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Importance of Early Reading Intervention

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Abstract

Since many children in the United States are falling behind their average reading scores, action should be taken to improve their reading skills before it is too late. If not taken into consideration, these deprived children continue to fail in other academic areas as well, and are led towards many unfortunate circumstances. Early intervention in literacy development enhances a child's performance later in school and directs his/her future towards success.

The Importance of Early Reading Intervention

Much research has been done on how to give children an early start in education, and how to help struggling readers to improve throughout the school. How can parents and teachers be educated about early reading intervention? Today, many programs have been implemented in schools and within homes to decrease the literacy issues children are facing. Even though intervention in reading is given to many students, they continue to struggle and fail. What response should be given to these struggling readers in order to save them from continued failure?

Researchers have demonstrated the effectiveness of early reading intervention based on the following questions:

1. What are some of the most important skills in early literacy development?
2. Why is early reading intervention important for children?
3. How can parents enhance the development of their child's literacy skills?
4. Which early reading intervention programs are effective examples for today?
5. What are some effective teaching methods used by the early reading programs discussed?

## What are some of the most important skills in early literacy development?

According to Gyovai, Cartledge, Kourea, Yurick, and Gibson, beginners in reading must be given many chances to practice fluency skills, and exposure to adequate vocabulary and word interpretation techniques. Five items of literacy skills- "phonological awareness, alphabetical principle, fluency, vocabulary knowledge, and text comprehension strategies"- are important for a reader to achieve, and without these, the reader will fall behind (2009). The five mentioned literacy skills were proven by the National Reading Panel's (NRP) extensive research (NRP, 2000). To understand phonological awareness (PA), it is important to know that phonemes are the smallest units of speech. The first step in acquiring PA is to organize phonemes into words: to hear and understand letter sounds before interpreting them in print. In addition, PA is the capability of identifying and manipulating units of speech like syllables, phonemes, onsets and rimes; and understanding the relationship between phonology and letter sounds. This awareness builds the base where reading, writing, and spelling develop (Cardenas-Hagan, Carlson, & Pollard-Durodola, 2007). Children who have knowledge of phonemes tend to perceive the "orthographic-phonological" connections (Juel, Griffith, & Gough, 1986). Research also shows that phonological awareness and word identifying skills are highly correlated. While learning phonological awareness, young readers need to match the sounds to the correct letters in print [phonics], called the alphabetical principle (Gyovai, Cartledge, Kourea, Yurick, & Gibson, 2009).

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The alphabetic principle is the ability to form connections between letters in the spelling of words, and sounds in the pronunciation of words. Also, it is the ability to connect phonemes with graphemes ("grapheme" is the smallest unit of written language). There are four phases in the alphabetic development: pre-alphabetic, partial alphabetic, full alphabetic, and consolidated alphabetic. As explained by Cummings, Dewey, Latimer, and Good (2011), the pre-alphabetic phase begins when children are not able to connect letters with sounds to read yet. They read through visual cues like pictures and symbols, and without the alphabets. When the child begins to learn the names and sounds of alphabets, and uses them to read words, he/she enters the partial alphabetic phase. Children in this phase have limited phonemic awareness skills, and may read words partially or blend them incorrectly. As the child is able to completely understand and connect letters in spelling and phonemes in pronunciation, he/she enters the full alphabetic stage. In this stage the child can read words correctly and is less confused by similar words. Lastly, when a child is able to consolidate grapheme-phoneme connections into larger units and has a well-developed vocabulary of words, he/she has entered the consolidated alphabetic stage.

Since alphabetic phase is highly influenced by instructional methods, assessment tools are important to quickly and accurately classify students' abilities. "Nonword" (or "pseudoword") reading is a good assessment tool that provides an overview of students' alphabetic skills without involving the knowledge of sight words (Torgesen, Wagner, & Rashotte, 1999). The Nonword Fluency (NWF) measure is an example of a reading assessment that tests a student's grapheme-phoneme relations and phoneme awareness skills (Good & Kaminski, 2003). It records the student's ability to differentiate between individual phonemes in pronunciation of words, or Correct Letter Sounds (CLS). Experts have shown the NWF-CLS relationship and later reading outcomes, like reading comprehension (Fien et al., 2010). Also, experts have demonstrated a strong relationship between first-grade progress and later reading skills, even when the NWF skill level was controlled (Good et al., 2009; Harn et al., 2008). There are over 14 published studies that document the reliability and predictive validity of NWF (Dynamic Measurement Group, 2008), but less research has been devoted to links between NWF and instructional practices.

Below (Figure 1) is an hourglass model of language and literacy development, assessment, and intervention. Notice how text comprehension, fluency, and vocabulary are interrelated to phonological awareness, and how this development is correlated to the emergence of reading and writing, oral language environments, ongoing assessment, and family involvement. (Parent/family involvement will be discussed later.) This image is from University of North Carolina's (UNC) website, created by Patsy Pierce, PhD, who is Assistant Director of Early Childhood Education and Research Practice at the UNC.

Figure 1.
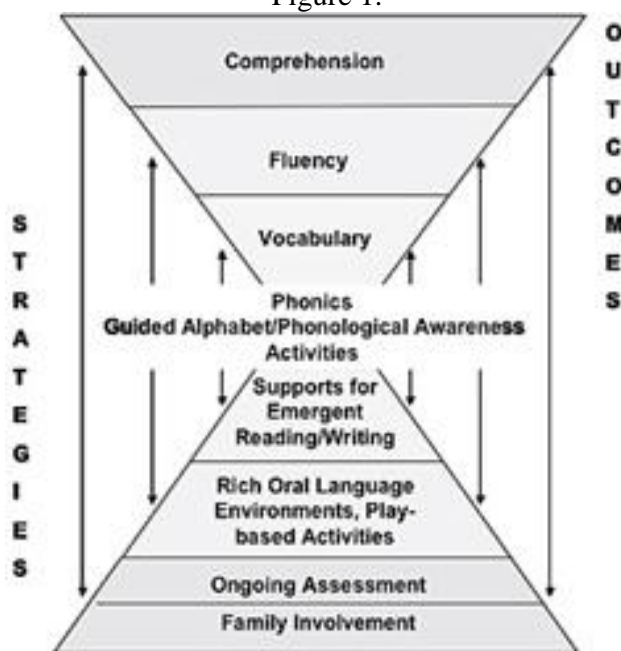
Courtesy of Patsy Pierce, 2010

Why is early reading intervention
important for children?

Research shows that children who fail in reading and do not improve by the end of their first grade year are at high risk of failure in other academics throughout school (McIntosh, Horner, Chard, Boland, & Good, 2006). They continue to perform poorly until they lose interest in education and stop trying. They find other ways to satisfy them and begin to make wrong choices that lead them toward failure. Over time, they get involved in taking drugs and connecting themselves with gangs, leading to violence and poverty, which further leads them to criminal activities such as murder and theft. Also, their psychology is affected terribly and it leads to mental illnesses. Early reading intervention will help each individual to make good choices from an early start.

There are many children at risk of getting reading difficulties, including those who have phonological problems and who have not fully developed oral language skills. Those who have not developed oral skills are mostly children living in poverty and who were not exposed to preschool or classroom-based learning (Foorman & Torgesen, 2001; Snow et al., 1998). Moreover, bilingual children are also at risk of failing in reading. If they are not given assistance in learning English, they score very low on academic tests and are mislabeled as having a learning disability. It is sad to know that many children who possess many abilities are misplaced in special education classes, just because they are poor in the English language. According to Wilkinson, Ortiz, Robertson, and Kushner (2006), we live in a diverse society and schools should take these changes into consideration. Children who speak another language are at risk of falling behind in academic areas which can lead to "underachievement, grade retention, attrition from school" and "poor reading acquisition"(Abedi, 2002; August & Hakuta, 1997). Unfortunately, these children's low scores make them eligible for special education. Around 56% of English learners are given special education and reading intervention and 24% are given speech therapy. As the percentage of English learners increase, the rate of special education services increases (NICHD, 2003). Reading intervention should be given to bilingual children instead of special education services, because they do not have

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a learning handicap.

A research study was done upon Spanish-speaking students by Cardenas-Hagan, Carlson, and Pollard-Durodola in 2007, who found that Spanish-speaking children (who are learning English) learn better in English if they know adequate letter name and sound knowledge in Spanish. In kindergarten, they found a positively high correlation between "letter name and sound identification skills". After receiving early reading intervention that accommodated Spanish during the whole school year, students scored high in letter name and sound identification skills of the Spanish and English alphabet, around 71% and 67%, respectively. In the same way, students' phonological awareness skills scored higher by the end of kindergarten in Spanish and English, 44% and 39%, respectively. On the contrary, oral language skills in Spanish and English had no significant change over the year (Cardenas-Hagan, Carlson, & Pollard-Durodola, 2007).

How can parents enhance the development
of their child's literacy skills?

Parents and caregivers play an important role in the development of their children's literacy and social advancement (Adams, Frampton, Gilmore, & Morris, 2010). They know more about their children than anybody else and can give them the best advice. A parent's lap is the first school for a child. Children primarily learn from their parents or caregivers, and how a parent or caregiver responds has an outstanding effect on the child throughout his or her life. When parents are not involved in their child's life and the child is cared by inconsistent caregivers, he or she does not develop emotionally, which can hinder his or her learning. The development of emotional literacy is in the hands of the parent or caregiver. The meaning of "emotional literacy" is the ability to reveal emotion correctly, to create feelings that help thoughts to move forward, to interpret emotion or "emotional knowledge", and to direct emotions towards an advancement in mental capacity. Research shows that intervention to develop emotional literacy needs to start early and take a developmental approach in the long-term, within a flexible, low-key, non-labeling way as part of the broader whole school approach to positive mental health in children (Adams, Frampton, Gilmore, & Morris, 2010).

Parents should involve and take part in their child's life. They should respond to their needs and support their emotional health. Interaction at home between parents and children has positive effects on their success and goals (Adams, Frampton, Gilmore, & Morris, 2010). An early parent intervention project known as Raising Early Achievement in Literacy, or REAL, takes effect in the United Kingdom. Its two-phased goal was to help parents in reinforcing children's literacy skills when starting preschool (Weinberger, Hannon, & Nutbrown, 1990). The first phase of its goal was to get involved with working parents to enhance early literacy development by implementing strategies that met the children's needs. The second phase was an attempt to distribute information on parent involvement and its effectiveness with practitioners and policymakers. It provided four tips for parents to enhance their child's literacy development: (1) provide children the opportunity to learn, (2) appreciate their early reading accomplishments, (3) involve in early reading activities with children, and (4) offer literacy materials or models in print (Evangelou & Sylva, 2007).

It is necessary for parents to talk to their children. By interactive talking, children learn new things and think new ideas about the world. A child's mind is full of unanswered questions, and they long for a person to interact with them (Evangelou & Sylva, 2007). There are many ways parents and caregivers can communicate with their children about many topics, such as while reading books, going out, and doing an activity together, like baking.

Which early reading intervention programs
are effective examples for today?

Hundreds of early reading programs are working for struggling readers throughout the world. Research is ongoing in this field and many programs are being created or improved. Some effective programs have been proven as successful, and three such programs will be discussed: The Response to Intervention (RTI) model of instruction, The Contextualized Approach to Language and Literacy Instruction (Project CALL), and the Peers Early Education Partnership (PEEP) in the United Kingdom. The Individuals with Disabilities Education Act of 2004 developed the RTI model in order to help find learning disabilities in students and to intervene them in enhancing their literacy development. Samuels (2009) states that the RTI model is an early childhood reading program designed to test all students, help readers with difficulties 3-5 times a week, and to perform evaluations once a month to see their progress in reading. The RTI framework has three tiers or levels, and each level gets more intense as it goes higher. The first tier is the beginning level of instruction which is addressed to all students in the classroom, which most students happily respond to. The second tier is provided for those students who were tested and require intervention. The teacher uses intervening approaches in the curriculum, mostly in small groups of students. Around 10% to 15% of all students are involved in this level. The third level of intervention is used for students who still have difficulty even after receiving the second level of instruction. This tier includes "assessment-based", "intensive", and "individualized" learning. Around 5% to 10% students receive this instruction at least once (van Kraayenoord, 2011).

Secondly, the Contextualized Approach to Language and Literacy Instruction (Project CALL) was a federally funded project to provide supplemental literacy. To test its efficiency, research was conducted in four Head Start classrooms, which consisted of Spanish and English speaking students. According to Culatta, Hall, Kovarsky, and Theadore, 2007, the project focuses on literacy development in various experiences and surroundings, including manipulation of sensory materials, art, cooking, dramatic storytelling, and plays. These activities take place in different settings like circle time, table time, independent play, and snack time. Flexible activities like manipulating materials, art, cooking, and scripted play are mostly done in small groups and free play, while constricted activities like interactive routines and storytelling are done in large groups. Teachers offer various settings by using different participant structures, making it interesting and flexible according to every student's needs. In diverse classrooms of students at different levels, different participant structures adjust learning to each child's needs, desires, and backgrounds. Some activities are explicit while some are implied (Bredekamp & Rosegrant, 1995), in which teachers direct large group activities, transition time and some small group instruction. On the other hand, small group structures of free play and exploring activities are more child-centered and flexible. In both ways of structured and open settings, every child has a chance to discover and achieve. This program had positive effects in enhancing rhyme skills and letter knowledge on Spanish- and English-speaking children. They performed better in rhymes and letters in a short period of time (Culatta, Hall, Kovarsky, and Theadore, 2007).

Thirdly, a project for parents and children (up to 5 yrs.) was created in a poverty-stricken area of Oxford during 1995, called PEEP (Peers Early Education Partnership). It has now spread throughout Britain. From 1996, PEEP has kept a goal to improve the education of a mass of children, mostly in literacy development, through intervention starting from birth until preschool. According to Deidre Mcfarlane (2005), above 2,800 children and their families living in Oxford had participated in PEEP. The main focus of PEEP is healthy child development, in which interactive play is vital for the achievement of emotional, social and intellectual growth (PEEP, 1997). Like every other program, PEEP has specific goals as follows: (1) to educate parents and care-givers of the early learning and development of children from interacting and spending the most time with them, (2) to help parents and caregivers in their relationship with their child to support the child's self-esteem, (3)

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to acknowledge the important role of parents and care-givers as children's first teachers, (4) to help parents and care-givers in the development of the child's literacy and numeracy, (5) to help parents and care-givers in providing positive learning development, and lastly, (6) to encourage and help parents' and care-givers' learning on the long-term (Evangelou and Sylva, 2007).

   PEEP holds group sessions at various reachable places, either at the local PEEP center at nearby schools and daycare centers. Every session is based on similar fundamentals:

1. Circle time: Music, rhyme, and rhythm mainly comprise the curriculum because they are effective tools in bonding parents with children (PEEP, 2003). Every family is given a songbook with audio tapes containing the songs used in the program.
2. Talking time: Parents and caregivers are given the opportunity to discuss and share their ideas, experiences, problems, information, and support.
3. Story time: Every session handles the exchange of books and provides encouragement to read daily.
4. Book sharing: Books are offered to parents to borrow and read.
5. Home activities: Curriculum based games and activities are suggested and promoted.
6. Borrowing time: A collection of books and other stimulating material are given every week to take home and practice (Evangelou and Sylva, 2007).

   Participating children of ages three to five years significantly advanced in developing verbal skills and vocabulary; understanding print material and numeracy; and building self-esteem. According to Hannon and Nutbrown (2001), when parents were made aware of their roles in helping their children to develop literacy skills, progress was seen. Below is a table (Evangelou and Sylva, 2007) comparing measures of cognitive development in two groups, one receiving the intervention (group A) and the other not receiving it (group B). Notice the children who received intervention scored higher in all skills.

Figure 2.

PEEP Test scores in Cognitive Development

	Group A	Group B
Verbal Comprehension	21.16 (3.43)	19.68 (2.20)
Vocabulary	49.80 (10.48)	44.10 (8.84)
Phonological Awareness	15.65 (4.93)	13.57 (5.74)
Small Letters	19.52 (7.35)	17.71 (7.97)
Capital Letters	19.41 (7.97)	16.36 (8.77)
Concepts about Print	13.69 (3.69)	10.45 (4.61)
Writing Sample	4.39 (.77)	4.18 (.65)
Early Number Concepts	24.64 (3.44)	21.47 (4.55)

Courtesy of Evangelou & Sylva, 2007

What are some effective teaching methods used
by the early reading programs discussed?

   As stated before, different participant structures are an ideal way of teaching in classrooms with students of different backgrounds and different reading levels, as is common in the US. This

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way of teaching should be implemented in schools to make learning easy, interesting, and flexible according to each child's needs. This will give every child an opportunity to advance and learn in his or her own way.

       Secondly, an effective model of instruction should be introduced in every early reading program. There are three models for early literacy instruction suggested by experts: "explicit teaching of literacy skills"; "implicit teaching through engaging, developmentally appropriate activities", or an "integrated approach" (which is both explicit and engaging). The first model includes developmentally appropriate explicit teaching with an organized and analytical approach, which has been proven to have favorable results with all children (Adams, 1990; Blachman, 1994; Ehri et al., 2001; Foorman & Torgesen, 2001; National Reading Panel, 2000; Torgesen & Davis, 1996). According to Christie & Enz (1992), Neuman, Copple, and Bredekamp (2000) and Neuman and Roskos (1993), the second model of early literacy instruction includes an implied approach "through engaging, developmentally appropriate activities" of playful, manual, and involving experiences. This way of learning provides developmentally appropriate activities with sensory objects with which young children become more responsive (Burts et al., 1993; Charlesworth, Hart, Burts, & DeWolf, 1993). The third model of instruction is a blend of explicit and implied teaching in a rich vocabulary and providing useful exercises that are made amusing and "game-like" in various contexts, and are flexible for instructors. This model has been proven effective (Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe, 2003; Justice & Kaderavek, 2004; McFadden, 1998; Notari-Syverson, O'Connor, & Vadasy, 1998; Richgels, Poremba, & McGee, 1996; Yopp, 1992; Yopp & Yopp, 2001).

       Lastly, one-classroom based teaching should be encouraged, which is proven to be effective. According to research, students who face difficulty in reading should be instructed in the same classroom with others to prevent them from being labeled as special students (Gersten et al., 2008). It is necessary to see if teachers could effectively address the "specialized reading instruction" to struggling readers in a way that does not distract other students. How a student learns is based how he or she is instructed. Studies by experts have revealed that reading is mostly shaped by teaching methods. Fien, Kame'enul, and Good (2009) discovered that a high contrast in kindergarten outcomes in both phonological awareness and the alphabetical principle (between 22% and 36%) is influenced just by the school a child goes to. Cardoso-Martins (2001) showed a direct connection between kindergarten instruction and alphabetic phase development.

       After reviewing the skills of early literacy, the importance of early reading intervention, its outcomes, and some effective programs, it should be understood that it is an important responsibility to give children a sufficient knowledge of literacy. Those children who are in need of help should be given assistance before it becomes too late. Every child should have the equal opportunity in this world to progress, succeed, and flourish in whatever field they may choose, and a first boost that can be given is an early start in literacy development.

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