The Today Foundation is committed to the goal of reading proficiency for all our children regardless of their economic background. The Foundation is a champion of unique and effective technologies proven to help children learn to read thus expanding their opportunities to participate in the American Dream.

Education Reform Series ~ April 2009 White Paper

The Agony of Reading Failure

We All Suffer

Our children are our nation's most important resource. They represent the legacy of our efforts in providing a safe and nurturing world; they also embody our hopes and dreams for the future. Yet, it has become abundantly clear that millions of children have entered preschool and kindergarten without the language and literacy skills needed to succeed in school and in life[1].

The majority of the youngsters have something in common – they are poor. And, despite over 40 years of expensive Federal programs to bolster pre-reading and language abilities of poor children during the preschool years, the literacy gap between children of advantage and children of disadvantage has not changed.

Unfortunately, the gap widens and accelerates with each passing grade. Eighty eight percent of youngsters who read poorly at the end of the first grade, read poorly at the end of the fourth grade as well[2]. Students who have not caught up by nine years of age carry their limited reading skills into adulthood. For those students who have not learned to read by the ninth grade, these children typically drop out of school at significantly higher rates than their classmates who read proficiently[3]. Reading failure is invasive and cumulative. Without proficient reading skills, many of these kids are doomed to lifelong hardship with little potential for occupational, economic and social advancement. They are more likely to become a teen parent, end up in prison and suffer from persistent health problems[4]. Without aggressive and innovative approaches to prevent reading failure, a bleak future awaits many of these children. This is an American tragedy.

Behind from the Start

Unlike their more advantaged age-mates, many children from low-income homes have never been read to while sitting on their parent's lap or having stories read at bedtime. It could be that their parents do not read themselves; it could be that paying for food has a higher priority than paying for books[5.] Whatever the reason, "low income" typically means a limited number (or no) books in the home, not to mention the absence of magnetic letters, drawing paper, newspapers and other reading-related materials. It is very difficult for children to develop emergent literacy skills when they do not have access to these resources[6]. Poor children also hear fewer words at home and have limited conversations with adults. Many have learned only half the words they must know when they enter kindergarten and, more often than not, they will not know the letters of the alphabet or how to follow words from left to right across the printed page. By the ninth grade many of these children only have the vocabulary of a third grade student. Without these essential early reading and language abilities, most will carry the baggage of illiteracy into their adult years, increasing the chances that their own kids won't learn to read either[7].

While we may not be able to address all of the problems caused by poverty, the good news is that we can overcome illiteracy. Research at the National Institutes of Health and elsewhere indicate that the number of children who suffer from reading failure, and thus failure in school, can be reduced significantly if they begin kindergarten and first grade with the essential language and reading readiness abilities followed by effective reading instruction in following school entry. The National Research Council estimated that if children receive proper exposure and systematic opportunities to develop foundational language, reading, and emergent writing skills during early childhood, as few as only five percent may experience serious reading difficulty[8].

False Starts and Broken Promises

It is an understatement that teaching kids to read is tougher than most people realize. This is particularly true when the youngsters enter preschool and kindergarten so far behind in vocabulary development and pre-literacy building blocks required for later reading proficiency. If it were easy, we would not be looking at an epidemic of reading failure today.

Expensive programs like Head Start, while well intentioned and effective in providing essential resources to ensure adequate nutrition and positive health outcome, do little to close the language and literacy gaps between preschool children from low income homes and their more advantaged age-mates. Since 1965, taxpayers have spent more than $70 billion on Head Start to provide comprehensive health, social, educational and mental health services to poor children. Currently, the $7 billion dollar a year program enrolls more than a million three and four year olds at a cost of roughly $7,000 per pupil. Evidence suggests that the program provides some short-term cognitive benefits for poor children, but there is no clear indication that any gains last. In 2007, most Head Start children entered kindergarten far behind their higher-income classmates in language and literacy skills. This represents a dismal cost/benefit ratio that we can no longer tolerate. We must look to additional solutions to give our kids a fighting chance at a productive life[9].

Why?

Closing these language and literacy gaps requires innovative solutions that improve the scientific *quality* of instruction. That means expert teachers, evidence-based early childhood instructional strategies and a curriculum that is cognitively stimulating. However, quality is not enough. For those children having difficulties, increasing the *quantity* of instructional time is equally important. Both quality and quantity of instruction are non-negotiable if we are to expect significant improvements in literacy skills.

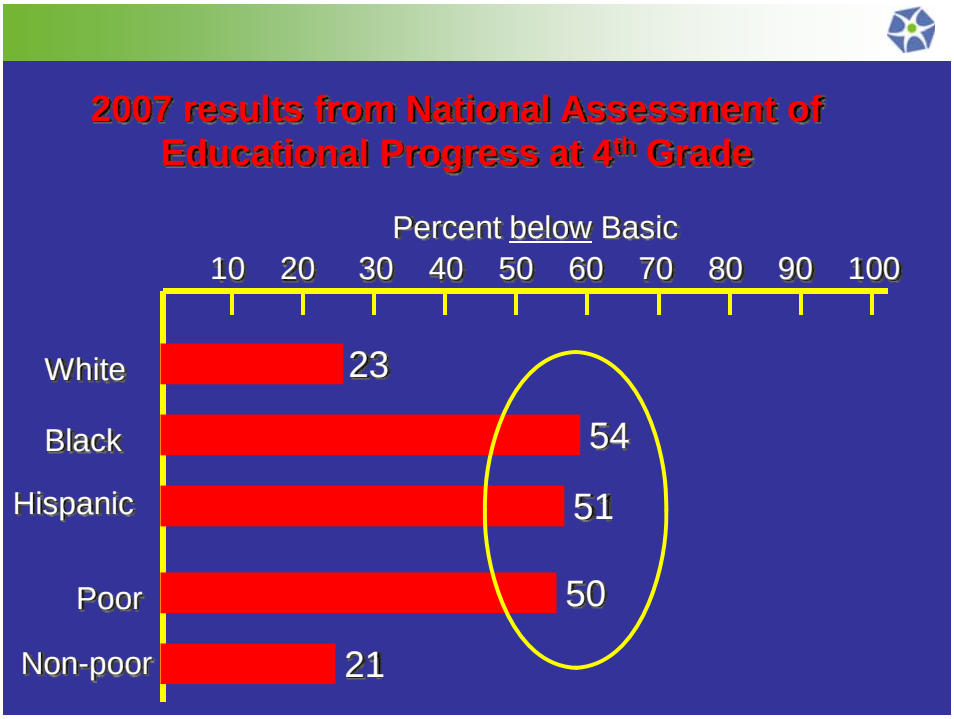
We have ignored this requirement for both effective instruction and increased time for children receiving that instruction from preschool through high school. We have ignored the fact that effective literacy instruction for many children from disadvantaged environments must take place in school, after school, and in the home.

Why have we neglected implementing what works? There are at least four reasons: (a) a lack of concern and urgency about the reading crisis; (b) a lack of public and professional awareness about the gap between what children must know to read proficiently and what kids at-risk for reading failure actually know; (c) unprepared teachers; (d) a lack of leadership to identify and implement proven solutions; and, (e) limited use of new innovative technologies that have the capacity to motivate and engage youngsters in literacy interactions for longer periods of time, thus providing immediate corrective feedback to students and immediate feedback to teachers on each child's performance while also automatically linking customized language and literacy instruction to each student's needs based on continuous assessment of their progress.

Not My Child

Reading difficulties are much more prevalent in low-income families. Nationally, over 50 percent of poor children are unable to comprehend what they read from the first grade onward[10]. This tragedy however, is invisible to many who are in a position to do something about it. Those who have never experienced reading failure and the consequences that it produces typically do not give the issue a great deal of thought. Not learning to read is something that happens to other kids and families down the street or in high poverty schools. But this is not a problem to avoid or overlook no matter what your station in life. This will dramatically affect the nation's future employment rates, the country's economic prosperity and the quality of life for many citizens. Even the wealthy do not get a pass either. Twenty percent of middle and high-income children suffer the same fate[11]. Fortunately for them, their families typically have the resources to do something about it before it cripples their children's futures.

This graph underscores the epidemic nature of reading failure in the United States[12].



The majority of these economically disadvantaged fourth graders entered preschool and kindergarten with only half of the vocabulary that the majority of their more advantaged age-mates had who read proficiently. By the ninth grade the same children will be four times behind in vocabulary development[13]. This lack of vocabulary negates the ability to understand what is read. This will not change unless they receive the quality and quantity of instruction required before entering school and after they enter school. In fact, if we do not solve this problem this is what can be expected:

- Children of parents who do not have basic reading and writing skills are significantly more likely to fail to learn to read[14];
- The majority of school-age children with reading difficulties fail to catch up with their peers and will carry these difficulties with them for the rest of their lives[15;]
- Currently, up to 80 million American adults in the United States are functionally illiterate, 50 % of whom are native English-speaking citizens[16];
- Nationally, Every 29 seconds another student gives up on school, resulting in more than one million American high school students who drop out every year – over 50% will have reading difficulties[17] ;

- Each year, 1.2 million students across the nation - nearly one-third of all public high school students and nearly one-half of all African Americans, Hispanics and Native Americans - fail to graduate from public high school with their class[18];
- There are nearly 2,000 high schools in the United States where 40 percent of students in a typical freshman class leave school by their senior year[19];
- Nationally, dropouts are four times less likely to volunteer than college graduates, twice less likely to vote or participate in community projects and represent only three percent of actively engaged citizens in the U.S. today[20];
- Dropouts are more than eight times as likely to be in jail or prison as high school graduates[21];
- Nearly 70 % of prison inmates nationally score at the lowest two levels of literacy (below fourth grade) with 19 percent being completely illiterate[22];
- Nationally, over 50% of people with the lowest literacy skills live in poverty, over 45% receive food stamps and well over 70% have no job or a part-time job[23];
- Nationally, business and industry loses billions of dollars each year in diminished productivity and high school dropouts cost the country $730 billion dollars in lost wages and taxes[24];
- The ability of the United States to compete in the global economy is substantially weakened by our literacy deficit[25];
- The United States currently ranks 20th out of 29 OECD countries in the reading skills of 15-year-old students[26];
- The United states ranks 23rd out of 29 OECD countries in mathematics with a significant degree of math underachievement due to reading difficulties[27];
- The United States currently ranks 19th out of 29 OECD countries in science with a significant degree of science underachievement due to reading difficulties[28.]

Closer to home in Texas, over 30% of our Texas children cannot read a simple children's book. This is true for our fourth graders, eighth graders and even our 12th graders. What is equally shocking is that many have known this fact for over four decades and nothing has changed[29]. In Texas, reading failure and its devastating consequences are not an equal opportunity experience. This scourge hits some children in high-income families, but minority and poor students suffer the most. Among Texas' fourth grade students, 49% of African American children and 42% of Hispanic children read below basic levels, compared to 20% of our white fourth grade Texas students. More than 45% of fourth grade students from economically disadvantaged Texas families cannot read. Even some of our Texas students from high-income families who are in the fourth grade undergo the same fate[30].

In Texas, reading failure is not just an education problem, it is a social, health and economic problem.

Consider:

- More than 118,000 students did not graduate from Texas' high schools in 2008[31];
- More than 40% African American, Hispanic and economically disadvantage students statewide did not graduate from high school [32;]
- More than 40% of Texas students who dropped-out had limited reading skills[33;]
- The lost lifetime earnings for Texas students who dropped out prior to their scheduled graduation in 2008 totals more than $30.7 billion[34];
- More than $46 billion would be added to Texas' economy by 2020 if students of color graduated from high school at the same rate as white students[35];
- The Texas state economy would see a combination of savings and revenue of more than $691 million in reduced crime and increased earnings each year if the male high school graduation rate increased by just five percent[36];
- More than $1.5 billion dollars in health care costs could be saved over the course of a lifetime if each class of Texas students who dropped out had earned their diplomas***[37].

What Kids Need to Know to Read. Learning to read is based on the language we learn and use everyday. Children's listening and speaking skills lead the way to their reading and writing skills, and together these equip the youngster to become a lifelong learner and contributor to society. Not only must the developing reader learn to turn letters into sounds and words quickly, but they must be able to understand what they have read. Understanding requires knowledge and knowledge-related vocabulary – two items in short supply among children from disadvantaged homes. Those books that many middle-class parents read to their children not only tweak their interest, but build vocabulary and pre-reading skills – as do the conversations that these parents have with their children. Unfortunately, language and literacy interactions are less frequent in low-income families and the development of language and pre-reading building blocks suffer. Many low-income children will enter preschool and/or kindergarten without knowing more than one letter of the alphabet and only half the vocabulary words understood by their age mates who are members of literacy-rich families[38].

Consider the challenge of closing these language and literacy gaps. During the first and second grades, children have to learn at least 800 new words per year. That is two to three words per day. From the third grade onward, they must learn over 2,000 new words per year, which translates into approximately eight words per day. If disadvantaged students enter preschool already 50% behind in vocabulary development, then the number of words they have to learn doubles. Even if the child is developing vocabulary on schedule, he or she must be exposed to each new word at least 12 times in various contexts before they own the meaning[39].

Why is this critical? Because in order to understand what you read, you must be able to read approximately 95% of the words on the page AND understand at least 90% of the vocabulary presented in the text[40]. Closing these gaps cannot be accomplished without sufficient quality and quantity of instruction. This presents a significant challenge to early childhood and school-age programs from a teacher preparation perspective, not to mention the modifications in typical school schedules that will be required to ensure sufficient instructional time. Solutions to meet these challenges require the innovative use of technology, a topic discussed in detail later.

Teacher Shortage or a Shortage of Expertise? It is popular to blame our educational woes, in part, on an increasing shortage of teachers. But the shortage is not the number of teachers that are available, but a shortage of educators with the necessary expertise to prevent and remediate reading failure within high poverty preschool and public school settings[41]. Unfortunately, it is students in these settings that require the most well-prepared teachers and the greatest amount of instructional time, but who are actually being taught by the less-qualified and less-experienced. The knowledge, skills, and abilities teachers of at-risk and/or failing students must bring to their instruction are extensive.

For example, in order to improve student achievement to a level that actually begins to close gaps, a teacher must at a minimum, be expert in (a) content knowledge, (b) the ability to plan and set measurable goals, (c) the knowledge and ability to identify and implement scientifically-based curricula and instruction, (d) the ability to conduct both formative and summative assessments, (e) the ability to customize instruction and address individual differences, (f) the ability to organize and manage the classroom for optimal learning, and (g) the ability to motivate and engage students by selecting and teaching relevant content and applying instructional strategies that relate what is learned to authentic, "real-life" settings, problem-solving scenarios and challenges[42].

At this time, we do not have enough teachers with these skill sets working in high-poverty schools nor will we have them in the next decade. Moreover, only 50 percent of our nation's teachers report that they are sufficiently prepared to address the needs of students who struggle academically[43].

The Necessary, but Not Sufficient Rule. Expert teachers are absolutely necessary if we are to expect any improvements in helping all children learn to read. However, having the most effective teachers will not be sufficient. The successful implementation of any new program, strategy, and/or approach to improve learning and achievement for all students is dependent on the school leader's ability to set in place the conditions necessary for any innovation to take root and sustain over time.

These conditions include (a) teacher buy in, (b) professional development for teachers, (c) identifying and selecting instructional programs, (d) establishing flexible scheduling to address individual student needs, (e) designing and setting in place new evaluation and accountability systems, (f) developing a culture of collaboration and a common language between leadership and teachers focused on student achievement, and (g) developing productive relationships with parents and the community[44]. Despite the absolute necessity for expert leaders, three out of four principals report that they are unprepared to identify and

implement instructional programs and teacher professional development strategies to address the needs of students from a wide range of economic and academic backgrounds[45.]

As with teachers, the probability that sufficient expert leaders will be available in the next decade is sparse. During those 10 years, millions of youngsters from every walk of life who come to school eager to learn will be stripped of that excitement because they did not learn to read. This cannot stand. We must develop and implement effective and innovative tools and strategies that prepare teachers and leaders to improve student learning simultaneously with teaching children to listen, speak, read and write. We believe that one solution to overcoming barriers to effective early education and effective professional development for teachers and leaders resides in the promise of innovative technology.

The Promise of Innovative Technology

Considerable research tells that preventing and remediating reading difficulties requires that the teacher not only be an expert in understanding reading development, but must also be capable of screening students to identify those at-risk for failure, assessing specific strengths and weaknesses in reading, analyzing the data, using the assessment data to customize instruction for each individual student and have the ability to develop frequent reading performance reports on each student the principal and parents. All this is necessary while also continuing to motivate and engage the student to persist in learning how to read despite a history of difficulties[46].

As noted, a limited percentage of teachers working with preschool, kindergarten and school-age children have developed expertise in these assessment and instructional skills. But even expert teachers find it very difficult to deploy these complex skills in an optimal fashion given the number of students with significant language and reading difficulties and insufficient time to provide quality instruction for all.

Unfortunately, we cannot wait until this capacity is developed as children will not wait to fail. A potential solution is to design and implement technology-based early reading programs that allow the child to work independently and at their own pace. Typically, the assessment and instructional designs used in these computer-based instructional interactions do a relatively good job of screening students for reading difficulties, assessing specific strengths and weaknesses, tracking a student's growth in reading and providing data reports. In the main however, teachers are required to manually customize instruction based on the assessment data, which requires substantial time and expertise. If time and expertise are in short supply, the quality of instruction declines and is frequently inconsistent.

The Today Foundation is now engaged in supporting the development of a new generation of technology designed to overcome these barriers to supporting students, teachers and educational leaders. One example is the development of an innovative computer-based early reading assessment and intervention program that automatically provides data-linked customized instruction for each individual child within a highly motivating and engaging format. Not only does this automatic linkage save teachers time in planning, but it also ensures consistency in quality instruction. This is the first instructional technology that has been designed so that as one skill is taught, all other skills are immediately integrated and

reinforced in combination with the concept being presented. This breaks the mold of presenting each specific language and/or reading concept in an isolated and linear manner – a process found to be ineffective for both children at-risk for reading difficulties as well as proficient readers.

This particular technology provides three additional indispensable elements critical to the improvement of reading skills and sustaining and scaling its implementation over time. First, the assessment and instructional strategies have been developed on the basis of the most current scientific reading research. The technology would have little potential and impact if the student received inaccurate content through ineffective instructional strategies.

Second, the computer delivered assessment and instructional strategies are sufficiently explicit to provide ongoing professional development to educators teaching struggling readers by providing practical real-time displays of how reading instruction is adjusted continuously based on assessment data. This is one of the most difficult concepts for teachers (and educational leaders) to grasp.

Third, the technology-based assessment and instructional model allows the student to continue receiving additional reading instruction while the teacher provides instruction to other students. Because the typical school schedule will not accommodate the increases in instructional time required for youngsters with significant reading difficulties, the computer-based platform allows teachers to extend both the intensity and quantity of instructional time beyond what is provided in the regular schedule without reducing instruction in other areas for proficient readers.

Achieving the Potential of an Integrated Technology Initiative

Preventing reading failure is an urgent goal that must be achieved for all of our children. But it is those who struggle because of disadvantage that are most at-risk for the gloomy life outcomes that await them. Therefore, we must stand on the shoulders of what we have learned about reading difficulties, the impact of teachers and leaders on student learning and achievement, and the barriers that have stood in the way of making a genuine difference in the lives of those children perpetually left behind. We must simultaneously increase the knowledge of our teachers and leaders as they are asked to alter the ways in which they ensure that effective instruction is available and provided consistently. The amount of time for effective instruction to be presented is as important as the quality of the instruction. Ensuring that children receive the quantity of instruction indicated by assessment data is not possible without an integrated approach with instructional technology at its core.

References

[1]Lyon, G.R. (2004). *Early childhood education*. U.S. House of Representatives Appropriations Committee. Washington, DC: Congressional Printing Office; Lyon, G.R. (July 2003). *The critical need for evidence-based comprehensive and effective early childhood programs*. U.S. Senate Health, Education, Labor and Pensions Committee. Washington, DC: Congressional Printing Office. Neuman, S. (2008) *Educating the other America. Baltimore*: Paul H. Brookes

[2]Frances DJ, Shaywitz SE, Steubing, K., & Shaywitz B.A. (1996). Developmental lag versus deficit of reading disability: a longitudinal, individual growth curve analysis. *Journal of Educational Psychology*, 88, 3-17;Hamilton, S., & Glascoe, F. (2006) Evaluation of Children with Reading Difficulties. *American Family Physician*, 12,. 2079-2084; Juel, C. (1988). Learning to read and write: A longitudinal study of 54 children from first through fourth grades. *Journal of Educational Psychology*, 80, 437-447; Shaywitz, S.E., Fletcher, J.M., Holahan, J.M., Schneider, A.E., Marchione, K.E., Stuebing, K.K., et al. (1999). Persistence of dyslexia: The Connecticut longitudinal study at adolescence. *Pediatrics*, 104, 1351–1359

[3]Alliance for Excellent Education (2008*). The high cost of school dropouts*. Washington, D.C.: AEE etcher, J.M., & Lyon, G.R. (1998). Reading: A research-based approach. In W. Evers (Ed.), what's gone wrong in Americas classrooms (pp. 49-90). Stanford, CA: Hoover Institution Press; Snow, C., Burns, M.S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press

[4]Alliance for Excellent Education (2008*). The high cost of school dropouts*. Washington, D.C.: AEE; Alliance for Excellent Education (2006a). *Healthier and wealthier: Decreasing health care costs by increasing educational attainment*. Washington, DC: AEE; Alliance for Excellent Education (2006b). *Saving futures, saving dollars: The impact of education on crime reduction and earnings*. Washington, DC: AEE; Bureau of Justice Statistics (2005). Prison Statistics. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics. Retrieved from http//www.ojp.usdoj.gov/bjs/prisons.htm.Harlow, C. (2003). *Education and correctional populations*. Bureau of Justice Statistics Special Report. Washington, DC: U.S. Department of Justice

[5] Lyon, G.R. (2004). *Early childhood education*. U.S. House of Representatives Appropriations Committee. Washington, DC: Congressional Printing Office; Lyon, G.R. (July 2003). *The critical need for evidence-based comprehensive and effective early childhood programs*. U.S. Senate Health, Education, Labor and Pensions Committee. Washington, DC: Congressional Printing Office. Neuman, S. (2008) *Educating the other America. Baltimore*: Paul H. Brookes; Shonkoff, J. & Phillips, D. (Eds.) (2000). *From neurons to neighborhoods: Integrating the science of early childhood development*. Washington, DC: National Research Council

[6]Neuman, S. (2008) *Educating the other America. Baltimore*: Paul H. Brookes; Shonkoff, J. & Phillips, D. (Eds.) (2000). *From neurons to neighborhoods: Integrating the science of early childhood development*. Washington, DC: National Research Council

[7]Lyon, G.R. (2004). *Early childhood education*. U.S. House of Representatives Appropriations Committee. Washington, DC: Congressional Printing Office; Lyon, G.R., Shaywitz, S.E., Shaywitz, B.A., & Chhabra, V. (2005). *Evidence-based reading policy in the United States: How scientific research informs instructional practices* (pp. 209-250); Washington, DC: Brookings Institute Press

[8]Snow, C., Burns, M.S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children.* Washington, DC: National Academy Press

[9] Hood, J. (2004). Caveat Emptor: The Head Start Scam. In E. Zigler & S. Styfco (eds.). *The Head Start Debates*. Baltimore: Brookes; Puma, Michael, Stephen Bell, Ronna Cook, Camilla Heid, Michael Lopez, et al. (2005) *Head Start Impact Study: First Year Findings*. Westat. Report Prepared for the U.S. Department of Health and Human Services

[10]Lyon, G.R. (2004). *Early childhood education*. U.S. House of Representatives Appropriations Committee. Washington, DC: Congressional Printing Office; Lyon, G.R. (July 2003). *The critical need for evidence-based comprehensive and effective early childhood programs*. U.S. Senate Health, Education, Labor and Pensions Committee. Washington, DC: Congressional Printing Office; National Assessment of Educational Progress (2007). *Report card for the nation and the states. National Center for Education Statistics*. Washington, D. C.: U. S. Government Printing Office;

[11]Lyon, G.R. (April 1998). *Overview of NICHD reading and literacy initiatives.* U.S. Senate Committee on Labor and Human Resources, United States Congress. Washington, D.C. Congressional Printing Office; National Assessment of Educational Progress (2007). *Report card for the nation and the states.* National Center for Education Statistics. Washington, D. C.: U. S. Government Printing Office; National Assessment of Educational Progress (2007)

[12]National Assessment of Educational Progress (2007). *Report card for the nation and the states.* National Center for Education Statistics. Washington, D. C.: U. S. Government Printing Office

[13] Beck, I., McKeown, M., & Kucan, L. (2002). Bringing words to life: Robust vocabulary instruction. New York: Guilford Press; Biemiller, A. (2006). Vocabulary development and instruction. In D. Dickenson & S. Neuman (eds.), Handbook of early literacy research, Vol. 2. New York: Guilford Press; Biemiller, A. (1999). Language and reading success. Cambridge, MA: Brookline Books; Biemiller, A., & Boote, C. (in press). An effective method for building vocabulary in primary grades. Journal of Educational Psychology; Hirsch, E.D. (2003). Reading comprehension requires knowledge of words and the world. American Educator, 27. 12-16

[14]Lyon, G.R. (2004). *Early childhood education.* U.S. House of Representatives Appropriations Committee. Washington, DC: Congressional Printing Office; Neuman, S. (2008) *Educating the other America. Baltimore*: Paul H. Brookes

[15]Fletcher, J.M., Lyon, G.R., Fuchs, L., & Barnes, M. (2007). Learning disabilities: From identification to intervention. New York: Guilford Press; Shaywitz, S.E., Fletcher, J.M., Holahan, J.M., Schneider, A.E., Marchione, K.E., Stuebing, K.K., et al. (1999). Persistence of dyslexia: The Connecticut longitudinal study at adolescence. *Pediatrics*, 104, 1351–1359

[16]Center for Educational Statistics (2007). The Nation's Report Card (Texas Snapshot). Washington, DC: U.S. Government Printing Office; Education Trust (2007). *Key Education Facts and Figures: Achievement, Attainment and Opportunity From Elementary School through College.* Washington, D.C. Education; National Institute for Literacy (2006) Adults with Basic and Below Basic Literacy Levels: Findings from NAAL and Implications for Practice. Washington, DC: NIFL; McNeil, L. M., Coppola, E., Radigan, J., & Vasquez Heilig, J. (2008). Avoidable losses: High-stakes accountability and the dropout crisis. *Education Policy Analysis Archives, 16*(3). Retrieved [date] from **http://epaa.asu.edu/epaa/v16n3/**

[17]Center for Educational Statistics (2007). The Nation's Report Card (Texas Snapshot). Washington, DC: U.S. Government Printing Office; Alliance for Excellent Education (2008*). The high cost of school dropouts*. Washington, D.C.: AEE

[18]Alliance for Excellent Education (2006). Federal High School Graduation Rate Policies and the Impact on Texas. Washington, DC

[19]*ibid*

[20]Alliance for Excellent Education (2008*). The high cost of school dropouts*. Washington, D.C.: AEE ; Editorial Projects in Education. (2008). *Diplomas count 2008*. School to college: Can state P-16 councils ease the transition? Education Week, 27(40)

[21]Alliance for Excellent Education. (2006b). Saving futures, saving dollars: The impact of education on crime reduction and earnings. Washington, DC: AEE; Bureau of Justice Statistics (2005). Prison Statistics. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics. Retrieved from http//www.ojp.usdoj.gov/bjs/prisons.htm. Harlow, C. (2003). *Education and correctional populations*. Bureau of Justice Statistics Special Report. Washington, DC: U.S. Department of Justice;

[22]*Ibid*

[23]Alliance for Excellent Education (2008*). The high cost of school dropouts.* Washington, D.C.: AEE; Alliance for Excellent Education (2006a). *Healthier and wealthier: Decreasing health care costs by increasing educational*

attainment. Washington, DC: AEE; Alliance for Excellent Education (2006b). *Saving futures, saving dollars: The impact of education on crime reduction and earnings*. Washington, DC: AEE

[24]*Ibid*

[25]Education Trust (2007). *Key Education Facts and Figures: Achievement, Attainment and Opportunity From Elementary School through College.* Washington, D.C. Education Trust

[26]*Ibid*

[27]*Ibid*

[28]*Ibid*

[29]Center for Educational Statistics (2007). The Nation's Report Card (Texas Snapshot). Washington, DC: U.S. Government Printing Office

[30]*Ibid*

[31]Alliance for Excellent Education (2007). Federal High School Graduation Rate Policies and the Impact on Texas. Washington, DC; Johnson. R., (2007) *Texas Public School Attrition Study, 2005-06: Gap Continues to Grow*, Intercultural Development Research Association, http://www.idra.org/Research/Attrition/.Story, J. (2007). Defining and solving the Texas Dropout Crisis. Austin, TX: Center for Education Policy; McNeil, L. M., Coppola, E., Radigan, J., & Vasquez Heilig, J. (2008). Avoidable losses: High-stakes accountability and the dropout crisis. *Education Policy Analysis Archives, 16*(3). Retrieved [date] from http://epaa.asu.edu/epaa/v16n3/.

[32]IDRA (2007). The Texas Dropout Crisis. Legislative Briefing, January 23, 2007, Texas State Capitol; McNeil, L. M., Coppola, E., Radigan, J., & Vasquez Heilig, J. (2008). Avoidable losses: High-stakes accountability and the dropout crisis. *Education Policy Analysis Archives, 16*(3). Retrieved [date] from http://epaa.asu.edu/epaa/v16n3/.

[33]Center for Educational Statistics (2007). The Nation's Report Card (Texas Snapshot). Washington, DC: U.S. Government Printing Office

[34]Alliance for Excellent Education (2008). Federal High School Graduation Rate Policies and the Impact on Texas. Washington, DC; Alliance for Excellent Education (2008). Potential economic impacts of improved education in Texas. Washington, DC: AEE

[35] *ibid*

[36]*ibid*

[37]*ibid*

[38] Beck, I., McKeown, M., & Kucan, L. (2002). Bringing words to life: Robust vocabulary instruction. New York: Guilford Press; Biemiller, A. (2006). Vocabulary development and instruction. In D. Dickenson & S. Neuman (eds.), Handbook of early literacy research, Vol. 2. New York: Guilford Press; Biemiller, A. (1999). Language and reading success. Cambridge, MA: Brookline Books; Biemiller, A., & Boote, C. (in press). An effective method for building vocabulary in primary grades. Journal of Educational Psychology; Hirsch, E.D. (2003). Reading comprehension requires knowledge of words and the world. American Educator, 27. 12-16

[39]Hirsch, E.D. (2003). Reading comprehension requires knowledge of words and the world. American Educator, 27. 12-16

[40]*ibid*

[41]Levine, A. (2005). Educating school leaders. Report by the Educational Schools Project. New York: The Wallace Foundation

[42]Marzano, R., Pickering, D. & Pollack, J. (2001). Classroom instruction that works: Research-based strategies for increasing student achievement. Association for Supervision & Curriculum Development

[43]Levine, A. (2005). Educating school leaders. Report by the Educational Schools Project. New York: The Wallace Foundation

[44]Marzano, R., Waters, T., & McNulty, B. (2005). School leadership that works: From research to results. Alexandria, VA: Association for Supervision and Curriculum Development

[45]Levine, A. (2005). Educating school leaders. Report by the Educational Schools Project. New York: The Wallace Foundation

[46]Fletcher, J.M., Lyon, G.R., Fuchs, L., & Barnes, M. (2007). Learning disabilities: From identification to intervention. New York: Guilford Press