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Phonological Awareness Program for At-Risk Elementary Students

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## Abstract

**Purpose:** The purpose of this study was to determine if one component of social economic status, participation in the free/reduced lunch program, predicts fall and winter literacy benchmark test scores and to discuss the components of a phonological awareness reading program.

**Method:** Seventy kindergarten and first grade students from Brooks Elementary in DeKalb, Illinois, participated in this study. Assessments were given to test letter naming fluency and nonsense word reading fluency. In addition, each student was categorized according to lunch status.

**Results:** Lunch status alone predicted 1% of the variability in fall letter naming status and less than 1% of the variability in winter letter naming status. However, visual analysis showed that a higher percentage of children receiving free lunch scored in the deficient and marginal range compared to children with paid lunch.

**Conclusion:** A combination of SES, genetics, additional programs, and the presence of a language impairment will likely provide more predictability of literacy skills. The phonological awareness program currently offered at Brooks Elementary includes the major elements indicated as important in other studies and will be assessed for efficacy in the future.

## **Importance of Phonological Awareness Skills**

Research has shown that the best predictor of reading skills is not language ability but phonological awareness skills, also known as metalinguistic ability. However, because language impairments are typically associated with inadequate phonological awareness skills, many children with language impairment also experience difficulty reading (Catts, 1993). Shapiro, Hurry, Masterson, Wydell, & Doctor (2009) state, "The long-term impact of phonological awareness difficulties on children's academic achievement highlights how crucial it is for children to develop these skills as soon as possible in their education." The phonological deficit hypothesis refers to the idea that children who do not have well-defined phonological representations will also have difficulties with phonological awareness activities. If the phonological system is not developed, the child will have difficulty storing, accessing, manipulating, and producing phonological information. Typically, children with early reading difficulties have received less practice on reading-related activities, missed chances for the development of reading comprehension, and therefore may have negative perspectives about reading (McDowell, Lonigan, & Goldstein, 2007).

## **Phonological Awareness**

The term phonological awareness refers to the knowledge that language is made up of sentences, words, and sounds (Cunningham, 2009). Within phonological awareness is another skill known as phonemic awareness. Phonemic awareness extends deeper into phonological awareness and refers to the isolation and manipulation of individual phonemes or speech

sounds. Therefore decoding, an integrated skill in reading that involves breaking words down into their component sounds, is associated with a child's phonemic awareness.

## **Phonics**

Another term, phonics, is often confused with phonological and phonemic awareness. Phonics, however, involves print or symbols that are associated with sounds. A major component of phonics is the Alphabetic Principle which states that the sounds of language are represented by written letters. The acquisition of phonological awareness is imperative for a child to understand phonics. Without a solid understanding that words are made up of sounds, a child has difficulty comprehending that symbols are associated with each sound. Although phonological awareness is a prerequisite for the Alphabetic Principle, knowledge of the principle helps to enhance phonological awareness skills as well, meaning that the order of acquisition is not static (Schuele & Boudreau, 2008).

## **Phonological Awareness Development**

Phonological awareness develops from children's daily experiences, such as a parent reading nursery rhymes and books or singing songs. Typically, phonological awareness develops first from learning concepts of rhyming (knowing that some words end in the same sounds) and the segmentation and blending of words. Segmenting is when a child is able to separate a word into its individual sounds. Conversely, blending occurs when individual sounds are combined to form a word (Cunningham, 2009). Although these are important skills in the beginning of development, the sequence of acquisition is not necessarily concrete. Instead, the developmental stages of phonological awareness overlap with one another. Improvement in

one area will help children improve in the other areas (Schuele & Boudreau, 2008). Later, when children enter preschool and kindergarten, specific instruction further and more explicitly enhances their phonological awareness skills.

### **Literacy Development**

Foster & Miller (2007) explained literacy development as a set of four stages. Stage 0 occurs when a child is 0 to 6 years old. This stage involves concepts such as the knowledge that speech is composed of sounds or that words can share sounds. Stage 1, ages 6 to 7, is known as the "initial reading period." During this time, phonics skills develop as children realize that letters are associated with each sound and they attempt to read print. Stage 2 occurs around ages 7 to 8. By this point, children are able to decode words more rapidly which allows them to comprehend what they are reading. The final phase, Stage 3, requires 8 to 14-year old students to read to learn instead of learn to read. They increase their lexicon not by audition, as in the past, but by reading.

### **The Child's Future: Identification, Prevention, and Treatment**

Unfortunately, many children begin school with deficient early literacy skills such as phonological awareness and alphabetic knowledge. As a result, an achievement gap between children with high levels of literacy and those with low levels of literacy increases as children age. Those who begin reading at a higher level tend to maintain those skills while those who struggle at first will continue to have difficulties (Catts et al, 2002). Evidence clearly indicates that reading difficulties will persist throughout later school years if not addressed early (Foster & Miller, 2007). In 1986 Stanovich described the "Matthew Effect" which states that children

with poor reading skills fall further behind their literate peers and rarely are able to catch up with them. In order to prevent children from continually lagging behind their peers, the timing of intervention is critical.

One effective way to treat early reading impairments is phonological awareness instruction as it can prevent or lessen the amount of therapy needed in the future (Foster & Miller, 2007). Research has shown that early training in phonological awareness skills has a positive effect on academics (Shapiro et al, 2009). The younger the child, the fewer skills he/she has obtained; therefore children with deficits have less to learn in order to catch up with their peers if they are identified and treated early (Schuele & Boudreau, 2008). Research indicates that average reading skills develop in 85% to 90% of students who have received proper treatment early in their education (Foster & Miller, 2007).

### **Predictors of Low Literacy and Phonological Awareness Skills**

There are multiple factors that put a child at risk for low literacy skills. Poverty, language impairment, and genetics can all impact literacy attainment and the development of phonological awareness skills.

#### **Poverty**

Researchers have documented that one of the strongest predictors of low reading achievement is poverty. Although in the past factors such as race, ethnicity, or native language were thought to influence literacy attainment, current research no longer supports that belief (Roseberry-McKlibbin, 2001). Studies have shown that as children age, those from higher

socioeconomic status (SES) families make more gains in phonological awareness than those from lower SES families. Possible reasons for these differences include the fact that students who live in high SES households usually have more exposure to literacy-rich activities, while students from low SES households are not exposed to the same reading activities. Despite factors that are out of a child's control, all children can profit from early intervention in phonological awareness (Foster & Miller, 2007).

Additionally, some families do not have health insurance or access to proper medical care. If children are frequently sick and absent from school, they are missing opportunities to learn. If they attend school while ill, it may be difficult for them to concentrate and actively participate in class activities or discussions. Ear infections, a common childhood illness, could go untreated and may develop into a permanent issue (Roseberry-McKlibbin, 2001). Shapiro et al (2009) showed that the age of onset and persistence of ear infections, also known as otitis media (OM), determines the impact on a child's reading and phonological abilities. Children with an early onset of infection (0-24 months) that continued intermittently through age 7 showed poorer performance on reading and phonological awareness tasks compared to both late onset (after 24 months of age) and typically developing subgroups.

In addition to the inaccessibility of health care, the educational level of the parents also affects the development of a child's literacy skills. Without proper education, parents may be unaware of the need to verbally interact with their infants and respond to their utterances in order to provide them with important language stimulation during the first year of a child's life when he or she should be reaching linguistic and cognitive milestones (Roseberry-McKlibbin,

2001). Moreover, parents with lower education levels may not rely on print resources as a means to gain information and enjoyment reducing the opportunities for children to see their parents read. Additionally, parents may not engage their children in daily story reading which has been shown to be critically important in children's literacy development (McGinty & Justice, 2009).

The differences in literacy attainment between children from low income families and children from higher income families are astronomical. By the time a child from an impoverished family turns 3 years old, he or she would need to be enrolled in a preschool class for as much as 40 hours each week, hearing language at the same rate as children from higher income families to gain skills comparable to working class children (Roseberry-McKlibbin, 2001).

### **Language Impairments**

According to Catts, Fey, Tomblin, & Zhang (2002), over 50% of children with specific language impairment (SLI) do not reach a skilled reading level. Children with SLI are those whose language skills fall below the normal range, but otherwise function normally (no neurological, cognitive, hearing, or emotional deficits) (Catts et al, 2002). However, due to their language impairments (LI), these children are often mistakenly identified as having a learning disability (Catts, 1991).

One area of particular difficulty for children with SLI is print knowledge. Print knowledge consists of a child's understanding of letters and words, the organization of print, and the idea that print represents speech. Although not a characteristic of all children with SLI,

measures of print knowledge typically fall more than one standard deviation below that of their typically-developing, same-age peers (McGinty & Justice, 2009).

A study by McGinty and Justice (2009) indicated that environmental characteristics such as frequency and quality of home literacy experiences, the child's home environment, and developmental characteristics such as language and attentional difficulties greatly influence the print knowledge of children with SLI. The results of their research and similar studies suggest that language difficulty does not necessarily lead to difficulties with print knowledge. Some children with SLI are able to attain a normal literacy level in the typical time frame which indicates that there is much individual variability. Instead, they learned that the quality of home literacy is the greatest predictor of a child's print knowledge. Home literacy activities can range from observing parents reading the newspaper to participating in reading with an adult, all of which enhance children's print knowledge.

Although the existence of a language impairment is an indicator of future reading impairment, the nature of the language impairment must be considered. In an early study, Catts (1993) indicated that children with impairments involving semantics and syntax have a higher incidence of reading disability than children with isolated articulation or phonological impairments. Specifically, his study indicated that receptive and expressive language skills, phonological awareness skills, and rapid automatized naming were closely associated with reading ability, with phonological awareness and rapid naming tasks being the best predictors for word recognition. In a later study, Catts (2002) examined phonological awareness skills in children with SLI as a predictor of reading achievement. He once again found that for children in

kindergarten with SLI and/or articulation deficits, measures of phonological awareness and rapid naming tasks could predict reading achievement in first and second grade. Catts (2002) also found that early literacy and reading attainment are related to reading outcomes for children with SLI. His 2001 study showed that letter identification was the best kindergarten indicator for future reading achievement. Later, after children with SLI have had specific training on reading skills, the best predictor of achievement is initial success or failure of reading. Those who begin reading at a higher level tend to maintain those skills while those who struggle at first will continue to have difficulties (Catts et al, 2002).

### **Genetics**

According to Lewis et al (2007), children of parents with Speech Sound Disorders (SSD) are at a greater risk for developing SSD. A child is almost two times as likely to inherit SSD if another family member also has SSD. If more first-degree relatives are affected, the risk for SSD also increases. This trend is also true regarding LI. A child is four times as likely to have a LI if another family member has a LI (Lewis et al, 2007).

According to Byrne et al, 2006, phonological awareness skills, rapid naming, and short term memory are influenced by genetics at the preschool level. Vocabulary, print knowledge, and high order language processing are also affected by genes but to a lesser degree. Instead, these skills are more influenced by the home and school environment. Phonological awareness skills have been shown to be more inheritable than print awareness, but both skills share genes and significantly affect kindergarten reading ability.

Another study conducted by Bus and Out (2009) focused on the role of the environment in conjunction with genes. They found that although the environment is very important to a child's literacy development, genetic traits control how a child will benefit, or not benefit, from the environment. Although an environment may be rich in literacy activities, the child may not genetically have the needed memorization or attention skills. The researchers concluded that activities such as rhyming and alphabetic knowledge are largely influenced by the environment and activities in which the child participates. However, they found that when children were asked to write their names and the word "mama," these tasks were accomplished due to an inheritable trait such as memory. The inability to memorize interferes with the child's development of reading and writing skills. Older children with poor reading skills attempt to spell words phonetically instead of relying on memorization skills that may not exist.

Contradictory to prior research, this study showed that although the environment has a significant impact on literacy development in children, the influence of genes can override even the most literacy-rich activities (Bus & Out, 2009).

### **Summary**

The literature provides a strong basis for understanding the impact of various factors on reading achievement. Even so, specific risk factors can be parsed further. Additionally, subpopulations may respond differently to known risk factors. Therefore, this study assessed the literacy skills of children in a public elementary school in DeKalb, Illinois, which is considered a small rural town. Risk factors such as genetics, SES, and the existence of a reading impairment can have different effects on children from communities much larger than DeKalb.

In this study, we chose to specifically target the effects of SES on children's reading level.

District 428 assesses students using AIMSweb testing which is a literacy benchmark and monitoring system for implementation of Response to Intervention (RTI) (AIMSweb, 2008).

Schools implement RTI in order to identify students who are at-risk for academic difficulties and other disabilities, monitor student progress, and implement and adjust interventions based on each student's needs (National Center on Response to Intervention, 2010). The AIMSweb test consists of multiple subtests in which each child is allowed one minute to complete as much of the task as possible.

## **Methodology**

### **Participants**

Seventy kindergarten and first grade children from Brooks Elementary participated in this study. Children were considered at-risk if they received free or reduced lunch. Specific research questions included the following:

1. Does lunch status predict fall benchmark of letter naming fluency?
2. Does lunch status predict winter benchmark of non-word fluency?
3. What does a phonological awareness training program entail?

### **Assessment**

Selected subtests included:

1. Letter Naming Fluency: The child will name each letter (both lower case and upper case) on the test page (A x b N u r) while timed for one minute.

2. Nonsense Word Fluency: The child will correctly pronounce each nonsense word (nos) while timed for one minute.

In addition, we categorized each student according to lunch status. In the state of Illinois, a student's lunch status is determined by the family's eligibility for food stamps or Temporary Assistance for Needy Families, or the family's household income. Guidelines for eligibility according to income are determined by the amount of income and the number of people living in the household (Illinois Free Lunch and Breakfast Programs, 2010).

### Results

According to our results, lunch status predicted 1% of the variability in fall letter naming status and less than 1% of the variability in winter letter naming status for kindergarteners and first graders. Table 1 depicts the percentage of children in each lunch status category (free lunch, reduced lunch, or paid lunch) who scored in the deficient, marginal, or expected performance range for the letter naming task in the fall.

Table 1

Fall Letter Naming	Lunch Status		
	Free	Reduced	Paid
Deficient performance	18.75%	0%	2.86%
Marginal performance	21.86%	33.3%	14.29%
Expected performance	59.36%	66.67%	82.86%

Table 2 depicts the percentage of children in each lunch status category (free lunch, reduced lunch, or paid lunch) who scored in the deficient, marginal, or expected performance range for the nonsense word fluency test in the winter.

**Table 2**

Winter nonsense word reading	Lunch Status		
	Free	Reduced	Paid
Deficient performance	27.27%	33.33%	14.71%
Marginal performance	24.24%	33.33%	20.59%
Expected performance	48.48%	33.33%	64.71%

Visual analysis of Table 1 shows that although lunch status predicted only 1% variability, a higher percentage of children receiving free lunch scored in the deficient and marginal range compared to children with paid lunch (18.75% and 21.86% compared to 2.86% and 14.29%, respectively). Likewise, a higher percentage of children receiving paid lunch scored in the expected range compared to children receiving free lunch (82.86% compared to 59.36%, respectively). Although the percentages differ, the same pattern is evident for the winter measure in Table 2.

Unfortunately, there is an increase from fall to winter in the percentage of children scoring in the deficient and marginal range, including those receiving free or paid lunch. For example, in the fall, 2.86% of children with paid lunch scored in the deficient category. After the

winter nonsense word test, that percentage increased to 14.71%. Children receiving free lunch showed the same pattern; 18.75% scored in the deficient range in the fall, while 27.27% scored as deficient in the winter. Increases in the percentage of children moving into the marginal category are visible as well. Meanwhile, the percentage of children scoring at the expected level decreased from fall to winter for all three categories of lunch status.

## **Discussion**

The present results did not show lunch status alone as an adequate predictor of pre-reading ability (1% predictability). SES is measured by more than a child's lunch status; we chose this single variable because of the availability of the data from the school district. SES is determined by income, educational level, occupation, place of residency, and wealth (Socioeconomic Status, 2010). More likely, a combination of SES, genetics, additional programs, and the presence of a language impairment will have a much greater effect on the children.

Although lunch status is not a statistically significant predictor of reading ability, the tables above show that a higher percentage of children receiving paid lunch scored in the expected range and a lower percentage scored in the deficient and marginal range compared to those receiving free lunch. Surprisingly, all groups had more children than expected move into the deficient and marginal range as time progressed. This difference could be accounted for by the fact that the tables above depict two different tests given: letter naming fluency in the fall and nonsense word reading in the winter. The letter naming fluency task requires students to memorize symbols that represent the alphabet. The nonsense word reading task involves higher order thinking because it requires students to not only recognize letters, but also the

sounds that each letter represents. The student must then be capable of blending those individual sounds together. Therefore, the scores cannot be directly compared from one semester to the next. These variables were chosen for the current study because all kindergarteners and first graders took the letter naming test in the fall and the non-word fluency test in the winter. Despite our findings regarding lunch status as a predictor, the phonological awareness program at Brooks Elementary does include the elements indicated as important in other studies.

### **Phonological Awareness Program**

Other studies have already described components that phonological awareness programs should include. A study by Justice and Kaderavek (2004) discusses the use of the embedded-explicit model of emergent literacy intervention. This model emphasizes both the use of therapy in the child's natural setting with adults playing the role of facilitator (embedded) and also the implementation of structured and direct instruction (explicit). This model involves the use of activities in a natural setting, such as a classroom, that teach children about letter naming, rhyming, syllables, and word structure. Another study by Schuele and Boudreau (2008) emphasizes the importance of including segmenting, blending, and rhyming training. Their approach also stresses the concept of teaching instead of testing. Demonstrating the steps in a procedure is more significant than simply testing the child's knowledge. They recommend scaffolding, which means that the educator first offers more support and gradually lessens that support as the child gains skills and progresses. Northern Illinois University (NIU), in

collaboration with Brooks Elementary, developed and carried out a phonological awareness program that utilized these concepts.

Children scoring in the deficient category in one or more AIMSweb subtests were invited to participate in an after-school phonological awareness program. The program took place on Thursdays from 3:30-4:45pm for ten weeks during each fall and spring semester. Forty students were invited to the program and twenty-eight participated. In addition to meeting with the children on Thursdays, twenty-three undergraduate and graduate students from NIU met weekly to discuss phonological awareness and research articles as well as the implementation of lesson plans and group activities. Lesson plans were created each week based on each child's progress from the previous week.

A typical schedule included a snack donated by the school PTA and NIU, alphabet and sight word flashcards, taking a picture walk through a book, teaching sight and content words from the book, reading the book, group activities, and writing a letter home. During snack time, the children played sound and letter games; for example, the entire table of children may be asked to think of 5 words that begin with the letter /b/. After snack, the children followed their assigned NIU student to a room where other children at the same reading level would also meet. Each child was assigned a book level from A-Z Reading (Learning A-Z, 2010) based on his/her AIMSweb test scores. Each NIU and elementary student pair first practiced alphabet and sight word flashcards; typically, a student would be timed for one minute in order to see how quickly he/she could name the letters or sight words. Afterwards, letters named incorrectly were taught using repetitive games. Next, the child would go on a "picture walk" and flip

through each page of the assigned book while discussing what he/she saw on the pages. This exercise was designed to familiarize the child with the story so that he/she would be able to use clues from the picture walk to decipher difficult words while reading. In addition to the picture walk, the child would learn content words chosen from the book to once again become familiar with unknown words. After learning new content words, the child would independently read the book; students who struggled the most with reading read the book a second time for additional practice. During the final minutes of the session, all of the children in the room would come together for a group game. Games typically focused on sight words or content words from the book that was read earlier. Finally, each child wrote a letter home to his/her guardian detailing that session's activities. The amount that each child wrote depended on his/her level; some children were capable of writing several sentences while others wrote several words. Each child was encouraged to bring the letter home and read it to his/her guardian.

### **Future Research**

In the future, we hope to research additional measures of poverty rather than the one component used in this study. Additionally, we are also interested in assessing the relationship between another risk factor (LI) and reading difficulties by identifying children who are receiving special education dictated through an individualized education plan (IEP) for LI. In addition to the existence of a language impairment, we plan to investigate the effectiveness of special programs, Title 1 Reading and the after-school reading program, on improving reading ability. Title 1 is a governmental program used as a supplemental resource for children who

need extra support in reading or mathematics. Funds are allocated based on the school's level of poverty and the state's estimated cost of education (Improving Basic Programs Operated by Local Educational Agencies [Title 1, Part A], 2010). In the studied school, an on-site Title 1 reading teacher provided individual and small group reading support to children not meeting expected literacy benchmarks.

In addition to various risk factors, our future research will involve closer analyses of each child's progress from semester to semester. In this study, we were unaware of which students moved from one lunch status to another or from one AIMSweb category to the next. The percentages show that children scored lower in the winter, but we were unable to determine which children actually switched from one category to the next. Individual analyses on all students would help us target the students that are not benefitting from the current curriculum. A longitudinal study of all children in the district would also be a better indicator of the future implications of risk factors. Moreover, as the after school program is a learning experience for both elementary and NIU students, we will also be assessing the program's effectiveness in increasing the NIU students' understanding of the language/literacy connection.

## **References**

- AIMSweb. (2008). Pearson Education, Inc. Retrieved from <http://www.aimsweb.com>
- Bus, A., & Out, D. (2009). Unraveling genetic and environmental components of early literacy: A twin study. *Read and Writing, 22*, 293-306.
- Byrne, B., Olson, R., Samuelsson, S., Wadsworth, S., Corley, R., DeFries, J., & Willcutt, E. (2006). Genetic and environmental influences on early literacy. *Journal of Research in Reading, 29*, 33-49.
- Catts, H.W. (1991). Facilitating phonological awareness: Role of Speech-Language Pathologists. *Language, Speech, and Hearing Services in Schools, 22*, 196-203.
- Catts, H.W. (1993). The relationship between speech-language impairments and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading, 3*, 331-361.
- Catts, H.W., Fey, M., Tomblin, J., & Zhang, X. (2001). Estimating the risk of future reading difficulties in kindergarten children: A research-based model and its clinical implementation. *Language, Speech, and Hearing Services in Schools, 32*, 38-50.
- Catts, H.W., Fey, M., Tomblin, J., & Zhang, X. (2002). A longitudinal investigation of reading outcomes in children with language impairments. *Journal of Speech, Language, and Hearing Research, 45*, 1142-1157.
- Cunningham, P. (2009). *Phonics They Use: Words for Reading and Writing*. Boston: Allyn & Bacon.

Foster, W. & Miller, M. (2007). Development of the literacy achievement gap: A longitudinal study of kindergarten through third grade. *Language, Speech, & Hearing Sciences in School, 38*, 173-181.

Hogan, T., Catts, H.W., & Little, T. (2005). The relationship between phonological awareness and reading: Implications for the assessment of phonological awareness. *Language, Speech, and Hearing Services in Schools, 36*, 285-293.

Illinois State Board of Education. (2010). *Illinois Free Lunch and Breakfast Programs*. Retrieved from [http://www.isbe.state.il.us/NUTRITION/pdf/IFL\\_student\\_eligible.pdf](http://www.isbe.state.il.us/NUTRITION/pdf/IFL_student_eligible.pdf)

Improving Basic Programs Operated by Local Educational Agencies (Title 1, Part A). (2010). U.S. Department of Education. Retrieved from <http://www2.ed.gov/programs/titleiparta/index.html>

Justice, L. & Kaderavek, J. (2004). Embedded-explicit emergent literacy intervention1: Background and description of approach. *Language, Speech, & Hearing Services in Schools, 35*, 201-211.

Learning A-Z (2010). Tuscon, AZ. <http://www.learninga-z.com>

Lewis, B., Freebairn, L., Hansen, A., Miscimarra, Iyengar, S., & Taylor, H. (2007). Speech and language skills of parents of children with speech sound disorders. *American Journal of Speech-Language Pathology, 16*, 108-118.

McDowell, K., Lonigan, C., & Goldstein, H. (2007). Relations among socioeconomic status, age, and predictors of phonological awareness. *Journal of Speech, Language, and Hearing Research, 50*, 1079-1092.

McGinty, A. & Justice, L. (2009). Predictors of print knowledge in children with specific language impairment: Experiential and developmental factors. *Journal of Speech, Language, and Hearing Research, 52*, 81-97.

National Center on Response to Intervention. (2010). *What is RTI?* Retrieved from <http://www.rti4success.org/>

Pearson Research Overview. (2009). Pearson Education, Inc.

Roseberry-McKlibben, C. (2001). Serving children from the culture of poverty: Practical strategies for speech-language pathologists. *The ASHA Leader*.

Schuele, C., & Boudreau, D. (2008). Phonological awareness intervention: Beyond the basics. *Language, Speech, and Hearing Services in Schools, 39*, 3-20.

Shapiro, L., Hurry, J., Masterson, J., Wydell, T., & Doctor, E. (2009). Classroom implications of recent research into literacy development: From predictors to assessment. *Dyslexia, 15*, 1-22.

Socioeconomic Status (2010). Retrieved from <http://dictionary.reference.com/browse/socioeconomic%20status>

Stanovich, Keith E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 22*, 360-407.

Teach This. (2008). Retrieved from <http://www.teachthis.com.au/index.php>

Weinreich, B. & Fay, E. (2007). Phonological awareness/literacy predictors of spelling abilities for first-grade children. *Contemporary Issues in Communication Science and Disorders*,

34, 94-100.