



Reading on the Go!

Students Who Are Highly Mobile and Reading Instruction

Prepared for the National Center for Homeless Education by

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NCHE Profile

The National Center for Homeless Education (NCHE) is a national resource center of research and information enabling communities to successfully address the needs of children and their families who are experiencing homelessness and unaccompanied youth in homeless situations. Funded by the U.S. Department of Education, NCHE provides services to improve educational opportunities and outcomes for homeless children and youth in our nation's school communities. NCHE is housed at SERVE, a consortium of education organizations associated with the School of Education at the University of North Carolina at Greensboro.

The goals of NCHE are the following:

- Disseminate important resource and referral information related to the complex issues surrounding the education of children and youth experiencing homelessness
- Provide rapid-response referral information
- Foster collaboration among various organizations with interests in addressing the needs of children and youth experiencing homelessness
- Synthesize and apply existing research and guide the research agenda to expand the knowledge base on the education of homeless children and families, and unaccompanied youth

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Executive Summary

Exploring reading instruction for students who are highly mobile is a logical progression of the work undertaken by my colleagues and me as we work with the National Center for Homeless Education to further the quality of education for students experiencing homelessness. Our collaboration began with identifying resources specific to serving children and youth experiencing homelessness. As a means of expanding awareness of homelessness, we identified other populations who shared a common characteristic, namely, frequent moves both in residences and classrooms. Our most recent charge has been to sharpen the focus on instructional considerations for these challenging students. Given its critical importance in the foundation of student learning, reading was selected as the first topic for such an exploration. Specifically, the target population was composed of elementary-grade students who are highly mobile due to the stressors of poverty.

This manuscript is the outcome of the first year of a two-year project designed to explore what works in reading instruction for students who are highly mobile. The project includes several components. The first was to conduct an extensive literature review to identify what is already known (the focus of this document). In addition to the literature review, we are conducting focus groups and site visits to projects that have been successful supporting reading among highly mobile students to identify practical, real-life applications of the concepts and strategies found in the literature. This initial review and analysis of information will lead to further refinement of the current document. Illustrative cases will be interspersed to further operationalize the concepts presented here. Finally, a major emphasis in the next phase of the project will be to identify resources that are easily accessible to practitioners. These will be disseminated as a “toolkit” companion to the current document.

In reviewing the literature on reading instruction for students who are highly mobile, we were faced with a serious challenge—the lack of specific research on this population. The virtual absence of a research base upon which to draw impacted the planned structure for our review. As a result, rather than focusing specifically on reading instruction throughout this document, the first chapters provide information about mobility. We chose to include this background information because reading instruction alone does not address the broader educational needs of students who are highly mobile. Chapters 1 and 2 describe students who are considered highly mobile, some of the causes for mobility, and a variety of educational strategies for working with them. It is important to consider the support systems that can be provided at the district, school, and classroom levels to make transitions easier for these students and, when possible, reduce the number of school moves they experience. Appropriate implementation of such general interventions can decrease the number of students who will be highly mobile

while increasing the likelihood that mobile students are “ready” for effective reading instruction.

Given the emphasis on research-based reading instruction, Chapter 3 reviews the current expectations for quality research and provides guidelines for reviewing reading research. Mobility is a confounding factor for researchers. Tracking students who are moving is time intensive and not always successful, despite well-intended efforts. This chapter is somewhat technical in nature, but it is important that teachers become instructional leaders who can critically evaluate the reading literature and subsequently adopt practices that most effectively meet the needs of their students. For example, if you are teaching students who are highly mobile and are considering a particular study or reading program, it is valid to ask, “Are my students represented in the sample studied? How does this research apply to my students?”

As mentioned, reading research focusing on mobility is not widely available; however, there is a growing body of research on reading instruction for students living in poverty. Since poverty is a common factor across most of the subgroups of mobile students addressed in this project, this research aligns most closely and may suggest effective reading practices for students who are highly mobile. Many of these studies used the conceptual framework from effective schools research, which analyzed characteristics of schools and the actions of staff that resulted in greater student learning, now targeting reading practices in the context of schools and classrooms. Chapter 4 highlights practices identified by such studies as improving reading achievement for students living in poverty.

A number of focus group participants strongly voiced their belief that students who are highly mobile do not need “different” instruction and that, instead, we should focus on effective instruction for all students. Therefore, Chapter 5 addresses the major components of language and their reading counterparts, along with examples of instructional approaches to address them. While these elements are likely to be just as important for students who move frequently as they have been found to be for all students, teachers may experience special challenges in ensuring that their highly mobile students master and integrate all the skills needed to become capable readers. What these challenges are and how educators can overcome them will be the focus of our next year’s work.

Chapter 1

Reading and Highly Mobile Students

According to Phyllis Hunter, a nationally recognized educational consultant in reading, reading is “the new civil right.” Literacy *is* the key that allows us to access our rights as Americans, including the pursuit of life, liberty, and happiness. Amidst this renewed emphasis on literacy and its increased visibility as a national political agenda, reading experts continue to explore the “best” ways to teach children to read. Furthermore, the cry for scientifically based research that supports instructional strategies is loud. Thus, social, educational, and legislative influences are converging as educators are being asked to ensure that “no child is left behind” in our efforts to provide all children with the literacy skills required to be successful in this new millennium.

This document is an effort to explore one such convergence of forces. While much is known about the teaching of reading and the acquisition of literacy skills, there are subgroups of students who typically omitted from the research upon which our understanding of the reading process is based. These are students who, for a plethora of reasons, spend such limited time in one school that the impact of reading interventions is difficult to ascertain. They are likely to be those students included in the attrition portion of reading and other educational research. In the literature, these children and youth are known as “highly mobile students.”

Mobility can result from positive changes, such as job promotions, or it can be the result of challenges the students and their families are experiencing, such as domestic violence or poverty. This paper will focus on the second group—those students for whom mobility results from stressors in life. Additionally, while students who are highly mobile span the age range from preschool through high school, our discussion is limited to early literacy and elementary school-aged students.

Defining Highly Mobile Students

The freedom to move and seek new opportunities is a hallmark of our identity as Americans.¹ However, while this freedom may be perceived as a birthright, mobility has its liabilities, especially when it comes to schooling. How many moves are needed to distinguish a student as “highly mobile”? The Michigan Public Policy Initiative defined students who move six or more times, excluding normal grade transitions (e.g., elementary to middle to high school), in the course of their K-12 career as “highly mobile.”² Prorating for the actual number of years a child has been in school, this is consistent with a 1994 General Accounting Office (GAO) study that defined third graders as highly mobile if they had moved two or more times since kindergarten.³

Mobility and Student Subgroups

Mobility affects many of us at some point in our lives. The 2000 U.S. Census Report revealed that 15 to 18% of school-aged children changed residences from the previous year⁴ and that nearly twelve million children changed their place of residence in 1999-2000.⁵ Mobility does NOT affect us all equally, however. The following statistics illustrate such differences:

- Thirty percent of children in low-income families (annual incomes under \$10,000) changed schools, while only 8% of children from more affluent families (annual incomes over \$50,000) did so.⁶
- Inner-city students were more likely to change schools frequently (25% of third graders) than students in suburban or rural schools (14% of third graders).⁷
- Some urban schools report student turnover between 40 and 80%.⁸
- Students experiencing homelessness average three or more moves per year.⁹

When educators are asked to list students they teach who are highly mobile, it does not take them long to generate the following list:

- Children and youth of families in the military;
- Children and youth whose families are migrant workers;
- Children and youth who experience great poverty;
- Children and youth experiencing homelessness;
- Children and youth in foster care;
- Children and youth whose families are struggling with domestic violence, emotional disorders, or substance abuse;
- Immigrants;
- Runaways; and
- “Third Culture Kids” (i.e., students whose parents are from the United States, but with jobs that result in their children being raised and educated in other countries).

Mobility and Student Achievement

How does such mobility impact student achievement? The effect is not consistent. Even among students who are highly mobile, some have

demonstrated very strong academic achievement, while for other students success is beyond their reach. Consider the following:

- Students in Department of Defense Schools outperformed most students in most states on the National Assessment of Educational Progress (NAEP).¹⁰
- The International Baccalaureate (IB) program, a prestigious advanced high school program in which students can earn college credit, was originally created to provide a consistent curriculum for children of diplomats who travel around the world, sometimes referred to as “Third Culture Kids.”¹¹

Now compare the above findings to the following:

- Frequent school moves have been correlated with lower academic achievement.¹²
- Recovery from a school transfer may take four to six months.¹³
- Highly mobile students are half as likely to graduate from high school as other students.¹⁴
- Attendance rates are lower for mobile students, further impacting academic achievement.¹⁵
- Mobile students are twice as likely to repeat a grade as their peers.¹⁶
- Mobility of peers may impact the academic achievement of stable students in classrooms.¹⁷

A review of the research that led to these divergent findings suggests that additional stressors as well as supports, beyond mobility, play a significant role in the academic outcomes for students. Table 1 provides a summary of student subgroups where high mobility may negatively impact achievement.

Subgroup	Incidence and Common Demographics	Reasons for Mobility	Challenges	Outcomes (Samples of research findings)
High Poverty	<ul style="list-style-type: none"> - 12.5 million receive Title I, Part A assistance through No Child Left Behind (NCLB) - 16.3% of American children ages 18 and younger live in families with incomes below the poverty line¹⁸ - Higher incidence for children of color: 30.2% of African American children and 28% of Latino children live in poverty compared to 13.4% of Caucasian children¹⁹ 	<ul style="list-style-type: none"> - Coping (e.g., unstable family or unsafe housing) - Forced (e.g., eviction) - Upward mobility (e.g., improved economic status) - Lifestyle (e.g., cultural, familial norm to move frequently)²⁰ 	<ul style="list-style-type: none"> - Basic needs: <ul style="list-style-type: none"> - Safe housing - Clothing - Supplies - Health care, including mental health services, when appropriate - Links to other community services - Legal counsel for housing issues - Family counseling - Information regarding the possible impact of school moves - Quality of available education²¹ 	<ul style="list-style-type: none"> - Missed average of 6 days of school per year and approximately one third were retained²² - Scored in the low-average range on measures of reading, spelling, and mathematics²³
Migratory	<ul style="list-style-type: none"> - Approximately 1% of youth ages 3-21; approximately 756,000 served in 1996-97²⁴ and 660,000 in 1998²⁵ - 60% in poverty - Large, intact families - Needs of family are primary; education may be secondary - Parents with limited education, but desire for children to have greater opportunities - Limited or lack of English proficiency 	<ul style="list-style-type: none"> - Available work dependent on external factors, especially environment 	<ul style="list-style-type: none"> - Quality health care (exposure due to nature of work and limited living space) - Improved school attendance (health and family responsibilities) - Parental knowledge of health and education systems - School supplies - English as a second language - (ESL) services - Continuity of learning (gaps resulting from frequent moves) 	<ul style="list-style-type: none"> - Graduation rate of approximately 50%²⁶ - Lower teacher expectations, lower enrollment in advanced coursework²⁷

Subgroup	Incidence and Common Demographics	Reasons for Mobility	Challenges	Outcomes (Samples of research findings)
Homeless	<ul style="list-style-type: none"> - Estimates vary significantly, with a range from 930,200 to over 1.5 million children and youth experiencing homelessness during any given year - Single mothers with young children comprise fastest growing subgroup experiencing homelessness 	<ul style="list-style-type: none"> - Domestic violence - Lack of affordable housing - Poverty - Time limits for shelter stays 	<ul style="list-style-type: none"> - “Bridge” for possible disconnect between parent or guardian and the education system - Continuity of learning - Health and dental care - Social services support - Counseling - School supplies - Transportation - Academic support - Stable, safe housing 	<ul style="list-style-type: none"> - Missed average of 6 days of school per year - Approximately one third were retained^{28,29} - Scored in the low-average range on measures of reading, spelling, and mathematics³⁰ - 75% of children in New York City found to be reading below grade level³¹
Immigrant	<ul style="list-style-type: none"> - In 1995, immigrant education served 822,000 students³² - About one in every five students is an immigrant or the child of an immigrant³³ 	<ul style="list-style-type: none"> - Unsafe conditions in country of origin - Political exile - Economics—desire to provide a more prosperous way of life for the family 	<ul style="list-style-type: none"> - Concern and legal response: immigrants limit access to jobs and reduce competitive wages - Lack of awareness of U.S. laws and policies - Undocumented immigrants’ fears, which prevent families from enrolling their children - Lack of standard school enrollment records 	<p>Outcomes vary significantly based on factors such as:³⁴</p> <ul style="list-style-type: none"> - Immigrant group’s compatibility with white middle-class culture - U.S. society reaction to ethnic “markers” such as culture and skin color - Political and economic capital of the immigrant group
Foster Care	<ul style="list-style-type: none"> - Nationwide, approximately 588,000 children and youth are in foster care placements - Twice as many children in foster care change schools three or more times after fifth grade than their peers not in foster care³⁵ 	<ul style="list-style-type: none"> - Court decisions to provide children with a safer home 	<ul style="list-style-type: none"> - Higher incidence of physical, developmental, behavioral, and health problems - Aging out of service at 18 restricts the extended support most children receive from their families as they transition into adulthood and master independent living skills 	<ul style="list-style-type: none"> - More than 60% of foster youth drop out of school - High incidence (25-30%) of homelessness among individuals who had been placed in foster care - 25-41% of former foster care children experience incarceration³⁶

Table 1. Overview of Subgroups of Highly Mobile Students (adapted from Popp, Stronge, & Hindman, 2003)

Serving Highly Mobile Students – An Historical Perspective

And then the dispossessed were drawn west—from Kansas, Oklahoma, Texas, New Mexico; from Nevada and Arkansas families, tribes, dusted out, tractored out. Carloads, caravans, homeless and hungry; twenty thousand and fifty thousand and a hundred thousand and two hundred thousand. They streamed over the mountains, hungry and restless—restless as ants scurrying to find work to do—to lift, to push, to pull, to pick, to cut—anything, any burden to bear for food.

The kids are hungry. We got no place to live. Like ants scurrying for work, for food, and most of all for land.

(John Steinbeck, *The Grapes of Wrath*)³⁷

School mobility has been a challenge for educators in the United States since the inception of compulsory education. Originally, while teachers and administrators recognized the added work associated with students moving in and out of classrooms, the impact on students and their academic achievement was a lesser concern. Much of the early research from the 1880s through the 1950s emphasized school mobility as the result of an upwardly mobile society.³⁸ Family moves were associated with better jobs and promotions. While there were exceptions to upward mobility during times of war or the Great Depression, these early studies found little evidence that school mobility had a negative impact on student achievement.

From the 1970s through the present, the reasons for movement in our society have shifted.³⁹ Job promotions and opportunities for “a better life” still spur families to move, but the incidence of downward mobility has increased. Downward mobility may result from poverty factors, limited affordable housing, access to a living wage, and other economic realities such as corporate downsizing, and increased use of contracted work with sporadic employment. Social changes also have an impact, including an increase in the number of one-parent households, which often makes the family more vulnerable to the economic threats cited.⁴⁰ Even concerns for school safety and effective faculty have been found to influence mobility rates.⁴¹

This changing landscape of mobility over the years has led to research results that appear contradictory when school mobility is examined in relationship to student achievement. Varying supports, stressors, and expectations are among the complex factors that lead to divergent outcomes in student learning. Thus the impact of school mobility on student achievement appears to be dependent on these additional factors that the student and family experience.

The school and the classroom continue to be seen as settings to resolve the economic and social inequalities faced by the children we serve. However, no longer are educators confronted by school mobility among students who are likely to resemble themselves. Along with increasing downward mobility

resulting in school moves, educators continue to face greater diversity in the classroom whether economic, racial, or ethnic, or in terms of English language proficiency.⁴²

Serving Highly Mobile Students – A Legislative Perspective

While education is an implied responsibility of states under the Fourth Amendment of the Constitution, Congress has intervened with federal legislation when inequities are evident in the educational opportunities afforded different subgroups of students. For example, the war on poverty, spearheaded by the Johnson administration, resulted in the Elementary and Secondary Education Act (ESEA) of 1965, the first iteration of federal legislation now known as the No Child Left Behind (NCLB) Act of 2001 (P.L.107-110). With the requirements of NCLB, the issue of school mobility and student achievement is gaining more and more attention. Monographs, entire issues of journals, and a significant increase in research and articles in recent years have created a forum for articulating what we know and what remains to be explored.⁴³

NCLB reflects the four pillars of President George W. Bush's educational reform plan:

- Accountability—Collecting data that show results for all students
- Local control and flexibility—Designing programs based on documented needs of students
- Parental choice—Involving parents in a meaningful way in their child's education
- Doing what works—Using strategies backed by data showing their effectiveness

The No Child Left Behind Act is sweeping legislation whose impact is still emerging. Among the students, teachers, and administrators placed in the spotlight by this law, are those likely to experience school mobility. How to merge these pillars of reform with the extant research poses significant challenges. Table 2 highlights several sections of NCLB and subgroups of students likely to experience mobility whose needs are addressed in the Act.

NCLB Reference	Targeted Subgroups	Sample of Requirements
Title I, Part A	High poverty	<ul style="list-style-type: none"> - Evidence of adequate yearly progress (AYP) through yearly testing (3-8 and high school end of course) in reading and mathematics, attendance, and graduation rates by individual schools, local education agencies (LEAs), and states - Disaggregation of data for AYP by high poverty, disability, limited English proficiency, and race/ethnicity - Consequences when AYP is not met
Title I, Part C	Migratory workers	<ul style="list-style-type: none"> - Funding for supplemental educational services - Outreach to migrant families - Development of a computerized data base to facilitate school record transfer
Title III	Limited English proficient (LEP) Immigrant students	<ul style="list-style-type: none"> - Development of high-quality research-based language instruction programs - Annual assessment of English proficiency for LEP students - Inclusion of LEP students in school accountability systems - Disaggregated data for LEP students in determining AYP
Title X, Part C	Homeless	<ul style="list-style-type: none"> - Maintenance of school of origin, when feasible, to increase academic stability - Transportation to school of origin - Appointment of local homeless education liaisons in all local school districts

Table 2. Sections of the No Child Left Behind Act That Address the Needs of Students Who May Be Highly Mobile

As its title suggests, the No Child Left Behind Act not only targets students traditionally served by ESEA, but also includes requirements designed to influence the achievement of all students. For example, adequate yearly progress (AYP) will require analysis of reading and math performance for all students served by public schools, including disaggregated data for students who traditionally have been less likely to meet achievement benchmarks. The importance of analyzing disaggregated data in this way has been supported by studies of high-poverty/high-achieving schools.⁴⁴ Disaggregating achievement scores for students with disabilities, students with limited English proficiency, minority students, and students living in poverty will likely include many students who may be considered highly mobile, adding to the current interest in these special populations.

The Reading First Initiative

The No Child Left Behind Act clearly articulates the priority reading must play in meeting the needs of *all* students. Thus, the Reading First Initiative, Title I, Part B, Subpart 1, is described as the cornerstone of NCLB. It is a six-year entitlement to state education agencies (SEAs) to assist states and local districts in applying research-based practices to teach reading. The goal is to have every child reading on grade level by third grade. To achieve this goal, the Reading First Initiative focuses on high-quality, research-based instruction in K-3 classrooms using state-approved programs that demonstrate strong validity and reliability. Such reading programs fall into two categories: (a) comprehensive programs that incorporate all the basic components of effective reading instruction and (b) supplemental programs and materials that can be used to complement core programs by highlighting components that are challenging and require additional reinforcement for some students. Resource A includes a summary of the most frequently state-adopted comprehensive programs. (Please refer to your state department of education to identify which programs have been approved in your state.)

All approved programs must maximize student learning through effective and efficient use of time. Comprehensive programs must incorporate the five major components identified as critical to early literacy:

- **Phonics:** the relationship between sounds (phonemes) and letters (graphemes) and how letters are combined to spell spoken words.
- **Phonemic awareness:** the ability to hear, identify, and manipulate the individual sounds (phonemes) in speech.
- **Vocabulary:** understanding of the meanings and pronunciations of words necessary to communicate in writing and speech.
- **Fluency:** the ability to read text accurately and quickly.

- Comprehension: the ability to understand, recall, and discuss what has been read.

Goals of This Document

A primary purpose of this document is to summarize key findings from the reading research as translated into the realities of teaching highly mobile students. Little research exists that specifically targets reading and highly mobile students; therefore, this document is not intended to provide the scientifically based evidence being called for in current reform efforts. Rather, our intent is to provide a framework for future research efforts.

Second, this document is intended to provide practitioners who serve highly mobile students every day—who do not have the luxury of time to wait for definitive studies specific to mobility—with resources and promising practices being implemented by colleagues throughout the country. Effective teachers daily play the role of scientist. They provide instruction and interventions, collect data on student outcomes, and continually revise and reshape their teaching based on observations of their students' current and evolving learning needs. The information presented here is intended to add to teachers' repertoire by highlighting how the extant research is currently influencing reading practices.

Finally, educational leaders may find this resource of value when confronting the complexity surrounding high mobility in their schools and determining future efforts. Promising practices and current issues rely heavily on programmatic and administrative leadership. In addition to the mobility of individual students, many schools and school systems experience high mobility, with 40% to 80% turnover in the students who begin the school year compared with those in attendance at the end of the year. Where mobility is systemic, leadership must play a role in addressing the many factors facing students, teachers, and whole schools.

The following questions have guided the development of our work:

- What information does the existing research provide on the academic challenges faced by elementary school-aged children experiencing homelessness, high mobility, and poverty?
- What are the specific literacy needs of students experiencing these conditions?
- What are criteria for programs and practices appropriate for addressing the literacy needs of students experiencing high mobility?
- What programs and practices exist that successfully address the literacy needs of students experiencing high mobility?

- What data support the effectiveness (in terms of student achievement and growth) of these programs and practices?
- How may these programs be categorized (i.e., instructional programs and practices in the classroom, tutoring, school infrastructure)?
- What are the common features of these programs?

Endnotes for Chapter 1

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- ³⁵ Grayson, J. (Ed.). (2003). Outcomes for foster youth. *Virginia Child Protection Newsletter*, 67. Harrisonburg, VA: James Madison University, p. 2.
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- ³⁸ Smith-Jones, Y. D. (1997). *A comparative analysis of school-based performance of mobile and nonmobile students*. Unpublished doctoral dissertation, The College of William & Mary, Williamsburg, VA, pp. 14-15.
- ³⁹ Ibid.
- ⁴⁰ Consumer Federation of America. *Research shows that women on their own face financial challenges*. Retrieved January 26, 2004, from <http://www.consumerfed.org/womenfinance.pdf>.
- ⁴¹ Rumberger, Larson, Ream, & Palardy. (1999), p. 3.
- ⁴² The National Center for Education Statistics provides trends on public school students, including a variety of indicators and demographics. Such data may be viewed at: <http://nces.ed.gov/programs/coe/list/index.asp>.
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- ⁴⁴ See, for example, Skrla, L., Scheurich, J. J., & Johnson, J. F. (2000). *Equity-driven achievement-focused school districts*. Austin: University of Texas, Charles A. Dana Center.

Chapter 2

General Educational Support Systems for Highly Mobile Students

At the school district, school, and classroom levels, educators have identified a variety of practices that may support students when mobility is high. These practices have resulted in decreased mobility in some instances,¹ assisted students and their families when moves do occur, and even provided schools and teachers with assistance that ease the challenges they face when the schoolhouse and classroom appear to have a “revolving door.”

Communicating the message that school is a safe, welcoming place to students (and parents) is an important part of the planning that goes into the opening of school every year. This is communicated through the rites, rituals, and everyday procedures of the learning community.² Teachers, principals, and central office personnel spend significant amounts of time learning about each other and their students and working to establish smooth operations. Doing so early in the school year sets the tone for the remainder of the year. For highly mobile families and their children, the challenge is to receive that “beginning of school information” quickly and clearly *whenever* there is another move. How can we initiate relationships and communicate a district’s, school’s, or classroom’s culture at various points throughout the year?

The first step in reaching out to families and their children is to identify and meet the needs of incoming students. One framework for looking at students’ needs is Maslow’s hierarchy of need.³ Maslow theorized that our basic needs must be met before needs at higher levels can be fulfilled. Thus, students will not be *ready* to learn until these basic needs are addressed. The physiological needs of students include food, shelter, clothing, and medical attention, whereas their social/emotional needs include safety, security, and belonging. In addition, mobile students may require assistance with school records, supplies, transportation, and instruction in areas of weakness or content not covered in a previous school. When planning to meet the needs of highly mobile students, considering these levels provides a useful framework for identifying the specific needs of students. The following interventions have been employed by educators who work with students experiencing high mobility.⁴

District-Level Practices

School boards and central office personnel play an important role in supporting highly mobile students and, in some instances, reducing the incidence of mobility in their districts. Note that analyzing the underlying causes for mobility is necessary to effectively select interventions to address a district’s specific context. Actions districts have employed include:⁵

- **Establish procedures that ensure transmittal of school records in a timely fashion.** Delays in receiving school records lead to delays in enrollment and loss of instructional time. Use technology to transmit information quickly.
- **Create a parent booklet with transfer suggestions.** Providing parents with information regarding appropriate withdrawal and enrollment procedures can shorten delays when moves occur. Checklists of important steps to complete at the old and the new school can keep parents on track. The National Center for Homeless Education has developed a “Parent Pack,” a folder for maintaining important school records that includes checklists of what items should be included (visit their website at www.serve.org/nche).
- **Allocate additional resources.** While this requires funding, smaller class size, additional teachers, free summer school for students not on grade level, and community homework centers can provide instruction to increase academic achievement for students.
- **Provide guidance to parents about the effects of school transfers.** Brochures and public service announcements alert parents to the potential challenges children face when multiple school transfers occur. An example of such an initiative is Chicago’s Staying Put Campaign,⁶ which encourages greater stability for students. Procedures to reconcile disputes that lead to school transfers within the district also may be reviewed or developed.⁷
- **Become involved with interagency efforts to provide families with resources needed to reduce mobility, when possible.** Student mobility is often a symptom of larger problems. Availability of affordable housing, local jobs, and accessible transportation are critical factors that can affect mobility. Schools can educate policy makers and other community leaders regarding the impact of student mobility in efforts to make it a consideration in the allocation of resources and planning. One example of such an initiative took place in Rochester, New York where collaboration between the schools and community partners resulted in a reduction of school mobility.⁸

School-Level Practices

With effective leadership, principals and teacher leaders also can implement many of the activities described for district-level initiatives at the school level. In addition, the focus on a welcoming community environment becomes a greater focus at the school level. Potential strategies to consider include:

- **Prepare in advance for incoming and departing transfers.** Establishing routines that have been communicated to faculty and staff can make transfers less disruptive. Involve faculty and staff in developing procedures with opportunities for training, procedure review and revision.
- **Have counselors meet with parents and student when registering.** Personal contact provides a welcome to the family and an opportunity to begin identifying needs through informal conversations.
- **Arrange a parent follow-up** several weeks after enrollment. Questions often arise once a student has begun attending school. Some parents may be reluctant to contact the school with questions. A positive contact a few weeks after the child was enrolled can open the door to clarify information for families.
- **Create an orientation video or CD for your school.** Develop a video/CD for new parents and students to preview when they enroll. A virtual tour of the building, review of important policies, and an introduction to the faculty, staff, and student body can be an entertaining way to welcome newcomers. (The development of the video could be undertaken by high school students, and language arts and technology standards could be incorporated in the video production.) Consider multiple languages if families are non-English speaking. Arrange for a comfortable location in the school where the video may be viewed if families lack access for home viewing.
- **Create an orientation brochure for your school.** The content addressed in a video could be included in a written document. Again, consider what languages are needed for your community.
- **Create and train student volunteer coaches to orient new students.** Student “ambassadors” can assist in building community and provide a buddy system at the classroom or school level.
- **Conduct schoolwide acquaintanceship activities/contests.** Principals and counselors may arrange “New Kids on the Block” lunches as an optional activity for new students. Have a “welcome party” for new students and a “good-bye party” for those who are leaving.

Classroom-Level Practices

Teachers have the most direct contact with highly mobile students and may find their instruction for all students impacted by multiple transitions. Teachers should consider how to prepare before students arrive, how to develop activities upon class entry, and how to bring closure to departures.

- **Before the student arrives.** Planning ahead and being organized can ease transitions for both teachers and students.
 1. Maintain a list of classroom rules and procedures along with the class schedule.
 2. Have “welcome gifts” (school pencils, writing paper, trade book, etc.).
 3. Make a “New Student Box” for the room. Include nametags, precut contact paper or roll of tape to affix names to desk or locker, marking pens to label possessions, extra labels for classroom charts (job charts, student-of-week projects, birthday charts, reading club, etc.).
 4. Prepare “New Student Files.” Include things to go home to parents, classroom and school rules, supply list, extra sets of supplies for those who can’t afford them, copies of general letters to parents, class schedule and special classes (art, music, library, P.E.), activity ideas for home, things for the child to use at school (quick interest survey for the older child to complete, “all about me” drawing paper for primary grades, get acquainted form or project, classroom and school rules, and classroom procedures.
 5. Maintain a teacher management checklist. Remember to update locker assignment chart, seating chart form, class list, and lunch list.
 6. Develop short assessments for reading, writing, and mathematics if records are delayed (e.g., curriculum-based tasks, reading inventories, current unit pretests).⁹
 7. Create learning packets of background information and activities for “catch up” if students arrive mid-unit or make extra copies of materials for review when new students arrive without prior notice.

- **When the student arrives.** Providing a warm, welcoming, and safe community for all children is important. It is especially critical for new members to the school and classroom to feel safe and welcome the moment they arrive at the school doors. *Feeling connected starts new children in the right direction.* It helps them feel grounded and establishes their place in the classroom. Playing welcome games or similar inclusion activities can make the transition into the classroom more comfortable for the new student and the whole class. When students feel they belong, they have some ownership in their new room. New students must learn how the class operates, and get a feel for expectations and routines. In addition, current students should be given the opportunity to build new relationships and recognize how classroom dynamics shift when a new person is included. This connection between the new student and class facilitates learning and the resumption of routines for all.

1. Assign a buddy for recess, lunch, etc.
 2. Introduce the student to the class. Give new students an opportunity to share information about themselves (e.g., interviews, story writing).
 3. Introduce the student to others who arrived late and are succeeding.
 4. Make time to chat with new students individually to welcome them and set aside a brief “chat time” when students arrive in the morning to allow them to talk about their day.
 5. Nurture social skills and new friendships with structured activities.
 6. Laminate examples of best work for durability. This can help ensure quality work will be available for the next teacher if another move should occur.
 7. Use a Polaroid or digital camera to take an individual picture on the child’s first day and a picture of the child with the class.
 8. Use tutors/volunteers/mentors to provide one-on-one support. Even if the student does not need remediation, this can provide a connection with someone else in the school.
 9. Closely monitor the educational progress of students with three or more previous school moves.
- **When the student departs.** Supporting students in saying goodbye is as important as welcoming activities, yet it is often neglected. Providing a formal goodbye, whether the child is present or has already left, allows the class to transition by providing closure. Children need to know that it is O.K. to feel sad, for example, when a classmate leaves and develop appropriate ways to express their feelings. Some examples of formal goodbye procedures follow.
 1. Have classmates write letters to their departing peer. If a student leaves without notice, the letters can be kept in the office file until records are requested and then sent to the student with the official record transfer.
 2. Prepare a “Goodbye Book.” It can be as simple as sheets of paper stapled or tied together with yarn or as elaborate as a laminated and spiral-bound booklet. Give students time to autograph the book and brainstorm with the departing student about special memories. For example, younger students can draw pictures with language experience sentences. Also, consider decorating the book with a Polaroid or digital pictures of the class.
 3. Maintain a departure file with sample work that the student can bring to the new school. Consider including exemplary work (lamine, if possible), journal recalling events from classmates

(“Goodbye Book”), individual and class photos, self-addressed stamped envelopes to your school and class and stationery for the departing student to write back, a letter from the teacher introducing the student to his/her new teacher, trade books the student has read, and a note listing the similarities shared by schools to lessen anxiety of the unknown that children wonder about when starting in a new school. If there is time, contact the new school and provide the departing student with answers to questions that have been identified.

4. Send the student departure file with the student (or place in office file as listed in #1).
5. Use technology to keep in touch. Explore e-mail correspondence with the new class.

The practical suggestions listed in this chapter support the premise that schools have begun to explore the impact of mobility on students and are implementing strategies at many levels to lessen the potentially negative aspects of that impact. Most of the current literature addresses mobility at these levels. Less has been written about specific instructional practices for reading, mathematics, and other content areas. The following chapters will, by necessity, review current research and practice in reading that are more general or, when available, that have addressed reading practices for students who experience high poverty.

Chapter 2 Endnotes

- ¹ See examples from Rochester, NY (Heinlein, L. M., & Shinn, M. (2000). School mobility and student achievement in an urban setting. *Psychology in the Schools*, 37(4), pp. 349-366) and California (Rumberger, Larson, Ream, & Palardy, 1999).
- ² Deal, T., & Peterson, K. (1999). *Shaping school culture: The heart of leadership*. San Francisco: Jossey-Bass.
- ³ Maslow, A. (1968). *Toward a psychology of being*. New York: D. Van Nostrand.
- ⁴ For a more comprehensive collection of recommendations, see Appendix B of Popp, Stronge, & Hindman. (2003). *Students on the move*.
- ⁵ See for example: NSBA. (June, 2000). Schools grapple with high student mobility rates. *School Board News*. [<http://www.nsba.org/sbn/00-jun/0611300-2.htm>]. and Rumberger, Larson, Ream, & Palardy. (1999).
- ⁶ Kerbow, D. (1996). pp. 22-23.
- ⁷ Rumberger. (2002).
- ⁸ Heinlein & Shinn. (2000).
- ⁹ For example: ASCD/McREL *Snapshot assessment system: An informal tool for classroom teachers*. This system to assess migrant, language-different, and mobile students is divided into three levels and covers grades 1 to 8. <http://www.mcrel.org>.

Chapter 3

Theory and Research in Reading Instruction

This chapter reviews highlights of what is known about reading and how the ability to read is acquired, with special attention given to what is known about meeting the needs of students who are likely to experience high mobility as a result of poverty. As noted in Chapter 1, little has been written *specifically* about the instructional needs of students who are highly mobile; therefore, it is anticipated that the information collected in this review can provide an outline for exploring of reading instruction for this subgroup of students. The chapter includes an introduction to the reading process, and a discussion of how research can be used to inform instructional practices.

Defining Reading

What does it mean to read? This may seem a naïve question. After all, even preschoolers can provide a description of reading. For some of us, the process seems so natural and is acquired with such ease that we are not even aware of the multiple activities that must take place to gain meaning from text. For others, the acquisition of reading skills is extremely challenging and that same process of gaining meaning from the written word remains cloaked in mystery and approached with frustration. Teachers, researchers, and other adults who work with struggling readers fully recognize the complexity of what we call “reading.”

Reading, along with its counterpart, writing, requires a mastery of symbols and how they relate to the transmission of knowledge. According to the National Research Council, “reading is not only a cognitive psycholinguistic activity but also a social activity.”¹ In their attempt to define “literacy,” Spielberger and Halpern² also reference the social aspect of written communication:

Literacy is not simply about the ability to read and write; it is also the interest in and practice of using reading and writing for a variety of personally meaningful and socially valued purposes. For example, children use reading and writing to organize and make sense of their life experiences, to represent and describe experience to themselves and others, to give a name to their fears, to explore who they are and where they fit, and to understand larger issues in the world around them. (p. 5)

To say that a student can “read” suggests that the child is able to gain meaning from unfamiliar text. To do so, requires not only mastery of symbolic elements, but also a complex interaction of language, attention, and memory

skills, which further interact with motivation and interest in the subject of the text.³

Educational Research and Reading

What we have learned about the reading process and how to nurture reading skills is shaped by the work of a vast cadre of educational researchers over more than half a century. Similarly, what is considered appropriate research and how findings should be applied to classrooms to help students learn to read also has evolved over these decades.

Educational Research: Importance, Cautions, and Limitations

In education, as in many professions, research is a necessary vehicle to explore phenomena, compare and evaluate interventions, and promote the development of conceptual paradigms that influence how we view our work. Within the field of education, research poses a host of challenges for both the researcher and the consumers of their research. The complexity of school and classroom environments make it difficult to design research that controls the variety of variables and to identify research that is most applicable for a given school or teacher. With the passage of the No Child Left Behind Act of 2001, the emphasis on “scientifically based research” to inform practice has gained heightened attention.

The field of K-12 education contains a vast array of educational interventions . . . that claim to be able to improve educational outcomes and, in many cases, to be supported by evidence. This evidence often consists of poorly designed and/or advocacy-driven studies.⁴

To counter such criticism, a number of resources have been created to assist educators in evaluating the research they read, and researchers are increasingly being encouraged to develop studies that will provide more rigorous evidence of impact in their results. Readers are encouraged to review *Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User Friendly Guide*. This is an easy-to-read, yet more extensive discussion of this issue than is presented in this section. (Visit <http://www.ed.gov/rschstat/research/pubs/rigoroususevid/index.html> to view or download the guide.) This document describes the “gold standard” for research, which requires randomized controlled trials and provides educators with a checklist for reviewing research and making decisions about the adoption of certain practices. A two-page checklist follows, which reprints Appendix B of the guide.

As mentioned earlier, the following discussion is more “technical” in nature than the remainder of this document. However, it is increasingly important that educators become critical consumers of research. This is

particularly so for teachers who work with highly mobile student about whose special needs the literature is sparse.

In addition, two websites have been created to promote more rigorous studies and dissemination of their findings: The What Works Clearinghouse, <http://www.w-w-c.org/>, and The Promising Practices Network, <http://www.promisingpractices.net>.

Appendix B:⁵

Checklist to use in evaluating whether an intervention is backed by rigorous evidence

[The page numbers listed below refer to detailed explanation in the original document.]

Step 1. Is the intervention supported by “strong” evidence of effectiveness?

- A. The **quality of evidence** needed to establish “strong” evidence: **randomized controlled trials that are well designed and implemented**. The following are key items to look for in assessing whether a trial is well designed and implemented.

Key items to look for in the study’s description of the intervention and the random assignment process

- **The study should clearly describe the intervention**, including: (i) who administered it, who received it, and what it cost; (ii) how the intervention differed from what the control group received; and (iii) the logic of how the intervention is supposed to affect outcomes (p. 5).
- **Be alert to any indication that the random assignment process may have been compromised**. (pp. 5-6).
- **The study should provide data showing that there are no systematic differences between the intervention and control groups prior to the intervention** (p. 6).

Key items to look for in the study’s collection of outcome data

- **The study should use outcome measures that are “valid”**—i.e., that accurately measure the true outcomes that the intervention is designed to affect (pp. 6-7).
- **The percent of study participants that the study has lost track of when collecting outcome data should be small, and should not differ between the intervention and control groups** (p. 7).
- **The study should collect and report outcome data even for those members of the intervention group who do not participate in or complete the intervention** (p. 7).
- **The study should preferably obtain data on long-term outcomes of the intervention**, so that you can judge whether the intervention’s effects were sustained over time (pp. 7-8).

Key items to look for in the study’s reporting of results

- **If the study makes a claim that the intervention is effective, it should report (i) the size of the effect, and (ii) statistical tests showing the effect is unlikely to be the result of chance** (pp. 8-9).

- A study's claim that the intervention's effect on a subgroup (e.g., Hispanic students) is different than its effect on the overall population in the study should be treated with caution (p. 9).
- The study should report the intervention's effects on all the outcomes that the study measured, not just those for which there is a positive effect. (p. 9).

B. Quantity of evidence needed to establish “strong” evidence of effectiveness (p. 10).

- The intervention should be demonstrated effective, through well-designed randomized controlled trials, in more than one site of implementation;
- These sites should be typical school or community settings, such as public school classrooms taught by regular teachers; and
- The trials should demonstrate the intervention's effectiveness in school settings similar to yours, before you can be confident it will work in your schools/classrooms.

Step 2. If the intervention is not supported by “strong” evidence, is it nevertheless supported by “possible” evidence of effectiveness?

This is a judgment call that depends, for example, on the extent of the flaws in the randomized trials of the intervention and the quality of any nonrandomized studies that have been done. The following are a few factors to consider in making these judgments.

A. Circumstances in which a comparison-group study can constitute “possible” evidence:

- The study's intervention and comparison groups should be very closely matched in academic achievement levels, demographics, and other characteristics prior to the intervention (pp. 11-12).
- The comparison group should not be comprised of individuals who had the option to participate in the intervention but declined (p. 12).
- The study should preferably choose the intervention/comparison groups and outcome measures “prospectively” – i.e., *before* the intervention is administered (p. 12).
- The study should meet the checklist items listed above for a well designed randomized controlled trial (other than the item concerning the random assignment process). That is, the study should use valid outcome measures, report tests for statistical significance, and so on (pp. 16-17).

B. Studies that do not meet the threshold for “possible” evidence of effectiveness include:

(i) pre-post studies (p. 2); (ii) comparison-group studies in which the intervention and comparison groups are not well-matched; and (iii) “meta-analyses” that combine the results of individual studies which do not themselves meet the threshold for “possible” evidence (p. 13).

Step 3. If the intervention is backed by neither “strong” nor “possible” evidence, one may conclude that it is not supported by meaningful evidence of effectiveness.

Randomization

Based on the principles of scientific research, to establish a causal relationship between an intervention and outcomes, a study must use random assignment. Briefly, randomization of participants in a study increases the generalizability of the results, since subtle characteristics among the participants are likely to be distributed evenly throughout the assignments. Without such randomization, there is no way to prove that a given intervention led to the alleged results or that other factors that could not be controlled might explain the relationship (correlation) that was revealed in a study's results. Furthermore, the correlation may be reversed in terms of causation. That is, what was measured as the outcome actually created the situation that was considered the intervention. For example, studies have shown that students who read more out of school perform better on measures of reading achievement. This relationship may indicate that reading more leads to greater achievement OR that stronger achievement leads to students who read more OR some combination of both relationships may exist OR a third variable may be responsible. Without randomization, we just cannot be sure.

Statistical Versus Educational Significance

It is possible to demonstrate statistical significance in educational studies, especially when the number of participants is large, that does NOT translate into a meaningful effect on student outcomes. Well-designed studies report results in a way that not only identifies statistical significance, but translates this information into the practical effect of the intervention. Such information will assist consumers in determining whether an intervention or program may be useful with their particular group of students, yield meaningful improvements in student progress, and increase the likelihood of fidelity in implementation when the intervention is adopted.

Objectivity in Educational Research

Consumers of educational research also should ask themselves: "Who is conducting this research?" When the study is led by the developer of the program or intervention, the potential for bias influencing the questions asked and how the data are interpreted must be considered. Did the beliefs of the developer and the commitment to the program lead to more positive interpretation of results than the data support?

Sampling

A common criticism of educational research relates to sampling. One factor is limited sample size. Availability of willing participants and the impact of funding constraints limit the ability of many researchers to conduct studies that include sufficient numbers of students, classrooms, schools, or teachers. In reviewing the impact of a study, consumers should determine what unit is being analyzed. For example, there may be 300 students in a study, but if an analysis is done comparing the teachers of those students, the sample size may be twelve classrooms – far too limited for statistical analyses to be applied in any meaningful way. Extreme caution should be exercised when statistical methods are applied in such situations or to subgroups within a study that approach such small numbers.

A second factor with sampling is the demographic characteristics of the participants. The results of a study of rural high-poverty schools with 200 students may not be generalizable to urban schools with 1,000 students. (Medicine has faced similar criticism when the treatment of minorities or women is based on studies that have not included representative samples of these populations.)

Thorough Description and Fidelity of Implementation

In addition, carefully designed studies provide a thorough description of the intervention to allow faithful replication. The issue of fidelity can be especially “sticky” in education. A carefully controlled study includes stringent oversight to ensure the intervention is being implemented as intended. However, this rarely is translated into the way programs are adopted in other settings on a wide scale. That is, without the researchers’ oversight, the intervention is likely to be adjusted and adapted. This may result from a lack of understanding about the appropriate way to implement, educators’ independence in interpreting the intervention in a way that accommodates their philosophy and teaching styles, or a need to adjust based on the real context of resources and student needs that are faced.

Practitioner Application of Research Principles

In summary, increased recognition of the limits of current research and efforts to develop future studies with more rigorous evidence hold promise for increasing the quality of education we provide our students. For example, in the area of reading instruction, teams of researchers and reading experts have critically analyzed the existing research to identify interventions with the greatest promise and to lay the foundation for future study. Two such initiatives include the National Research Council’s

Committee on the Prevention of Reading Difficulties in Young Children⁶ and the National Reading Panel.⁷

However, the reality of schools and classrooms must be considered as well. As mentioned above, much educational research does NOT approach the “gold standard.” Randomized controlled trials are extremely difficult to implement within the real-life context of schools.⁸ For example, because we are working with minors, parental permission is required to allow students to participate in studies. To conduct a study that complies with ethical standards for research, informed consent is needed. Not all parents wish to have their children participate in a study or are reluctant to give permission. Some parents only give permission if their child is assigned to certain conditions. Thus, the voluntary nature of participation confounds random assignment, even when attempted. Those who choose not to participate may share certain characteristics that skew the results or limit generalization of the findings.

In addition, classrooms are rarely formed based on random assignment. Parental requests for certain teachers, the separation of certain students who may pose a safety concern if placed in the same room, the consideration of student learning styles and teaching styles, and the requirements of individualized education programs (IEPs) for students with disabilities, are but a few factors that shape the creation of actual classes. To deny these considerations for the sake of a random assignment for a study is likely too politically difficult to explain to a community.⁹ The community is unlikely to see the value of future knowledge gained through a randomized study as greater than the immediate concerns the well being of their children in the present.

The use of an experimental design also implies a sufficient theoretical basis to develop an intervention that can be applied systematically. Before medicine reaches the point of clinical trials, a variety of other study designs have formed a foundation for the work. Descriptive studies, epidemiological studies, and relatively small correlational studies add to our knowledge base, and should not be discounted or devalued. Furthermore, many educators would be reluctant to presume *all* their efforts could be distilled into objective, measurable units. Not everything that is valued in education (or medicine) can be assigned a numeric value. For example, the role of doctor-patient relationships and student-teacher relationships can be powerful in the healing of a person or the learning of a student, respectively. Random assignment or objective measures have little meaning in understanding these aspects of our humanity. The need for further exploration, qualitative studies, and action research that allows practitioners and researchers to bridge the real or perceived divide between theory and practice is needed. The problem in education (and medicine) occurs when such studies, critical to furthering our understanding, are misinterpreted and presented as causal and conclusive.

Given the discrepancy between the “ideal” and current “reality,” what is an administrator, teacher, tutor, or parent (or literature review writer!) to do? The following suggestions may help prevent us from “throwing out the baby with bathwater” as we look at studies that include limitations:

- Read widely.
- Be critical consumers: read critically, recognizing the limitations of any single study and look for studies in peer-reviewed journals that have more stringent criteria for publication.¹⁰
- Be open to diverse opinions.
- Look for commonalities across studies and across theoretical boundaries.
- Pay close attention to study participants: Does the sample resemble the students/context in which you work?
- Look for the intersection between research findings and common sense. When you read a study and can say, “That makes sense to me. I can see how that explains what I observe,” pay closer attention—you may be on to something meaningful for your needs and those of your specific students.¹¹
- Use a problem-solving model to analyze/evaluate your own efforts:
 - Label the problem carefully.
 - Brainstorm potential solutions and determine the pros and cons for each.
 - Select the most meaningful.
 - Implement the solution.
 - Evaluate the solution selected:
 - Did I implement it correctly?
 - Did it work?
 - If not (to either question), why? (Did I label the problem too broadly; did I identify the wrong problem; are there other alternatives I could try; what can I do to increase a faithful application of the intervention I selected?)
 - If the efforts worked, continue to implement and monitor effectiveness. If the results were less than desirable, review the steps of the problem-solving process, determine which steps you may need to revisit, refine your efforts, and try again!

Evaluating Educational Progress

A discussion of reading progress in the United States would not be complete without mention of the National Assessment of Educational Progress (NAEP). This measure of achievement is cited in the literature and throughout the news media and is familiar to those with an interest in

students' achievement. Also known as "the Nation's Report Card," NAEP is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. In existence since 1969, the NAEP is carried out at the National Center for Education Statistics (NCES) in the U.S. Department of Education with the National Assessment Governing Board, appointed by the Secretary of Education, but independent of the department governing the program.¹²

The NAEP first disaggregated scores by free and reduced-price meals (a measure of poverty for schools) in 1998. Children who continue to struggle as readers at the end of the primary grades are disproportionately poor.¹³ The analysis of fourth grade scores found that 59% of students eligible for free and reduced-price lunch scored below the "basic" achievement standard whereas only 27% of student not eligible were below. For the higher proficient level, 87% eligible for free and reduced-lunch scored below the achievement standard.¹⁴

Prior to NCLB, the NAEP was administered every four years. With NCLB the NAEP is to be administered at least once every two years in reading and mathematics in grades 4 and 8 using a sample of students in each state. The results of the NAEP can indicate trends in student performance but do *not* have the ability to explain *why* variances are observed from year to year, grade to grade, or state to state. This measure is not an experimental design that can explain what instructional techniques or educational reforms implemented at local, state, or national levels have been effective. Instead, the NAEP provides a "snapshot" of performance that can lead to refined hypotheses and further exploration and study.¹⁵ Further, the NAEP precludes comparison over years because the "content and nature of the main NAEP evolves to match instructional practices, so the ability to measure change reliably over time is limited. As standards for instruction and curriculum change, so does the main NAEP."¹⁶

Educational Progress for Students Living in Poverty

NAEP scores from 1998 indicated the reading performance between 9-year-old students in high- and low-poverty schools was substantially larger than the gap in math, representing a three- to four-grade level gap.¹⁷ The most recent administration of the NAEP for which results are available is 2003.¹⁸ Two major findings for this test administration were:

- The average reading score for students who were eligible for free/reduced-price lunch was lower than the average score for students who were not eligible at both grades.
- At grade 4, the average scores were higher in 2003 than in 1998 for students who were eligible for free/reduced-price lunch and for students who were not eligible.¹⁹

The NCES reports on a variety of educational indicators. For example, in addition to the NAEP, younger children's reading experiences is being tracked through a longitudinal study of children who began kindergarten in 1998.²⁰ NCES also provides an international context. The United States participates in the Progress in International Reading Literacy Study (PIRLS), which assesses a sample of fourth graders' reading literacy in 35 countries. For 2001, the last year for which data are available, only two countries had an average score that was statistically significantly higher than the U.S. Five countries had scores that were not statistically different, and the remaining 23 nations were significantly lower than the U.S. average.

Chapter 4 explores school and classroom characteristics that have been correlated with greater reading achievement, especially for students living in poverty.

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Chapter 4

**Characteristics of Effective Schools and Classrooms
in the Teaching of Reading**

“The key is to invest as much as possible in each child and expect results.”¹

Characteristics of Effective **Schools** in the Teaching of Reading

When considering reading achievement and effective instruction, we must recognize that the structure of the school as an organizational unit has been found to play an important role in providing the culture and climate that supports effective instruction and high achievement. Therefore, we begin this chapter with a review of schoolwide influences on the teaching of reading.

The Effective Schools Movement

Since the 1970s, the effective schools movement has led researchers to identify and analyze procedures and practices that stimulate student achievement. Earlier research suggesting that schools were largely powerless to counter the effects of social background made socioeconomic status (SES) appear to be a greater predictor of academic growth than the efforts of educators.² Despite diversity in methods and results, researchers in the effective schools movement shared a unifying belief that school- and classroom-level variables could influence students' achievement. It was concluded, therefore, that by identifying such variables, schools could make changes that would increase educational equity for students in poverty.³ Characteristics of effective schools identified by researchers included:

- An emphasis on academics with accountability and frequent monitoring of student progress,
- High expectations for the performance of all students,
- A safe and orderly environment, and
- Instructional leadership with a clearly defined school mission shared by school personnel and families.⁴

Historically, high poverty has been identified as a factor correlated with lower achievement (note that these were *correlational*, NOT *causal* studies, which means the studies could not *prove* poverty caused lower achievement); however, “more than 20 years ago, Harvard educator and

researcher Ron Edmonds asked, 'How many effective schools would you have to see to be persuaded of the educability of poor children?'"⁵

Despite the odds, over the years, researchers have identified high-achieving, high-poverty schools. A growing body of literature supports the position that all children can achieve, including students who have traditionally failed to reach established standards. For example, over 4500 high-poverty and high-minority schools with reading and/or math achievement in the top third of all schools in their state have been identified and the numbers are growing with data being collected in the American Institutes for Research database.⁶ (Note: Interstate comparisons cannot be made due to differences in achievement measures, standards, and diversity of demographics.)

High-Poverty Effective Schools and Reading

Several studies have examined the characteristics of schools within high-poverty contexts that have been successful in supporting students' reading achievement. For example, The Longitudinal Evaluation of School Change and Performance (LESCP) in Title I schools examined student achievement from third through fifth grade in 71 high-poverty schools. The study found:

- Most students did not catch up with peers in more affluent communities.
- Active outreach to parents was associated with 50% greater growth.
- High teacher rating of their professional development in reading led to 20% greater growth⁷ in students' reading achievement.

(Limitations of this study included a lack of reported effect sizes and reliance on teacher self-report.)

An earlier longitudinal study found evidence to support the claim that students at risk of academic failure could succeed and reach national norms,⁸ suggesting that schools that focused on primary grades instead of the full elementary-grade spectrum produced larger gains in achievement.⁹ The recommendation that focusing quality instruction on kindergarten and the primary grades is the single best weapon against reading failure was reiterated by Snow and her associates.¹⁰

Other school-level factors in high-poverty schools that have been associated with higher academic performance include:

- Lower-than-average teacher and student mobility (schools and classrooms that do not meet the focus of this review),
- Experienced principals, and

- An orderly school environment.¹¹

Looking at school-based initiatives to teach reading to at-risk and delayed readers, Gaskins delineated four elements associated with improved student reading:

- Meaningful, targeted, and ongoing professional development,
- Quality instruction and support services,
- Congruence between remedial and regular programs, and
- Sufficient instructional time.¹²

The Center for Improvement of Early Reading Achievement (CIERA) has conducted a number of studies in high-poverty schools that incorporate the effective schools research as a framework for analyzing reading achievement. Using the increasing data on high-achieving, high-poverty schools, researchers at CIERA studied 14 high-poverty schools. Other characteristics of participating schools included high mobility and significant number of students with limited English proficiency in half of the schools. Using structured interviews with principals and reading staff, classroom observations with a structured ecological data collection system, field notes, informal observations, and selected artifacts, the following recurring themes were identified across several separate school studies as school features associated with greater student growth in reading:¹³

1. Schools emphasized putting students first to improve learning with less emphasis on a particular instructional approach. There was a collective sense of responsibility for all students. The schools reported that commitment and hard work focused on research-based practices at the school and classroom level were more critical factors to success than packaged programs.
2. Schools had strong building leadership with principals filling the role of instructional leaders, not just managers. Leadership that was highly collaborative and included teachers as leaders was also related to higher reading fluency and writing skills. There was a sense of high self-efficacy with experienced, knowledgeable staff. The level of trust and respect among the staff allowed room for risk-taking and innovation in meeting student needs and helping each other learn more about the art and science of teaching.¹⁴
3. Strong teacher collaboration, communication, and collegiality were evident.
4. The schools made professional development and innovation a priority in supporting teachers and their instruction.

5. Systematic assessment of pupil progress was ongoing, with staff consistently using student performance data to improve learning. These data were the foundation for planning instruction.¹⁵
6. Schools had strong, deliberate communication links to parents.¹⁶

(Note: Many of these research endeavors also included an analysis of effective classroom practices, which will be described in the next section.)

Characteristics of Effective **Classrooms** in the Teaching of Reading

Schools can create communities that increase the likelihood that effective instruction and learning will occur; however, the point of actual instruction occurs in the classroom with the teacher (or in a supplemental program with a tutor or reading specialist). “Traditionally, low-achieving students have received predominantly skill-and-drill instruction. Higher order thinking strategies have been directed more often at the instruction of the more intellectually capable students.”¹⁷ This trend runs counter to findings such as those noted in a two-year study of 140 high-poverty first-through sixth-grade classrooms in 15 schools,¹⁸ which found that effective instruction was associated with a greater emphasis on higher-order thinking than lower-level drill-and-practice.¹⁹ Other research suggests higher achievement is possible when reading and writing are integrated, students discuss what they read, teachers emphasize deep understanding rather than literal comprehension of texts, and reading occurs in context rather than relying on discrete skill instruction.²⁰

Research on effective teaching that studied the habits of exemplary teachers noted many parallels with the National Reading Panel’s call for a balanced reading program.²¹ As discussed in the previous section, CIERA researchers also looked at instructional practices at the classroom level. Specifically, CIERA studies applied the process-product approach of neobehaviorism to instruction to reading with its focus on direct instruction and mastery teaching²² and blended later work that looked beyond direct instruction with a greater emphasis on teacher thinking.²³ While both approaches used similar strategies, the latter approach to direct instruction included more teacher modeling and overt description of processes employed during the reading process.

In developing their studies, the researchers at CIERA considered the findings of earlier studies, such as the Center on English Learning & Achievement (CELA), which observed first-grade teachers in urban settings. The most effective teachers were identified based on reading and writing scores.²⁴ These teachers “demonstrated instructional balance, focusing on both literature and skills. They taught decoding skills explicitly and also provided their students with many opportunities to engage in authentic, integrated reading and writing activities.”²⁵ The most effective teachers also used

scaffolding, developed self-regulation and self-monitoring strategies for students to take responsibility for their own learning, work quality, and work time. Furthermore, they established high expectations for students and were masters at classroom management, smoothly integrating consistent procedures and routines to enhance organization and efficiency. In comparison, the less effective teachers tended to focus on just skills or just whole language, or combined the two in disjointed ways. The following table compares the findings related to first-grade teacher behaviors across four studies spanning nearly three decades.

Study/ Teacher Behaviors	Stalling & Kaskowitz, 1974	Anderson et al., 1979 ²⁶	CELA, 1998 & 2001 ²⁷	CIERA, 2000, 2002
Spent more time in reading groups	X	X	X	X
Used intensive small-group instruction for lowest SES	X	X		
Engaged in more active instruction (students were less passive)		X		X
Demonstrated strong classroom management/student engagement	X	X	X	X
Followed up with students who provided incorrect responses to assist students in improving their answers; coaching vs. didactic response		X	X	X
Spent time in independent reading	X		X	
Strong home communication	X		X	
More higher-level comprehension questions	X			X
Encouraged self-regulation/monitoring			X	
Explicit instruction and modeling of multiple strategies			X	X
Frequent opportunities to read, write, and talk about text; emphasis on literacy as effective communication			X	X

Table 3. Effective First-Grade Reading Practices in High-Poverty Schools

The CIERA studies included first- through sixth-grade classrooms. As noted for first grade, effective teachers exhibited excellent classroom management, provided scaffolding to support new learning, balanced literacy instruction, asked higher-level questions, explicitly taught skills and strategies, and offered frequent opportunities to read, write, and talk about text. Additional findings regarding classroom characteristics and teacher behaviors are listed below.

- Teachers used multiple reading programs in every classroom (e.g., Project READ and Reading Recovery);
- Flexible grouping throughout the grades allowed students to move among groups based on changing needs and interests (such decisions were made jointly by staff who met frequently to discuss student needs, reflecting joint ownership and the ability to identify and solve problems);
- There were extensive collections of trade books in the classrooms; and
- A variety of supplemental supports were available to students, including tutoring after school, summer programs, additional small-group instruction. Also, classrooms in several schools worked with local universities on collaborative projects related to reading.

The effectiveness of some classroom practices varied based on the grade level being taught. For example:

- For grades 2 through 6, achievement was higher when students had to respond actively and lower in classrooms where teachers tended to tell students information and involve them in recitation.
- Heavy reliance on phonics instruction was negatively related to reading growth in kindergarten and grades 2 and 3.
- A high level of phonemic awareness instruction was positively related to growth in phonemic segmentation and blending in kindergarten.
- In grades 4 through 6, coaching students in the use of word-recognition strategies during reading was positively related to student growth compared to telling students the word or simply saying, “Sound it out.”
- Small-group instruction was positively related to growth in kindergarten and first grade whereas large-group instruction was positively related to reading growth in the upper-elementary grades (4-6).

The studies reviewed in this chapter highlight many general practices in schools and classrooms that support academic achievement and begin to target how these general practices influence reading instruction and learning. The next chapter will look more closely at the specifics of effective reading instruction that is likely to lead to student success.

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Chapter 5

The Components of Language and Reading Instruction

Multiple references have been made in preceding chapters to the use of “balanced” reading instruction in studies of reading instruction. Prior to describing the components of reading, an introduction to the components of language that shape that foundation is warranted.

Components of Language

Reading would not exist without the human capacity for language. Because the components of language and their associated terminology align with our demarcations for many of the elements of reading, they are described briefly in this section. Linguists have identified five basic components (phonology, morphology, syntax, semantics, and pragmatics) found across languages.¹ Language acquisition progresses across these components with increasing quantity (e.g., sounds, words, and sentence length) and gradual refinement, and understanding of the subtler and more complex points of usage (e.g., using “taught” rather than “tached”). Readers are encouraged to explore the literature in the field of language development to better understand and appreciate the oral language skills students may bring to the reading process. Speech and language pathologists are a great resource for identifying resources in this area and assisting in determining whether a child’s language skills are developing normally and providing support when assessment and intervention may be required.

Phonology

The study of speech structure within a language, including both the patterns of basic speech units and the accepted rules of pronunciation, is known as phonology.² The smallest units of sound that make up a language are called *phonemes*. For example, the word “that” contains three phonemes the “th” represents one phoneme /th/, the “a” maps to the short a sound / /, and the “t” to its basic sound /t/.

Morphology

Moving to the next level of language, we find the study of the smallest units of meaning, *morphemes*. Morphemes include base words, such as “hat,” “dog,” or “love,” as well as affixes, such as “un-,” “re-,” the plural “s” or “es,” and the past tense “ed.” Knowledge of the morphology of our language is critical to vocabulary development and reflects the smallest building blocks for comprehension.

Syntax

The study of how individual words and their most basic meaningful units are combined to create sentences is known as syntax. As words are grouped together when we communicate, we must follow the rules of grammar for our language, in other words, its syntax. It is the knowledge of syntax that allows us to recognize that the following two sentences, while containing different word order and levels of complexity, have the same meaning.

- The boy hit the ball.
- The ball was hit by the boy.

Syntax also allows us to accept “I went to the store” as a meaningful (grammatical) sentence while “To store went I” would not be acceptable English.

Semantics

Not only does the grammatical structure of our language provide the needed clues for understanding, we also have a wealth of figurative language and rich description that adds color and nuance to our communication. *Semantics* refers to the ways in which a language conveys meaning.³ It is our understanding of semantics that allows us to recognize that someone who is “green with envy” has not changed hue, or that “having cold feet” has less to do with the appendage at the end of our legs and more to do with our anxiety about a new experience. Because semantics moves beyond the literal meaning of words and is culture-dependent, this is among the most difficult aspects of language for individuals who are not native speakers and even those who speak the same language but come from different cultures and convey meaning using words in unique ways. Anyone who has attempted to converse with a teenager in his own vernacular can appreciate the importance of sharing a semantic base for communicating clearly.

Pragmatics

“Pragmatics’ refers to the ways the members of the speech community achieve their goals using language.”⁴ The way we speak to our parents is not the same as the way we interact with a sibling, for example. The language used in a formal speech may bear little resemblance to what we would hear at a lunch with five friends. The conversational style of day-to-day interactions is quite different from the language used even when reading a

storybook to a toddler. Knowing the difference and when to use which style is the essence of pragmatics.

Facility with language is critical to social interactions. Our ability to effectively communicate with others through spoken and written language is considered one of the ultimate goals of our educational system, with reading receiving much-needed emphasis. “Reading is essential to success in our society. The ability to read is highly valued and important for social and economic advancement.”⁵ In the following section the components identified by experts as critical to developing reading skills are reviewed.

Developing an Integrated Reading Program

Effective and powerful instruction from knowledgeable teachers is the key to successful early reading achievement. Balanced instruction providing all children with opportunities to master concepts of print, learn the alphabetic principle, acquire word recognition skills, develop phonemic awareness, engage in and sustain an interest in reading, and experience a wide range of materials in the context of developmentally appropriate instruction continues to be the major deterrent against reading failure (Adams, 1990; Hiebert, Pearson, Taylor, Richardson, & Paris, 1998; Snow et al., 1998).⁶

The National Research Council Committee cautioned educators about use of the word “balance” proposing that “integration” is more appropriate. Balance does NOT mean dividing one’s time equally among the components of a comprehensive reading program, but, instead, developing an approach that is coherent and adjusts to the developmental reading needs of students.⁷ While the term “balanced” may be used more frequently, to reflect the NRC Committee’s suggestion, the term “integrated” will be employed in the current review of the critical components of effective reading programs.

The consensus regarding the five components described below evolved from the work of the National Research Council Committee and the National Reading Panel, which subsequently became the foundation for the Reading First initiative found in NCLB. Evidence regarding these components is shaping state- and school-district decisions regarding reading program adoption as is clear in the list of accepted Reading First Programs. In many cases, it has significant financial and instructional implications. For example, it was recently reported that Anne Arundel County in Maryland was purchasing the Open Court reading series, which has a heavy phonics emphasis that has been promoted by reading experts and credited with rising test scores, including nearby Baltimore. The adoption would be an \$8 million expense at a time when the district’s budget was being cut by \$13 million. Although concerns have been voiced that the program limits teacher flexibility, Arundel had begun implementing the program in schools with the lowest performance and reported that the curricular assessments indicated progress. Also, administrators noted that teachers were reluctant when the program began, but were more accepting after working with the series.⁸ Effective implementation of reading programs is influenced by such fiscal pressures and educators’ difficulty accepting change.

Instructional Components of Teaching Reading

Quality instruction “includes explicit explanations, modeling, and scaffolded practice that is engaging and meaningful ...meeting students where they are with respect to affect, motivation, and cognition; explicitly teaching them strategies for taking charge of tasks, situations, and personal styles; and scaffolding the successful completion of academic tasks.”⁹ While the full parameters for quality instruction cannot be included in this review of reading components, we will incorporate as many as possible. Each of the components will be described with several examples of how it may be integrated into reading instruction and, finally, how the component may apply to high-poverty/highly mobile students.

Phonemic Awareness

Phonemic awareness is one of the underlying language skills considered highly predictive of later reading success. CIERA identified¹⁰ phonemic awareness instruction in kindergarten as closely related to emergent literacy skills. Some researchers suggest that the best predictor of reading difficulty in kindergarten or first grade is the inability to segment words into their sound units.¹¹ Even among children with limited English proficiency, strong phonological awareness in their native language was a strong predictor English reading success.¹² Before describing this component in early reading instruction, it is helpful to recognize that phonemic awareness is a subset of phonological awareness.

Phonological awareness. Recall that phonemes refer to the smallest units of sounds, but there are other units of oral language that are easier to hear and manipulate, such as words and syllables. The ability to hear and manipulate words, syllables, and phonemes is known as *phonological awareness*. Children acquire the ability to identify and play with words and syllables before they can do the same with individual sounds. These simpler tasks are common preschool activities and the types of games that youngsters often play with their parents and other caregivers. Phonological awareness, including phonemic awareness, does NOT involve written alphabetic letters or words. It focuses exclusively on oral language. While some children who have difficulty hearing differences in sounds may benefit from the visual representation, this component involves prereading skills. The following tasks are samples of activities related to phonological awareness, starting with the skills that are mastered earlier and progressing in complexity.

Type of Task	Description	Example
Rhyme	Being able to match the ending sounds in words.	Hit, pit, sit, lit, mitt (remember this is sounds, not letters)
Alliteration	Being able to generate words that begin with the same sound.	Six, silly, squirmy, seals sang
Sentence segmentation	Being able to break spoken sentences into separate words.	Tia hit the ball. 1 2 3 4
Syllables	Blending syllables into words or segmenting words into the corresponding syllables. This skill begins to emerge about the age of 4.	/pup/ /pet/ - puppet seven - /sev/ /en/
Onsets and rimes	Blending or segmenting the initial consonant or consonant cluster (onset) and the vowel and following consonant sounds (rime). Around the age of 4 to 5, this skill becomes evident.	/m/ /op/ - mop stripe - /str/ /ipe/
Phonemes	Blending, segmenting, and manipulating individual sounds in words.	/t/ /r/ /o/ /t/ - trot stick - /s/ /t/ /i/ /k/ sound substitutions: change the /h/ in hat to /b/ - bat

Table 4. A Continuum of Phonological Awareness Tasks

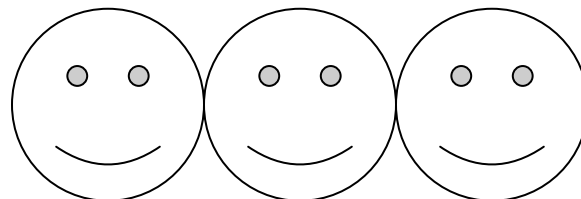
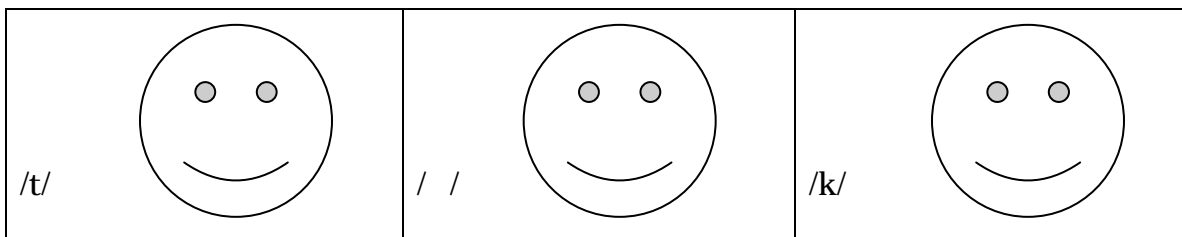
Instructional considerations for developing phonemic awareness. Rhymes and alliteration can be reinforced through a variety of children's literature, including nursery rhymes and poems, and children often enjoy making up their own. (How many of us can remember our names being manipulated to rhyme with words we would rather not have linked, such as plain Jane or fatty Patty!) The activities listed in Table 4 involve greater manipulation of speech sounds, both blending and segmenting. Several simple techniques can be used regardless of the level being addressed. For

example, words, syllables, onset-rimes, and phonemes can be clapped, tapped on fingers, or manipulated with concrete objects such as blocks. A technique that incorporates the use of concrete objects is the Elkonin sound boxes. Boxes (parking spaces or other terms that attract the children’s attention) can be drawn on a board or sheet of paper and blocks, coins, counters, M&Ms or any other item can be used to present each word, syllable, onset-rime, or sound. The following examples model these activities using one of the speech units; however, the same activities can be interchanged for different units.

1. Clapping words: the – dog – barks (3 claps)
2. Tapping fingers for syllables: de-li-cious (3 taps)
3. Blocks on onset-rimes: s – and (2 blocks) (push the blocks together to blend or pull them apart to segment)

A word about onset-rime: Awareness of individual sounds within rime units usually requires direct instruction. There are 37 rimes that appear in over 500 different words commonly seen in early grades. These rimes provide a more stable pattern for vowels than individual phonemes. There is conflicting research regarding whether to start with phonemes or with rimes.¹³ Starting with the phoneme level may provide the best results after some consonant and vowel knowledge is mastered; however, rimes may assist children in making the leap to “chunks” and seeing patterns when learning to decode.

Elkonin sound boxes for phonemes: Move one smiley face counter into each box for each sound in “take”; slide the counters together and say the word “take.” (A “parking lot” format with cars or trucks may be used, as well as many other motivators.)



take

Notice that throughout these activities no written language is used. Phonological awareness, including phonemic awareness, addresses speech, not print. As a result, many of these activities can begin during preschool years. The development of phonemic awareness is considered an important component of reading instruction in kindergarten and first grade. When explicit instruction is used to introduce a concept or skill, small-group and one-to-one grouping is recommended.¹⁴ Whole-group instruction for read-alouds and incidental reminders through daily activities is appropriate for reinforcement of previously introduced skills.

High-poverty/high-mobility and phonological skill development. The development of phonological awareness and phonemic awareness, in particular, are dependent upon language-rich environments. The quality and quantity of verbal interactions young children experience play a significant role in building reading readiness.¹⁵ Children in poverty are less likely to be exposed to the kinds of language play that nurture this foundation to emergent literacy. Families who are moving frequently and facing the stressors related to poverty may be focused on survival, making the adults less “available” to their children, resulting in fewer verbal interactions. Further, depression, whether clinical or situational, is common given the challenges of poverty. Depression also suppresses the quantity of verbal expression a child experiences.¹⁶ The story books and nursery rhymes of middle-class America may not be part of the culture of children moving frequently and living in poverty, and the limited access to books in poor communities compared to more affluent communities has been well documented.¹⁷

Also noted is a relationship between high school dropout and poverty. Thus, it is parents without diplomas who are most likely to benefit from quality preschools as a means to counter the limited resources in their homes and communities; yet, these are the parents least likely to have access to quality programs.¹⁸ This is illustrated by the limited funding for Head Start, which allows programs to serve only approximately 40% of those eligible and the most recent USDE Homeless Child Estimate in which states identified over 250,000 preschoolers who experienced homelessness and reported that only 15% had access to preschool.¹⁹ Programs serving these children may need to consider how to incorporate the creative language-based play that will nurture the development of such skills. That is, it may be necessary to review or even introduce preschool-level skills when students have not had the benefit of experiences to develop the phonological skills that form part of the building blocks for early reading acquisition and to ensure that the continuum of phonological awareness is addressed by beginning with larger linguistic units and moving to phonemes as students are ready.

Phonics

While phonological and phonemic awareness focus on speech without print, phonics brings speech sounds and print together. Knowledge of the alphabetic principle and how letters are combined to represent the sounds of our speech is phonics. The National Reading Panel noted that phonics taught early is more effective than if introduced after first grade. Similarly, the authors of the CIERA²⁰ studies for grades 1 through 6 reported a high level of phonics instruction was NOT found to be helpful for students' growth in fluency in grades 2-3 or to their phonemic awareness development in kindergarten. This does not mean phonics should be ignored at these levels, but the proper mixture of a well-integrated reading program should include more direct phonics during early reading in first grade and gradually decrease in terms of direct instruction. Teachers continue to explore phonics with their students, as needed, in other grades.

English is notorious for its lack of one-to-one correspondence between letters (graphemes) and phonemes. The adoption of words from other languages that have different pronunciation and spelling rules and the introduction of the printing press have been identified as causes for some of these challenges. In the 15th and 16th centuries, many words were pronounced as they were spelled. Over the years, we have changed pronunciation, but little has changed in the way the words are translated into their written form.²¹

The English language has only 26 letters to generate approximately 45 different sounds.²² Some researchers have found that most comprehensive phonics programs provide direct instruction in about 90 rules, yet there are over 500 spelling-sound rules in English.²³ That means that we must use a variety of letter combinations to produce the unique sounds. To further confound this challenge, the same letter combinations can represent a variety of phonemes. Consider the following unusual spelling for a common word proposed by the author George Bernard Shaw:

ghoti

What word could this represent? Well, the “gh” refers to the /f/ phoneme as found in the word “enough,” the “o” refers to the /i/ phoneme as used in the word “women,” and the “ti” refers to the /sh/ phoneme as in “nation.” By mapping these sounds to the letter combination, we would arrive at the word “fish!”²⁴

Instructional considerations for teaching phonics. Despite the number of irregular letters and sound combinations, an understanding of the sound-symbol relationship and mastery of basic rules is strongly associated with early reading success. Some educators who work with students who are highly mobile have noted their inadequate progress with whole language approaches that lack structured phonics instruction as the explicit structure

is seen as a critical building block for these students.²⁵ Thus, explicit phonics instruction in the primary grades, as noted in previously cited studies, was associated with more effective classrooms as defined by acquisition of reading skills; however, an emphasis on phonics in later grades was less effective. Table 5 outlines developmental steps children go through in developing word recognition skills, which is the purpose of phonics instruction.²⁶

Phase	Description
Pre-alphabetic	Children attend to distinctive visual cues. For example, they focus on logos to recognize brands or locations such as the golden arches for MacDonald's. ²⁷
Partial alphabetic	Students have knowledge of some letters and sounds and use those phonetic cues when trying to read.
Full alphabetic	Students can fully analyze the spellings of words.
Consolidated alphabetic	With reading practice, spelling patterns become joined into "multiletter units consisting of blends of letter-sound matches" ²⁸ and students use these larger units to read sight words (e.g., onset-rime patterns).

Table 5. Stages in Developing Word Recognition Skills

Despite the ability to directly teach all possible phonics rules and letter combinations, this component of reading instruction plays an important role in early reading development. Rather than ensuring students master all the rules for decoding words, phonics provides children with an awareness of word structure, and this awareness, in turn, allows them to generalize the rules they have mastered to read new words. Practice in writing letters to represent words, a common way to practice phonics skills, allows children to recognize that their spoken words can be separated into smaller units of sounds and a visual representation can be assigned. "Armed with this awareness, a child can then go on to induce for himself the multitude of spelling-sound correspondences that are actually required to read."²⁹

Students need to understand the goals and rationale for the instruction they receive as it allows them to develop metacognitive control over the word-learning process. For example, they can think about how they are learning words, the relationship between their reading and classroom instruction, and even how to adjust their approach to reading tasks when they are not successful.

There are several approaches to teaching phonics. Synthetic phonics emphasizes letter-by-letter phonological decoding to combine sounds into whole words, whereas analytic phonics focuses on breaking words into their component sounds. A third approach involves the use of analogies with onsets and rimes taught through the use of keywords or other known words to

identify unknown words.³⁰ These processes are similar to those described under phonemic awareness, and similar activities may, therefore, be used for instruction. The major difference is the addition of written words to the verbal cues. Steps teachers or tutors may use include:

- Modeling of self-talk (verbalizing how you approach a new word so the student understands the internal process);
- Guided practice where the students explain why number of sounds and number of letter might not match;
- Letter substitution practice with Elkonin boxes (e.g., here is the word “hat” if I change the “h” to “m,” the word is ...“mat.”);
- Reading texts with controlled vocabulary and predictable rhyme pattern or easy trade book;
- Reading to students having students point to the words and follow along;
- Echo and choral reading (students repeat after the teacher or everyone reads along aloud together);
- Solo reading; and
- Maintaining “What-I-Know-About-My-Language” journals that allow students to review features of our language. Students develop their own observations of rules, which can be motivating because it gives them control over their own word learning.

Despite such a variety of activities, teachers and students face challenges when working with phonics to provide practice in the phonics rules that have been taught. Reading is not intended to mean decoding words in isolation, but rather getting meaning from print. As noted above, actual stories and expository writing are needed. A variety of controlled vocabulary texts and trade books are available that emphasize particular patterns and gradually increase in complexity. The benefit of these books is that they give students the opportunity to practice words they know and be successful. One drawback to such controlled texts is that the limitations on word choices can make the readings less interesting and sometimes force sentence structures that are less common for students. This, in turn, can impede motivation to learn if the students view the stories as dull or difficult to understand. Teachers must balance the need for practice with the use of engaging reading. The percentage of words that needs to appear in such texts is another area for continued research.³¹ Some researchers suggest phonics texts may be considerably reduced and still achieve the goal of the text.³²

“If children successfully negotiate all the texts normally encountered by the end of eighth grade, they will encounter over 80,000 words. In third grade alone, they will encounter over 25,000 distinct words”³³

Not all words can be deciphered by applying phonics rules; such words are described as “sight words.” Students will need to learn additional strategies to tackle the texts and storybooks they want to read. Juel and Minden-Cupp³⁴ explored primary-grade reading to determine which and how many strategies for word recognition should be used with first graders. (It should be noted that the classrooms involved in the study were stable. Whether these results would apply to classrooms with high mobility is unknown.) The researchers observed students and teachers in four first-grade classrooms that used different reading approaches (e.g., structured phonics or trade book emphasis) and tracked when and how students were encouraged to:

- Sound out words,
- Make an analogy,
- Use context clues (use the surrounding text meaning to predict the unknown words; e.g., “Does it make sense?”),
- Apply a combination of strategies, or
- Have the teacher just tell the word.

In addition, the researchers looked at which students were encouraged to use certain strategies and under what conditions (such as group size). Less skilled decoders were encouraged to sound out words more frequently, and those with some decoding skills were more likely to use the onset-rime approach. The results suggested:

- Differential instruction may be helpful in first grade. While low-group members in a trade book classroom tend to be relatively poor readers at the end of first grade, their classmates in higher groups make exceptional progress;
- Children who enter first grade with low literacy benefit from early and heavy exposure to phonics; once they can read independently, however, these children then profit from the increased vocabulary work, text discussions, and variety of text types that is characteristic of their higher range peers’ reading curriculum; and
- A structured phonics curriculum that includes both onsets and rimes and sound and blending phonemes within rimes appears to be very effective.³⁵

Furthermore, the most structured phonics classroom had the strongest, statistically significant overall outcomes despite the lack of beginning-of-year differences across classrooms; peer coaching was not successful with poor readers, yet students with some reading skill benefited from such coaching, suggesting that a threshold of competence may be required before students can benefit from such a strategy.³⁶ The following classroom practices were identified for students with minimal reading skills as having the greatest success in learning to read:

1. Teachers modeled word recognition strategies by (a) chunking words into component units such as syllables, onset/rimes, or finding little words in big ones, as well as modeling and encouraging the sound and blending of individual letters or phonemes in these chunks; and (b) considering known letter-sounds in a word and what makes sense.
2. Children were encouraged to finger-point to words as text was read.
3. Children used hands-on materials (e.g., pocket charts for active sorting of picture cards by sound and word cards by orthographic pattern).
4. Writing for sounds was part of phonics instruction.
5. Instructional groups were small with word recognition lesson plans designed to meet the specific needs of children within that group.³⁷

How to balance the needs of highly mobile students who may be older but lack mastery of phonetic relationships has not been addressed in the literature to date and is an area for further research.

While meaning is the ultimate goal of reading, it is believed that decoding must come first. A good reader uses meaning to determine if decoding was done properly, but readers should not start by looking at picture clues or context. They must attend to letters first. For skilled readers, this occurs at such a rapid rate that it is almost automatic and they often are unaware that the decoding process is occurring.³⁸

Automaticity is fostered by the intervention of a teacher who provides explicit instruction in the use of externalized dialogue to control learning (Lovett, et al., 1994), teaches students to fully analyze words (Stanovich, 1991), and provides daily opportunities for students to read connected text containing words with high-frequency phonograms or spelling patterns (Ehri, 1992). Students need plenty of practice reading words in order for words to be stored in memory as fully connected sight words that can be read automatically.³⁹

The goal of instruction should be to motivate students to be reflective and analytic—in other words, to become “word detectives.”

Vocabulary

The knowledge that students have for many words is far more complex than could be attained through instruction that relies primarily on definitions. Not only are there too many words to teach them all to students one by one; there is too much to learn about each word to be covered by anything but exceptionally rich and multifaceted instruction.⁴⁰

Vocabulary in readings refers to students' understanding of the *meanings* of the words they encounter while reading. Part of the complexity of this process may be explained by realizing that many aspects of language, as well as reading, come into play at this stage. Knowledge of morphology, syntax, semantics, and even pragmatics influences the student's ability to understand what a word means, both in general terms and, with time, the subtle nuances of meaning that different words evoke in different contexts.

The concept of a "word" can be challenging for 5-year-old preschoolers, who may have difficulty dissociating a word from its referent.⁴¹ For example, when a young child hears or reads the word "table," he thinks about the concrete object and cannot separate that object from the written or spoken "word." For young children, the object IS the word, and the word IS the object. The ability to manipulate this abstract component of language usually does not begin to emerge until age 7, and deeper understanding seems to occur around age 9 or 10.⁴² Thus, it takes time for children to realize that the label we choose to use to identify an object is arbitrary and not inherently linked to the object. (Why couldn't a table be called a "splosh"? For a young child, the answer may likely be, "No! It's a table!")

In one study of children's vocabulary growth, Anglin found that the number of root words children knew increased by about 4,000 words between first and fifth grade. When derivations of these words (changes based on the addition of a prefix or suffix) were included in the count, the increase in vocabulary acquisition reached about 14,000 words! Anglin found a "veritable explosion in children's knowledge of derived words, especially between third and fifth grades. . . the bulk of this increase appears to reflect morphological problem solving, that is, interpreting new words by breaking them down into their component morphemes."⁴³ Incidental discussions and direction instruction in root words (including etymology), suffixes, and prefixes have a place in reinforcing this skill development.

The high rates of vocabulary growth seen in many children occur only through immersion in massive amounts of rich written and oral language. Students who need help most in the area of vocabulary—those whose home experience has not given them a substantial foundation in the vocabulary of literate and

academic English—need to acquire words at a pace even faster than that of their peers, but by no means do they always find this process easy or automatic.⁴⁴

The fact that exposure to rich written and oral language is so critical for this component of reading makes it a likely area for further research for children who are highly mobile as a result of poverty or other family stressors. Such families are less likely to have the mental energy to engage in rich dialogues with their children (or such interactions may not be part of their cultural experience).⁴⁵ In addition, families living in poverty and moving frequently are not likely to have expansive libraries in their homes, nor may they find it easy to access books through the public library. Checking out books is often tied to residency—something families on the move may have difficulty substantiating.⁴⁶ Similarly, students with limited English proficiency may have little access to print, especially in the family’s native language, compared low income and middle income schools and neighborhoods. There tend to be significantly fewer written sources in preschools, libraries, and neighborhoods in high-poverty communities.⁴⁷

Spanish is a common language found in U.S. schools today, especially among one subpopulation of highly mobile students—those of migrant families. Certain characteristics of Spanish may assist these students in acquiring English vocabulary. For example, researchers have noted that both languages share many cognates with similar spelling, pronunciation, and meaning. The large number of English words with Latin roots reinforces this claim. Thus, researchers found that Spanish-English bilingual students’ ability to recognize morphological relationships increased dramatically between 4th and 8th grade. Whether this was due to increased ability or greater sensitivity at this age was unclear.⁴⁸ Looking for such commonalities and sharing the similarities with all students in the class may provide students who are learning English with an opportunity to be the “expert” and instruct their classmates. Such acknowledgment of the special skills these students have can enhance their self-esteem, build greater understanding of similarities rather than differences, and strengthen community in the classroom.

Effective vocabulary instruction must provide students with multiple and varied encounters with words.⁴⁹ Table 6 summarizes key elements that are part of the development of vocabulary skills.

Element	Description	Examples
Incrementality	Students develop progressive approximations of adult understanding of words.	Simplified scale of increments: ⁵⁰ <ul style="list-style-type: none"> ○ Never saw it before ○ Heard it but don't know what it means ○ Recognize in text, know it has something to do with ... ○ Knows it well ○ Can use it in a sentence While research supports that learning can be incremental, we know less about what limits the effectiveness of different exposures to the word. ⁵¹
Multidimensionality	Word knowledge consists of qualitatively different types of understanding. There are many ways to categorize words and no one aspect predicts how well a student will grasp another.	Examples: spoken form, written form, frequency, association with other words, semantic relationships (synonyms and antonyms, morphological relationships (affixes) Learning tasks: new concepts, new labels for known concepts, moving words into students' working/productive vocabularies
Polysemy	Understanding that words can have multiple meanings, even when spelled exactly the same way (e.g., "bear" – the animal and bear as a verb – to carry a load).	Students "must not only be taught to choose effectively among the multiple meanings of a word offered in dictionaries, but to expect words to be used with novel shades of meaning" ⁵² (e.g., the use of figurative language). ⁵³
Interrelatedness	Word knowledge is dependent on understanding of other words.	Students must learn that words are not isolated units of meaning. Students benefit from linking new knowledge to prior. Therefore, a high level of mastery of previous relationships among concepts facilitates learning new words. ⁵⁴
Heterogeneity	What it means to know a word differs substantially depending on the kind of word.	This requires understanding of syntax and being able to identify parts of speech and how the word is being used grammatically influences meaning (e.g., You have two "eyes" differs from Tom "eyes" the dessert table).

Table 6. Elements of Vocabulary Acquisition

Instructional considerations for developing vocabulary skills. Many of us recall the weekly vocabulary lists with words whose definitions were found in a dictionary and copied verbatim. The culminating event was a Friday test.⁵⁵ You may have memorized a word for Friday’s test, but did you recall its meaning the following Monday? Could you use the word spontaneously in your speech or writing? While definitions provide explicit information for students and many such practices may be better than waiting for chance encounters, traditional approaches to vocabulary run counter to what the research tells us and do not address the nuances of meaning and usage. For example, it will not help a student differentiate the subtle difference between saying, “Maria was annoyed.” or “Maria was furious.”

So, what can we do if there are too many words to learn for teachers to teach directly and the subtleties needed for deep understanding and effective usage are missed by those common vocabulary tests? Here are a few suggestions identified by researchers:

- Students need at least some information about the nature of words if they are to take an active role in word learning and assume increasing responsibility for their own vocabulary growth.⁵⁶
 - Talk about words—where they come from, how they are used.
 - Read aloud from high-quality children’s literature that uses rich, descriptive language and discuss the author’s choice of words and why they make the story more exciting and engaging.
 - Provide students with opportunities to copy an author’s style in their own writing or have them suggest alternative words to make a dull passage more lively.
- Context training can increase students’ ability to learn words.⁵⁷
 - Since meaning is not clear when words are in isolation, play word games in which the same word has different meanings depending upon the rest of the sentence or passage. Help students identify cues surrounding the word that assist in understanding its meaning.
 - Use cloze passages (passages in which words are omitted) and have students practice identifying possible ways to fill in the blank. Discuss how those different options can change the meaning of the passage.
- Metacognition (thinking about thinking), as used in strategy instruction, can provide a structure for thinking about the meanings of words.
 - When reading, model the thought process you use when approaching an unknown word.
 - Have students share their approaches to figure out words that are unfamiliar.

- Metalinguistic awareness, in other words, knowledge of morphology, correlated with reading ability into high school⁵⁸ and makes a difference even when phonemic awareness is taken into account.⁵⁹ Give the students an opportunity to add to their skills as “word detectives.”
 - Look at different parts of speech, and how they impact word usage.
 - Provide direct instruction in root words, prefixes, and suffixes.
 - Find children’s books that emphasize a play on words.⁶⁰

Caution – for some irregular words, morphology must be used strategically and flexibly as a strategy. Context also is needed to recognize the difference between an “s” added to a present tense verb (runs fast) or added to make a plural (runs in stockings).⁶¹ Areas for future research include the effects of varying levels of metalinguistic awareness on students’ ability to profit from different types of vocabulary instruction and what effects instruction has on word consciousness and students’ vocabulary growth.

- Syntactic awareness training can lead to improvement in reading comprehension since knowledge of syntax impacts contextual predictions.⁶²
 - Grammar lessons do not need to be the drill-and-practice activities out of a textbook. The ability to play with words and grammatical structures is the basis for many children’s jokes and our humor as adults.

The quality of vocabulary instruction must therefore be judged, not on whether it produces immediate gains in students’ understanding of specific words, but also on whether it communicates an accurate picture of the nature of word knowledge and reasonable expectations about the word learning process.⁶³

Fluency

Fluency refers to the ability to read smoothly with proper pacing to ensure the meaning is captured. Three components are included in fluent reading: rate, accuracy, and prosody (or intonation; i.e., reading with expression).

Rate. Speed in reading is calculated by looking at the number of words read per minute (wpm). This can include reading isolated word lists (such as one-minute probes) or short passages that are timed. The timing can be done for oral or silent reading on passages. Second graders should average approximately 100 wpm silent reading passages, while fifth graders will have

doubled that rate. For oral reading, the target rates listed in Table 7 are suggested.⁶⁴

Grade Level	Target Rate
Second	85 wpm (50-80 wpm range at beginning of year)
Third	110 wpm
Fourth	120 wpm
Fifth	130 wpm

Table 7. Oral Reading Rate Targets

Accuracy. As would be expected, high levels of accuracy while reading are associated with greater fluency. Reading experts often look at students' accuracy to determine the appropriateness of texts and other reading materials being used by students. The following three levels are suggested:

- Independent reading level: When a student can read at least 98% of the words accurately, the reading should be easy enough to be read without teacher direction. This is the level to seek for work students do on their own. In addition, when working on increasing other fluency elements materials should be at the student's independent reading level.⁶⁵
- Instructional level: Materials that can be read with 95-97% accuracy are appropriate when the teacher will be providing support while the student is reading.
- Frustration level: Materials that a student reads with less than 95% accuracy is difficult for the student to navigate successfully, even with teacher support.

Prosody. To read with expression, a student must be comfortable with the text. The student must be able to decode the words accurately and quickly in order to attend to the meaning as well. This will allow the student to read questions as questions, that is, with a rising tone at the end of the sentence, show excitement when reading exclamations, and even vary voices when dialogue.

Instructional considerations for improving fluency. To nurture growth in reading fluency several considerations should be addressed. Materials should be carefully selected to ensure they are at the student's independent

reading level. Repeated readings of familiar texts is one way to help students increase their rate of speed while reading and become more expressive while reading. How do we get students to reread materials they have already read? Here are some practices teachers frequently employ that can be used in tutoring programs as well as classrooms:

- Young children naturally enjoy rereading their favorite books. The many parents who know a large repertoire of Dr. Seuss books can attest to this! Use books the child enjoys. It will make the repeated readings fun rather than work.
- Choosing the proper level of difficulty will increase a student's willingness to reread. It is reinforcing to successfully perform a passage.
- Provide opportunities for the students to perform. This gives a reason for practicing. It may involve reading to peers, parents, or younger children.
- Practice reading into a tape recorder. Students can listen and evaluate their own performance. Keep samples so students can compare early readings with later efforts.
- Read along with the student or have a taped version of the passage that the student can listen to while reading along for independent practice.
- Graph the results of reading probes with the student. This provides a visual representation of improvement in reading rate and accuracy. Many students find such a concrete measure of progress motivating. If the student is not progressing, the graphing provides documentation and can be part of student-teacher discussions.

While practice does not make perfect, practice is a critical component to improve reading fluency.

Comprehension

"All children have a hunger to read, think, and discuss ideas in literature as a way of understanding the world around them."⁶⁶

The fifth component in the reading process is comprehension. The ability to understand what is read is the ultimate goal of all our reading instruction. Gaining meaning from texts read requires the ability to orchestrate all previously described components. Reading for meaning should begin with the earliest reading activities; however, the focus on comprehension and its direct instruction gains greater emphasis as students master other reading components. A common expression is that the primary

grades focus on learning to read while the intermediate elementary grades shift to reading to learn.

The National Reading Panel concluded that the most effective instruction for comprehension uses strategies rather than relying on skill instruction. The Panel described skill instruction as teaching in which “students are engaged in traditional, lower level thinking activities, such as identifying main idea, cause-effect, or fact-opinion. When students are engaged in using a comprehension strategy, the skills used will transfer to other reading, and explaining how the skill transfers is part of the instruction. For example, predicting what will happen next can be addressed as a skill with students simply practicing predictions for materials being read. If the instruction includes how to identify clues and foreshadowing and the teacher discusses how the process being used in a novel study can be used when reading a history text, the skill instruction has been enriched and would be considered more strategic in nature.⁶⁷ Strategy instruction for comprehension also has been identified as a critical component when serving students with limited English proficiency.⁶⁸

Instructional considerations for improving comprehension.

Comprehension skills vary based on the type of text being read. For example, the structure of a storybook is very different from that of a history text, a newspaper article, or a user’s manual to set the time on your VCR. Despite the different types of reading materials (and writing expectations) students are expected to navigate effectively by the time they reach middle school, there tends to be a scarcity of informational texts in primary-grade classrooms.^{69,70} Researchers have analyzed the types of reading materials in classrooms. Results included the following:⁷¹

- A 1998 study found a mean of 16% for the ratio of expository texts to total text types in classrooms compared with 38% on standardized tests;
- A 2000 study found 14% of materials primary teachers read to their classes was informational; another study identified only 6% of all material read (read aloud and by students) was expository;
- There was a discrepancy in percentage of informational texts between high and low SES districts with the gap more than doubling at middle-high school levels. Higher poverty classrooms tended to have fewer informational resources for students to read.

Stories and literature can be balanced with different informational sources from early grades, especially when the informational materials are linked closely with the students’ own experiences. Whether it is reading the directions to make a peanut butter and jelly sandwich or an ice cream sundae

or describing the animals and their habitats that were seen on a visit to the zoo, young students can benefit from such exposure.

Duke⁷² offered the following arguments in favor of informational texts:

- Students become better readers and writers of such works;
- Facility with informational texts is an important survival skill, especially as the world becomes more technological;
- Students gain increased content knowledge, vocabulary, and comprehension skills and become better readers and writers of informational texts;
- Results on the NAEP suggest that higher reading achievement correlated with students' self-report that informational works were part of their reading habits. (Note: This is a correlation, and no causality can be assumed. It may be that good readers are more likely to select informational text.);
- Since there is more informational reading outside school (newspapers and magazines in homes), reading more informational texts in school could create a stronger link between school and home.

Instructional techniques for use with informational texts include read-alouds, independent reading, writing, and research. Given proper scaffolding and materials at the students' independent reading level, even second graders can begin creating research reports. Descriptions of comprehension strategies for various text forms will be included in the Tool section.

In addition to providing a variety of reading materials, teaching comprehension strategies, as the NRP recommended, should be incorporated into activities with students. Samples of strategies may be found in the Tools section of this document. One of the challenges noted for schools in high-poverty areas is the presence of lower expectations for student learning. Effective comprehension instruction requires changes in teachers' perceptions and common practices. Drill and practice with lower-level thinking skills must give way to greater emphasis on higher-level thinking skills. Increasing teachers' use of inquiry-based instruction for all students, including the least proficient readers, can improve reading skills and increase motivation. Higher-level thinking skills depend less on finding the "right" answer and more upon analyzing and supporting one's position. This open-endedness can be very engaging for students, but it may take teachers some time to adjust to less control when leading a discussion and letting the students direct the dialogue.⁷³ Finally, higher-order questioning is associated with higher achievement and more effective schools.⁷⁴

Other Factors to Consider

The five components identified in the National Reading Panel Report and incorporated in the Reading First Act were selected based on the presence of research to support their importance; however, additional elements play a role in successful programs, even if they are less objective and more difficult to measure. One of these critical factors has been included in justifications for instructional practices already listed. That is, a student must be excited and interested to remain engaged in reading tasks. In other words, educators should consider motivation when selecting instructional practices and materials. Allowing students to choose topics of interest, collaborate with one another, and work with materials with which they can experience success increases their motivation and interest in reading.⁷⁵

In addition, relationships are a powerful force. Building rapport with students and being able to enjoy one another's company even when tackling challenging skills is important with all students. For students experiencing mobility, the opportunity to feel connected to an adult, whether a teacher, tutor, or mentor, can provide a needed anchor. For older students who have experienced much moving, building rapport may require extra effort, as these students may be cautious about establishing a relationship that will soon end. Patience and consistent efforts to learn about the student while respecting personal boundaries as trust is established may help the student feel more comfortable. Sometimes asking another staff person or peer to take the role of mentor works well. Different students may be more comfortable with different partners. While true for many students, but especially for students experiencing mobility, feeling welcome, safe, and valued is the foundation that must be established for learning to occur.

Summary

What is the ultimate goal for adult proficiency in reading? The answer to this question will shape how teachers craft benchmarks and goals for interim levels throughout students' educational careers. To be considered literate in today's highly technological society requires a variety of skills, including the ability to read, comprehend, critically analyze, and apply information from a vast array of sources. Reading for pleasure and having a working knowledge of traditional and new "classics" may impact one's impression of being culturally literate; however, the ability to read technical manuals in the course of carrying out one's job or installing a new home appliance, to analyze stock performances when deciding upon a retirement plan, or to sift through the massive amounts of media information to decide which candidates to support in an election are among the day-to-day reading skills required to be a competent adult. Given the increasing demands of a literate society for economic survival, there is an increasing expectation for our schools to ensure 100% of the population is literate, a significant shift from the days of the industrial revolution or the expectations of many other societies outside the United States.⁷⁶

It is this expectation for a fully literate society that has led to the increasing attention to early literacy experiences that are seen as critical to preventing reading failure and may be the key to achieving high levels of adult literacy. As Snow and her colleagues described, early reading difficulties are highly indicative of future reading success or failure. Research is emerging to suggest that if we can intervene to change those early difficulties, we can prevent young readers from experiencing later reading failure. One of the initial steps to providing appropriate instruction and intervention (when needed) is to identify developmentally appropriate reading skills that children should acquire at different ages and grades. A summary table that identifies critical skills expected from preschool through the elementary grades can be found in the Tools section. The guidelines for these benchmarks are based on the work of the National Research Panel. It is important to note that these are benchmarks, not hard and fast rules for each child. In fact, the NRC commented in an addition to the preface of the third printing of their report concern regarding over-interpretation of the recommendations for grade levels. Use these as general guidelines, remembering that individual students have unique needs and may be a different level of development than their peers or even vary in their mastery of different components of reading. Identifying students' unique needs requires the ability to assess students in ways that inform effective instruction.

Endnotes for Chapter 5

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- ²¹ Fromkin & Rodman. (1974). pp. 297-298.
- ²² Depending on the linguist, the estimate of distinct sounds (phonemes) in English ranges from 34 to 52. Websites of interest include: <http://www.antimoon.com/forum/posts/4025.htm> and <http://www.putlearningfirst.com/language.08sounds/08sounds.html>
- ²³ Juel, C. (1994). *Learning to read and write in one elementary school*. New York: Springer-Verlag.
- ²⁴ Fromkin & Rodman. (1974). p. 33.
- ²⁵ Anderson. (2003). p. 20.
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- ²⁸ Gaskins et al. (1997). p. 316
- ²⁹ Juel & Minden-Cupp. (2000). p. 461.
- ³⁰ Gaskins. (1998). p. 539.
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Chapter 6

Concluding Thoughts

Students who are highly mobile, especially those facing the stressors of poverty or homelessness, enter our schools and classrooms with many needs that may include physical (e.g., shelter, food, and clothing), emotional (e.g., social skills, a sense of belonging, and coping), and academic (reading, mathematics, and other content areas) components. Because the needs of highly mobile students can be very diverse, there is no one approach to providing appropriate support. The previous chapters presented recommendations for educators that range from broad policy and school district-level strategies, to the classroom-level with general organizational structures and proposed reading practices suggested by current research.

A growing body of literature speaks to the education of highly mobile students. Much of this work addresses the larger policy implications and what is known about how well these students perform on assessments of academic achievement. Far less is known about the day-to-day instruction that occurs between a teacher and student. Many questions remain unanswered. Does effective instruction—in this case, reading instruction—look the same for students who are highly mobile as it does for their peers? If not, how does it vary? Do students who experience high mobility have access to effective instruction? What added challenges do teachers and students experience, and how are they overcome?

The answers to such questions will require the concerted efforts of policymakers committed to understanding the needs of mobile students, researchers able to craft studies that are rigorous yet able to capture the unique needs of this special population, and educators at all levels who interact daily with these students and strive to implement instruction that is appropriate and effective. In the final analysis, there is far more to learn than we currently know about meeting the educational needs of highly mobile students. Nonetheless, as we focus our collective efforts on the issues of mobility, we can continue to improve the quality of education for this challenging group of students.

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