language Learners (ACCESS for ELLs) test for measuring English language development (WIDA, 2004). This test focuses on both social and academic English skills (and is also used by 14 other states). For example, ACCESS for ELLs helps Union City determine student facility with English within the domains of mathematics, science, and social studies. For adolescent ELLs, this information is particularly beneficial given the more sophisticated language demands of their content classes compared to classes in the primary grades. Like all Abbott districts, Union City also assesses Spanish-speaking ELLs' reading and math in Spanish in grades kindergarten through eighth grade. These assessments are repeated annually.

Results of these assessments guide the enrollment and placement of adolescents in an appropriately supportive educational program. Each school in Union City has a school improvement coordinator and a Support Services Task Force. It is their job to monitor students' academic and social development

in the schools, examine student performance data, recommend options such as tutoring or special test preparation classes to students at risk of failure, and work with guidance counselors on course scheduling.

All kindergarten through eighth-grade schools provide students with a three-period communications block to develop literacy. In addition, in grades two through five, struggling readers have a targeted intervention known as Essentials of Literacy in which they work on phonics, fluency, comprehension, guided reading, and vocabulary. Students are pulled from their regular classrooms each day (except during reading) but at varied times, so they do not consistently miss the same subject. Support teachers also work with the curricula in the classrooms with struggling students in small groups or one-on-one.

Union City reforms focus on accelerating English language and literacy acquisition of ELLs in grades 4 through 12.

The district uses 21st-Century Community Learning Centers funding to provide upper elementary and middle schools with Saturday programs that target mathematics and language arts. The middle school also has an extended day reading and writing classes for the students and a lunchtime intervention program. Based on low test scores or teacher recommendations, students attend the program twice a week to focus on reading and writing. For eighth graders, the focus is on preparation for the New Jersey standardized Grade Eight Performance Assessment (GEPA) in mathematics, language arts, and science, and the course is taught by the school improvement coordinator.

Specialized tutoring opportunities are available for high school students. For example, each day a resource room is open for tutoring and students may stop in during free periods. In addition, students are recommended for tutoring according to the data from assessments that are given every 6 weeks. After school, there are HSPA and ESL tutoring every Tuesday and Thursday. The high school also offers extended day programs before school begins. These programs focus on mathematics and language arts.

PROGRAMS FOR ADOLESCENT ELLS

Given the large population of ELLs and high immigration rate in Union City, a large part of its reforms focused on better supporting this population. Union City's philosophy for ELLs is based on research that first language literacy and content knowledge transfer to second language literacy and content knowledge, as well as on the practical experience that newly arrived high school students do not have much time (4 years or less) to learn English and the academic subjects taught through English. So, Union City reforms focus on accelerating English language and literacy acquisition for ELLs in grades 4 through 12.

All ELLs are designated as bilingual or advanced bilingual students based on their enrollment assessment and subsequent yearly assessments. Through grade 5, bilingual students attend self-contained, grade-level bilingual classes, whereas advanced bilingual students attend regular grade-level classes but receive co-teaching during the three-period communications block, when an ESL or certified bilingual teacher joins the classroom teacher to support the students. (Union City also has a kindergarten through eighth-grade dual-language program in one of its schools.)

In middle and high school, bilingual students have two periods of intensive ESL each day. The secondary ESL program offers five levels of ESL for middle and high school students: ESL reading and writing for new entrants, beginning, intermediate, advanced, and ESL C. Those at the beginning level of English proficiency also have one period of Spanish. For intermediate level students, the ESL instruction is content-based. Advanced bilingual students continue to take ESL if needed and take sheltered content or mainstream classes. The final ESL level (ESL C) prepares students for the transition to mainstream language arts classes.

Middle and high school bilingual students also take bilingual content classes appropriate to their grade level. Union City high schools have over 20 bilingual content courses in the program of studies,

including earth science, biology, chemistry, physics, algebra, geometry, U.S. history, world history, health, and even driver's education. In addition, the ESL courses at high school can count toward language arts graduation requirements for up to four core credits because New Jersey's ESL language and literacy standards are aligned to the state language arts standards.

In addition, several specialized programs are offered to adolescent ELLs who are at risk of educational failure. For example, students with weak math skills may have paired periods built into their schedules, one being the regular grade-level math and the other a math support class. The middle school also offers an Alternative Education program for at-risk ELLs who are older than the average eighth grader. This accelerated academic program focuses on seventh- through eighth-grade content and most students are able to move on to high school after one year.

Finally, a Port-of-Entry (POE) program is available in high school for new entrants who have gaps in their schooling, low literacy in both their native language and English, and are overage (16- or 17-year-old ninth graders). New Jersey has a high school graduation policy that allows ELLs to remain in school for six years. Students may stay in school until they are 21, or for special populations, until they are 23. Designed for ninth graders, POE classes take place at the Career Academy, an off-site satellite of Emerson High School. POE classes occur during the morning, when students take two periods of intensive ESL, one period of bilingual mathematics (algebra), and one period of career exploration. The career classes—which include fashion design, computer repair, retail sales, hospitality, criminal justice, and computer networking—are what motivate these older learners to persevere. Students then return to Emerson High for the afternoon, when they take a bilingual world history class, Spanish for native speakers, and physical education. Students are assessed every six to eight weeks to ensure they are meeting curricular objectives, and most remain in POE for one year. A similar program is also offered for newly enrolled tenth graders who score low on enrollment tests.

EASING TRANSITIONS

The Union City school system has put structures in place to help students make transitions across school levels, out of the bilingual program, and beyond secondary school. The following are some examples of these practices.

- Eighth graders transitioning into high school who have low GEPA scores attend paired classes of key subjects. For example, a student may have both an English language arts class and an "English for Today" class or both algebra and math skills. The paired classes are designed to support learning in the core class.
- Students transitioning out of the ninth-grade POE program are monitored by the ESL department in Emerson High School, as well as by the school improvement coordinator. There is a support service task force that considers options for students who struggle during this transition. Support teachers help out in classrooms and students are encouraged to attend extended day programs for tutoring.
- Students who have not passed high school exit exams in the spring of eleventh grade, the High School Proficiency Assessment (HSPA), participate in an intensive summer program to prepare them for the following fall administration. The HSPA assesses reading and mathematics and students who fail are retained as eleventh graders until they pass or go through an alternative process designed for students less able to demonstrate knowledge on standardized assessments. The summer classes are customized to student needs based on data derived from HSPA scores and help students avoid the frustrations of retention.
- Transitions to careers after high school are managed through several programs. Advanced bilingual students may participate in the Career to Business program, which offers on-the-job training in the summer and after-school jobs during the year at participating companies. The Career Academy also offers a full program for students not in the POE program; students complete a course of study in a particular career and have access to postsecondary training through agreements that the Union City Board of Education has established with certain businesses.
- Transitions to college are also managed through several programs because many Union City students come from households where parents had not gone to college. One program is the New Jersey Institute

of Technology Early College program, which is an intensive summer program that prepares Union City students for mathematics, science, technology, and engineering majors. Union City pays for scholarships and provides transportation. The Road to College program promotes student aspirations for college, provides awareness of the college application process, runs visits to college campuses, and prepares students for career choices.

TEACHER CERTIFICATION

Almost all of the teachers in Union City schools are highly qualified according to state definitions in accordance with NCLB regulations. In 2004–05, only one percent of teachers were on emergency or conditional certificates in the district; none were at Emerson High, which has the highest percentage of high school ELLs. All bilingual content-area instructors are dual certified in their content area and in bilingual education. Union City's policy is for all high school math, science, and language arts teachers to obtain ESL or bilingual certification within three years of employment. Certification requirements for kindergarten through eighth-grade teachers depend on the need at the school and the teaching assignment. The district pays 100 percent of the costs for the certification coursework at New Jersey City University or 80 percent of the costs for a masters degree. The district is concerned, however, with retaining teachers after they have received certification so the students benefit from the district's investment.

PROFESSIONAL DEVELOPMENT

In New Jersey, all teachers must participate in at least 100 hours of professional development (through their school district and/or on their own with approved programs) to maintain their teaching licenses. Union City uses this requirement as an important tool for promoting academic literacy in its schools. Professional development for teachers and administrators focuses on literacy training and effective instructional and assessment strategies for linguistically and culturally diverse students.

ESL and POE teachers have five half-days of professional development each year. The topic for each year's series is determined the summer prior to the start of the year; recent topics have included content-area instruction, learning strategies, and assessment. The district paid for the teaching staff to obtain ESL or bilingual certification and by the end of this intensive reform period, 100 percent of the teachers had done so or were in the process of completing such certification.

Union City also has a Professor in Residence from nearby New Jersey City University. This ESL/bilingual education professor comes to the district twice per week and does model teaching in classrooms and plans lessons with teachers. The school improvement coordinator also mentors new staff and provides some model teaching in their classes, and new teachers can observe master teachers on an informal basis.

DATA ANALYSIS

Since the major reform effort that began in 1989, Union City has prioritized collecting and analyzing longitudinal student data in order to make informed decisions about programs, resources, and staffing. To help make more informed decisions and track student progress, Union City makes sure that the POE students as well as the bilingual and ESL students are specifically identified in the district's accountability system so their progress after exiting the programs can be monitored. Teachers have access to online data about the students. In this way all teachers are aware of the students' backgrounds, ESL/bilingual status, participation in special programs (e.g., POE), and grades and attendance records.

DEDICATED AND STRATEGIC USE OF FISCAL RESOURCES

Union City's efforts have been made possible through strategic use of funding. The Abbott vs. Burke court decision found urban education to be inadequate and unconstitutional and, therefore, requires the state of New Jersey to reallocate educational funds according to the poverty levels of districts and to student performance in schools in order to ensure all youth have access to an adequate education. As one of the poorest districts in the state, Union City receives more state Abbott funds than many of the other 30 "Abbott" districts. The district uses its Abbott funds across the pre-kindergarten through twelfth-grade spectrum for extra staff, materials, and technology.

The district combines some of its federal Title I and Title III funds to maintain the transitional bilingual/ESL program. The district had a Title VII

dual-language grant for five years; and after it ended, the Board of Education continued to support the program. Union City has also been successful in obtaining additional grants from federal, state, and private philanthropic sources. They have Reading First monies in the elementary schools, a 21st Century Learning Centers grant for upper elementary and middle school Saturday programs that target mathematics and language arts, and a Family Friendly extended-day program. The district currently has a Bill & Melinda Gates Foundation grant to implement small learning communities in middle and high schools.

The district uses some of its funds to control class size in order to promote better learning environments. For example, ESL classes range in size from 15 to 20 students, content-area classes for bilingual students have 25 to 30 students, and the average ninth-grade POE class has 15 students. The district has also hired a parent liaison and social workers for each school. These staff members help parents understand school policies and access social services in the community.

OUTCOMES

The reform efforts have led to student achievement over time. From the 1998–99 school year until 2002–03, the number of fourth graders who met state standards on the New Jersey state language arts literacy test rose from 45 to 86 percent. Ninety percent of the district's eighth graders reached the proficient or advanced proficient level on the state language art literacy test in 2002–03. Progress was being sustained as students moved from elementary school into middle school. However, as is occurring elsewhere in the country, less success has occurred in high school. Eleventh graders did not perform as well as the younger students. For example, less than half of them scored at or above the proficient level on the 2002–03 HSPA mathematics exam.

The district's website reports more progress in 2004. "Students met or exceeded virtually every state requirement, fourth graders placing in the top three urban districts for the state, eighth graders exceeded all statewide averages, and eleventh graders increased test scores by 20 percentage points over previous year." Perhaps most heartening of all, a larger percentage of Union City adolescent ELLs scored proficient in language arts (and other subjects) on the GEPA and HSPA than did adolescent ELLs statewide and in similar districts.

Re-Engineering for Change at the State Level

The impetus for improving adolescent literacy should not be left to schools and districts alone. States have a critical role to play in supporting both. Moreover, those states that have invested in adolescent literacy initiatives are already seeing positive benefits for their efforts. For example, Delaware, Kansas, Massachusetts, and New Jersey have each made targeted investments in adolescent literacy and seen significant gains in eighth grade reading scores on both NAEP and state assessments (Center on Educational Policy, 2007).

Launching a statewide adolescent literacy initiative need not start at square one. Information, support, and resources are available from two organizations targeted at statewide change: National Governors Association (NGA) and National Association of State Boards of Education (NASBE). Supported by Carnegie Corporation of New York, both NGA and NASBE have produced reports aimed at informing their constituencies and offering recommendations for action. NGA's *Reading to Achieve: A Governors Guide to Adolescent Literacy* and NASBE's *Reading at Risk: the State Response to the Crisis in Adolescent Literacy* and *From State Policy to Classroom Practice* have been influential in helping governors and state boards of education begin formulating statewide adolescent literacy policy. NGA and NASBE offer additional support and resources.

Whether the education system in a particular state is centralized or decentralized, state policymakers can improve adolescent literacy outcomes if they establish improved policies in several critical areas:

- Standards,
- Assessments,
- Instructional alignment,
- Teacher preparation, certification, and professional development, and
- Accountability and institutionalization.

Leveraging policies in all of these areas can generate progress on meeting adequate yearly progress targets, raising high school graduation rates, increasing

the value of the high school diploma, and closing the achievement gap. But creating stand-alone policies is not enough. Real change will occur only if these policies form part of a long-range, statewide literacy initiative that recruits the collaboration of individuals in state government and local districts, as well as other key players. In such a comprehensive effort there are specific roles for all to play.

We recognize that states have varying resources to commit to resolving the adolescent literacy crisis and that the organization of education varies from state-to-state, which makes a "one size fits all" approach to statewide reform impossible. However, the key players do not vary, and those occupying each of the following five key roles can and should contribute to the effort to raise the overall level of adolescent literacy in schools. These players include:

- The Governor's Office,
- The State Legislature,
- The State Board of Education,
- The Chief State School Officer, and
- State, Regional, and National Organizations and Associations.

The levers that specific players have for instantiating change are what really varies from state-to-state. In states like Florida, the governor is in a position to enact statewide change in education, while in other states the board of education has this role. Regardless of a state's organization, the actions to be taken do not vary.

1. Institutionalize adolescent literacy

States need to make adolescent literacy achievement a relentlessly pursued priority goal, committing to high expectations for adolescent literacy performance, aligning accountability systems to this goal, and allocating resources accordingly. States can help to ensure a comprehensive approach to literacy improvement by requiring districts to create K-12 literacy plans. A good K-12 literacy plan would involve the district's plan for professional development, materials, assessments, interventions, and all the other key components of quality literacy instruction.

Consistent with the recommendations of both the NGA and NASBE, state policymakers could create a state office for literacy with a leader who reports directly to the chief state school officer, governor, or school board. In addition, for any of the state action steps to have impact, states must adequately fund the on-going implementation of instructional and professional development reforms.

2. Revise standards

State policymakers should ensure that their content standards in all subject areas make explicit the challenges of reading and writing within each discipline. Close attention should be paid not only to the overall literacy competencies that all students need to attain at each level, but also the specific literacy competencies of each content area. State policymakers should then analyze their entire body of standards to determine what revisions are needed. (In some states, the demands are implicit in the ways that each content area gets assessed. This is especially the case when a state assessment in a subject includes substantial writing. Some states may not require extended writing in subject area assessments, but all require students to at least read about that subject before answering questions.) Since literacy skills are implicitly required of adolescents in meeting expectations for each content area, making these literacy skill requirements explicit will drive classroom instruction more effectively. Also, revising standards to make literacy skill requirements explicit will naturally lead to aligning state assessments, curricula, and professional development plans with the new standards.

Just such a revision and benchmarking of standards is now proceeding. In 2008 an international advisory group was convened by three of the nation's leading education policy organizations: the National Governors Association (NGA), the Council of Chief State School Officers (CCSSO), and Achieve, Inc. Results of the international advisory group were released in *Benchmarking for Success: Ensuring U.S. Students Receive a World-class Education* (2008), which outlines what states and the federal government must do to ensure U.S. students receive a world-class education that provides expanded opportunities for college and career success.

Since then, there has been a call to action by a number of groups to reach consensus in developing common state educational standards. To date, 47 states have agreed to join the Common Core State Standards Initiative. The initiative, being jointly led by CCSSO and NGA, calls for standards that are: (a) fewer, clearer and higher; (b) internationally benchmarked; (c) evidence-based; (d) aligned with college and career expectations; and (e) inclusive of rigorous content and applications of knowledge through higher order skills

(http://www.corestandards.org). The draft version of the Common Core Standards for English language arts and mathematics, currently being reviewed by experts and states, represent a new and important step in reaching consensus among almost all of the states that improved standards and assessments can lead to better curriculum instructional tools essential to 21st century American education.

Before there was a move to common standards Achieve, Inc. launched the American Diploma Project (ADP) Network to begin to make college and career readiness a priority in the states. Currently working with thirty-five states, ADP devised standards within the language category of the English benchmarks that stipulate that students should "comprehend and communicate quantitative, technical and mathematics information."

Table 3 offers an excerpt from sample language standards for state policymakers to use as a reference when considering adopting common standards. These benchmarks are informed not only by ADP, but also by the subject-area specific literacy in the Standards for Middle and High School Literacy Coaches, which is the product of a collaboration among the International Reading Association, the National Council for Teachers of English, the National Council for Teachers of Mathematics, National Science Teachers Association, and the National Council for the Social Studies. These sample language standards are not offered as a replacement for, but rather as a source for comparison with, current state standards. Note that some literacy skills listed in the table below cut across all subject areas, yet still have content-area-specific elaborations.

3. Develop and revise assessments

Once state standards begin to include content-area specific literacy skills, policymakers can comprehensively review end-of-year assessments to ensure that they dovetail with the new standards. Also, states could make use of the new NAEP frameworks as they examine their assessments, to ensure that the level of demand of state tests approximates that of the NAEP measures.

States should also consider policies for interim assessments during the academic year. Uniform screening, diagnostic and progress monitoring assessments, and a statewide data management system that helps schools use such information are also important steps in the right direction. Access to statewide data on student progress can help inform professional development, guide the selection and distribution of intervention services, and determine the effectiveness of instructional interventions.

4. Improve data collection and use

States also need to commit to improving their data collection and reporting systems. Given the range of assessments and the pressure to collect achievement data, students typically may spend the equivalent of several weeks of the school year taking tests. Because every hour spent in assessment represents an hour lost to instruction, streamlining the collection and use of assessment data is vital to success. States need to work to ensure that the tests they mandate are informative for teachers, students and their parents, not just policymakers.

States can also make better use of existing data at the state level. For instance, comparing the outcomes of districts and schools with similar student populations can serve to identify schools that "beat the odds." Careful evaluations of curricula adoption and state approval of programs and textbooks can also

Reading to Achieve Requires Fewer, Clearer, Higher Standards

"Neither existing standards nor current practices ensure that adolescents have the literacy tools they need. Poor high school graduation rates and high college remediation rates attest to the fact that even students who are meeting current standards are often ill-prepared for the literacy demands of the information economy. Colleges and employers demand sophisticated reading, writing, and thinking skills. Many of these skills cannot be learned by fourth grade or even ninth grade, but most current state standards and their corresponding curricula do not specify or even address these higher level expectations.... Policymakers should ensure the literacy expectations within each content area are made explicit. They should require state departments of education to reevaluate their core content area standards and assessments for explicit literacy knowledge and skills. This type of articulation will enable teachers to incorporate literacy more effectively into their daily instruction. More than just English language arts standards will need to be evaluated. Each content area has its own reading and writing knowledge and skills." (Berman & Biancarosa, 2005, p. 8-16)

TABLE No. 3. | ***Selected Draft Literacy-Specific Content-Area Language Standards for High School Graduation, drawn from the ADP Benchmarks and the Standards for Middle and High School Literacy Coaches***

	English	Mathematics	Science	Social Studies
Standard 1	Demonstrate control of standard English through the correct use of grammar punctuation, capitalization and spelling.			
Standard 2	Use print and electronic general dictionaries, thesauri and glossaries to determine the definition, etymology, spelling and usage of words	Use print and electronic *specialized* dictionaries, thesauri, glossaries, *and resources (including theorems)* to determine the definition, etymology, spelling and usage of words	Use print and electronic *specialized* dictionaries, thesauri, glossaries, *and resources (including tables like the periodic table of elements)* to determine the definition, etymology, spelling and usage of words	Use print and electronic *specialized* dictionaries, thesauri, and glossaries to determine the definition, etymology, spelling and usage of words
Standard 3	Identify the meaning of common idioms, as well as literary, classical and biblical allusions; use them in oral and written communication *e.g., Homeric, Herculean, pentameter, before the flood*	Identify the meaning of words that have meanings specific to the field of mathematics and words that exist solely in mathematics; use them in oral and written communication *e.g., rational, function, tangent, parallelogram*	Identify the meaning of words that have meanings specific to the field of science and words that exist solely in science; use them in oral and written communication *e.g., organic, genetic, dendrite, respiratory*	Identify historical idioms, the meaning of words that have meanings specific to the field of social studies and words that exist solely in social studies; use them in oral and written communication *e.g., Napoleonic, oligarchy, carpetbaggers, 40 acres and a mule*
Standard 4	Recognize nuances in meanings of words; choose words precisely to enhance communication			
Standard 5	Comprehend and communicate technical literary information in oral and written forms	Comprehend and communicate quantitative and mathematical information in oral and written forms	Comprehend and communicate scientific information in oral and written forms	Comprehend and communicate historical, political, and civic information in oral and written forms

ensure that decisions are based on results. In fact, any program that is being adjusted or transformed should be simultaneously monitored to ensure that effective practices can be recognized and extended.

Because many programs are not fully researched, supporting the wise allocation of resources links back to the ideal of using information to make decisions. States should reward districts committing to reforms long enough to gather reliable data about their effects on students and teachers. For instance, ongoing formative evaluations of programs can help determine what works and what does not. Data on both teachers and students can illuminate the level of participation, fidelity of implementation of the program, availability of materials, and satisfaction with the program. Summative evaluations are needed to determine the ultimate impact of a program on student achievement.

Evaluation of professional development models is especially vital, but these models are also inherently harder to assess than instructional interventions. Because the impact of professional development on student achievement is indirect, evaluations must also include data on how the professional development leads to changes in the knowledge of teachers, how that new knowledge changes their instructional practices in the classroom, and finally, how the changes in instruction yield improvements in student achievement. Recent studies have shown that value-added approaches

can be used early in teachers' careers to identify teachers who are most effective in producing student achievement gains (Kane, Rockoff, and Staiger, 2007), although there are also certain conditions that must be in place for these approaches to work (see McCaffrey, Koretz, Lockwood, & Hamilton, 2004).

5. Align instruction with standards and assessments

Although standards and assessments are the two major mechanisms by which states can affect instruction, states can offer instructional guidance and support in other notable ways. Many states play a significant or even determining role in selecting textbooks, which influence instruction just as powerfully as standards or assessments. With carefully revised standards, states will be especially well-positioned to consider literacy demands and supports as they adopt new textbooks and other reading materials in all content areas.

Both teachers and students rely very heavily on textbooks for teaching and learning each subject. Therefore, the level and content of the texts should be carefully matched to assure that they meet and promote improved literacy standards. Content area textbooks also differ widely in how well they support adolescent readers (Kamil, 2010; see sidebar).

6. Support targeted intervention for struggling readers and writers

Well-developed state policies can help schools raise adolescent literacy outcomes by enabling schools to not only improve literacy instruction across the curriculum for all students, but also: a) provide general learning support for some students, and b) provide intensive and targeted interventions for those who need it. Any classroom may include: a handful of students struggling to read simple words aloud, students who read accurately but non-fluently, students who can read texts fluently but comprehend little of what they read, students who can comprehend grade-level text but cannot think critically about what they have read, and yet another handful who are advanced readers (McCombs, Kirby, Barney, Darilek & McGee, 2005). Some of these struggling readers only require an interval of extra instructional time or support to catch up, while others need more intensive interventions. In addition to the students who require general literacy support or intervention, some students may function adequately in ELA reading and writing yet be unprepared to deal with the literacy demands of science, history or math. Most school systems are not currently equipped or motivated to identify such subject-specific variation in literacy skills, despite their importance in learning new content. Developing assessments that specifically assess literacy within content areas (see No. 3 above) is perhaps the best way to aid schools in beginning to recognize and address this problem.

To support struggling readers and writers, states require district literacy plans that use resources to differentiate instruction and extend instructional time as needed. States should also certify and recruit teachers prepared to work with adolescent struggling readers and writers and provide an assessment and tracking system that identifies which students need which kind of instruction.

Specific steps states can take to improve literacy intervention for adolescents include the following:

- Define procedures for districts and schools to identify and intervene with middle and high school students who are not demonstrating grade-level literacy skills within specific content areas, as well as across all content areas.

Selected research-based textbook supports for adolescent readers (based on Kamil, 2010)

- Readability: written materials are decodable for intended grade level
- Comprehensibility: written material is understandable for intended grade level
- Conceptual load: new vocabulary is presented in richly supportive contexts to make meaning easier to derive; depth not breadth of knowledge is emphasized
- Relevance: written materials connect concepts to be learned to real world situations as well as prior content knowledge to engage interest and clarify relevance
- Text structure supports: important ideas are signaled, elaborated, and summarized clearly
- Graphical and multimedia supports: pictures, charts, graphs, and interactive technology are provided as means for supporting comprehension and learning
- Assessment supports: students and teachers are provided with means for assessing student comprehension and learning

- Consider legislation that requires credit-bearing reading intervention classes for students who are reading two or more years behind grade level.
- Fund all the elements essential to making credit-bearing reading intervention classes effective, including diagnostic assessments, hiring teachers to teach those classes, and providing professional development for teachers and schools.
- Develop a system of tracking the response to intervention shown by students receiving supportive or intervention services in order to maintain accountability and to improve the system over time.

7. Improve human capacity across the state

Along with taking firm steps to correct the current widespread misdistribution of teachers in schools (in which the weakest teachers often teach those students with the greatest needs), states possess numerous policy levers with which they can influence the preparation of all teachers to ensure that they are better equipped to provide high quality literacy instruction. Examples include revising the content of state standards for teacher education, requiring state certification exams, monitoring quality in the postsecondary institutions that prepare teachers, and providing both resources and incentives to those postsecondary institutions to improve their programs. States should incorporate literacy specifically into standards for teacher certification and include literacy competencies in all teacher preparation coursework and teacher certification exams. This can best be done by revising minimum teacher qualifications to include subject matter knowledge, basic understanding of literacy development, and the demonstrated ability to teach content-area literacy in middle and high schools. Promoting collaboration between colleges of education and colleges of arts and sciences in the preparation of teachers can also help raise the literacy achievement of all students. One mechanism by which states can encourage such collaboration is through holding state-sponsored meetings with this as a specific goal.

To support the quality in-service embedded professional development that is essential to improving instruction and retaining effective teachers, states can require and provide free state-wide training for content-area teachers in content-area literacy. Likewise, reading teachers could receive free training to help them obtain either a higher-level certification or endorsement in addition to base certification. States might also create incentives for

A Cautionary Tale in State Policy to Improve Teacher Preparation in Adolescent Literacy

In a well-intentioned policy to improve adolescent literacy, California requires secondary school teachers in all subject areas to take a literacy course. In one such course at a state university, the focus of the course is literacy *across* the content area, with the idea that the professor brings the literacy expertise and the students apply it to the specifics of their content areas. Drawing on her knowledge of early literacy development and the experimental evidence on reading instruction, the professor chose a textbook and gave lectures that focused almost exclusively on elements of early reading instruction—these included an entire class devoted to phonics and phonemic awareness as well as several classes devoted to general reading comprehension strategies advocated by secondary English language arts teachers. Unfortunately, because the curriculum did not address the content-area-specific challenges of literacy, teachers in other content areas found the course frustrating and unhelpful. The teachers, several of whom were currently teaching under emergency credentials, recognized that a great number of their students struggled with reading, but they lacked the expertise to adapt the general literacy-teaching techniques being presented in the class to their specific content and texts. One math teacher observed that implementing any of the methods she had learned would require that she throw out the math book and assign short stories instead. Some of the social studies teachers recognized that simply having students answer questions at the end of the textbook was an inadequate response to literacy challenges, but did not know what else to do. The science teachers, in the absence of any compelling argument why they should integrate literacy tasks with science, countered that they would simply avoid reading and writing as much as possible by using real-world demonstrations, videos, and experiments. The course, in its attempt to diffuse research-based reading techniques across the content areas, failed to equip these novice teachers with the skills to address the literacy demands inherently embedded *within* their respective disciplines and in the tasks they considered crucial for their students to accomplish.

content area teachers to obtain advanced training or credentials in the area of adolescent literacy, e.g., loan forgiveness, tuition reimbursement, or pay differentiation for teaching in this critical area.

In supporting teachers, states may choose to fund reading coaches to work with intensive reading teachers as well as with content-area teachers, while making sure to fund coaches adequately, creating state or regional support systems for coaches, and tracking coaches' activities to ensure they are in fact functioning as effective instructional supports to teachers. States that invest heavily in coaching as a professional development model would be well-advised to include funding for ongoing evaluation of the effectiveness of the coaching program.

States must also take action to make sure that principals and superintendents possess an in-depth understanding of both basic and content-area literacy issues. For example, states might organize annual literacy conferences bringing together literacy experts, school principals, district leaders and policymakers (see the state cases for further examples). Without informed leadership and support from administration, teachers' work will be stymied.

State Case 1: Florida

Florida's efforts to improve adolescent literacy began back in 2002 when the Governor created a state-level office intended to direct a comprehensive, pre-K-12 reading plan for the entire state: Just Read! Florida (JRF). JRF is charged to:

(1) Train highly effective reading coaches.
(2) Use scientifically based reading research to define effective reading instruction, with accompanying credentials for teachers, and encourage all teachers to integrate reading instruction into their content areas.
(3) Train K-12 teachers and school principals on effective content-area-specific reading strategies. For secondary teachers, emphasis shall be on technical text. These strategies must be developed for all content areas in the K-12 curriculum.
(4) Provide parents with information and strategies for assisting their children in Reading in the content area.
(5) Provide technical assistance to school districts in the development and implementation of district plans for use of the research-based reading instruction allocation provided in s. 1011.62(8) and annually review and approve such plans.
(6) Review, evaluate, and provide technical assistance to school districts' implementation of the K-12 comprehensive reading plan required in s. 1011.62(8).
(7) Work with the Florida Center for Reading Research to provide information on research-based reading programs and effective reading in the content area strategies.
(8) Periodically review the state curriculum standards for reading at all grade levels.
(9) Periodically review teacher certification examinations, including alternative certification exams, to ascertain whether the examinations measure the skills needed for research-based reading instruction and instructional strategies for teaching reading in the content areas.
(10) Work with teacher preparation programs approved pursuant to s. 1004.04 to integrate research-based reading instructional strategies and reading in the content area instructional strategies into teacher preparation programs.
(11) Administer grants and perform other functions as necessary to meet the goal that all students read at grade level.

FUNDING

To ensure a long-term commitment to academic literacy in K-12, in 2006 the Florida legislature, former Governor Jeb Bush, and the State Board of Education designated a permanent budget allocation in the state education finance program. This provision ensures that reading education is a permanent part of the annual state funding formula. To gain access to reading funds, districts must submit a K-12 comprehensive, research-based reading plan.

COMPREHENSIVE DISTRICT PLANNING

Districts are required to develop K-12 reading plans that must have provisions for (1) leadership and monitoring, (2) professional development (PD), and (3) instruction and achievement. Under leadership and monitoring, plans must delineate expectations and how performance matches up to those expectations. District and school leaders must guide and support the reading plan and monitor general instruction and intervention

efforts. In addition, the plan must specify clearly the roles of principals, reading coaches, and teachers in the district plan. Under professional development, districts must ensure that the plan is delivered by qualified providers, targeted to identified student needs, aligned with research-based practices and state standards, and available at various expertise levels (from basic PD for novices through advanced PD for mentors). Coaches and mentor teachers are considered a central component of professional development efforts. Finally, under instruction and achievement, district plans must align instruction with reading research and include a process by which assessment continually informs intervention. Instructional materials, activities, and strategies should rely on research. Measurable student achievement goals must also be set. In addition, a range of reading interventions is required, including intensive reading intervention, support for reading in the content areas, and out-of-school supports such as before- and after-school programs and summer reading programs. In addition to these three components of the reading plan, plans must demonstrate that the analysis of data drives all decision-making.

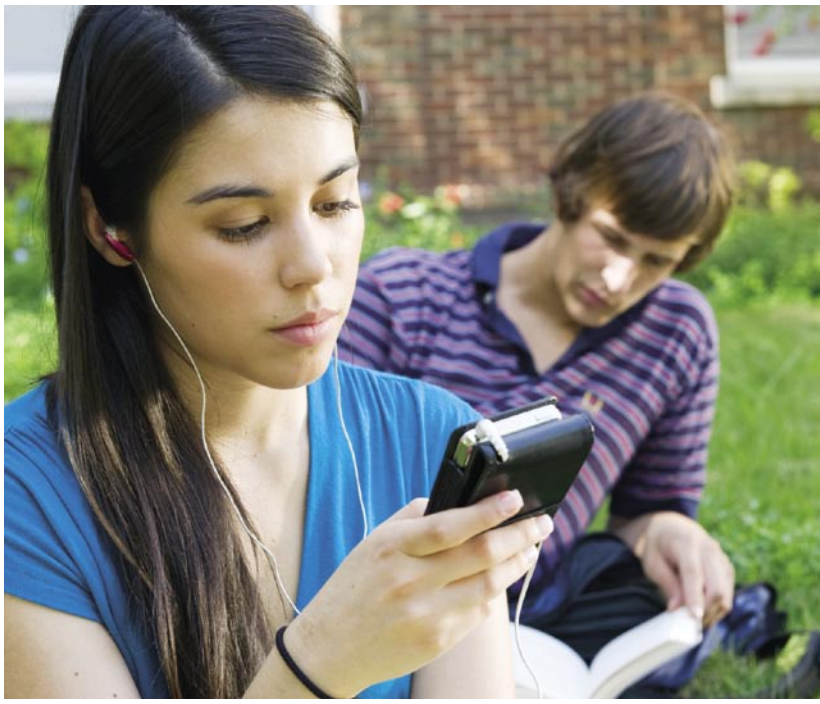
SUPPORTING DATA-DRIVEN DECISION-MAKING AND INSTRUCTION

To help support data-driven decision-making, the state designed the Progress Monitoring and Reporting Network (PMRN). PMRN is web-based and is a means of reporting and analyzing Reading First assessment results. It has been made available to Florida schools in stages, beginning with elementary schools in 2003, extending to middle schools in 2005, and high schools in 2007.

Florida also provides free reading diagnostic assessments to K-12 schools. Addressing the lack of oral reading fluency measures beyond sixth grade, Florida developed its own oral reading fluency progress-monitoring tool specifically for use in grades 6-12.

COACHING

One of Florida's key investments has been in reading coaches. The Reading Coaches Initiative provides funds for hiring coaches to work in schools K-12. This initiative began in 2003 in elementary schools and was extended to middle schools in 2004. The middle school coaching effort was directed at schools performing



in the lowest half on state tests. In 2005, the Florida Reading Coaches Association was founded to provide coaches with a statewide network of colleagues, support, and ongoing professional development.

While it is not required that district reading plans provide every school with a coach, district leadership is required to allocate resources to hire coaches for schools determined with the greatest need based on student performance data, administration and faculty receptiveness to coaching, and administration and faculty experience and expertise in reading assessment, instruction, and intervention. Governor Crist has recently expanded Florida's coaching effort by announcing the intention to place a reading coach in every Florida public school.

The district must also ensure that the number of funded reading coaches (whether funded state, federal, or locally) is maintained or increased over the previous year. All coaches report their time in PMRN the Progress Monitoring and Reporting Network (PMRN) on a biweekly basis. Throughout the school year, principals and district reading contacts regularly review coaches' log entries with the aim of supporting, rather than evaluating, the coach.

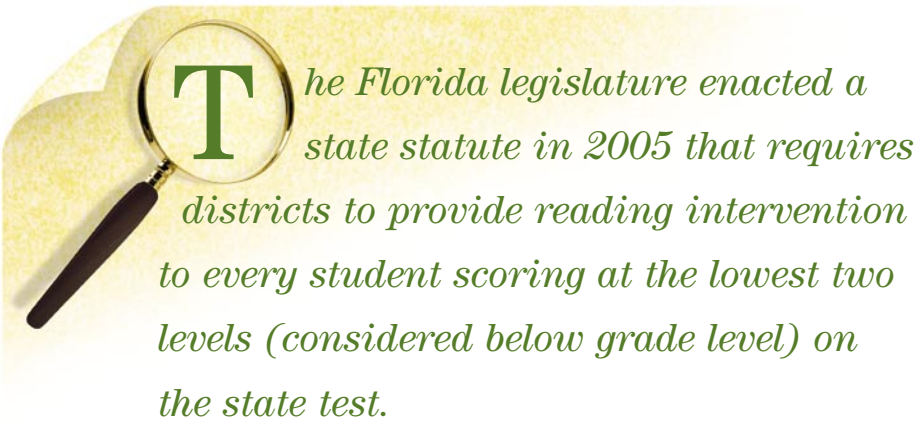
PROFESSIONAL DEVELOPMENT

Florida has invested in many strains of professional development. To seed leadership in adolescent literacy,

JRF instituted an annual leadership conference for principals and reading coaches. JRF also runs "Reading Academies" for teachers as a means of providing intensive training that coaches can follow up on during the school year. This effort began with a K-3 focus, but is now K-12.

In addition to training coaches, Florida offers an endorsement on teaching certifications that designates special expertise in reading. This endorsement, or a K-12 reading certification, is required for teachers to be able to teach academic reading courses in grades 6-12.

More recently, JRF has instituted a Content Area Reading Professional Development series (CAR-PD) aimed specifically at content area teachers in grades 6-12. The series components include a face-to-face academy, online professional development, and a practicum. Completion of the series makes a teacher eligible to serve as a reading intervention teacher in his or her content area. The face-to-face academy and practicum are being developed and delivered by the Florida Literacy and Reading Excellence (FLaRE) Center. Although participation in CAR-PD does not earn teachers a reading endorsement, it does count toward recertification, and teachers have the option of completing the reading endorsement.



INSTRUCTION AND INTERVENTION

Florida requires schools in districts with reading plans to offer classroom instruction in reading in a dedicated, uninterrupted block of time of at least 90 minutes. Florida's Comprehensive Core Reading Program (CCRP) requires a third to a half of this block, and the remainder is expected to be devoted to differentiated instruction focusing on individual student needs. Students requiring intensive intervention as determined by progress monitoring and other forms of assessment may have this block expanded by the classroom teacher, special education teacher, or reading resource teacher.

The state has also developed a web-based tool, called Literacy Essentials and Reading Network (LEaRN), that helps teachers investigate research-based instructional strategies for their K-12 students in the five NCLB-defined components of reading. This tool provides information about and video demonstrations of instructional and assessment strategies, as well as access to expert commentary and professional references. Teachers, coaches, and principals all have online access to LEaRN.

The Florida legislature enacted a state statute in 2005 that requires districts to provide reading intervention to every student scoring at the lowest two levels (considered below grade level) on the state test. Intervention must rely on research-based instruction. Moreover, achievement goals for these students are required to address their individual needs, and progress towards those goals should be measurable. The guidelines provided for districts, schools, principals, and teachers by K-12 Reading plans are required to be aligned with Response to Intervention (RTI) approach, particularly in the use of high quality assessments to monitor progress and identify students in need of more powerful instruction; and the design and delivery interventions that are responsive to student needs on an ongoing basis. These requirements ensure that student intervention occurs and is individualized and that districts are held accountable.

OUTCOMES

Florida was one of among only six states that made significant improvements between 1998 and 2007 in the percentage of students scoring proficient or above on the NAEP (Lee et al., 2007). Florida was also one of the six states that demonstrated improvement between 2005 and 2007 and the only state to show

improvement in both comparisons (1998 vs. 2007 and 2005 vs. 2007). Most tellingly, since JRF was instituted in 2002, Florida has made moderate to large improvements in both the percentage of students scoring proficient on the state test and in the percentage of students scoring at the basic level or above on NAEP (CEP, 2008).

State Case 2: Massachusetts

The state of Massachusetts usually outperforms most of the other US states in assessments of reading at all grade levels. Massachusetts also has among the highest rates of high school graduation and post-secondary completion. Despite these accomplishments, the state acknowledges that achievement gaps between more and less privileged groups persist and that America as a whole is falling behind the rest of the world in educational achievement (Commonwealth of Massachusetts, 2008). As a result, the state has vigorously pursued improving student achievement.

Back in 2000, the Massachusetts State Department of Education (DOE) created a statewide Office of Reading with a commitment to improving reading in students of all ages in the Commonwealth of Massachusetts. The Office is held accountable to the Commissioner of Education and oversees reading initiatives from pre-kindergarten through college. In 2006, the DOE received a grant from the National Governors Association (NGA) Center for Best Practices to convene an adolescent literacy task force to recommend objectives for a five-year strategic plan to improve literacy achievement in grades 4-12 across the Commonwealth. By 2012, it is anticipated that the fully implemented literacy plan will be instrumental in helping all students achieve proficiency and beyond in reading, writing, and language development and prepare all students for success in college and the workplace.

REVISING STANDARDS

The task force recommended that both English language arts (ELA) and content area standards be revised to reflect current research regarding the language and literacy skills that students need to be proficient readers and writers across the content areas from pre-kindergarten through twelfth grade. The Massachusetts Curriculum Frameworks are seen as the linchpin of the state's educational system in that both instruction and assessment are aligned to them.

The ELA standards were last revised in 2001 and their revision was seen as critical especially because of recent publications offering new guidance for appropriate adolescent literacy standards. Specifically, the task force recommended consulting the College Board's recently published ELA standards for college success (2006), as well as recent publications by ACT and Achieve, Inc., so that standards would reflect up-to-date knowledge about what adolescents need to know.

The task force also called for the revision of the frameworks in mathematics, science and technology/engineering, history and social sciences, arts, foreign languages, and health to specify the integration of disciplinary literacy skills and content area knowledge. As an example of the sort of specification they had in mind, the science and technology/engineering standards, which were revised in 2006, were offered as an example. The revised standards include the following guiding principle: "An effective science and technology/engineering program builds upon and develops students' literacy skills and knowledge" (Massachusetts Department of Education, 2001/2006, p. 15). This principle is elaborated as follows:

> Reading, writing, and communication skills are necessary elements of learning and engaging in science and technology/engineering. Teachers should consistently support students in acquiring **comprehension skills and strategies**, as well as **vocabulary**, to deepen students' understanding of text meaning. Science and technology/engineering texts contain specialized knowledge that is organized in a specific way. For example, scientific texts will often articulate a general principle that describes a pattern in nature, followed by evidence that supports and illustrates the principle. Science and technology/engineering classrooms make use of a variety of text materials, including textbooks, journals, lab instructions, and reports. Texts are generally informational in nature, rather than narrative, and often include high proportions of facts and terms related to a particular phenomenon,

process, or structure. Teachers should **help students understand that the types of texts students read, along with the purpose(s) for reading these texts, are specific to science and technology/engineering.** Supporting the development of students' literacy skills will help them to deepen their understanding of science and technology/engineering concepts.

Students should be able to **use reading, writing, and communication skills to enhance their understanding of scientific and technological/engineering text materials, including informational text, diagrams, charts, graphs, and formulas;** communicate ideas; and apply logic and reasoning in scientific and technological/engineering contexts. Students should be able to use a variety of texts to distinguish fact from opinion, make inferences, draw conclusions, and collect evidence to test hypotheses and build arguments. **Successful development of these skills requires explicit opportunities to develop literacy skills and knowledge.** (Massachusetts Department of Education, 2001/2006, p. 15, emphases added)

In addition to revising the ELA and content area standards, the task force also stressed that revision of the standards needs to be accompanied by supporting documents that elaborate the ideas in the standards and professional development to support teachers in the adoption of the standards. Consequently, the literacy plan laid out a detailed plan to accomplish revisions, supporting documentation, and professional development for ELA by fiscal year 2010 and for each of the other content areas by 2012.

ENHANCING THE STATE TESTING SYSTEM

In detailing its recommendation for improving the statewide testing system, the task force followed recommendations from *Reading Next* (Biancarosa & Snow, 2004) suggesting a re-examination of both summative and formative assessments. Regarding summative assessments, the task force acknowledged that the state's accountability assessment developers have tried to minimize the literacy demands of content area assessments in an attempt to target content knowledge, but argued that such tests may not adequately represent the literacy demands of real life or of the content areas themselves. For example, textbooks are often extremely challenging to read, particularly at higher grade levels. Therefore, the task force argued that expository text should be better represented on the ELA state tests. In addition, the task force supported revising content area assessments so that they are aligned to the revised standards and the explicit literacy demands associated with each content area to ensure that students receive a thorough education in the content areas and are able to negotiate content-heavy texts beyond graduation. Although the task force strongly recommended that literacy skills be integrated into the summative assessment of content areas, it also noted that whether and how this is done using summative and/or formative assessments "will require significant discussion and consideration by representative groups of informed stakeholders" (Adolescent Literacy Task Force, 2006, p. 25). Revisions to the ELA assessment are due to be completed by 2009, and revisions to the content areas assessments are set for completion by 2013.

The task force also highlighted the lack of a uniform set of assessments in the state beyond the state accountability assessments. As a result, the assessments used, whether formative or summative, can vary dramatically from district-to-district and depending on district policies even from school-to-school within districts. The task force specifically noted the lack of diagnostic assessments for adolescents; once adolescents perform poorly on a state assessment, there are few or no options for understanding why, which prevents targeted intervention. As a result, the task force recommended that an assessment framework be developed for the adolescent years akin to that developed for K-3 in Massachusetts. The framework should detail the types of assessments, if not specific assessments, for several purposes, including: (1) group-administered screening assessments for identifying students likely to struggle with the curriculum at the beginning of the school year; (2) progress-monitoring assessments to guide instruction throughout the academic year and identify students who are not progressing adequately; (3) diagnostic assessments to provide detailed information about individual students' strengths and

needs in reading and writing; and (4) summative, or outcomes, assessments given at the end of the school year, including but not limited to the state accountability tests, which can be used along with screening assessments to identify students in need of intervention. Moreover, the task force strongly recommended the investigation of computer-adaptive assessments because of the wide range of strengths and needs found in adolescents. Guidance documents are due to be completed by 2009, with associated regional professional development to support its implementation delivered in the 2009-2010 academic year. Finally, the task force called for a three-year evaluation of the new system's efficacy.

BUILDING EDUCATOR CAPACITY

The Massachusetts PreK-12 Literacy Plan calls for building capacity for exemplary literacy instruction by revising state licensure regulations, the state teacher exams (as necessary), and educator preparation programs. The goal is not only to improve teachers' capacity to deliver effective literacy instruction and to become literacy leaders, but also potentially to establish a literacy coaching pathway. The task force's recommendations emphasize that teachers develop throughout their careers and that therefore professional development should occur throughout this continuum and acknowledge the varying levels of knowledge needed (and already acquired) at each stage in an educator's career. As part of this work, the DOE should review its current licensure requirements for literacy specialists and weigh the merits of creating a literacy coach credential. As part of the deliberations, the task force recommended the DOE consider whether literacy coaches should be its own license or an additional endorsement to the literacy specialist license based on years of experience as a literacy specialist, professional development in coaching, and practical experience coaching.

In addition, the plan calls for the establishment of the "Massachusetts Statewide Center for Excellence in Literacy," which would serve as a resource for teacher educators, providing sample syllabi for different levels of professional preparation and development courses and identifying model practices and programs. The Center would represent a collaboration between the DOE and partner higher education institutions.

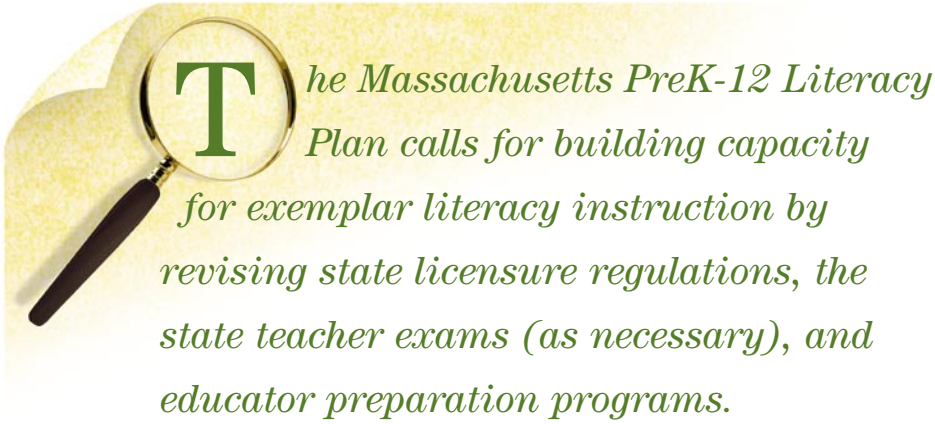
SEEDING LEADERSHIP

To build leadership in literacy statewide, the task force recommended a permanent state preK-16 literacy team be established. The team would consist of stakeholders from government, preK-12 education, higher education, educator organizations, businesses, and foundations. Their charge would be to disseminate information about literacy via a media campaign and to conduct periodic focus groups both to obtain feedback and provide information to the broader public.

INSTITUTIONALIZING ADOLESCENT LITERACY

To support the ongoing identification and communication of up-to-date knowledge on adolescent literacy in general and supporting struggling adolescent reader and writers, the task force called for a number of changes, only some of which are described here.

It recommended the creation of an Adolescent Literacy Coordinator, who would oversee the state's adolescent literacy initiatives. The task force also recommended the creation of a regional network of professional development facilitators who specialize in adolescent literacy, either as DOE employees or as contracted consultancies with individuals and/or higher education institutions. Additionally, the task force recommended that the state offer adolescent literacy professional development through a series of awareness meetings and institutes.



The Massachusetts PreK-12 Literacy Plan calls for building capacity for exemplar literacy instruction by revising state licensure regulations, the state teacher exams (as necessary), and educator preparation programs.

The task force also called for an expansion of the Massachusetts Secondary School Model. As part of this model, the Office of Reading has devoted one million dollars annually to funding underperforming schools, which have a high percentage of "struggling readers" and students with special needs. Each school funded is expected to create a reading leadership team, analyze the reading needs of all students, evaluate current school reading practices using current research, and create a multi-year literacy action plan to address overlooked elements and to provide support for struggling students. This program also requires the involvement of the entire school faculty, incorporation of reading across the content areas and the use of diagnostic assessment and multiple targeted interventions designed to meet the varied needs of struggling adolescent readers. Originally initiated in spring 2003 with a cohort of 24 middle and high schools, it included a new cohort of 29 schools in spring 2005 and a third cohort of 12 schools in winter 2006. The cohorts meet several times each year to discuss adolescent literacy research, reflect on their schools' needs and practices and share success stories.

The task force also recommended that a regulation be set that requires any student not scoring proficient on the state ELA test to receive an additional 90 minutes of literacy instruction and/or intervention daily. On a related note, the task force also urged the DOE to establish a statewide definition of adolescent struggling readers and writers, to conduct an inventory of interventions currently in use in middle and high schools, and to research effective interventions. The results would help the DOE develop guidance for flexible school-based processes for identifying and intervening with struggling adolescents. The task force called for the guidance to include typical profiles of struggling adolescent readers and writers and the interventions most suited to different profiles.

Finally, to fiscally support these efforts, the task force recommended establishing a state budget line item to support adolescent literacy improvement in underperforming middle and high schools, with a priority set for research-based and data-driven approaches. The task force also recommended ongoing identification of additional and outside funding sources. Each of these reforms is targeted to be completed by 2012.

A Call to Action

5

Where to Begin

Over the last 40 years our nation's adolescent literacy rates have stagnated. Recent successes in improving early literacy are a good start, but good early literacy instruction is only a foundation, not the whole structure. We must now reengineer our nation's schools to support adolescent learning and the ambitious goal of "literacy for all." Our goal must be to build a national movement from schools to the White House that support young people in becoming engaged and competent readers.

The status quo in middle and high schools in America is based on a 20th century vision of the literacy and skills needed to succeed after high school. But the fact is that high school graduates today face higher expectations in the new global knowledge economy than ever before. To become fully literate, college and work-ready citizens, our students must receive explicit instruction in content-area reading and writing.

Only a systematic approach will work. Such an approach includes giving teachers new instructional tools and formative assessments, encouraging schools and districts to collect and use information about student performance more efficiently, and calling upon state level leaders to maximize the use of limited resources in a strategic way. Accordingly, the Council on Advancing Adolescent Literacy recommends the following priority action steps.

Actions for School Leaders

School leaders are always at the forefront of educational reform. Many school leaders are teachers themselves, or have taught in the past. They work with young people every day, and so are often the first to grasp the crucial importance of fully supporting adolescent literacy and learning. Given this role, they should:

- Make advancing the literacy of *all* students a priority. Schools should be intentionally designed to focus on literacy outcomes of students because literacy cuts across all content areas. The school case examples included in this report all share a systemic commitment to making literacy a priority among all teachers, staff, and administrators, and even in some cases in the surrounding community. Consistent leadership and a shared vision are indispensable. Involve everyone and hold them accountable to *jointly-constructed literacy goals.*
- Make commitment to the vision and goals a priority when hiring and training teachers.
- Hire capable teachers trained to teach reading and writing. Teachers should have more than one literacy course in their repertoire.
- If incoming teachers lack the know-how to teach literacy effectively across the content areas (and most do), provide the in-service support they will need to gain this know-how.
- Encourage existing faculty to pursue advanced coursework in adolescent literacy and to become active in planning in-service professional development that addresses local problems of practice. Seek out help as needed from national organizations, such as the National Writing Project and National Council for Teachers of English, and from local universities and colleges. In short, equip teachers to become literacy leaders in their schools. Ensure that professional development is sustained, coherent, and comprehensive, meeting the needs of veteran and new teachers alike.
- Align resources to ensure that efforts are suitably supported. Offer incentives to literacy teacher-leaders.
- Create conducive schedules to allow teacher teams to meet and discuss student data and progress. Teams should focus on developing a coherent school-wide approach to intervening with struggling students (both those who are just below and those far below grade-level goals) and to supporting advanced literacy across the content areas for all students. Intra- and inter-department plans and individual learning plans should take precedence.
- Set up school wide screenings of all entering students and conduct an inventory of the instructional and intervention options available to get the necessary information for accurate literacy programming. A portfolio of assessments and interventions should be available to meet students' needs as early as possible in their school careers (see Deshler, Palinscar, Biancarosa & Nair, 2007, for documentation of the many instructional resources available).
- Ensure that existing resources are being optimally distributed and that students assigned to the various programs are indeed benefiting from instruction.

Actions for District Leaders

Given the vital role district leaders play in making sure that *all* the schools in their districts share common goals and provide the same overall quality of instruction for students, they should:

- Make advancing the literacy of all students a priority. Set a clear and focused agenda for schools, principals and teachers around literacy, and not let the prospect of reorganizing districts to do so be hindrance. Although this report presented only one district case due to the length and detail involved in adequately representing district-level change, other districts can and have instituted similar adolescent literacy revolutions (e.g., Union City, NJ; Madison).
- Ensure that formative and summative assessment data are captured in a central place, that data is reported in a timely and useable fashion to schools, and that professional development works in response to data. As a consequence of NCLB, vast amounts of data on every student in every school in every district are constantly being collected and recorded; transforming that database into a coherent information resource should be a top priority for district leaders. In some districts, this will mean introducing or upgrading the data management system, streamlining the assessment plan, ensuring timely availability of test scores to the schools, and providing guidance on how to access, analyze, and interpret the available data.
- Provide professional development on good data use for principals, literacy coaches, and teacher-leaders.
- Place the strongest literacy principals and teachers in schools with the greatest number of struggling readers, offering incentives when necessary.
- Offer support programs for principals, such as study groups and mentoring relationships targeted around the particular issues of improving instruction in literacy.

- Require all teachers to take a course in literacy in their content-area during the first three years of employment or for re-certification.
- Require that professional development is embedded in the work of teachers, coherent with instructional priorities, sustained over long periods, and subject to accountability procedures.
- Provide schools with rich information about available professional development, programs, curricula, and textbooks. Systematically accumulate information about them and evaluate their implementation and impact to better inform future adoptions.
- Consider that many students at any grade level are not reading at grade level when purchasing text book materials. Classrooms should provide access to a wide variety of high-interest lower-readability supplemental materials to support instruction. Provide schools with recommendations and funding for such materials.

Actions for State Leaders

Given the power of state leaders in defining just what is taught and how it is taught throughout their states, as well as in other vital educational matters such as professional development protocols, setting standards and gathering assessment data, they should:

- Align the content of state standards to models suggested in this volume and elsewhere (e.g., the International Reading Association adolescent literacy coaching standards, ADP high school standards).
- In order to move towards a common, national understanding of literacy expectations, align the challenge level of the state tests to NAEP and to tests in states making progress on NAEP outcomes, such as Florida and Massachusetts (see Snow, Martin, & Berman, 2008).
- Work to revise teacher certification standards, content of pre-service education, and professional development and support to districts. If possible, focused changes in the content and structure of pre-service teacher education should be undertaken simultaneously, because students will find it easier to meet new and higher standards if their teachers have been given new and better instructional tools.
- Define and provide mechanisms for districts and schools to identify and intervene with middle and middle and high school students who are not demonstrating grade-level literacy skills within specific content areas, as well as across all content areas.
- Require credit-bearing reading intervention classes for students who are reading two or more years behind grade level. Fund all the elements essential to making those classes effective, including diagnostic assessments, hiring teachers to teach those classes, and providing professional development for those teachers and the broader school faculty.
- Build statewide data systems to ensure that data collected from districts are captured in a central place. Enable links between district databases so that assessments and instructional plans are available when students cross district lines. In some states, this will mean introducing or upgrading the data management system and providing guidance on how to access, analyze, and interpret the available data.
- Develop a system of tracking the response to intervention shown by students receiving supportive or intervention services, in order to maintain accountability and to improve the system over time.
- States that have already launched adolescent literacy initiatives should institutionalize them while conducting ongoing evaluations to ensure they keep working well.

Actions for Federal Policymakers

While federal legislation historically has adopted a "hands off" approach to school-school based practices in the past, we have seen that a more active role, particularly around policies that have the potential to impact classroom practices based on sound research, can have indelible impact on teachers and a nation of readers (i.e., Reading First). Strong federal legislation needs to be crafted to support middle and secondary school to ensure many more of our young people graduate high schools and are well prepared for postsecondary education and equally prepared for the workforce. A funding stream squarely focused on middle and high schools should include the following:

- Increasing Title I support for middle and high schools or creating a new funding stream. At the moment only five percent of federal Title I funds go to middle and high schools. If the nation is to remain competitive we must in increase high school graduation and college-going rates among our most disadvantaged students. An infusion of resources at the secondary level focused on higher levels of literacy and is critical

to making this happen. As we have mentioned, an "inoculation" in primary grades does not ensure students will do well in secondary schools.

- Developing common standards. In a globalized economy we need world-class common standards and assessments. Common standards in English language arts will help to increase attention to reading and writing, but focus on reading and writing as employed in the content areas can also be embedded in other content area standards. Common standards discussion will also accelerate the development of high quality assessments for secondary school students.
- Investigate the costs and benefits of linking the National Assessment of Educational Progress (NAEP) to international literacy tests, such as the Program for International Student Assessment (PISA) and Progress in International Reading Literacy Study (PIRLS). While NAEP has been an indispensable measure for tracking America's educational progress, it provides no sense of how America stands in relation to other nations. Funding an effort to equate long-term trend NAEP test with PISA and PIRLS would allow us to get an instant snapshot not only of how today's youth perform in relation to yesterday's youth, but also how America's youth perform in relation to the larger world's youth. With the rapidly changing face of the 21st century economy, we need accurate and timely information on America's educational standing.
- Developing literacy demonstration sites in high poverty areas that can implement best practices and proven strategies for what works in middle and high schools. This is particularly important for districts that need to coordinate their professional development professional development efforts to effectively work with content area teachers to embed literacy into their domain areas.
- Supporting states in their efforts to build comprehensive preK-12 literacy plans. While almost all states have made K-3 literacy plans, we need to ensure that all states have strategic literacy plans for grades 4-12 in reading and writing and are systemically working with school districts to ensure all schools have a way of embedding literacy in their designs. Federal resources can help to establish efforts similar to those run by the National Governors Association's Reading to Achieve: State Policies to Support Adolescent Literacy and High School Honor States—to help states develop adolescent literacy plans (Snow, Martin and Berman, 2008).
- Additional support to improve the education of middle grade students in low-performing schools by developing and utilizing early warning data systems to identify those students most at-risk of dropping out, assisting schools in implementing proven literacy interventions, and providing the necessary professional development and coaching to school leaders and teachers. Early intervention is necessary at the middle school level so that we can catch students who are showing early warning signs of struggle that could lead to failure.
- Increase support for the National Writing Project (NWP). NWP has been one of the most coherent literacy professional development efforts in the nation for over 30 years. The NWP's substantial network of 175 sites is now in every state, including Washington DC, Puerto Rico and Guam. NWP has also begun a National Adolescent Reading Initiative to complement its work in writing. Increased support for NWP will ensure that the research-based methods used in reading and writing in secondary schools are infused in a large number of school and districts across the country.
- Fully fund and expand Striving Readers for a comprehensive preK-12 continuum with specific support set aside for grade 4-12 adolescent literacy so that more students and their teachers have access to federal support. Fully funding Striving Readers would improve literacy skills by helping every state, district, and school develop comprehensive literacy initiatives to ensure that every student reads and writes at grade level.
- Increase federal funding for adolescent literacy research. There are a number of questions to which a robust and well-funded research effort could provide answers, with the prospect of immediate improvement in adolescent literacy outcomes. We know we need to intervene with students as soon as they begin to fail and to individualize instruction. We don't yet know what the best strategies are for particular types and levels of failure. It is therefore critical that funding for research in middle and high schools be increased to fund research at NICHD and IES that could demonstrate how best to assess adolescents quickly and efficiently in order to determine their need for intervention and/or support, what works for

older readers, and what some of the most productive strategies are for struggling readers. The American Recovery and Reinvestment Act is an exciting opportunity for much of education but it makes little reference to English-language learners. ELLs deserve more research attention, particularly on the issues of language proficiency and academic content needs. Research into the impact of different approaches to teacher education and professional development and making a sustained effort to find the best design of vocabulary and comprehension instruction for ELLs and other struggling readers is a critical necessity.

Conclusion

As adolescents grapple with more complicated texts and learning demands in school, teachers must be able to offer ongoing literacy instruction that goes far beyond the "basic literacy" taught to younger children. By helping adolescents to meet the new literacy challenges of middle and high school we will enable them to become self-motivated lifelong learners. *All* of our nation's young people must have the opportunity to graduate from high school fully ready for the challenges of college learning and employment in the global knowledge economy.

By using our current knowledge in a targeted and systematic way, we can equip our young people to take charge of both their learning and their lives. We already know more than enough to raise the level of adolescent literacy and learning achievement in our schools.

The time to act is now.

APPENDIX A

Bibliography

Carnegie Corporation of New York's Advancing Literacy Initiative: Works and Commissioned Papers

Most available at: www.carnegie.org/literacy

Chronology

2010

Irvin, Judith. L., Meltzer, Julie, Dean, Nancy, & Mickler, Martha, J. (2010). *Taking the Lead on Adolescent Literacy: Action Steps for School and District Leaders*.Thousand Oaks, CA: Corwin Press.

Kamil, Michael. (2010). *Adolescent Literacy and Textbooks: An Annotated Bibliography.* New York, NY: Carnegie Corporation of New York.

Lee, Carol D., and Spratley, Anika. (2010). *Reading in the Disciplines: The Challenges of Adolescent Literacy.* New York, NY: Carnegie Corporation of New York.

Levin, Henry M., Catlin, Doran, and Elson, Alex. (2010). *Adolescent Literacy Programs: Costs of Implementation.* New York, NY: Carnegie Corporation of New York.

Moje, Elizabeth Birr, and Tysvaer, Nicole. (2010). *Adolescent Literacy Development in Out-of-School Time.* New York, NY: Carnegie Corporation of New York.

Morsy, Leila, Kieffer, Michael, and Snow, Catherine. (2010). *Measure for Measure: A Critical Consumers' Guide to Reading Comprehension Assessments for Adolescents.* New York, NY: Carnegie Corporation of New York.

2009

Haynes, Mariana. (2009). *Issues in Brief: State Actions to Improve Adolescent Literacy, Results from NASBE's State Adolescent Literacy Network*. Arlington, VA: National Association of State Boards of Education. http://nasbe.org.

Irvin, Judith L., Meltzer, Julie, Mickler, Martha J., Phillips, Melvina P., & Dean, Nancy. (2009). *Meeting the Challenge of Adolescent Literacy: Action Steps for Literacy Leaders*. Newark, DE: International Reading Association. http://www.reading.org

2008

Cobb, Velma, Meltzer, Julie, and William, Martha. (2008). *Mobilizing Communities to Support the Literacy Development of Urban Youth: A Conceptual Framework and Strategic Planning Model*. New York, NY: National Urban League and Center for Resource Management. http://www.nul.org.

Guglielmi, R. Sergio. (2008). Native Language Proficiency, English Literacy, Academic Achievement, and Occupational Attainment in Limited-English-Proficient Students: A Latent Growth Modeling Perspective. *Journal of Educational Psychology*, *100*, 2, 322-342.

Harvard University. (2008). Adolescent Literacy, Cambridge, MA: *Harvard Educational Review*, *78*, 1. http://www.hepg.org.

Marsh, Julie A., Sloan McCombs, Jennifer, Lockwood, J.R., Martorell, Francisco, Gershwin, Daniel, Naftel, Scott, Le, Vi-Nhuan, Shea, Molly, Barney, Heather, and Crego, Al. (2008). *Supporting Literacy Across the Sunshine State: A Study of Florida Middle School Reading Coaches*. Santa Monica, CA: RAND. http://www.rand.org.

2007

Batalova, Jeanne, Fix, Michael, and Murray, Julie. (2007). *Measures for Change: The Demography and Literacy of Adolescent English Learners*. Washington DC: Migration Policy Institute. http://www.migrationpolicy.org.

Calderón, Margarita. (2007). *Teaching Reading to English Language Learners, Grades 6-12: A Framework for Improving Achievement in the Content Areas*. Thousand Oaks, CA: Corwin Press

Deshler, Donald D., Palincsar, Annemarie Sullivan, Biancarosa, Gina, and Nair, Marnie. (2007) *Informed Choices for Struggling Adolescent Readers: A Research-based Guide to Instructional Programs and Practices, Commissioned by Carnegie Corporation of New York*. Newark, DE: International Reading Association. http://www.reading.org.

Graham, Steven, and Perin, Dolores. (2007). A Meta-Analysis of Writing Instruction for Adolescent Students. *Journal of Educational Psychology*, *99*, 3, 445-476.

Graham, Steven, and Perin, Dolores. (2007). *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools*. Washington, DC: Alliance for Excellent Education. http://www.all4ed.org.

Heller, Rafael, and Greenleaf, Cynthia L. (2007). *Literacy Instruction in the Content Areas: Getting to the Core of Middle and High School Improvement*. Washington, DC: Alliance for Excellent Education. http://www.all4ed.org.

Irvin, Judith L., Meltzer, Julie, and Dukes, Melinda S. (2007). *Taking Action on Adolescent Literacy: An Implementation Guide for School Leaders*. Alexandria, VA: Association for Supervision and Curriculum Development. http://www.ascd.org.

Short, Deborah, and Fitzsimmons, Shannon. (2007). *Double the Work: Language Acquisition and Academic Literacy for Adolescent English Language Learners*. Washington, DC: Center for Applied Linguistics. http://www.cal.org.

2006

Henríquez, Andrés. (2006). Principals Can Help Improve Literacy for English Learners. *National Association of Secondary School Principals NewsLeader*, December 2006. http://www.nassp.org

Guensberg, Carol. (2006). Why Johnny (Still) Can't Read: Creative Educators Push to Boost Adolescent Literacy. *Edutopia*, *2*, 1. San Francisco, CA: The George Lucas Educational Foundation. http://www.edutopia.org

International Reading Association in Collaboration with National Council of Teachers of English, National Council of Teachers of Mathematics, National Science Teachers Association, National Council for the Social Studies. (2006). *Standards for Middle and High School Literacy Coaches*. Newark, DE: Author. http://www.reading.org

Salinger, Terry, and Bacevich, Amy. (2006). *Lessons & Recommendations from the Alabama Reading Initiative: Sustaining Focus on Secondary Reading*. Washington, DC: American Institutes for Research. http://www.air.org.

National Association of State Boards of Education. (2006). *Reading at Risk: The State Response to the Crisis in Adolescent Literacy*. Alexandria, VA: Author. http://www.nasbe.org

National School Board Association. (2006). *The Next Chapter: A School Board Guide to Improving Adolescent Literacy*. Alexandria, VA: Author. http://www.nsba.org.

2005

Berman, Ilene, and Biancarosa, Gina. (2005). *Reading to Achieve: A Governor's Guide to Adolescent Literacy*. Washington, DC: National Governors Association. http://www.nga.org

Grosso de León, Anne. (2005). America's Literacy Challenge: Teaching Adolescents to Read to Learn. *Carnegie Results*, Summer 2005. New York, NY: Carnegie Corporation of New York. http://www.carnegie.org.

Henríquez, Andrés. (2005). The Evolution of an Adolescent Literacy Program: A Foundation's Journey. *Reading Research Quarterly*, 40, 376-380.

McCombs, Jennifer Sloan, Nataraj Kirby, Sheila, Barney Heather, Darilek, Hilary, and Magee, Scarlett. (2005). *Achieving State and National Literacy Goals: A Long Uphill Road: A Report to Carnegie Corporation of New York*. Santa Monica, CA: RAND. http://www.rand.org.

National Association of Secondary School Principals. (2005). *Creating a Culture of Literacy: A Guide for Middle and High School Principals*. Reston, VA: Author. http://www.nassp.org.

2004

Biancarosa, Gina, and Snow, Catherine, E. (2004). *Reading Next: A Vision for Action and Research in Middle and High School Literacy, A Report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education. http://www.all4ed.org

Snow, Catherine, Foorman, Barbara, Kamil Michael, Roderick, Melissa, and Schwartz, Robert (2004). *Project Memorandum: Issues in the Field of Adolescent Literacy: Information and Recommendations for the Carnegie Advisory Council on Reading to Learn*, Santa Monica, CA: RAND. http://www.rand.org

2003

Kamil, Michael L. (2003). *Adolescents and Literacy: Reading for the 21st Century*. Washington, DC: Alliance for Excellent Education. http://www.all4ed.org

Sturtevant, Elizabeth. (2003). *The Literacy Coach: A Key to Improving Teaching and Learning in Secondary Schools*. Washington, DC: Alliance for Excellent Education. http://www.all4ed.org

2002

Grosse de León, Anne. (2002). *The Urban High School's Challenge: Ensuring Literacy for Every Child*. New York, NY: Carnegie Corporation of New York. http://www.carnegie.org

Grosse de León, Anne. (2002). Moving Beyond Storybooks: Teaching Our Children to Read to Learn. *Carnegie Reporter*, *2*, 1. New York, NY: Carnegie Corporation of New York. http://www.carnegie.org

APPENDIX B

Essential Elements of Literacy for Adolescent Learners

Though early literacy has been better researched than adolescent literacy, there exists a sufficiently robust knowledge research base to dictate a body of instructional practices for helping to support adolescent reading achievement.[1]

For most students, phonological awareness, word reading accuracy (except perhaps for multi-syllabic and complex words), and fluency have been mastered by the end of third grade, and success beyond that point becomes increasingly dependent on adequate vocabulary and comprehension skills. Thus, the National Assessment of Educational Progress (NAEP), which tests America's students' achievement at fourth, eighth, and twelfth grades, assesses vocabulary and comprehension, but not phonemic awareness, phonics, or fluency.

As students progress through upper elementary, middle, and high school grades, school instruction centers increasingly on knowledge and skills within specific content areas. The literacy skills required to benefit optimally from such content-area instruction are both broader and more differentiated than those taught in the early grades, and success depends increasingly on knowing an all-purpose academic as well as technical vocabulary, a range of content-specific reading and writing skills, and the capacity to comprehend and learn from expository texts. Reading instruction in the early grade is focused on reading narrative and literary texts (Duke, 2000; Kamil, 2003; Moss, 2005; Moss & Newton, 2002; Pappas, 2001), leading some to argue that the skills needed to comprehend expository text are underemphasized in schools. The new NAEP framework, which includes equal amounts of literary and informational texts at fourth grade, but predominantly informational texts at twelfth grade (National Assessment Governing Board, 2007), is an effort to bring NAEP content into alignment with distribution of tasks most students actually face.

Literacy from pre-kindergarten through the college years includes and presupposes much more than the Reading First "big five"—specifically, oral language (listening and speaking), writing, and critical thinking (though one could argue that oral language is implicit in Reading First because phonemic awareness and vocabulary in the primary grades are primarily acquired through listening). The lack of explicit attention in Reading First to speaking skills, writing, and critical thinking may have led to these areas getting overlooked or underemphasized in K-3, though such skills are increasingly central to success in academics and adult life (Levy & Murnane, 2005).[2] However, the "big five" provides a basic foundation for literacy beyond third grade level, and so our discussion of literacy instruction practices tailored to adolescents begins here.

Phonemic Awareness

The ability to detect and manipulate sounds in oral language is an important precursor to learning to read. To be able to translate printed words into their spoken equivalents requires a sensitivity to and facility with the sounds of spoken language. A reader who cannot hear the difference between the initial sounds of "bat" and "pat" when they are spoken will have difficulty understanding why the two words are read and spelled differently. One of the signs of good phonemic awareness is the ability to play with the sounds in language, substituting some sounds for others (see, for example, National Reading Panel, 2000; Snow, Burns & Griffin, 1998). Working with and enjoying alliteration, rhymes and language play promotes literacy development.

Phonemic awareness is an early-emerging and precursor skill, however, not an end in its own right;

therefore, a little instruction in this area goes a long way. Research reviewed by the National Reading Panel (2000) suggested that about 20 hours of phonemic awareness training—or about 30 minutes a week during kindergarten—generated the required learning.

The number of readers beyond third grade likely to need attention to phonemic awareness is limited, though older students who have missed out on early literacy instruction may still be struggling with this skill. Therefore, phonemic awareness instruction should always be targeted for adolescent students based on demonstrated strengths and weaknesses.

Alphabetics

The ability to translate sequences of letters into oral language is fundamental to all alphabetic reading. As with phonemic awareness, a subset of students with difficulties in this critical skill may be found in any school or district at any grade level, but the numbers of such readers are generally much lower beyond third grade.

Studies indicate considerable variability in the proportion of struggling adolescent readers whose difficulties include deficient decoding skills. While some have found decoding problems afflict a relatively small percentages of students with pervasive reading difficulties (Biancarosa et al., 2006; Buly & Valencia, 2002; Lesaux et al., 2006), others report that a third or more of poor adolescent readers struggle with decoding (Catts et al., 2005; Hock et al., 2006; Leach et al., 2003). Most estimates of the percentage of readers who struggle hovers around a third; estimates of the percentage of those readers who struggle specifically with decoding also hovers around a third. A widely accepted estimate is that about 10 percent

Adolescents with Learning Disabilities

Students identified as having disabilities and receiving Special Education Services represent a substantial number of all students in many urban middle and high schools. We do not in this volume consider instructional or organization options for these students separately, for a number of reasons. First, in many cases such students are receiving services in inclusion settings; they thus function for purposes of differentiating instruction and distributing intervention resources like any other student. Second, many students not identified for special education services score as poorly on reading assessments as those so identified; in other words, for the purposes of reading instruction and intervention, the special-education population overlaps greatly with the regular-education population. Third, some large proportion of students identified for special education services have no clear disability, but are identified because teachers and administrators see no viable alternative route to securing services for them.

In other words, a very high proportion of special education students within a school or a system might signal the absence of a robust set of differentiated literacy supports designed to meet the needs of a broad array of students. If SPED becomes the only support available, its viability is in turn undermined by oversubscription, and the continued poor performance of students in special education reinforces the view that they are irremediable. In too many urban schools, the SPED program is seen as separate school-within-a-school that simply creates an obstacle to making AYP. In well-functioning schools, SPED programs are small because struggling students can get help from other sources, and are effective because they are seen as a resource to improve student performance rather to insulate the 'real school' from potential problems.

What is needed? Recognition and implementation of the following principles is a place to start:

a) Effectively addressing adolescent literacy is dependent upon everyone in the school setting assuming responsibility for the literacy performance of all students in the school.
b) Clear sets of standards define how students qualify for various literacy services within a school (e.g., supplemental reading classes, Read 180, special education, Title I, etc.), and these standards are honored.
c) Special education is considered within the broad array of literacy supports provided to members of the student body. Its services are seamlessly integrated with other instructional initiatives within a building so that it is a part of and not apart from instruction for all students.

of all adolescents require some help with reading words (Biancarosa & Snow, 2004; Kamil, 2003). When word reading difficulties exist, these must be addressed if students are to progress—but, as with phonemic awareness, it would prove unnecessary and counterproductive to instruct students in alphabetics when they have already demonstrated an adequate level of mastery.

The remedy for weaknesses in decoding is straightforward. Sequential and systematic phonics instruction will aid students with learning disabilities as well as students who have simply never had adequate instruction, although the former may need more repetitions of the lessons. Such instruction should be time-intensive, to give students access to higher levels of reading as fast as possible and to minimize the embarrassment they might feel from working with lower grade materials. Many adolescents, when they make rapid progress in this area, find the experience highly rewarding and motivating.

Fluency

Fluency is the ability to read with speed, accuracy, and phrasing so that the reader may focus on the

Digital Technology and Adolescent Literacy

The long-term effects of the explosion of digital technologies on how we define literacy have yet to be determined. For instance, the need for certain types of skills and abilities, such as speed and the ability to figure out how to access help in a distributed knowledge network, is heightened on the Internet (Leu, Kinzer, Coiro, & Cammack, 2004), which is vast, nonhierarchical, and ever-changing, and whose content is generally not subject to referees, gatekeepers, or standards. However, our understanding of precisely how much reading on the Internet changes the reading process is uncertain.

What is clear is that digital technologies have already begun to change how we support adolescents in their literacy advancement. Word processing is one of the oldest innovations, and as such has a robust research base showing its effectiveness with adolescent writers (Graham & Perin, 2007a, 2007b). Compared to writing by hand, writing using a word processor significantly improves the writing quality of adolescents with a wide range of writing abilities and achievement levels. Moreover, word processing's positive effects are even more pronounced for low-achieving writers.

In reading, several strains of research have been investigating technology as a support for instruction in traditional literacy skills. For example, the Center for Applied Special Technologies (CAST) has adapted the well-validated Reciprocal Teaching approach to improving reading comprehension (Palincsar & Brown, 1984) to a digital reading environment with embedded strategy prompts, coaching avatars, and feedback, which is also connected to their classroom discussions with peers and teachers (Rose & Dalton, 2002). With funding from Carnegie Corporation of New York, CAST has also developed and piloted Strategy Tutor, an Internet literacy portal where students can use strategies to help them understand the content, as well as to evaluate the quality and credibility of a particular website or source (Dalton, Proctor, & Robinson, 2005).

Another example comes from the work of Leu and colleagues (2004). They are using Reciprocal Teaching and Questioning the Author (Beck, McKeown, Hamilton, & Kucan, 1997), another reading comprehension approach, to guide students in collaboratively building their understanding of text and media they encounter while carrying out inquiry projects on the Internet. Although Leu and colleagues are using digital texts and media as they naturally occur on the Internet as their content, they are developing offline classroom instructional conversations and techniques.

Research into the use hypertexts with embedded multimedia supports (as opposed to instructional agents) is an increasingly active and informative area of the research literature, demonstrating clear promise as an approach to improving comprehension for struggling adolescent learners (Anderson-Inman & Horney, 1997; Dalton, Pisha, Coyne, Eagleton, & Deysher, 2001; Higgins, Boone, & Lovitt, 1996; MacArthur & Haynes, 1995). Embedded supports include hyperlinks providing additional background knowledge or vocabulary information, embedded video and animations, and screen reader tools, which use test-to-speech technology to read texts aloud. Struggling readers reading printed texts are limited by readability, but these technological innovations allow access to grade-level material.

act of making meaning of text. Unlike phonological awareness and phonics, fluency is a common area of weakness for many adolescent readers. Practice reading is the primary predictor of fluency (RAND Reading Study Group, 2002); hence, practice is also one of the cures for nonfluent reading. A number of excellent professional books provide teachers with guidance in fluency instruction for younger readers (Rasinski, 2003; Rasinski, Blachowicz, & Lems, 2006; Samuels, 2006), but we focus here on the most pertinent issues for adolescents.

The primary dilemma is the ongoing need for appropriate reading materials. Fluency is built from reading text that one can get through with little difficulty, but for struggling adolescent readers, the texts offered are often too simplistic. Furthermore, nonfluent adolescent readers need texts that help build their world knowledge and vocabulary, even while they need practice with "easier books". The interest level of the selected text is a major determinant of how much time students will invest in reading it, yet topics of interest to adolescents are unlikely to be written about at third or fourth grade reading level. Many schools lack an abundance of high interest, leveled reading materials in an array of genres to provide students with the practice they need (Worthy, Moorman, & Turner, 1999). Also, many struggling adolescent readers are uninterested in academic reading because of previous difficulty experienced with such texts.

Even when young people have access to appropriate texts, students with histories of low reading achievement typically receive little instruction on how to read them, especially in middle and high school. Often even higher achieving adolescents are not intrinsically engaged by academic texts, but engage them purely for extrinsic rewards. (We address the problem of academic texts and the challenges they present adolescents in greater depth in Chapter 3.) Access is not enough—educators must find ways to motivate students to spend time reading academic texts independently (Guthrie, Wagner, Wigfield, Tonks, Humenick, & Littles, 2006).

Reading aloud or guided reading can be helpful by exposing students to how written texts capture the rhythms of speech, and also by providing them with the opportunity to hear the proper pronunciation of new words (Carlisle & Rice, 2001).

Vocabulary

Research has repeatedly shown that vocabulary is a robust predictor of reading comprehension (Anderson, 2004; Hirsch, 2003; Snow, Porche, Tabors, & Harris, 2007; Stahl, 2003). Most of the research on vocabulary instruction reviewed by the National Reading Panel was conducted with students in third grade or above, making the recommendations particularly appropriate for students in upper elementary, middle, and high school grades. The panel drew the following conclusions from their review of the research:

- Direct instruction of relevant vocabulary improves comprehension.
- Indirect learning accounts for increases in vocabulary beyond direct instruction.
- Multiple exposures are important; students need to encounter specific vocabulary items on repeated occasions.
- Rich contexts for vocabulary learning are important. Learning words in isolation is less effective than learning the words in connected texts.
- Pre-instruction of words, before requiring students to read a passage, is particularly effective in improving vocabulary.
- Restructuring the learning task when students didn't understand it as presented the first time is also effective in increasing vocabulary.

Fortunately, many guidelines exist for effective vocabulary instruction (August, Carlo, Dressler, & Snow, 2005; Beck, McKeown, & Kucan, 2002; Hiebert & Kamil, 2005; Nagy, 1988; Stahl & Nagy, 2005). Although vocabulary instruction is important for all adolescents, it has been recognized as especially important for English language learners (ELLs; American Educational Research Association, 2004; Carlo et al., 2004; Genesee, Lindholm-Leary, Saunders, & Christian, 2005; Goldenberg, 2006) because vocabulary is a common area of weakness for ELLs (for a review, see August & Shanahan, 2006). One effective approach to vocabulary instruction designed specifically for Latino ELLs aims at helping students recognize cognates, that is, words that

share similar spellings and definitions in their first and second languages, such as *atleta-athlete*, *negociar-negotiate*, *tranquilidad-tranquility* (August et al., 2005; Carlo et al., 2004). Exploiting cognates takes advantage of students' first language knowledge and therefore may help ELLs, especially recent immigrants, understand basic words as well as the more sophisticated words that are typically targeted in vocabulary instruction (August et al., 2005).

The aim of vocabulary instruction is to develop "deep" vocabulary knowledge; that is, not simply to expand the number of words that students know, but also to improve their depth of understanding of the words and the concepts related to them. Therefore, it is especially important for content area teachers to recognize that knowing words means more than recognizing them, pronouncing them correctly, or being able to define them; knowing words includes a deep understanding of how words interrelate and can be used in multiple ways and with multiple related meanings (Beck et al., 2002; Nagy & Scott, 2000).

One way in which the challenge of vocabulary instruction changes for adolescents is that the nature of the words that students must learn changes. As the texts that students are required to comprehend become increasing academic, less like the colloquial narratives found in conversations and more like the formal, expository, and abstract texts found in academic disciplines (including increasingly complex literary narratives), so too does the vocabulary that students must learn.

Many of the tasks that constitute success in science, social studies, and math—such as writing a laboratory report detailing the investigation of a hypothesis, debating a controversial topic, or explain a problem-solving procedure—involve sophisticated vocabulary

Language Minority Adolescents

Students from Language Minority backgrounds are at increased risk of educational failure, whether they arrive at school already classified as Fully English Proficient (also known as English Only) or as Limited English Proficient (English Language Learner). Challenges for children from LM backgrounds that become particularly relevant in the adolescent years include sufficient knowledge of the vocabulary of texts, to the background knowledge presupposed by the texts, and to the discourse conventions that govern the texts. These challenges are, of course, particularly acute for students who are still struggling to master English, but may also be present for those whose conversational English appears fully developed.

Though LEP/ELLs receive support services, these may be limited in length of time and in quality or appropriateness, and well designed English as a Second Language (ESL), Structured English Immersion (SEI), or bilingual programs are more likely to be available for primary than for postprimary students. The graduates of those primary programs may be impossible to distinguish from their FEP/EO classmates on the basis of casual interactions, but they often struggle with literacy and need continued support if they are to succeed. Unfortunately, Title III does not offer school districts funding to provide support after reclassification. Nonetheless, a well-functioning middle or high school will have test data available that identifies students who need help with vocabulary and comprehension, and will provide an appropriate level of support to such students as part of a policy of differentiating instruction.

We noted in the sidebar on page 73 some principles to guide practice with students identified for special education services. Slightly adapted versions of those principles apply to students from language minority backgrounds and students in the process of acquiring English:

a) Effectively addressing adolescent literacy is dependent upon everyone in the school setting assuming responsibility for the literacy performance of all students in the school.
b) Clear sets of standards define how students qualify for various literacy services within a school (e.g., supplemental reading classes, ESL services, Read 180, special education, Title I, etc.), and these standards are honored.
c) ESL classes, ESL tutoring, and other forms of support to ELLs and to LMs are considered within the broad array of literacy supports provided to members of the student body. These services are seamlessly integrated with other instructional initiatives within a building so they are part of and not apart from instruction for all students.

unlikely to be learned from oral conversations (August et al., 2005; Stahl & Nagy, 2005). These tasks require not only discipline-specific words such as ecosystem or parallelogram but also the all-purpose academic language with which these concepts are built, such as function, unit, consist, or factor.

All-purpose academic vocabulary refers to the words encountered more often in written than in spoken language and occurring across content areas (Coxhead, 2000). These words are needed for precision in referring to basic cognitive and communicative domains, such as *inferring*, *hypothesizing*, *affirming*, *denying*. They are types of words that are needed to talk efficiently about categories, about abstractions, and about causal or associative relationships. These are the words one often encounters in the glossaries in content area texts—not the words being defined, but the words used to define those disciplinary-specific words (Nair, 2007). Yet, ironically, they are the words students in low achieving schools are least likely to know. For example, in one low achieving urban middle school, a recent study found that over 50 percent of sixth graders did not respond correctly in a multiple choice test to the words *interpret*, *sufficient* and *diverse*, among many others (Snow, 2007). Even more alarmingly, when asked to report how well they knew each word, over 85 prcent of these same students said that they knew these words well. Therefore, instruction in academic vocabulary must not only build young people's knowledge of particular words but must also increase their meta-cognitive awareness of what they know and do not know about words (Stahl & Nagy, 2005).

Comprehension

Direct and explicit comprehension instruction is essential to all initial and adolescent literacy instruction (Biancarosa & Snow, 2004; NICHD, 2000; Lee, 2007). Even strong elementary school readers often struggle when they are faced with the advanced comprehension tasks required in middle and particularly high school, and will benefit from explicit instruction in reading their content area texts. While the challenges of learning to read well go beyond learning how to decipher words on a page, reading instruction too often ends here. (Durkin, 1979, 1981; Pressley et al., 1998; Quirk, Trismen, Nalin, & Weinberg, 1975).

Research confirms that instruction in comprehension strategies can be especially effective in improving students' ability to make meaning of text. "The idea behind this approach to instruction is that reading comprehension can be improved by teaching students to use specific cognitive strategies or to reason strategically when they encounter barriers to comprehension as they read" (NICHD, 2000, p. 4-119). The research on comprehension strategies reviewed by the National Reading Panel was all conducted with students in Grades 4 and above, making its conclusions especially applicable to middle and high school students:

- *Question answering* is a strategy in which students are given questions to answer from reading a passage.
- *Question generation* encourages students to create questions they want to answer while they read a passage.
- *Summarizing text* has a large effect on comprehension. Students learn to extract the essential meaning of a passage after reading.
- *Using graphic organizers*, representations of the major ideas and relationships in text is also an effective strategy.
- *Multiple strategy use* was also found to be important. Students who used more than one strategy improved comprehension more than when only using a single strategy.

Once strategies are introduced, students must also learn how to think metacognitively, that is to determine which strategy is appropriate for a given reading task. Together, these skills allow students to comprehend well enough to address critical thinking tasks. While all readers benefit from strategies for monitoring and repairing comprehension, these strategies may be particularly valuable to ELLs due to their more frequent encounters with unfamiliar vocabulary words. Successful ELL readers are able to marshal reading strategies to compensate for the comprehension-inhibiting effect of unfamiliar vocabulary (Genesee et al., 2005; Jimenez, Garcia, & Pearson, 1996).

Because text demands and purposes for reading are often specific to each discipline, adolescent learners need explicit teaching and guided practice in comprehension as it relates to each discipline (see Chapter 3). When we fail to teach these comprehension skills across the curriculum, young people's struggles with reading can manifest as a failure in learning content area knowledge (RAND Reading Study Group, 2002).

Writing

Writing is increasingly used as both a measure of comprehension and a tool for learning across content areas in later elementary and secondary grades. Thus, effective reading instruction for adolescents should be coordinated with writing instruction and practice. When students use writing as a means to reflect about their use of comprehension strategies, their acquisition of those strategies improves (e.g., Commander & Smith, 1996; El-Hindi, 1997; McCrindle & Christensen, 1995). Similarly, writing in response to reading can foster improved thoughtfulness and critical thinking (e.g., Tierney & Shanahan, 1991; Tierney, Soter, O'Flahavan, & McGinley, 1989). For example, a common practice in middle and high school content area instruction is to have students read several texts and then demonstrate their learning through a written product that synthesizes those texts; yet research has shown that without instruction and practice, students do a poor job at this task (Britt & Aglinskas, 2002; Sandoval & Millwood, 2005). Instruction in such writing tasks should begin by 6 sixth grade and involve long writing assignments (Bangert-Drowns, Hurley, & Wilkinson, 2004).

While previous meta-analyses of writing instruction covered the full range of grade levels (Bangert-Drowns et al., 2004; Goldberg, Russell, & Cook, 2003; Hillocks, 1986), the most recent meta-analysis of writing instruction focused on adolescents (Graham & Perin, 2007a, 2007b). This meta-analysis provided a list of eleven instructional practices found effective in improving the quality of adolescents' writing. These were: 1) teaching students strategies for writing, 2) teaching approaches to writing summaries, 3) collaborative writing, 4) being specific about product goals, 5) word processing, 6) sentence-combining, 7) pre-writing activities, 8) inquiry-centered activities, 9) the process writing approach to writing instruction, 10) the study of model writing, and 11) writing to learn.

Effective writing instruction also involves students in daily writing, a wide range of composing tasks, a predictable routine that encourages reflection and revision, and teacher modeling of writing as a process and use of writing strategies (Graham & Harris, 2002; Troia & Graham, 2003). Quality writing instruction teaches students to use writing as a tool for thought across the content areas. And the more writing assignments require high levels of reasoning and engagement with academic content, the better the content of students' writing, regardless of student ability and school characteristics (Matsumura, Patthey-Chavez, Valdés, & Garnier, 2002).

Of course, much more detailed guidelines exist for excellent writing instruction than can be summarized here, and interested readers should refer to recent reviews for more information (Bangert-Drowns et al., 2004; Graham & Perin, 2007a, 2007b; Graham, 2005, 2006). Just as studies of reading comprehension capture the thinking processes of good readers, cognitively oriented studies of writing among middle and high school students document the planning and composing processes of good writers (Hillocks, 1986; Flower & Hayes, 1981; Bereiter & Scardamalia, 1987). These cognitively oriented studies have been translated into instructional practices for written composition among middle and high school students which emphasize explicit instruction in genres such as writing narratives, arguments and extended definitions, and involve explicitly working with students to teach what features their writing in these genres should reflect, as well as carefully sequenced activities designed to help them learn how to produce such features (Hillocks, 1986, 1995, 2007).

Speaking and Listening

Oral language is an explicitly acknowledged target for instruction in early childhood education, but quickly falls into the background in the primary grades and beyond. Although state standards tend to

include speaking and listening skills, these skills have been relatively neglected in discussions of adolescent literacy. Yet oral communication skills are often cited by post-secondary educators and employers as essential to success (American Diploma Project, 2004). Moreover, substantial research indicates that speaking and listening skills, particularly of a decontextualized or academic nature, are related to literacy success in later grades (Davidson, Kline, & Snow, 1986; Dickinson & Snow, 1987; Scarborough, 2001; Snow, 1990; Velasco, 1988). A more recent study demonstrates that this relationship persists into middle and high school (Snow, Porche, Tabors, & Harris, 2007). As with vocabulary, speaking and listening skills can be a particular source of difficulty for ELLs, particularly when students are asked to engage in more sophisticated academic language tasks (for relevant reviews, see August & Shanahan, 2006; Short & Fitzsimmons, 2007).

The Accountable Talk framework (Michaels, 1981; Michaels, O'Connor, Hall, & Resnick, 2002) provides explicit guidelines for engaging in classroom discussion, focuses on the importance of listening as well as talking, suggests specific instructional activities to help students develop skills in accountable talk, and provides guidelines for evaluating whether student talk indeed lives up to the standard expected. Another approach that emphasizes the role of oral language skills in content area classrooms is the Sheltered Instruction Observational Protocol (SIOP) Model (Echevarria, Vogt, & Short 2004). Designed specifically to give ELLs access to content area instruction, the SIOP model is a framework for lesson-planning and classroom observation that encourages content teachers to identify and teach language objectives implicit in meeting content area objectives as well as integrate listening and speaking activities with reading and writing. In addition, several instructional approaches designed to further reading comprehension have strong listening and speaking components. Approaches to comprehension and vocabulary instruction that have been shown to be effective (e.g., Instructional Conversations, Saunders & Goldenberg,1999; Reciprocal Teaching, Palinscar & Brown, 1984; Text Talk, Beck & McKeown, 2001; Questioning the Author, Beck, McKeown, Hamilton, & Kucan, 1997; Metacognitive Instructional Conversations, Lee, 2007) often rely on involving students in structured discussions about what they have read or heard; these structured discussions promote learning by requiring active processing, critical listening, and involvement, transcending the passive mode that often characterizes learning through reading.

Critical Thinking

Critical thinking is instruction in higher-level thinking about texts that might include critiquing texts, making comparisons between authors' points of view, and synthesizing information across multiple texts. Critical thinking is a skill that requires direct instruction (Alvermann & Moore, 1991; Dole, Duffy, Roehler, & Pearson, 1991; NICHD, 2000; Pressley, 2000). Moreover, critical thinking is another oft-cited essential skill for success in post-secondary education and employment (American Diploma Project, 2004). As the American Diploma Project explains it, "high school graduates today are increasingly expected to judge the credibility of sources, evaluate arguments, and understand and convey complex information in the college classroom, in the workplace and as they exercise their rights as citizens. The ability to reason allows for the systematic development of ideas, the ability to make sound choices, and the ability to make and understand persuasive arguments" (2004, p. 29). Yet the skills and knowledge necessary to make those judgments, evaluations, choices, and arguments become increasingly specialized by the content area they are exercised within as students progress from elementary grades through upper elementary and middle school grades to high school (Lee, 2004, 2007).

Biographies

Council on Advancing Adolescent Literacy

Council Chair:

Catherine Snow, the Patricia Albjerg Graham Professor of Education, is an expert on language and literacy development in children and adolescents, with a special focus on students in urban schools and language minority students. Snow chaired the National Academy of Sciences committee that wrote *Preventing Reading Difficulties in Young Children*, and the Rand Reading Study Group that prepared *Reading for Understanding: Toward an R&D Program in Reading Comprehension*. Her current research on adolescent literacy is being carried out as part of the Strategic Education Research Partnership with the Boston Public Schools. Snow earned a B.A. in psychology from Oberlin College, and her M.A. and Ph.D. in psychology from McGill University in Montreal.

Council Members:

Mary Laura Bragg served as Director of Just Read, Florida!, Governor Jeb Bush's statewide reading initiative, from its inception in 2001 through 2006. In this capacity, she was responsible for crafting and implementing statewide policies to achieve the Governor's goal that all children will be reading on grade level or higher by 2012. She has served on advisory groups on adolescent literacy for both the Alliance for Excellent Education and the National Governors Association. Previously she served as the Coordinator of the Faculty Scholars program for the William T. Grant Foundation in New York City from 1999 to 2001. She currently teaches history at John Paul II Catholic High School in Tallahassee, Florida.

Don Deshler is the Williamson Family Distinguished Professor of Special Education and the director of the Center for Research (CRL) on Learning at the University of Kansas. The research and development (R & D) of the CRL focuses on the validation of academic and social strategies for struggling adolescent and on alternative ways to structure secondary schools to improve academic outcomes. Since its inception in 1978, the CRL has completed in excess of $180 million in contracted R & D. Among the awards Deshler has received are the Gene A. Budig Teaching Professorship in Special Education, the J. E. Wallace Wallin Award from CEC, the Maxwell J. Schleifer Distinguished Service Award, the Higuchi Research Achievement Award, the Distinguished Education Achievement Award from National Center for Learnng Disabilities, and the Educator of the Year Award from Learning Disabilitiess Association.

Michael L. Kamil is Professor of Education at Stanford University. He serves as chair of the research panel for the New York State English Language Arts Standards Revision. He is a member of the Steering Committee for the US involvement in the Program in International Student Assessment (PISA). He was a member of the National Reading Panel, chairing the subgroups on comprehension, technology, and teacher education. He was Chair of the Planning Committee for the 2009 National Assessment of Educational Progress Reading Framework. He has recently served as the Chair of the panel that produced the IES Practice Guide *Improving Adolescent Literacy: Effective Classroom and Intervention Practices*. In addition he is a member of the Adolescent Literacy Advisory Board for the Alliance for Excellent Education.

Carol D. Lee is Professor of Education and Social Policy in the Learning Sciences Program at Northwestern University. She is the current President of the American Educational Research Association, a member of the National Academy of Education, Past President and Fellow of the National Conference on Research in Language and Literacy, and former fellow at the Center for Advanced Study in the Behavioral Sciences. Her research focuses on cultural and ecological supports for literacy learning, with a specific focus on reading in the disciplines. Her most recent book is *Culture, Literacy and Learning: Taking Bloom in the Midst of the Whirlwind*. She is a founder of 4 schools, including 3 charter schools in Chicago.

Henry M. Levin is the William Heard Kilpatrick Professor of Economics and Education at Teachers College, Columbia University. He is also the David Jacks Professor of Education and Economics, Emeritus, at Stanford University. He is a specialist in the economics of education and has carried out research on cost and cost-effectiveness analysis of instructional interventions.

Elizabeth Birr Moje is Arthur F. Thurnau Professor of Literacy, Language, and Culture in Educational Studies at the University of Michigan, Ann Arbor, where she teaches courses in youth literacy, cultural theory, ethnography, and mixed methods research. Moje also serves as a Faculty Associate in the University's Institute for Social Research (ISR) and in Latino/a Studies in the College of Literature, Science, & the Arts. Her research examines the intersection between the literacies youth are asked to learn in the school subject areas and the literacies they employ outside of school. She also studies how youth construct cultures and enact identities via their literacy practices outside of school.

Mel Riddile joined the staff of the National Association of Secondary School Principals in July 2008, after a distinguished career as the principal of J. E. B. Stuart High School in Fairfax County, Virginia, and T. C. Williams High School in Alexandria, Virginia. Dr. Riddile was the 2006 National High School Principal of the Year and was the 2005 Virginia High School Principal of the Year. His work as a high school principal and as a leader in the field of adolescent literacy has received both national and international recognition from National Geographic Magazine, the Bill and Melinda Gates Foundation, the National Association of Secondary School Principals, and the International Baccalaureate of North America. Dr. Riddile is a recognized leader in efforts to reinvent America's high schools.

Melissa Roderick is the Hermon Dunlap Smith Professor at the School of Social Service Administration at the University of Chicago and a co-director at the Consortium on Chicago School Research where she leads CCSR's research on post-secondary. Professor Roderick is also the co-director of the Network for College Success, a network of high schools focused on developing high quality leadership and student performance in Chicago's high schools. Professor Roderick is an expert in urban school reform, high school reform, high stakes testing, minority adolescent development, and school transitions. Professor Roderick has a PhD from the Committee on Public Policy from Harvard University, a Master in Public Policy from the John F. Kennedy School of Government at Harvard University, and an A.B. from Bowdoin College.

Robert Schwartz has, since 1996, been a faculty member at Harvard Graduate School of Education, where he currently serves as Academic Dean and Professor of Practice. From 1997-2002 he also served as president of Achieve, Inc, a national non-profit established by governors and corporate leaders to help states strengthen academic performance. He previously served in a variety of roles in education and government, including high school teacher in California and principal in Oregon; education advisor to Boston mayor Kevin White and Massachusetts governor Michael Dukakis; executive director of The Boston Compact; and education program director at The Pew Charitable Trusts. He currently co-chairs The Aspen Institute's Education Program and serves on the boards of The Education Trust, The Noyce Foundation, and The Rennie Center for Education Research and Policy.

Council Coordinators:

Gina Biancarosa is an Assistant Professor of Special Education at the University of Oregon. Previously, she served as an IES postdoctoral fellow at Stanford University's Institute for Research on Education Policy and Practice and earned her doctorate in the Language and Literacy program at Harvard Graduate School of Education. Her research interests encompass four areas: the measurement of reading processes, reading comprehension skill and development, variety of reading difficulties among adolescent struggling readers, and the measurement and effects of professional development for teachers and coaches. She has a range of methodological expertise, including research design and hierarchical linear modeling. Gina is a coauthor of *Reading Next*, *Informed Choices for Struggling Readers*, and *Afterschool Education*.

Michael J. Kieffer is an Assistant Professor at Teachers College, Columbia University. A former middle school teacher, he received his doctorate from the Harvard Graduate School of Education. His research interests center on the vocabulary and reading comprehension of adolescent English language learners. In his current research, he is investigating the linguistic skills involved in learning academic vocabulary and evaluating an instructional approach to accelerate word learning. He has been awarded fellowships from the Spencer Foundation and the International Reading Association, and his research has been published in the *Journal of Educational Psychology*, *Review of Educational Research*, *Reading and Writing*, and *The Reading Teacher*.

References

Abelmann, C., & Elmore, R. F. (1999). *When accountability knocks, will anyone answer?* Philadelphia: Consortium for Policy Research in Education.

Achieve, Inc. (2005). *Rising to the challenge: Are high school graduates prepared for college and work?* Washington, DC: Author.

ACT. (2005). *Crisis at the core: Preparing all students for college and work*. Iowa City: Author. Retrieved July 31, 2006, from http://www.act.org/path/policy/pdf/crisis_report.pdf.

Alliance for Excellent Education (2007). *Crisis in high schools.* Washington, DC: Author. Retrieved August 26, 2007 from http://www.all4ed.org/whats_at_stake/CrisisInHighSchools.pdf

Allington, R. (2006). Reading specialists, reading teachers, reading coaches: a question of credentials. *Reading Today*, *23*, 4, 16-17.

Alvermann, D. E., & Moore, D. (1991). Secondary school reading. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of Reading Research* (Vol. II, pp. 951-983). White Plains, NY: Longman.

American Diploma Project. (2004). *Ready or not: Creating a high school diploma that counts.* Washington, DC: Achieve, Inc.

American Educational Research Association. (2004, Winter). English language learners: Boosting academic achievement. *Research Points: Essential Information for Educational Policy*, *2*, 1-4. Available at http://www.area.net

Anderson, R. C. (2004). Role of the reader's schema in comprehension, learning, and memory. In R. B. Ruddell & N.J. Unrau (Eds.), *Theoretical models and processes of reading* (5th ed., pp. 594-606). Newark, DE: International Reading Association.

Anderson-Inman, L. & Horney, M. (1998). Transforming text for at-risk readers. In D. Reinking, L. Labbo, M. McKenna & R. Kieffer (Eds.). *Handbook of literacy and technology: Transformations in a post-typographic world* (pp. 15-43). Mahwah, NJ: Lawrence Erlbaum Associates.

Ardoin, S. P. (2006). The response in response to intervention: Evaluating the utility of assessing maintenance of intervention effects. *Psychology in the Schools*, *43*, 713-725.

Atteberry, A., Walker, L. & Bryk, A. (2008, November). *Variations in the amount of coaching in literacy collaborative schools.* Presentation to the National Reading Conference, Orlando, FL. See also: Information Infrastructure System Project at the Center for Urban School Improvement: Chicago, IL. Retrieved from http://www.iisrd.org/documents/AERA08_LC_Coach_Variations.pdf

August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research & Practice*, *20*, 50-57.

August, D. & Shanahan, T. (2006). *Developing literacy in second-language learners: Report of the National Literacy Panel on Language-Minority Children and Youth*. Mahwah, NJ: Lawrence Erlbaum Associates.

Bangert-Drowns, R. L., Hurley, M. M., & Wilkinson, B. (2004). The effects of school-based Writing-to-Learn interventions on academic achievement: A meta-analysis. *Review of Educational Research*, *74*, 29-58.

Bean, R. (2004). *The reading specialist: Leadership for the classroom, school, and community.* NY: Guildford Press.

Bean, R. M. & Carroll, K. E. (2006). The literacy coach as a catalyst for change. In C. Cummins (Ed.), *Understanding and implementing Reading First initiatives: The changing role of administrators*. Newark, DE: International Reading Association.

Beck, I., & McKeown, M.G. (2001). Text talk: Capturing the benefits of read-aloud experiences for young children. *The Reading Teacher*, *55*, 10-21.

Beck, I. L., McKeown, M. G., & Gromoll, E. W. (1989). Learning from social studies texts. *Cognition and Instruction*, *6*, 99-158.

Beck, I. L., McKeown, M. G., Hamilton, R. L., & Kucan, L. (1997). *Questioning the author: An approach for enhancing student engagement with text*. Newark, DE: International Reading Association.

Beck, I. L., McKeown, M. G., & Kucan, L. (2002). *Bringing words to life.* New York: Guilford.

Beck, I. L., McKeown, M. G., Sandora, C., Kucan, L., & Worthy, J. (1996). Questioning the Author: A yearlong classroom implementation to engage students with text. *Elementary School Journal*, *96*, 4, 385-414.

Bell, M. J. (2005). *Harcourt Science, Science: Grade 3*. NY: Harcourt School.

Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition*. Hillsdale, NJ: Erlbaum.

Berman, I., & Biancarosa, G. (2005). *Reading to achieve: A governor's guide to adolescent literacy*. Washington, DC: National Governors Association Center for Best Practices. Retrieved October 4, 2006, from http://www.nga.org/Files/pdf/0510GOVGUIDELITERACY.PDF

Biancarosa, G., Mancilla-Martinez, J., Kieffer, M. J., Christodoulou, J. A., & Snow, C. E. (2006, July). *Exploring the heterogeneity of English reading comprehension difficulties of Spanish-speaking middle school students.* Presentation to the Society for Scientific Studies of Reading, Vancouver, BC, Canada.

Biancarosa, G., & Snow, C. E. (2004). *Reading next—A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York*. Washington, DC: Alliance for Excellent Education. Retrieved October 4, 2006, from http://www.all4ed.org/publications/ReadingNext/ReadingNext.pdf.

Biancarosa, G., Bryk, A. S., Dexter, E., & Kerbow, D. (2008, March). *Assessing the value-added effects of Literacy Collaborative professional development on student learning*. Paper presented at the meeting of the American Educational Research Association, New York, NY.

Biggs, A. (2004). *Biology: The Dynamics of Life*. NY: Glencoe.

Boudett, K. P., City, E., & Murnane, R. (2005). *Data wise: A step-by-step guide to using assessment results to improve teaching and learning*. Cambridge, MA: Harvard University Press.

Bransford, J., Darling-Hammond, L., & LePage, P. (2005). Introduction. In J. Bransford and L. Darling-Hammond (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.

Britt, M. A., & Aglinskas, C. (2002). Improving students' ability to identify and use source information. *Cognition and Instruction*, *20*, 4, 485-522.

Brown, D., Reumann-Moore, R., Roseann, H., Jolley, B. C., Riffer, M., & du Plessis, P., et al. (2007, October). *Making a difference: Year two report of the Pennsylvania high school coaching initiative.* Philadelphia, PA: Research for Action.

Bryk, A. S. & Schneider, B. L. (2002). *Trust in schools: A core resource for improvement.* New York: Russell Sage Foundation.

Bryk, A. S., Biancarosa, G., Atteberry, A., & Dexter, E. (2007, December). *Assessing the value-added effects of Literacy Collaborative professional development on student learning*. Paper presented at the meeting of the National Reading Conference, Austin, TX.

Buly, M. R., & Valencia, S. W. (2002). Below the bar: Profiles of students who fail state reading assessments. *Educational Evaluation and Policy Analysis*, *24*, 3, 219-239.

Carlisle, J., & Rice, M. (2002). *Improving reading comprehension: Research-based principles and practices.* Baltimore: York.

Carlo, M., August, D., McLaughlin, B., Snow, C. E., Dressler, C., Lippman, D. N., et al. (2004). Closing the gap: Addressing the vocabulary needs of English-language learners in bilingual and mainstream classrooms. *Reading Research Quarterly*, *39*, 188-215.

Catts, H. W., Hogan, T. P., & Adlof, S. M. (2005). Developmental changes in reading and reading disabilities. In H. W. Catts & A. G. Kamhi (Eds.), *The connections between language and reading disabilities* (pp. 25-40). Mahwah, NJ: Lawrence Erlbaum.

Center on Educational Policy (2007). *Answering the question that matter most: Has student achievement increased since No Child Left Behind*. Washington, DC: Author. Retrieved August 26, 2007 from http://www.cep-dc.org/index.cfm?fuseaction=document.showDocumentByID&nodeID=1&DocumentID=200.

Center on Education Policy. (2008). *Has student achievement increased since 2002?: State test score trends through 2006-07*. Washington, DC: Author.

College Board (2006). *College Board standards for college success*: *English Language Arts*. New York, NY: The College Board.

Commander, N. E., & Smith, B. D. (1996). Learning logs: A tool for cognitive monitoring. *Journal of Adolescent and Adult Literacy*, *39*, 446-453.

Commonwealth of Massachusetts. (2008). *Ready for 21st century success: The new promise of public education, the Patrick administration education action agenda*. Boston, MA: Author.

Commonwealth of Massachusetts Office of Literacy (2007). *Massachusetts preK-12 literacy plan*. http://www.doe.mass.edu/literacy/nga/

Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, *34*, 2, 213-38.

Dalton, B., Pisha, B., Coyne, P., Eagleton, M., & Deysher, S. (2001). *Engaging the text: Reciprocal teaching and questioning strategies in a scaffolded learning environment.* MA: CAST.

Dalton, B., & Grisham, D. L. (2001, December/January). Teaching students to evaluate Internet information critically. *Reading Online*, *5*, 5.

Dalton, B., & Proctor, C. P. (2007). Reading as thinking: Integrating strategy instruction in a universally designed digital literacy environment. In D. S. McNamara (Ed.), *Reading comprehension strategies: Theories, interventions, and technologies* (pp. 423-442). Mahweh, NJ: Lawrence Erlbaum Publishers.

Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do.* San Francisco: Jossey Bass.

Davidson, R. G., Kline, M. L. & Snow, C. E. (1986) Definitions and definite noun phrases: Indicators of children's decontextualized language skills. *Journal of Research in Childhood Education*, *1*, 37-48.

Deshler, D., Palincsar, A. S., Biancarosa, G., & Nair, M. (2007). *Informed choices for struggling adolescent readers: A research-based guide to instructional programs and practices.* Newark, DE: International Reading Association.

Dewey, J. (1929). *The sources of a science of education.* New York: Horace Liveright.

Dickinson, D. K. & Snow, C. E. (1987). Interrelationships among prereading and oral language skills in kindergartners from two social classes. *Early Childhood Research Quarterly*, *2*, 1-25.

Dole, J. A., Duffy, G. G., Roehler, L. R., & Pearson, P. D. (1991). Moving from the old to the new: Research on reading comprehension instruction. *Review of Educational Research*, *61*, 2, 239-264.

Duke, N. K. (2000). 3.6 minutes per day: The scarcity of informational texts in first grade. *Reading Research Quarterly*, *35*, 202-224.

Durkin, D. (1979). What classroom observations reveal about reading comprehension instruction. *Reading Research Quarterly*, *14*, 481-533.

Durkin, D. (1981). Schools don't teach comprehension. *Educational Leadership*, *38*, 453-454.

Eccles, J. S., Midgley, C., Wigfield, A., Miller Buchanan, C. M., Reuman, D., Flanagan. C., et al. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and families. *American Psychologist*, *48*, 2, 90-101.

Echevarria, J., Vogt, M. E., & Short, D. (2004). *Making content comprehensible for English learners: The SIOP model* (2nd ed.). Boston: Pearson Allyn & Bacon.

Education Trust, The. (2000, May). *Dispelling the myth... over time.* Washington D.C.: Author.

El-Hindi, A. E. (1997). Connecting reading and writing: College learners' metacognitive awareness. *Journal of Developmental Education*, *27*, 2, 10-19.

Elish-Piper, L. A., & L'Allier, S. K. (2007, December). *Does literacy coaching make a difference?: The effects of literacy coaching on reading achievement in grades K-3 in a Reading First district*. Paper presented at the meeting of the National Reading Conference, Austin, TX.

Finders, M. J. (1998). Raging hormones: Stories of adolescence and implications for teacher preparation. *Journal of Adolescent and Adult Literacy*, *42*, 252-263.

Fisher, D., Frey, N., and Williams, D. (2002). Seven literacy strategies that work. *Educational Leadership*, *60*, 3, 70-73. http://www.drradloff.com/documents/seven-literacy-strategies-that-work.pdf

Fisher, D., Grant, M., Frey, N., & Johnson, C. (2007-2008). Taking formative assessment schoolwide. *Educational Leadership*, December, 2007/January, 2008, pp. 64-68.

Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition & Communication*, *32*, 365-387.

Gamse, B.C., Jacob, R.T., Horst, M., Boulay, B., & Unlu, F. (2008). *Reading First impact study final report* (NCEE 2009-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Genesee, F., Lindholm-Leary, K., Saunders, W., & Christian, D. (2005). English languages learners in U.S. schools: An overview of research findings. *Journal of Education for Students Placed at Risk*, *10*, 4, 363-385.

Goldberg, A., & Russell, M., & Cook, A. (2003). The effect of computers on student writing: A meta-analysis of studies from 1992-2002. Journal of Technology, Learning, and Assessment. Retrieved on August, 24, 2008 at http://escholarship.bc.edu/jtla/vol2/1/

Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, *13*, 21-43.

Graham, S. (2005). Strategy instruction and the teaching of writing: A meta-analysis. In C. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of Writing Research* (pp. 187-207). New York: Guilford.

Graham, S. (2006). Writing. In P. Alexander, & P. Winne (Eds.), *Handbook of Educational Psychology.* Mahwah, NJ: Erlbaum.

Graham, S., & Harris, K. R. (2002). Prevention and intervention for struggling writers. In M. R. Shinn, H. M. Walker, & G. Stoner (Eds.), *Interventions for Academic and Behavior Problems II: Preventive and Remedial Techniques* (pp. 589-610). Washington, DC: National Association of School Psychologists.

Graham, S., & Perin, D. (2007). A meta-analysis of writing instruction for adolescent students. *Journal of Educational Psychology*, *99*, 445-476.

Graham, S. & Perin, D. (2007). *Writing next: Effective strategies to improve writing of adolescents in middle and high schools: A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Guthrie, J. T., Hoa, L. W., Wigfield, A., Tonks, S. M., Humenick, N. M., & Littles, E. (2007). Reading motivation and reading comprehension growth in later years. *Contemporary Educational Psychology, 32*, 282-313.

Heller, R. & Greenleaf, C. (2007). *Literacy instruction in the content areas: Getting to the heart of middle and high school improvement*. Washington, DC: Alliance for Excellent Education. Retrieved on August 26, 2007 from http://www.carnegie.org/literacy/pdf/Content_Areas_report_6-10-07_FINAL.pdf

Herlihy, C., Kemple, J., Bloom, H., Zhu, P., & Berlin, G. (2009, June). *Understanding Reading First: What we know, what we don't, and what's next.* NY: MDRC.

Higgins, K., Boone, R., & Lovitt, T. C. (1996). Hypertext support for remedial students and students with learning disabilities. *Journal of Learning Disabilities, 29*, 4, 402-412.

Hiebert, E. H., & Kamil, M. L. (2005). *Teaching and learning vocabulary: Bringing research to practice.* Hillsdale, NJ: Erlbaum.

Hillocks, G. (1986). *Research on written composition: New directions for teaching.* Urbana, IL: National Council of Teachers of English.

Hillocks, G. (1995). *Teaching Writing as Reflective Practice.* NY: Teachers College Press.

Hillocks, G. (2007). *Narrative Writing: Learning a New Model for Teaching.* Portsmouth, NH: Heinemann.

Hock, M. F., Brasseur, I. F., Deshler, D. D., Catts, H. W., Marquis, J., Stribling, J. W., & Mark, C. A. (2006). *What is the Nature of Struggling Adolescent Readers in Urban Schools?* Lawrence, KS: The University of Kansas Center for Research on Learning.

International Reading Association (2006). *Standards for middle and high school literacy coaches.* Newark, DE: Author. Retrieved on August 26, 2007 from http://www.reading.org/downloads/resources/597coaching_standards.pdf

Jimenez, R. T., Garcia, G. E., & Pearson, P. D. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly, 31*, 90-112.

Kamil, M. L. (2003). *Adolescents and Literacy: Reading for the 21st Century.* Washington DC: Alliance for Excellent Education.

Kamil, M. L. (2010). *Adolescent literacy and textbooks: An annotated bibliography*. Report to the Carnegie Corporation. NY: Carnegie.

Kane, T., Rockoff, J. E., & Staiger, D. O. (2007). Photo finish: Certification doesn't guarantee a winner. *Education Next, 2007*, 60-67.

Kannapel, P. J. (2007). *Adolescent literacy coaching project (ALCP): Year 1 evaluation report*. Louisville, KY: Collaborative Center for Literacy Development.

Kieffer, M. J., Biancarosa, G., Christodoulou, J. A., Mancilla-Martinez, J., & Snow, C. E. (2007, April). *Shades of struggle: Heterogeneity among urban adolescent struggling readers.* Paper presented at the meeting of the American Educational Research Association, Chicago, IL.

Langer, J. A. (2001). Beating the odds: Teaching middle and high school students to read and write well. American *Educational Research Journal, 38*, 837-880.

Leach, J. M., Scarbourgh, H. S., & Rescorla, L. (2003). Late-emerging reading disabilities. *Journal of Educational Psychology, 95*(2), 211-224.

Lee, C. (2004, Spring). Literacy in the Academic Disciplines and the Needs of Adolescent Struggling Readers. *VUE, 3*, 14-25.

Lee, C. D. (2007). *Culture, literacy and learning: Taking bloom in the midst of the whirlwind.* NY: Teachers College Press.

Lee, J., Grigg, W., & Donahue, P. (2007). *The Nation's Report Card: Reading 2007* (NCES 2007-496). Washington, DC: National Center for Education Statistics.

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy.* NY: Carnegie.

Lesaux, N. K., Lipka, O., & Siegel, L. S. (2006). Investigating cognitive and linguistic abilities that influence the reading comprehension skills of children from diverse linguistic backgrounds. *Reading and Writing, 19*, 99-131.

Leu, D. J. Jr., Kinzer C. K., Coiro, J., Cammack, D. W. (2004). Toward a theory of new literacies emerging from the Internet and other communication and information technologies. In R. B. Ruddell & N. J. Unrau (Eds.), *Theoretical Models and Processes of Reading*. (5th ed., pp. 1570-1613). NY: International Reading Association.

Levy, F. & Murnane, R. (2005). *The new division of labor: How computers are creating the next job market.* New York: Russell Sage Foundation.

Lewis, M. & Wray, D. (1999). Secondary teachers' views and actions concerning literacy and literacy teaching. *Educational Review, 51*, 273-281.

Lipka, O., Lesaux, N. K., & Siegel, L. S. (2006). Retrospective analysis of the reading development of grade 4 students with reading disabilities: Risk status and profiles over 5 years. *Journal of Learning Disabilities, 39*, 4, 364-378.

Lutkus, A. D., Rampey, B. D., & Donahue, P. (2006). *The nation's report card: Trial urban district assessment, 2005 reading report card*. Washington, DC: U.S. Government Printing Office. Retrieved August 24, 2007, from http://nces.ed.gov/nationsreportcard/nrc/tuda_reading_mathematics_2005

MacArthur, C., & Haynes, J. B. (1995). Student assistant for learning from text (SALT): A hypermedia reading aid. *Journal of Learning Disabilities, 28*, 3, 50-59.

Marsh, J., McCombs, J., Lockwood, J. R., Martorell, F., Gershwin, D., Naftel, S., Le, V., Shea, M., Barney, H., & Crego, A. (2008). *Supporting literacy across the sunshine state: A study of Florida middle school reading coaches*. Santa Monica, CA: Rand Corporation.

Martin, M. O., Mullis, I. V. S., Gonzalez, E. J., & Kennedy, A. M. (2003). *Trends in children's reading literacy achievement 1991–2001: IEA's study of trends in reading literacy achievement in primary school in nine countries.* Chestnut Hill, MA: Boston College, Lynch School of Education, PIRLS International Study Center. Retrieved August 8, 2007, from http://pirls.bc.edu/pirls2001i/PIRLS2001_Pubs_TrR.html.

Marvel, J., Lyter, D. M., Peltola, P., Strizek, G. A., & Morton, B. A. (2006). *Teacher Attrition and Mobility: Results from the 2004-05 Teacher Follow-up Survey*. Washington, DC: U.S. Government Printing Office. Retrieved August 24, 2007 from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2004301.

Massachusetts Department of Education (2001/2006). *Massachusetts curriculum frameworks*. Malden, MA: Author. Retrieved August 26, 2007 from http://www.doe.mass.edu/frameworks/current.html

McCaffrey, D. F., Koretz, D., Lockwood, J. R., Hamilton, L. S. (2004). *Evaluating value-added models for teacher accountability.* Santa Monica, CA: RAND Corporation.

McCombs, J. S., Kirby, S. N., Barney, H., Darilek, H., & Magee, S. (2004). *Achieving state and national literacy goals, a long uphill road: A report to Carnegie Corporation of New York.* Santa Monica, CA: RAND. Retrieved February 4, 2007, from http://www.rand.org/pubs/technical_reports/2005/RAND_TR180-1.pdf

McCrindle, A. R., & Christensen, C. A. (1995). The impact of learning journals on metacognitive and cognitive processes and learning performance. *Learning and Instruction*, *5*, 167-185.

McKeown, M. G., Hamilton, R. L., & Kucan, L. (1997) *Questioning the Author: An Approach for Enhancing Student Engagement With Text.* International Reading Association.

Michaels, S. (1981). "Sharing time," Children's narrative styles and differential access to literacy. *Language in Society*, *10*, 423-442.

Michaels, S., O'Connor, M. C., Hall, M. W., & Resnick, L. (2002). *Accountable Talk: Classroom Conversation that Works (3 CD-ROM set)*. Pittsburgh: University of Pittsburgh.

Moje, E. B., & Speyer, J. (2008). The reality of challenging texts in high school science and social studies: How teachers can mediate comprehension. In K. Hinchman & H. Thomas (Eds.), *Best practices in adolescent literacy instruction.* New York: Guilford.

Moore, D. W., Bean, T. W., Birdyshaw, D., & Rycik, J. A. (1999). Adolescent literacy: A position statement. *Journal of Adolescent & Adult Literacy, 43*, 97-112.

Morsy, L., Kieffer, M. J., & Snow, C. E. (2010). *Measure for measure: A critical consumers' guide to reading comprehension assessments for adolescents.* Report to the Carnegie Corporation. NY: Carnegie.

Moss, B. (2005). Making a case and a place for effective content area literacy instruction in the elementary grades. *Reading Teacher*, *59*, 46-55.

Moss, B., & Newton, E. (2002). An examination of the informational text genre in basal readers. *Reading Psychology*, *23*, 1-13.

Murnane, Richard J. & Levy, Frank (1996). *Teaching the new basic skills: principles for educating children to thrive in a changing economy*. NY: Free Press.

Nagy, W. E. (1988). *Teaching vocabulary to improve reading comprehension.* Bloomington, IN: ERIC Clearinghouse on Reading and Communication Skills; Urbana, IL: National Council of Teachers of English; Newark, DE: International Reading Association.

Nagy, W. E., & Scott, J. A. (2000). Vocabulary processes. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. III, pp. 269-284). Mahwah, NJ: Erlbaum.

Nair, M. (2007). *An Analysis of the Words Appearing in Middle School Textbooks*. Unpublished Dissertation, Harvard University, Cambridge, MA

National Assessment Governing Board (2007). *Reading framework for the 2009 National Assessment of Educational Progress*. Washington, DC: American Institutes of Research. Retrieved on August 9, 2007 from http://www.nagb.org/frameworks/reading_fw_03_07_prepub_edition.doc.

National Association of State Boards of Education (2006). *Reading at risk: The state response to the crisis in adolescent literacy.* Alexandria, VA: Author. Retrieved on August 24, 2007 from http://www.carnegie.org/literacy/pdf/Reading_at_Risk_report.pdf

National Association of Secondary School Principals (2005). *Creating a culture of literacy: A guide for middle and high school principals*. Reston, VA: Author.

National Association of Secondary School Principals (2006). *Breaking ranks in the middle: Strategies for leading middle level reform*. Reston, VA. Author.

National Center for Educational Statistics (NCES). (2001). *The condition of education, 2001*. Washington, DC: U.S. Government Printing Office. Retrieved August 24, 2007, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001072

National Center for Educational Statistics (NCES). (2003). *The condition of education, 2003*. Washington, DC: U.S. Government Printing Office. Retrieved August 24, 2007, from http://nces.ed.gov/pubs2003/2003067.pdf

National Commission on Teaching and America's Future (2003). *No Dream Denied: A Pledge to America's Children*. Washington, DC: Author.

National Commission on Writing. (2004). *Writing: A ticket to work… or a ticket out: A survey of business leaders.* New York: College Board. Retrieved July 31, 2006, from http://www.writingcommission.org/report.html.

National Commission on Writing. (2005). *Writing: A powerful message from state government.* New York: College Board. Retrieved July 31, 2006, from http://www.writingcommission.org/report.html.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Department of Education. Retrieved on August 26, 2007 from http://www.ed.gov/pubs/NatAtRisk/index.html

National Governors Association, the Council of Chief State School Officers, & Achieve, Inc. (2008). *Benchmarking for Success: Ensuring U.S. Students Receive a World-class Education.* Washington, DC: National Governors Association.

National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

National Reading Panel (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implication for reading instruction*. Washington, DC: U.S. Department of Heath and Human Services.

Organisation Education for Economic Co-operation and Development. (2007). *Education at a glance: OECD indicators*. Paris: Author. http://www.oecd.org/dataoecd/4/55/39313286.pdf

Organisation for Economic Co-operation and Development (OECD). (2000). *Literacy in the Information Age: Final Report of the International Adult Literacy Survey.* Paris: Author.

Padilla, M., Miaoulis, I., & Cyr, M. (2004). *Science Explorer: Discoveries in Life, Earth and Physical Science.* Pearson Prentice Hall.

Palinscar, A. S. & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction, 1*, 117-178.

Pappas, C. Z., L. B. (2001). *Transforming literacy curriculum genres: Working with teacher researchers in urban classrooms.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Perie, M., Grigg, W., & Donahue, P. (2005). *The nation's report card: Reading 2005.* Washington, DC: U.S. Department of Education, National Center for Education Statistics. Retrieved September 15, 2006, from http://nces.ed.gov/nationsreportcard/pdf/main2005/2006451.pdf

Pressley, M., Wharton-McDonald, R., Mistretta-Hampston, J., & Echevarria, M. (1998). Literacy instruction in 10 fourth- and fifth-grade classrooms in upstate New York. *Scientific Studies of Reading, 2*, 159-194.

Quirk, T. J., Trismen, D. A., Nalin, K. B., & Weinberg, S. F. (1975). The classroom behavior of teachers during compensatory reading instruction. *The Journal of Educational Research, 68*, 185-192.

Rampey, B. D., Dion, G. S., & Donahue, P. L. (2009). *NAEP 2008 Trends in Academic Progress* (NCES 2009-479). Washington, DC: U.S. Department of Education, National Center for Education Statistics. Retrieved May 28, 2009, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009479

RAND Reading Study Group. (2002). *Reading for Understanding: Toward an R&D Program in Reading Comprehension.* Santa Monica, CA: RAND. Retrieved October 2, 2006, from http://www.rand.org/pubs/monograph_reports/2005/MR1465.pdf.

Rasinski, T. V. (2003). *The fluent reader: Oral reading strategies for building word recognition, fluency, and comprehension.* New York: Scholastic.

Rasinski, T., Blachowicz, C., & Lems, K. (2006). *Fluency instruction: Research-based best practices.* New York: Guilford.

Roller, C. (2006). *Reading and literacy coaches report on hiring requirements and duties survey*. Newark, DE: International Reading Association.

Salinger, T., & Bacevich, A. (2006). *Lessons and recommendations from the Alabama Reading Initiative: Sustaining focus on secondary reading.* Washington, DC: American Institutes for Research.

Samuels, S. J., & Farstrup, A. E. (Eds.). (2006). *What research has to say about fluency instruction.* Newark, DE: International Reading Association.

Sandoval, W. A., & Millwood, K. A. (2005). The quality of students' use of evidence in written scientific explanations. *Cognition and Instruction, 23*, 1, 23-55.

Saunders, W. M., & Goldenberg, C. (1999). Effects of instructional conversations and literature logs on limited- and

fluent- English proficient students' story comprehension and thematic understanding. *Elementary School Journal*, *99*, 277-301.

Scarborough, H. S. (2001) Antecedents to reading disability: Preschool language development and literacy experiences of children from dyslexic families. *Reading and Writing*, *3*, 219-233.

Short, D., & Fitzsimmons, S. (2007). *Double the work: Challenges and solutions to acquiring language and academic literacy for adolescent English language learners: A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Snow, C. E. (1990). The development of definitional skill. *Journal of Child Language*, *17*, 697-710.

Snow, C. E. (2003). Assessment of reading comprehension: Researchers and practitioners helping themselves and each other. In Sweet, A. P. & C. E. Snow (eds.), *Rethinking reading comprehension.* New York: Guilford Press.

Snow, C. E. (2007, April). *Initiatives in middle school literacy*. Symposium conducted at the annual meeting of the American Educational Research Association, Chicago, IL.

Snow, C. E., Burns, M. S. & Griffin, P. (1998). *Preventing Reading Difficulties among Young Children.* Washington, DC: National Academy Press.

Snow, C. E., Griffin, P. & Burns, M. S. (2006). *Knowledge to support the teaching of reading: Preparing teachers for a changing world.* San Francisco: Jossey-Bass.

Snow, C., Ippolito, J., & Schwartz, R. (2006). What we know and what we need to know about literacy coaches in middle and high schools: A research synthesis and proposed research agenda. In *Standards for middle and high school literacy coaches.* Newark, DE: International Reading Association, 35-49. Retrieved August 26, 2007 from http://www.reading.org/resources/issues/reports/coaching.html

Snow, C. E., Porche, M. V., Tabors, P. O., & Harris, S. R. (2007). *Is literacy enough? Pathways to academic success for adolescents.* Baltimore, MD: Brookes Publishing.

Snow, C. E., Martin, T., and Berman, I. (2008). State literacy plans: Incorporating adolescent literacy. *Harvard Educational Review*, *78*, 1, 211-230.

Spencer, M. B. (1999). Social and cultural influences on school adjustment: The application of an identity-focused cultural ecological perspective. *Educational Psychologist*, *34*, 1, 43-57.

Stahl, S. A. (2003). Vocabulary and readability: How knowing word meanings affects comprehension. *Topics in Language Disorders*, *23*, 3, 241-247.

Stahl, S. A., & Nagy, W. E. (2005). *Teaching word meanings.* Hillsdale, NJ: Erlbaum.

Stephens, D., Morgan, D., Donnelly, A., DeFord, D., Young, J., Seaman, M., Crowder, K., Hamel, E., & Cibic, R. (2007). *The South Carolina Reading Initiative: NCTE's Reading Initiative as a Statewide Staff Development Project*. Urbana, IL: National Council of Teachers of English.

Tierney, R. J., & Shanahan, T. (1991). Research on the reading–writing relationship: Interactions, transactions, and outcomes. In R. Barr, M. L. Kamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. II, pp. 246-280). White Plains, NY: Longman.

Tierney, R. J., Soter, A., O'Flahavan, J. F., & McGinley, W. (1989). The effects of reading and writing upon thinking critically. *Reading Research Quarterly*, *24*, 134-173.

Troia, G. A., & Graham, S. (2003). Effective writing instruction across the grades: What every educational consultant should know. *Journal of Educational & Psychological Consultation*, *14*, 75-89.

UNESCO Institute for Statistics. (2007). *Global education digest: Comparing education statistics across the world*. Montreal: Author. http://www.uis.unesco.org/template/pdf/ged/2007/EN_web2.pdf

Valdés, G., Bunch, G., Snow, C. E., Lee, C., and Matos, L. (2005). Enhancing the development of students' language(s). In Darling-Hammond, L. & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 126-168). San Francisco: Jossey Bass.

Velasco, P. (1988). *The relationship of oral decontextualized language and reading comprehension in bilingual children*. Doctoral thesis, Graduate School of Education, Harvard University.

Wiggins, G., McTighe, J. (2006) *Understanding by Design*. NY: ASCD.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *Woodcock-Johnson III Psychoeducational Battery.* Itasca, IL: Riverside.

Wong Fillmore, L. & Snow, C. E. (2000). What teachers need to know about language. In Adger, C. T., C. E. Snow & D. Christian (eds.). *What teachers need to know about language* (pp. 7-54). McHenry, IL: Delta Systems Co.

World-class Instructional Design and Assessment. (2004). *Assessing Comprehension and Communication in English State to State for English Language Learners (ACCESS for ELLs)*. Madison, WI: Wisconsin Center for Education Research.

Worthy, J., Moorman, M., & Turner, M. (1999). What Johnny likes to read is hard to find in school. *Reading Research Quarterly*, *34*, 12-27.

Endnotes

[1] For example, the National Reading Panel based its conclusions about the value of vocabulary instruction almost exclusively on data drawn from third grade and above, and the comprehension research reviewed by the Panel all involved students in fourth grade and above. The Panel's findings can help inform thoughtful and effective interventions for the sub-set of adolescent students who continue to struggle in fluency and word reading.

[2] The centrality of writing in adolescent literacy is particularly apparent in student assessments. Many state assessments of literacy include writing portions, NAEP has a separate assessment for writing, and the Educational Testing Service (ETS) recently incorporated essays into the Scholastic Aptitude Test (SAT) required for entry into most colleges and universities. Several recent reports also indicate that employers demand excellent writing and oral communication skills, especially in the fastest growing sectors of the labor market—the information-intensive and the service sectors (Achieve, Inc., 2005; ACT, 2005; American Diploma Project, 2004; National Commission on Writing, 2004, 2005).

437 Madison Avenue
New York, NY 10022
(212) 371-3200
www.carnegie.org