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EFFECTS OF PHONOLOGICAL AWARENESS INSTRUCTION ON READING ACQUISITION OF THE ENGLISH LANGUAGE IN LEBANESE PRIVATE SCHOOLS

by
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ABSTRACT

The current study examined the effects of phonological awareness instruction on children's reading achievement in Lebanese private schools at the preschool level. In addition to phonemic awareness, two variables - rhyme and letter-sound knowledge, were included to ascertain if a relationship exists between rhyme and letter-sound knowledge to phonological awareness and its importance in achieving a higher level of literacy development. The target sample was the preschool level in the Lebanese private schools (ages 4, 5&6). The instrument used to collect data was a 35-item assessment test. One-hundred and eighteen children were assessed in Kindergarten II from three different schools which implement diverse instructional methods in learning a second language (English). Results showed a significant difference between the average scores of children receiving the two instructional methods; phonological awareness and letter-sound knowledge, and the average scores of children who only received letter-sound knowledge and/or rhyme instruction. No evidence was found for a significant difference between children who received rhyme and letter-sound knowledge instruction and children who only received letter-sound instruction.

CONTENTS

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

A. Specification of the Problem and Its Background

Many schools in Lebanon do not pay serious attention to preschool instruction, specifically, language development. In Lebanon, children are exposed to a second language starting in preschool, more often than not, in nursery (3-year-olds). Therefore, along with their mother language "Arabic", children are expected to read, write, and speak the second language by the end of Kindergarten II (5-year-olds). Although in Lebanon, some schools are applying the most recent educational programs and methods in teaching a second language, educators continue to face problems with children concerning second language acquisition, especially children from low socio-economic status. Raz and Brayant (1990) state that there is a strong relation between family income and learning the skills needed to language acquisition. Due to this fact, Lebanese preschools need to provide high-quality instruction and appropriate school environment, to achieve language development.

In schools and in the early grade levels, some children struggle with learning and are at the frustration level, others perform beyond grade level and still others are at the independent stage, and these children are considered average. Researchers and educators direct their studies to children who belong in the first category; those who are at the "frustration level". Much research and attention have been paid to children's language development. Where such research has been conducted, it is usually done on first language development.

Within the current climate of school reform initiatives in Lebanon, some schools are aware of the problems facing children learning a second language. This second language, either French or English, is used to teach all other subject materials in schools, during the whole school period. Thus, children in our society need to master this second language to an average or high levels to be able to climb the school ladder. In addition, these children must take and pass two national government examinations; one after the 9th grade (Brevet), and one after the 12th grade (Baccalaurate). Therefore, teaching children to read in the second language (English and/or French) is the key to subsequent educational success and should be the most important priority of preschools. Miao, Darch, & Rabren (2002) found that children who have early reading problems are most likely the ones facing reading difficulties as well as other academic challenges as they move through the school years.

Because there are no statistical data regarding reading abilities or reading levels in Lebanon, I interviewed over twenty principles in private and public schools and found that in most of the Lebanese schools, large and growing numbers of children are reaching upper elementary levels unable to read and understand grade-appropriate materials. Chard and Kameenui (2000) state that poor readers at the first-grade level have a 90% chance to remain poor readers after three years of schooling and Slavin, Karweit, Wasik, Madden, & Dolan (1994) demonstrated that if children are poor readers at the end of the third-grade, the chances are that they will not finish high school.

In our society, most schools have a transition period where children start using the second language as a first language in the process of learning the three major subjects (English, math, and the sciences). At this point, most children fall behind when these

subject areas begin to contain large numbers of new vocabulary words, and linguistic patterns become more complex. Thus, these children are forced to double their efforts by simultaneously trying to learn to read basic words while struggling with the huge number of new words appearing in the text. Therefore, educators must have a transition strategy which enables children to shift without frustration or failure, which ultimately develops negative attitudes towards reading in general and books in particular. Recent research in the field of reading found that children who start as poor readers remain at this poor level of reading throughout their school years and beyond (Adams, 1990; Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996; Juel, 1988; Stanovich, 1986; Torgesen & Burgess, 1998). Stanovich (1986) described this process as the Mathew effect- the rich get richer and the poor get poorer. This problem not only causes innumerable personal tragedies, but also jeopardizes the future of our public and many private schools. Thus, providing an appropriate support system in addition to appropriate reading experiences during the early childhood years will make a difference in the lives of children by preventing them from developing reading difficulties.

B. Language Development during Early Childhood

Although early childhood education has existed since the creation of kindergarten in the 1800's, the last decade has witnessed an upsurge of interest concerning the subject of early education for young children. This is also true for Lebanon. In 1997, the Lebanese government declared the new Kindergarten curriculum in Decree26.

It is well known that from the time of birth, all children are ready to learn (Bredekamp, Knuth, Kunesh, Shulman, 1992). However, what we do or don't do as individuals, educators, and as a society can affect a child's success in learning.

Children's language development in the first five years of their lives goes through three different stages, which are built upon a variety of experiences between the child and adults. This social interaction helps build intimacy between adults and children, enhances children's interests in their environment, and provides them with stimulation for later language development (Bukato & Daehler, 1995). Vygotsky (1962) states that a child's social interactions with an adult, within the cultural contexts of society, play a critical role in his/her cognitive development. Rogoff (1990) posits that skill development requires a two way interaction, a teacher (the adult) and a learner (the child). She calls this an "apprenticeship-type relationship" that involves "guided participation" occurring during the child daily play, teaching, and routine situations.

The first stage starts from the first interaction of infants with the world through their parents or caregivers. The infants cry, coo, and babble. By the end of the first year, infants develop a sense of the role of language communication. The second and third year, children's first words emerge. According to Shaffer (1999), these words are called "holo phrases", because children' productive vocabulary usually contains only one or two very simple words to represent the whole meaning of an entire sentence. Once they have achieved a productive vocabulary of ten words, children begin to add new words at a faster rate; Barnet (1985) called this process "Vocabulary spurt".

Further, Shaffer (1999) states that creativity plays an important role in this sentence stage. Many of the children's early sentences such as "all gone cookie" and "more read" are creative statements, which do not appear in adult speech. As children begin to express themselves in sentences, they start to decrease their use of single words,

and their sentences become increasingly elaborated and sophisticated (Glover & Burning, 1987).

By the time children are three and a half to four years of age, they have already acquired many important skills in language learning. According to Bukatto and Daehler (1995), children are able to construct hypotheses when hearing unfamiliar verbal strings from a wide variety of activities. Then, they test these hypotheses by further observation or by making up new sentences themselves. Finally, through feedback and further exposure, children revise and confirm their hypotheses. Through interacting with other more experienced language users, children modify and elaborate their sentences in response to request for more information. Moreover, during these early years of language learning, children create, test, and revise their hypotheses regarding the use of language (Peterson & McCabe, 1992). According to Hart & Risley (1995), the amount of talking and the guidance style that parents use with their children is connected to later language and cognitive development. Consequently, parents and early childhood educators should provide young learners with developmentally appropriate language activities, and offer opportunities for them to experiment with different aspects of language learning.

C. Precursors to Literacy

The preschool years have a great impact on the development of emergent literacy skills that ensure a smooth transition into formal reading. Pullen & Justice (2003) state that phonological awareness, print awareness, and oral language development are three areas which play a crucial role in the acquisition of reading.

Oral language development has long been related to reading skill development, particularly in the field of reading comprehension. Catts, Fey, Zhang, & Tomblin (2001)

state that children's later grade reading abilities depend significantly on their performance in vocabulary and grammar tasks. Likewise, Scarborough (1990) argued that children who show early difficulties with the development of oral language are more likely to be the ones who are characterized with an early symptom of reading disability. This statement, which has been supported by more recent studies (e.g., Lombardino, Ricco, Hynd, & Pinheiro, 1997), holds true even for children who are not at risk for reading problems. Taken together, such outcomes further establish the need for enhancing semantic-syntactic skills during the critical years of early childhood. In addition to oral language, Adams (1990) states that young children's knowledge of the forms and functions of written language influences their later reading success.

Three aspects of print awareness have received specific attention: print concept, environmental print recognition, and alphabet knowledge. Print concept is the base upon which reading and writing abilities are built. Environmental print recognition is the knowledge that a symbol can stand for an actual object which is a prerequisite to the perception of the sound-symbol relationship of the alphabetic principle. Furthermore, Adams (1990) posits that children do not only need to recognize letters and their names, but also they need to have an overall familiarity with letters and their sounds to attain early reading skills.

For almost 30 years, phonological awareness has been steadily the concern of researchers and educators for its critical role in the learning to read process. Also, it gained particular distinction for its unique contribution to successful reading acquisition and its part in reading failure (Blachman, 2000). In addition, it has been found by many researchers (Adams, 1990; Fowler, 1991; Wally, 1993) that how children perform on

measures of phonological awareness is a powerful predictor of future reading achievement.

Phonological awareness, as defined by Blachman (2000), is an awareness of phonological segments in speech; the segments that are represented by an alphabetic orthography. This awareness is gradually developed over time and has a strong effect in the learning to read process. Phonological awareness process is demonstrated by tasks such as categorizing spoken words on the basis of shared sounds (e.g. hen and hat go together because they both start with /h/), segmenting words into their component phonemes, and deleting phonemes (e.g. say sat without the /s/).

These tasks and more share one requirement which is that the child concentrates on the underlying phonological structure of the spoken word, not the word's meaning. Mastering these tasks, according to many researchers (Adams, 1990; Blachman, 2000; Bradley and Bryant, 1983, 1985; others), help children learn to read and spell with greater ease than children who fail to master these tasks.

Hence, since our children must learn a second language and use this language in their course of study to complete and graduate successfully from secondary school, it is imperative to know if providing explicit instruction of phonological awareness in our early childhood curriculum will help our children pass secondary school successfully. And, since some of the private schools in Lebanon do use these methods and others do not, it is incumbent upon educators to see if differences exist between these schools in children's reading ability. It is the intention of this study to ascertain the importance of phonological awareness instructions in learning to read the second language (English) in private Lebanese preschools.

D. HYPOTHESES

Four hypotheses were proposed aiming at providing answers and clarifications to the above-mentioned issue. All four hypotheses were proposed to claim the importance of using phonological awareness tasks as a precursor to successful reading acquisition in Lebanese preschools.

H1 Children who receive phonological awareness; which includes phonemic awareness and letter-sound instruction, and subsequently demonstrate increases in these skills during Kindergarten have higher scores in measures of reading achievement than children who do not receive this kind of instruction.

H2 Children who receive letter-sounds and rhyme instruction in Kindergarten will perform better in reading than children who do not receive rhyming instruction and letter-sound instruction.

H3 Children who receive both instruction; phonological awareness and letter-sound knowledge in Kindergarten, most probably will score higher than those who receive letter-sound and rhyme instruction.

H4 Children who receive both phonological awareness and letter-sound instruction in Kindergarten will score higher in reading than children who receive letter-sound instruction.

E. Definition of variables

The different variables mentioned in the above four hypotheses and more are defined as follows:

- Phonological Awareness is a term used to indicate awareness that spoken language is composed of a series of separate sounds. Children demonstrate

phonological awareness when they make a rhyme; tap out the number of either syllables or phonemes they hear in a word; invent spellings; segment a spoken word into phonemes; or manipulate spoken words by deleting sounds.

- Rhyming and Alliteration reflect the children's ability to focus sublexically on the phonological structure of spoken language, that is, to consider the sound structure of language as separate from meaning. Rhyme refers to two words' sharing of a rime structure (e.g., goat, boat). Whereas, alliteration refers to two words' sharing of a phoneme in the initial, medial, or final position (e.g., run-rake; log-pot; cap-dip).
- Phonemic Awareness is the awareness that the speech stream consists of a sequence of sounds, specifically phonemes which are the smallest unit of sound that makes a difference in communication.
- Phoneme Isolation requires recognizing individual sounds in words, (e.g., pencil begins with the /p/ sound).
- Phoneme Identity requires recognizing the common sound in different words, (e.g., bike, boy, and bell begin with the same sound /b/).
- Phoneme Categorization requires recognizing the word with the odd sound in a sequence of three or four words, (e.g., cat, cap, and run; run does not belong).
- Phoneme Blending requires listening to a sequence of separately spoken sounds and combining them to form a recognizable word, (e.g., /h/ /a/ /v/ is the word have).

- Phoneme Segmentation requires breaking a word into its sounds, (e.g., the word sip has three phonemes /s/ /i/ /p/).
- Phoneme Deletion requires recognizing what word remains when a specified phoneme is removed, (e.g., smile without /s/ is mile).
- Letter-Sound Correspondence is the ability to establish the links between printed letters and sounds in spoken words. This ability requires both letter-name and letter-sound knowledge.
- Letter-Name Knowledge is the ability to relate a visual symbol to a phonetic representation which is relatively compact and word-like.
- Letter-Sound Knowledge is the ability to isolate a visual symbol to a single phoneme.

F. Methodology

The sample of the current study constituted of 118 children in kindergarten II attending Lebanese private schools. The instrument used to collect the data was 35-item assessment, which was used to evaluate the subjects' level of phonemic awareness, letter knowledge, and word recognition. The reliability and the validity of the assessment test used in the current study were measured according to other similar tests used by many other researchers all over the world (Adams, 1990; Bradley & Bryant, 1983, 1985; Yopp & Yopp, 2000; others). The phonological awareness subtests were arranged clusters of items that assess a child's ability to match spoken words using rhyme and alliteration (Adams, 1990; Bradley & Bryant, 1983; Mann, 1993). Maclean, Bryant, & Bradley (1987) found a strong specific relation between nursery rhyme knowledge at age 3 and later reading ability. In addition, Bradley & Bryant (1983) used a sound-sorting task to

predict later reading and found correlations ranging from .43 to .53 when children of ages 4 and 5 years old were tested in ability to categorize words by rhyme and alliteration, and then tested in ability to read and spell three years later.

Letter naming and letter sound relationship was included in the test because of the strong relation that exists between letter knowledge and phonological awareness skills (Bradley & Bryant, 1983; Stahl & Murray, 1993). High-frequency words recognition was also used to spot children's ability in using first-letter sound in words to guess word's identity.

G. Significance of the Study

The focus of the current study is to scrutinize the necessity of the Lebanese children's awareness of the phonology of the language they are about to learn which will play a crucial role throughout their academic achievement. The findings will provide significant information about one of the most important predictors of these children's progress in learning to read and to spell. Thus, the results obtained will

- present measures of the extent and kind of influence that phonological awareness has on children's reading achievement.
- set the light on the importance of explicit phonological awareness instructions in the Lebanese preschools.
- provide all those concerned in the field of early childhood education in Lebanon with some kind of preventive and diagnostic guidelines to help minimize failure in reading achievement in our primary education levels.
- pave the way for further research on this specific issue, in order to explore the effect of the current hypotheses on samples covering a broader area.

CHAPTER TWO

REVIEW OF LITERATURE

A. Reading the Right Way

Reading represents not only one of the most complex acts performed by humans but one crucial to both an individual's educational outcomes and his or her life chances (Snow, Burns, & Griffin, 1998). In the late 1960s, researchers established that it is difficult for an individual to perceive phonemes or speech sounds because they blend together within a spoken syllable (Liberman, A. et al., 1967). Later on, these educators put forth the notion that phoneme awareness, or conscious attention to individual sounds within a spoken word, might be a critical factor in learning to read. Researchers argued that until beginning readers can segment spoken words into phonemes (e.g., /bat/=/b/-/a/-/t/), they will not be able to make use of the alphabetic code and to match letters in printed words to their corresponding sounds. Due to this argument, researchers for the past 30 years have studied the role of phoneme awareness in learning to read. Almost all researchers have found a strong positive relationship between phonemic awareness and success in early reading (Adams, 1990; Blachman, 2000; National Institute of Child Health and Human Development, 2000).

In 1977, the U.S. Congress directed their attention to organize a national panel to assess the condition of research-based knowledge concerning the effectiveness of different approaches for teaching children to read. The National Reading Panel selected phonemic awareness instruction for various reasons. Foremost, correlational studies have identified phonemic awareness and letter knowledge as the two top school entry

predictors of how well children will learn to read during the first two years of instruction (Share et al., 1984). In addition, it has been found through many experimental studies that phonemic awareness instruction facilitates reading acquisition. Lastly, there is at the present time a great deal of interest in phonemic awareness programs among teachers, principals, publishers because they are claimed to be effective in improving children's success in learning to read. Also, the process of reading development and, in particularly, the difficulties many children face in learning to read attracted the interest of many researchers. The studies of these researchers (e.g. Bradley & Bryant, 1985; Cunningham, 1990; O'Connor, Jenkins, & Slocum, 1995; Torgesen, Morgan, & Davis, 1992; Williams, 1980) conclude with a recommendation that all kindergarteners should be taught phonological skills in order to enhance their reading skills.

B. What Is Phonological Awareness?

Based on the above, it is essential not to confuse phonemic awareness and/or phonological awareness with other terms such as auditory discrimination, phonetics, and phonics. Furthermore, Yopp (2000) posits that some educators believe that phonemic awareness is a new term for an old idea. This is not true, she states, phonemic awareness is a term which refers to a construct comparatively new in the understanding of how children become readers. According to Harris & Hodges (1995); Snow, Burns, & Griffin (1998), these terms are defined as follows:

Auditory discrimination is the ability to hear likenesses and differences in phonemes and words (e.g. these sounds: /t/ /p/. Are they the same or different?).

Phonetics is the study of the speech sounds that occur in languages, including the way these sounds are articulated (e.g. the first sound in pie is made with the two lips).

Phonics is a way of teaching reading and spelling that stresses symbol-sound relationships (e.g. the symbol m is used to represent the isolated sounds in the following words: ham, jump, my).

Phoneme is the smallest unit of speech sounds that makes a difference in communication (e.g. the spoken word fly consists of three phonemes: /f/-/l/-/i/; it differs from the word flea by one phoneme).

Phonemic awareness is the awareness that spoken language consists of a sequence of phonemes (e.g. how many sounds in the spoken word, dog?).

Phonemic awareness is a part of a hierarchy of metalinguistic skills which starts with the recognition that sentences are made up of words and ends up with an awareness that words are made up of phonemes, those small units of sounds that roughly correspond to individual letters (Snider, 1997). Similarly, Sodoro, Allinder, & Rankin-Erickson (2002) define phonemic awareness as the awareness of sounds in spoken language separate from the representation of speech sounds in print.

According to Snider (1997), children learn that phonemes can be manipulated in a number of ways to interpret or express written language. She adds that this awareness of sounds may seem unnecessary to the casual observer, but phonemic awareness outlines the bridge which enables naïve readers to translate what they see as scribbles on a page into the spoken language that they already know. For some beginning readers, the relationship between scribbles, sounds, and meaningful language is obvious. For them, reading becomes a fascinating journey; for others, unfortunately reading becomes a dark

mystery. The result of a study conducted by Snider (1997) on 79 kindergarteners in a small rural community, confirmed the predictive value of phonemic awareness to later reading achievement. Also, she states that phonemic awareness can be useful for identifying children who are at risk for poor achievement in reading.

For many researchers, phonemic awareness is a powerful predictor of future success in reading and spelling (Liberman, Shankweiler, Fischer, & Carter, 1974; Lundberg, Olofsson, & Wall, 1980; Mann & Liberman, 1984; Share, Jorm, MacLean, & Matthews, 1984; Stanovich, 1984). It is a better predictor than IQ or mental age (Stanovich, Cunningham, & Cramer, 1984), and a better predictor than perceptual ability (Adams, 1990).

Furthermore, research indicates that explicit training of phonemic tasks improves reading achievement (Ball & Blachman, 1991; Bradley & Bryant, 1985); such findings suggest that there is a cause-effect relationship between phonemic awareness and reading achievement.

According to Ehri, Nunes, Willows, Schuster, Yaghoub-Zadeh, & Shanahan (2001), phonemic awareness is an aspect of phonological awareness which includes, in addition to phonemes, larger spoken units such as syllables and rhyming words. Also, Goswami (2000) uses further measuring of children's awareness of the phonological structure of their language development. Goswami (2000) begins his argument discussing the three levels of phonological structure which are important for reading development:

-Level of the syllable includes tasks that evaluate children ability to identify constituent syllables in words. For example, a word like kangaroo has three syllables: kan-ga-roo; and a word like dolphin has two: dol-phin.

-Level of onsets and rimes includes tasks that measure children's ability to identify two units within the syllable, the onset, which corresponds to any phonemes before the vowel, and the rime, which corresponds to the vowel sound and to any following phonemes. In a word like spring the onset is spr, and rime is ing.

-Level of the phonemes which are the smallest sounds that change the meanings of words: sit and hit differ by a single phoneme (the initial phoneme), and so do hit and hat (the medial phoneme).

C. Phonological Awareness Development

Many tasks were designed by researchers in order to detect the development of phonological awareness at these three levels. In his review, Goswami (2000) argues that these tasks, such as sound deletion tasks, same/different judgment tasks, and segment counting tasks, require different cognitive demands on children, thus, it is most useful to apply the same task to compare the development of phonological awareness at the different levels.

Therefore, he focused on studies that have used the same task to measure at least two levels of phonological knowledge. From a study conducted by I. Liberman and her colleagues (1974), who used the tapping task at the syllable and phoneme levels, four-to-six year-old children were asked to tap once for each of the syllables or phonemes in the words. Liberman et al. found that 46% of the four year olds reached their criterion (of six consecutive correct responses) in the syllable task, compared to 0% for phonemes. For the five year olds, 48% of children reached criterion in the syllable task, compared to 17% for phonemes. The six year olds were the only group to show success in the phoneme task. Seventy percent of this age group was able to segment the stimuli into

phonemes, and 90% succeeded in the syllable task. It is important to mention that this age group of children had been learning to read for about a year. Goswami (2000) suggests that syllable awareness develops prior to phoneme awareness, and that the development of phoneme awareness partly depends on being taught to read. The same procedure was applied by Kirtley et al. (1989) with the oddity task which was devised by Bradley and Bryant (1983) to measure the development of onset and rime awareness versus phoneme awareness. The children's task was to spot the "odd word out" in groups of three or four words that differed in terms of either their initial sounds (cup, cut, rug), their medial sounds (pin, ran, fan), or their final sounds (ran, fat, cat). This study confirmed that the oddity judgments of the 4- 5- and 6- year-olds were easier being made on the basis of shared onsets or shared rimes than being made on the basis of the final phoneme where children showed a selective deficit. Kirtley, Bryant, MacLean, & Bradley (1989) argued that onset-rime awareness develops prior to phoneme awareness.

Treiman & Zukowski (1991) measured the phonological awareness development at all three levels (syllable, onset-rime, and phoneme), where children of 4, 5, and 6 years were asked to say whether pairs of spoken words shared a sound at either the beginning or the end. At the beginning of the task, the shared sound was either the initial syllable (hammer, hammock), the onset (trip, train), or the initial phoneme (steak, sponge). The end version of the task was finding the shared sound on the base of final syllable (compete, repeat), rime (spit, lit), or final phoneme (smoke, rake). Findings were consistent with the previous studies conducted by researchers using the tapping and the oddity tasks. Syllable and onset-rime awareness develop prior to phoneme awareness. Thus, phoneme awareness develops when children go to school and begins as children

are being taught to read and spell. Goswami (2000) concludes his review, drawn from these studies and many other, that phonological awareness progresses from the syllable level and the onset-rime level to the phoneme level. At the same time, Goswami (2000) posits the fact that onsets, rimes, and phonemes are not always at a diversity level, but may be partly interdependent.

In addition, many other researchers (Ehri, 1979; Lundberg, 1991; Morais, Algeria, & Content, 1987; Perfetti, Beck, Bell, & Hughes, 1987) reported that their data indicate a group of related skills rather than a unitary ability in the phonological development process. They argued that these skills appear to facilitate acquisition of reading and some appear to be a result of learning to read. Thus, there is a mutual relation between phonological awareness and reading. Therefore, it is important to identify the tasks of phonological processing that precede and improve reading. Studies of phonological awareness development in young children showed that most skills seem to emerge from children's knowledge of onsets and rimes (Mackay, 1972; Treiman, 1983, 1985).

Treiman (1985) posits that the onset-rime distinction is obvious in children's developing word analysis skills which explain the findings to phonological awareness development. According to researchers such as Fowler, Liberman, & Shankweiler (1977), children make more mistakes on final consonants than initial ones. Also, children make more errors in reading vowels in words than in reading consonants (Shankweiler & Liberrman, 1972). They usually miss a vowel than a consonant in words. Treiman's (1985) explanation is that the vowel and final consonants of a syllable are not easily perceived as separate phonemes. They are to a certain extent more easily recognized as a single perceptual unit (the rime). On the other hand, initial consonants are more simply

segmented as the onset. Based on the above-discussed ideas about the developmental sequence for the emergence of phonological awareness, Bradley & Bryant (1985) state that phonological awareness begins with rhymes familiarity which is derived from childhood experience with nursery rhymes and language activities. Then, knowledge of rime followed by onset emerges from sensitivity to syllables and rhymes (Adams, 1990). At last, these steps may be the key to development of phonemic awareness.

D. Developmental and Correlational Studies

In a large study (n = 1, 509) conducted by Hoien et al. (1995), the three phonological awareness components were identified as followed:

1. syllable awareness,
2. rhyme awareness,
3. And phoneme awareness.

Results concluded from this study showed that phonemic awareness made the greatest contribution to the prediction of reading. Nation and Hulme (1997) also found that phoneme segmentation, but not segmentation of onset-rime units, is an excellent predictor of both reading and spelling. Furthermore, Cary and Verhaeghe (1994) compared and evaluated different forms of phonological awareness programs. In their study, one of the training programs focused on only rhymes and syllables, while the second program emphasized either syllable awareness or phoneme awareness, the third program emphasized visual analysis of nonlinguistic stimuli. They found that explicit instruction in phonemic awareness tasks was the most beneficial in reading acquisition.

In a study conducted by Christensen (1997), participants were a group of 630 preliterate children in their first year of schooling in Brisbane, Australia. The average age

of this group of children was 5 years and 7 months. The requirement of this study was to identify specific phonological skills that precede and facilitate the development of reading. The development of a variety of phonological skills, 1) the ability to rhyme and, 2) to identify initial sounds were assessed during the first semester of school , together with their reading and letter knowledge at midyear and at the end of the school year. Scores of the tests were recorded into two categories: phonological proficiency or nonproficiency. The data in this study showed that preliterate children who had phonological skills at the beginning of the school year performed better in a variety of reading tasks. Although, the difference between the no-phonological-awareness group and the rhyming group was not significant at the beginning of the year, results did change at the end of the school year where children with the ability to rhyme scored higher than the no phonological awareness group. On the other hand, children with the ability to rhyme in addition to identifying initial sounds did score better than the children who did not have phonology. Nevertheless, results for the rhyming group were the lowest of all phonological groups. This indicates that the ability to rhyme has a small influence on learning to read across the first year of schooling. At midyear, only children with knowledge of phonemes, awareness of rhymes, as well as onsets were significantly better than children who could only rhyme or had awareness of onsets only. Two tests were used, the first test requires the ability to utilize sound-symbol relations, and the second allows children to use both decoding skill as well as sight words. Children who could identify phonemes and rhymes did significantly better than children who could rhyme or had no phonological awareness on all measures, and better than all groups on one test that requires the ability to recognize sight words independent of context. All these results

indicate that phonological awareness in preliterate children can improve later reading development. They also indicate that the more extensive a child's phonological skills, the more noticeable the increase in reading, and that rhyme alone shows to have the least impact on reading (Christensen, 1997).

E. Alphabetic Awareness and Its Relation to Phonological Awareness

Along with the importance and the crucial role which phonological awareness plays in reading achievement, alphabetic awareness is considered as important for a successful acquisition of beginning reading skills (Adams, 1990; Ball & Blachman, 1988, 1991; National Reading Panel, 2000; Stanovich, 1986). Furthermore, Byrne & Fielding-Barnsly (1993) suggest that phonological processing leads to apprehension of the alphabetic principle (that spoken words are composed of sounds represented in our code of writing), and to advancing the ease of reading acquisition.

Christensen (1997) states, in the case of the relation between phonological awareness and letter knowledge, that although they have independent positive relations with learning to read, they have a great impact on reading when they coincide.

A further study compared two phonological procedures in Kindergarten classrooms conducted by O'Connor (2000), and its effect on reading development of low-skilled kindergarteners. Sixty one children participated in this study. Those children were selected on being both nonreaders and poor in phonological skills. Children were assigned to one of two treatment conditions: 31 children to the letter-sound decoding procedure with segmentation and blending as the target skills, and 30 children to the analogue procedure with sound categorization rhyming and first sound identification as the target skill. Both treatment groups showed an improvement in phonological

awareness skills and letter knowledge. O'Connor (2000) states that no significant difference between the two instructional procedures was demonstrated in phonological skill improvement transfer of phonological skills, or beginning reading or spelling. Furthermore, she adds that the two instruction type have a mutual influence. Combining the two treatment models might provide a more powerful instructional approach.

Other researchers discussed the effectiveness of phonological awareness if connected to print awareness. Morris, Bloodgood, Lomax, Perney (2003) argues the reciprocal or interactive relationship between phoneme awareness and early reading skill, with improvement in one area leads to the improvement in the other.

In studying the above mentioned relationship, Ehri &Sweet (1991), and Uhry (1999) assessed a group of children ages 4.5 to 6 years old. Contrary to Morris's (1993) results, they concluded their investigation stating that phoneme segmentation seemed to proceed rather than follow concept of word in text (or finger-point reading). Concept of word in text, as defined by Morris et al. (2003), is the beginning reader's ability to match spoken words to printed words in reading a sentence. It is a skill that is based on developing conceptual knowledge. Primarily, this skill depends on the child's awareness of spacing between printed words and attention to beginning consonant letter sounds. With reading practice, it is expanded and strengthened as the child begins to attend to additional letter sounds within the printed word. In their study, Morris et al. (2003) assessed 102 children individually, attending four schools in a rural mountain county in western North Carolina, at five different points during their first two years in school. The 102 children were tested in different tasks; alphabet knowledge, beginning consonant awareness, concept of word in text, spelling with beginning and ending consonants,

phoneme segmentation, word recognition, and contextual reading. Kindergarten instruction was manipulated, therefore, teachers were interviewed individually twice to document the kind and amount of literacy instruction they were offering in their classrooms. Results from this study suggest that concept of word in text may play a key role in reading development, helping to bridge an early form of phoneme awareness (beginning consonant) with a later form (segmentation). Henderson (1992) states "to embrace this interaction model does not deny for an instant that phonological coding ability is related to reading success. This is simply to insist that phonological awareness can only ripen in the context of word."

The connection of sound segments to print was investigated in a large longitudinal study by Bradley and Bryant (1983, 1985). Their study confirmed the causal relationship between phonological awareness and reading, at the same time, established the additional benefit of making explicit connections between sound segments and letter knowledge (aspect of print awareness). In their study, a significant relationship was recognized between the phoneme awareness of 4- and 5-year-olds (n = 368) and their reading and spelling achievement 3 years later. At the second year, 65 of the children with the lowest pretest scores on sound categorization (measure of phoneme awareness) were appointed to one of four groups similar in IQ scores, age, sex, and sound categorization. The first group learned to categorize pictures on the basis of shared sounds (e.g., hen, hot share same initial). The second group practiced categorizing the same pictures, in learning to represent the shared sounds with plastic letters. A third group categorized the same pictures based on semantic features (e.g., hen and dog are both animals), while no instruction was given to the fourth group. Forty lessons of ten minute periods spread over

two years were allocated individually to children in the first three groups. Results showed that the children trained in sound categorization scored fairly higher than untrained children. On the other hand, children who received instruction in sound categorization and connecting shared sounds to letters, had significantly higher scores in both reading and spelling than children in the two control groups and had significantly higher spelling scores than children in the sound categorization only group. After four years, a follow-up study was conducted on 63 out of the original 65 children; Bradley (1988) found that the children who received instruction on both sound categorization and learned to represent the shared sounds with letters maintained their superior position in reading and spelling. Thus, they with other researchers Hohn and Ehri (1983) have confirmed that explicit instruction in connecting the sound segments to print enhances instruction in phonological awareness as well as reading and spelling achievement.

A series of studies were conducted by the Australian researchers Byrne and Fielding-Barnsley (1991, 1993, and 1995) on 4-year-old preschoolers. Jingles and poems were used to teach children particular sounds in either initial or final position. Then, children were introduced to large colored posters that represented objects that either begin or end with the target sound, and afterward they were asked to identify pictures that begin or end with the target sound. Children also learned to identify the letters that represent each target phoneme. Control children used the same materials, however they were taught to categorize the pictures based on semantic categorization. Twelve 20- to 30-minutes sessions were assigned for both groups over a 12-week period. Results indicate the great gain in phoneme identification and significantly higher scores for the treatment children compared to the control children. Three years later, the trained

children demonstrated a significant advantage in reading comprehension and decoding skills (Byrne & Fielding-Barnsley, 1995). They concluded that children need both phonological awareness and sound knowledge represented in print, in order to understand the alphabetic principle.

A related question was posed by researchers such as Ball and Blachman (1988, 1991), on whether increased letter-sound knowledge alone can account for a significant advantage in learning to read. Therefore, they conducted a kindergarten study, randomly assigning 90 nonreaders to one of three groups. The first group received instruction on phoneme awareness and in making connections between the sounds and their written representations. The second group applied the same procedure as the first group in learning sound-symbol associations, but they did not practice the phoneme awareness activities. As a substitute, they were engaged in language activities (e.g., listening to stories, vocabulary development). Both groups attained 28 instructional lessons over a 7-week period, meeting in groups of four or five for 15- to 20-minute sessions. A third group received no special instruction.

The three groups of children were matched in age, sex, race, socioeconomic status (SES), phoneme segmentation, letter name knowledge, letter sound knowledge, or word recognition prior to the intervention. Results indicate a significant outperformance of the trained group in phoneme awareness plus letter sounds compared to the two other groups on measures of phoneme segmentation, word identification, and developmental spelling. Their research findings indicate that the combinations of instruction in phoneme awareness and learning to connect the sound segments to letters are the variables that make a difference.

Adams (1990) posits that children's knowledge of the alphabets and their ability to discriminate phonemes are practically accurate predictors of children's first-year reading performance. Through her study, she also states that reading methods, including phonics instruction on isolated letter sounds and blending sounds into words, result in higher first-grade achievement in word recognition and spelling. Shneider, Roth, & Ennemoser (2000) compared the effects of intervention programs on groups of Kindergarteners at-risk for dyslexia. Hundred and thirty-eight children were randomly assigned to three groups each had one of the following training procedures:

1. letter-sound training
2. phonological awareness training
3. Combined letter-sound and phonological awareness training.

Results indicate that combined letter-sound and phonological awareness training had the strongest effects on reading and spelling during the first and second grades.

Whereas most children effectively learn reading skills, such as phonemic awareness and letter-sound correspondence, Miao et al. (2002) states, many others have great difficulty in acquiring such entry level decoding skills. It has been found by many researchers such as Beck & Juel (1995), Snow, Burns, & Griffin, (1998), and Shaywitz & Shaywitz (1996) that there are an increasing proportion of children in American schools who have been diagnosed as having a learning disability, and the vast majority of them are identified as such because of difficulties in reading. In the report of the National Assessment of Educational Progress (1997), it was anticipated that 40%, 30%, and 25% of fourth-, eighth-, and twelve-graders, respectively, were reading below average. Snow et al. (1998) posits that reading difficulties, in part, can be due to either biological deficits

or poor reading instruction. In addition, Defies & Aaron (1996) states that poor readers sometimes have an underdevelopment of the brain system which causes problems in phonological processing.

F. Phonological Awareness as a Predictor of Disable Readers

A study conducted by Uhry (1993) showed that phonological awareness tasks were better predictors of children at risk for low reading. In this study, 129 middle- to high- socio economic status children in three New York City private schools were chosen to be screened for their reading ability. These subjects were chosen because failure to read for them could be associated with specific decoding difficulties associated with phonological awareness, more than their cognitive level or any environmental and educational factors. Jansky, Hoffman, Layton, Sugar, & Davies (1989) posit that the low-SES children often read surprisingly well when poor early environmental experiences are countered with good instruction. Thus, higher SES children made a core reliable subject source when accurate prediction is the issue.

Findings showed that the use of phonological awareness tasks in kindergarten screening result in more accurate early identification of low readers. Uhry (1993) also found that the early ability with classroom print is a strong predictor of later reading and that classroom print is correlated with phonological awareness because understanding the relation between phonemes and printed spoken words helps children understand the relation between letters and printed words. In addition, the strength of the relation between phonological awareness and classroom print was surprisingly high.

However, this finding is consistent with evidence that phonemic segmentation is a crucial skill in the acquisition of both fingerpoint-reading and reading words in text

(Ehri & Sweet, 1991). Furthermore, Ehri & Robbins (1992) states that it is the match between the printed word and the inner model of the relations between its letters and its sounds that help children to be acquainted with words quickly.

G. National Reading Panel's Meta-Analysis

Moreover, a quantitative meta-analysis was conducted by the National Reading Panel (Ehri, Nunes, Willows, Schuster, Yaghoub-Zadeh, and Shanahan, 2001) in the U.S. to appraise the effects of phonemic awareness instruction on learning to read and spell. There were 52 studies published in which they contributed 96 cases comparing the outcomes of treatment and control groups. Phonemic awareness instruction presented a moderate, statistically significant impact not only on reading and spelling, but also on reading comprehension. Phonemic awareness instruction impacted reading under all examined conditions. In addition, the analysis found that phonemic awareness helped various types of children:

- normally developing readers, at risk and disabled readers
- preschoolers, kindergartners, and first graders
- low socio-economic status children as well as medium and high socio-economic status children.

Furthermore, the National Reading Panel's meta-analysis found that phonemic awareness was more effective when it was taught with letters than without letters, when one or two phonemic awareness skills were taught per session than multiple phonemic awareness skills, and when children were taught in small groups rather than individually or in classrooms. In sum, phonemic awareness was found to make a statistically significant contribution to reading acquisition.

CHAPTER THREE

METHODOLOGY

A. Sample

Because the focus of this study was on demonstrating that phonemic awareness skills are important building blocks in early reading acquisition, and because children enter school at different developmental levels, a sample of 118 low- to middle-SES kindergarteners was chosen from three different Lebanese private schools. Each school is applying the teaching of English language as a second language. Learning to read process is implemented in each of these schools in diverse instructional approaches. To consider the diversity in instructions between classrooms, observations were conducted in each classroom setting, materials were examined, and teachers and administrators were interviewed.

-School 1 applies a program which phonemic awareness and letter-sound correspondence instructions are used on a daily basis.

-School 2 applies a program where teachers only implement letter-sound correspondence instruction.

-School 3 applies a program where teachers implement rhyme and letter-sound correspondence instructions in their classrooms.

The three schools are located in Beirut. All children share the same cultural background. Kindergartners ranged in age from 63 to 80 months at the time of testing, and were without obvious physical, emotional, or cognitive difficulties. According to school records, all children had normal hearing. In addition, 90% of the children were

preliterate at the beginning of the school year. This grade level was chosen because the reading battle for most children starts in Kindergarten II and first grade. The test was administered at the beginning of the third trimester of the school year.

B. Procedure

The assessment test and its administering mode were finalized following a pilot study. The pilot study was conducted three weeks prior to the actual administration of the instrument, so that the researcher acquires practical feedback about the organization of the assessment test and its administration. The pilot study was run in one of the Lebanese schools, using the kindergarten II level students as subjects. The purpose of the test is to assess some of the prerequisite skills needed for beginning reading at that level.

Letters were sent to the three Lebanese private schools principals explaining the nature of the current study. Upon their approval, the researcher visited each of the schools in person and requested the assessment of Kindergarten II children. Prior to the administration of the test, observations of classroom settings and interviews with teachers and principals were made by the researcher. A copy of the letters addressed to the principals is found in Appendix A.

Children were tested individually in a quiet room at school during regular school hours. Testers were the researcher and a total of three trained English teachers whose majors are education. A variety of colorful stickers were offered as rewards for participation following the assessment test. For many children, this test may be the first formal test they have taken. Therefore, testers were instructed to establish rapport with children and to encourage and praise children for responding. Also, testers were

requested to repeat or clarify items or directions that children did not understand. The language applied for directions was the English language.

Seven subtests were used; each subtest measures the children's ability to accomplish one task at a time. The order of the tasks was the same for all of the children, and the time required to administer the test for each child was not supposed to exceed 15 minutes. Each of the seven subtests consisted of five items. Each item had three answers and under each item there was a circle. Testers demonstrated for children how to mark the correct answer by filling in one of the answer circles with their pencil. If a child felt frustrated because the tasks are too difficult, testers were informed to discontinue the testing or have the child wait while the other children finish, then let the child try another time.

Children were given a score of one point if they answered correctly, zero point if they had the wrong answer or if they left the item blank. Thus, each task was scored out of a possible 5 points, and the total score on the seven tasks was 35 points.

Upon the completion of children's assessment test, the children's responses were compared, item by item, to the responses on the answer key and a check mark was put next to each item that was correctly answered. The correct responses were counted for each subtest, and the number was written in the corresponding Pupil Score column on the Performance Sheet found in Appendix C.

After scoring each of the subtests, the subtest scores were summed and written in the space provided for the pupil Total Score on the Performance Sheet.

C. Limitations

The main limitation of this study is the fact that it relies on the children's ability to achieve skills based on second language acquisition. The data collected is all based on children's responses on specific skills or tasks required for English language reading achievement. Nevertheless, many of the research conducted on this topic rely on children learning English as a second language. Ashmore, Farrier, Paulson, & Chu (2003) examined the effectiveness of phonemic awareness drills on phonological awareness and word reading performance in English of 202 Mainland Chinese children attending private elementary schools in Hangzhou, People's Republic of China. Findings of their study strongly support explicit instruction in phonemic awareness promoted phonological awareness and word reading in English of Chinese primary school children. Another limitation to be noted is related to our sample. Evidently, a sample made up of children of only one grade level is not as representative as one including all of the three preschool classes. This was not feasible due to the children's limited abilities of being tested in a second language as early as three and four years old. However, such research was conducted on one age level and different age levels, similar results were achieved. Finally, the fact that this study limits its sample to a small group of children from low and middle SES in three private Lebanese schools could be a limitation by itself. Thus, the results cannot be generalized to all of the Lebanese private school children.

D. Instrument

The 35-item assessment test, which is found in Appendix B, was formulated based on Adams (1990), Yopp (1992), and Clay (1979) studies. The tasks assessed on

this particular test were selected for inclusion because research has shown that these tasks are most likely the aspects of phonological awareness that precede development of reading skills at this particular age level (Adams,1990). Furthermore, the test measures young children's demonstration of specific tasks, and does not impose a working memory load on the child (Bradley & Bryant, 1985). Seven subtests were given to children; each subtest assesses one task needed for reading acquisition. Each subtest is described below.

Description of the subtests

1. Phonemic Awareness: Recognizing Rhyming Sounds

This subtest assesses a child's ability to recognize ending or rhyming sounds. The child is presented with a stimulus picture followed by three additional picture options. The tester reads the names of the pictures and directs the children to mark the picture that ends with the same sounds as the stimulus picture.

2. Phonemic Awareness: Recognizing Beginning Sounds

This subtest assesses a child's ability to recognize beginning sounds in words. The child is presented with three picture options. The tester says a specific phoneme and directs the children to mark the picture that begins with that phoneme.

3. Phonemic Awareness: Recognizing Ending Sounds

This subtest assesses a child's ability to recognize ending sounds in words. The child is presented with three picture options. The tester says a specific phoneme and directs the children to mark the picture that ends with the same sound.

4. Letter Recognition

This subtest assesses a child's ability to recognize both lowercase and uppercase letters of the alphabet. Only a sample of letters is included. The tester dictates the letter name, and the child selects the corresponding letter from among three choices.

5. Letter-Sound Relationship: Beginning Sounds

This subtest assesses a child's ability to match a given letter with the beginning sound of a pictured word. The child is presented with a stimulus letter followed by three picture options. The tester reads the names of the pictures and directs the child to mark the picture whose name begins with the sound the letter stands for. The tester does not name the letter or give its sound.

6. Letter-Sound Relationships: Ending Sounds

This subtest assesses a child's ability to match a given letter with the ending sound of a pictured word. The child is presented with a stimulus letter followed by three picture options. The teacher reads the names of the pictures and directs the child to mark the picture whose name ends with the sound the letter stands for. The tester does not name the letter or give its sound.

7. Word Recognition

This subtest assesses a child's ability to recognize a sample of high-frequency words. The tester dictates the word, and the child selects the corresponding word from among three choices.

E. Testing the Hypotheses

H1 Children who receive phonological awareness; which includes explicit phonemic awareness instruction, and letter-sound instructions and subsequently

demonstrate increases in these skills during Kindergarten have higher scores in measures of reading achievement than children who do not receive this kind of instruction.

H2 Children who receive letter-sound and rhyme instruction in Kindergarten will perform better in reading than children who do not receive rhyming instruction and letter-sound instruction.

H3 Children who receive both instruction; phonological awareness and letter-sound knowledge in Kindergarten, most probably will score higher than those who receive letter-sound and rhyme instruction.

H4 Children who receive both phonological awareness and letter-sound instruction in Kindergarten will score higher in reading than children who receive letter-sound instruction.

The criterion variable in the four hypotheses is the presence of phonological awareness instruction, and the predicted dependent variable is high measures of reading achievement. Phonological awareness was computed by three subtests; recognizing rhyming sounds, recognizing beginning sounds, and recognizing ending sounds. Along with the factor, the fourth, the fifth and the sixth subtests which were taken separately aimed to become aware of the extent to which letter-name and letter-sound knowledge are related simultaneously, in addition to their relation with phonological awareness instructions, and the strength of these different relations across reading development. Since, learning the names and sounds of the alphabet requires different, though overlapping skills. For instance, a main task of letter-naming is mapping a visual symbol to a phonetic representation. Each phonetic representation is relatively packed together and word-like (e.g., the letters B, C, G, P, R, T, Y, actually are words in English—bee,

sea, gee, pea, are, tea, why). Thus, it may be that mapping letter-names to their symbols is a relatively easy task developmentally, because children by the ages of 3, 4, and 5 are accustomed to using words to name things. On the other hand, relating alphabet symbols to their corresponding sounds (e.g., /b/, /f/, or /m/), which is required to letter-sound knowledge, may be much more challenging, because it requires the isolation of single phonemes, a kind of strange task for young children. In fact, letter-sound identification is in many ways comparable to some phonological awareness tasks. For example, Stanovich, Cunningham, & Cramer (1984) assessed kindergartners in one phonological awareness task which was quite similar in its demands to letter-sound identification. This task, sound isolation, required children to identify a single sound in a word (e.g., "What sound do you hear at the beginning of fin?".

In addition, most children advance through predictable developmental patterns. The seven subtests took into consideration to look for such patterns in child performance. For instance, phonemic awareness generally precedes graphophonic knowledge; that is, in general children acquire the skill to hear and manipulate sounds before they associate specific letters with the sounds they represent. Also, children frequently detect rhyming sounds before identifying specific beginning sounds, which, in turn, usually precedes their ability to detect specific ending sounds.

Letter recognition is, as mentioned above, the children's ability to name letters which is usually developed prior to their ability to detect the sound they represent. Whereby, the development of letter-sound relationships generally proceeds from beginning sounds to ending sounds to medial vowel sounds. These developmental patterns frequently overlap, and are not always clear cut.

Scores of the 35-item assessment test were used to identify children's performance level:

- Emergent readers, children performing at this level with a total score: 1-13, lack the prerequisite skills necessary to be successful as a beginning reader. They may have difficulty detecting and manipulating individual sounds; may be unable to associate letters with the sounds they represent; may be unable to name letters; and may be unable to recognize many high-frequency words. These children are at risk of not succeeding in beginning reading, and they need special assistance.
- Developing readers, children performing at this level with a total score: 14-26, demonstrate many of the prerequisite skills needed to become successful readers. They probably have good understanding of phonemic awareness and are beginning to develop letter-sound relationships; can recognize some high-frequency words at sight; may be able to decode some simple, usual words; and probably capable of reading simple sentences independently. Although, children at this performance level are progressing normally, they need continuous support in activities to develop the knowledge and skills needed to be at the beginning readers' level.
- Beginning readers, children performing at this level with a total score: 27-35, demonstrate excellent beginning reading. They have a solid foundation in phonemic awareness and graphophonemic knowledge; can recognize many high-frequency words at sight; may be able to decode unfamiliar,

phonetically regular words; and may be capable of reading easy material independently.

A one-way analysis of variance (ANOVA) was adopted for analyzing differences between groups relating to the four hypotheses, using the Statistical Packages for the Social Sciences. In addition, post hoc tests were conducted in order to obtain a clearer picture of the results and to determine which means differ from each other.

CHAPTER FOUR

RESULTS

Data were analyzed using both one-way analysis of variance (ANOVA) and post hoc tests, as mentioned in the previous chapter.

At a 95% confidence level, we can conclude that highly significant evidence was found to support the hypothesis claiming that children's average scores for the diverse instruction including phonological awareness and letter-sound correspondences are significantly different across the three assorted instructional implementations in the three Lebanese private schools; whereby p-value of every variable ended up being 0.000 or 0.001 compared to a = 0.05 as shown in Table 1.

Table 1

One-Way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Recognizing Rhyming Sounds	Between Groups	34.760	2	17.380	9.596	.000
	Within Groups	208.291	115	1.811		
	Total	243.051	117			
Recognizing Beginning Sounds	Between Groups	40.165	2	20.082	19.002	.000
	Within Groups	121.539	115	1.057		
	Total	161.703	117			
		Sum of Squares	df	Mean Square	F	Sig.

Recognizing Ending Sounds	Between Groups	64.93	2	32.465	21.933	.000
	Within Groups	170.222	115	21.933		
	Total	235.153	117			
Letter Recognition	Between Groups	7.613	2	3.806	7.368	.001
	Within Groups	59.404	115	.517		
	Total	67.017	117			
L-S Beginning Sound	Between Groups	44.404	2	22.202	19.427	.000
	Within Groups	131.426	115	1.143		
	Total	175.831	117			
L-S Ending Sounds	Between Groups	33.844	2	16.922	12.554	.000
	Within Groups	155.012	115	1.348		
	Total	188.856	117			
Word Recognition	Between Groups	70.621	2	35.310	24.264	.000
	Within Groups	167.354	115	1.455		
	Total	237.975	117			
Total Score	Between Groups	1899.510	2	949.755	29.099	.000
	Within Groups	3753.414	115	32.638		
	Total	5652.924	117			

Because we were interested in finding what the effects are of phonological awareness instruction and letter-sound instruction on reading achievement in comparison to other instruction which include letter-sound LS instruction besides one level of phonological awareness PA (rhyme R) or anyone of these independently. Post hoc tests were conducted to test for specific mean differences concerning the seven subtests. Results are presented in the tables that follow.

Table 2

Phonemic Awareness Recognizing Rhyming Sounds

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.29	.31	.000	.68	1.90
	R & LS	.89	.29	.003	.31	1.48
LS	R & LS	-.40	.31	.210	-1.02	.23

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

In Table 2, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed RRS under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.68 points on average on a scale of 0 ? 5.

Also, in Table 2, there is a significant difference (p-value = 0.003 vs. a = 0.05) between the average scores of children who performed the RRS under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.31 on a scale of 0 ? 5.

On the other hand, no significant difference was found in RRS average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.210 vs. a = 0.05).

Table 3

Phonemic Awareness Recognizing Beginning Sounds

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.34	.23	.000	.87	1.80
	R & LS	1.05	.22	.000	.61	1.50
LS	R & LS	-.28	.24	.241	-.76	.19

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

As can be seen in Table 3, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed PA/RBS under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.87 points on average on a scale of 0 ? 5.

Also, in Table 3, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed the PA/RBS under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.61 on a scale of 0 ? 5.

On the other hand, no significant difference was found in PA/RBS average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.241 vs. a = 0.05).

Table 4

Phonemic Awareness Recognizing Ending Sounds

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.75	.28	.000	1.20	2.30
	R & LS	1.24	.27	.000	.71	1.77
LS	R & LS	-.51	.28	.074	-1.07	5.04E-02

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

The same results were found in Table 4, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed PA/RES under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 1.20 points on average on a scale of 0 ? 5.

Also the same results in Table 4 regarding PA/RES, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed the PA/RES under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.71 on a scale of 0 ? 5.

On the other hand, no evidence for a significant difference was found in PA/RES average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.074 vs. a = 0.05).

Table 5

Letter Recognition

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	.62	.16	.000	.29	.94
	R & LS	.38	.16	.019	6.40E-02	.69
LS	R & LS	-.24	.17	.151	-.57	8.94E-02

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

As can be seen in Table 5, results showed a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed LR under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.29 points on average on a scale of 0 ? 5.

Results in Table 5 regarding LR were slightly different which is reasonable for this task found in the subtest. There is a significant difference (p-value = 0.019 vs. a = 0.05) between the average scores of children who performed the LR under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 6.40E-02 on a scale of 0 ? 5.

Then again no evidence for a significant difference was found in LR average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.151 vs. a = 0.05).

Table 6

Letter-Sound Relationships: Beginning Sound

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.31	.24	.000	.82	1.79
	R & LS	1.23	.23	.000	.77	1.70
LS	R & LS	-7.21E-02	.25	.773	-.57	.42

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

As can be seen in Table 6 for Letter-Sound Relationship: Beginning Sound, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed L-SR/BS under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.82 points on average on a scale of 0 ? 5.

Also, in Table 6, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed the L-SR/BS under both instructions PA and LS and the average scores of children who only received R and LS

instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.77 on a scale of 0 ? 5.

On the other hand, no significant difference was found in L-SR/BS average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.773 vs. a = 0.05).

Table 7

Letter-Sound Relationships: Ending Sound

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.11	.27	.000	.58	1.63
	R & LS	1.11	.25	.000	.60	1.61
LS	R & LS	-1.47E-03	.27	.996	-.54	.53

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

The same results were found in Table 7 for Letter-Sound Relationship: Ending Sound, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed L-SR/ES under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.58 points on average on a scale of 0 ? 5.

In addition, the same results in Table 7 regarding PA/RES, we found a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed the L-SR/ES under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 0.60 on a scale of 0 ? 5.

In contrast, no significant difference was found in L-SR/ES average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.996 vs. a = 0.05).

Table 8

Word Recognition

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	1.64	.28	.000	1.10	2.19
	R & LS	1.56	.26	.000	1.04	2.08
LS	R & LS	-8.53E-02	.28	.762	-.64	.47

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

In Table 8, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed WR under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 1.14 points on average on a scale of

0 ? 5.

Also, in Table 8, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed the WR under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 1.04 on a scale of

0 ? 5.

Then again no significant difference was found in WR average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.762 vs. a = 0.05).

Table 9

Total Score

(I)School	(J)School	Mean Difference (I – J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PA & LS	LS	9.05	1.30	.000	6.47	11.64
	R & LS	7.46	1.25	.000	4.99	9.94
LS	R & LS	-1.59	1.33	.235	-4.23	1.05

- PA; phonological awareness
- LS; letter- sound relationships
- R; Rhyme
- (I); school 1 or school 2
- (J); school 2 or school 3

Finally, as can be seen in Table 9, results showed a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children's performance under both instruction PA and LS and the average scores of children who only received LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 6.47 points on average on a scale of 0 ? 35.

Also, in Table 9, there is a significant difference (p-value = 0.000 vs. a = 0.05) between the average scores of children who performed under both instructions PA and LS and the average scores of children who only received R and LS instruction. Whereby, the average scores of the children with both instructions were higher by at least 4.99 on a scale of 0 ? 35.

Again no evidence was found for a significant difference in average scores between children who received LS instruction and those who received R and LS instruction (p-value = 0.235 vs. a = 0.05).

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

For beginning readers to comprehend what they read, they must achieve the automaticity and fluency of word recognition that allows them to focus on the meaning of connected text rather than individual sounds and words. Thus, in our society, children are in need of learning initial reading skills, especially because English is their second language. According to Gunn, Biglan, Smolkowski, & Ary (2000), Hispanic children who received supplemental instruction in reading English benefited as much as did non-Hispanic children. In addition, they state that such instruction (i.e., phonological awareness, letter-sound correspondence, decoding and fluency) are of significance for children with poor literacy skills who, as they fall further behind their classmates, become increasingly at risk readers. Their study showed also that Hispanic children who spoke little or no English benefited from the instruction as much as their English-speaking Hispanic classmates.

The main purpose of the current study was to investigate the efficacy of phonological awareness instruction on kindergarteners' achievement in learning to read a second language (English). The target subjects were the Lebanese preliterate kindergarteners attending private schools from low- to middle- socioeconomic status. The four hypotheses suggested the importance of explicit phonological awareness instruction, along with the effectiveness of letter-sound instruction once it is taught in parallel, and it is integrated with phonological awareness instruction; furthermore, that children who received the two kinds of instruction performed reliably higher on all subtests.

Results showed that children's failure to score on a particular measure reflect children's lack of phonological awareness. Furthermore, the picture that emerges from these data suggests uniformity. There is support for the proposed hypotheses, in that; children demonstrate competencies consistent with a pattern of knowledge. Whereby, children who received phonological awareness in addition to letter-sound knowledge PAL-S instruction performed significantly higher than children who received rhyme and letter-sound knowledge RL-S instruction and children who only received letter-sound instruction. Thus, a logical argument can be advanced that phonological awareness is more influential in facilitating performance in all seven subtests. The first subtest performed was recognizing rhyming sounds where children are asked to identify two similar rhyming sounds presented with a stimulus picture followed by three additional picture options. Children with PAL-S performed significantly better than children with L-S instruction, in comparison with the other children who received one task of phonological awareness (rhyme) and letter-sound knowledge results were slightly different. One plausible explanation can be drawn is that even though rhyming sounds recognition is one skill of many other included in phonological awareness process, children at this level need a broader range of phonological awareness knowledge than to which they have been exposed. It is the totality of these phonological awareness skills that facilitates their reading skills. Rhyme recognition is considered as the first level of phonological awareness process. Thus, it is of a necessity to climb up the phonological awareness ladder in the preschool classrooms in Lebanon to achieve better reading results.

The second and the third tasks related to phonological awareness knowledge were, as mentioned before, recognizing initial and ending phonemes in pictures. At this level, PAL-S children have knowledge of phonemes or awareness of rhymes as well as onset and rime which provide them with the ability to detect initial as well as ending sounds much better than the RL-S children and the L-S children. Therefore, it appears that the ability to rhyme has a small facilitating influence on learning to read across the kindergarten II year. Furthermore, it is better to start with a rhyming task at the nursery level, whereas, children should be exposed to more complicated tasks of phonemic awareness instruction as they start the second school year.

On the other hand, as expected, RL-S children and L-S children performed modestly better on this task which is letter recognition. As mentioned in the previous chapters, letter-name knowledge is a much simpler skill compared to other learning to read skills provided in both instructions phonological awareness and letter-sound correspondences. Although results of RL-S children and L-S children are better, still PAL-S children performed highly better on this subtest. Hence, there is an explicit connection between print and phonological awareness which seems to be more efficient in helping children acquire the alphabetic principle, this may be also true for children with limited facility in the English language and who may be at risk of reading disability unless their learning trajectory changes in a more positive direction.

The above findings lead us to predict results that were seen in the fifth and sixth subtests; letter-sound relationships, beginning and ending sounds. In both subtests, PAL-S children's results showed a highly significant difference compared to the average scores of children who performed under rhyme and letter-sound instruction and those

children who performed under letter-sound instruction only. This finding suggests that parallel integrated sequence of phonological awareness and letter-sound knowledge instruction led to a higher rate of change in the growth course for letter-sound fluency. According to Stanovich (1986), letter-sound fluency is a critical component of early reading development that is required for efficient and accurate decoding, which is, in effect, a reading skill that is highly correlated with comprehension. Thus, the relationship found between the two precursors of learning to read skills proved to be of great importance which noticeably increase success in reading for all children.

This pattern of results leads us to one explanation that explicit phonological awareness instruction has a substantially effect on reading skills acquisition. Thus, the final subtest depicted the requirement for decoding skills needed to recognize sight words or high-frequency words. Although, this skill needs the ability to utilize sound-symbol relations, a logical argument can be advanced that phonological awareness is more influential in facilitating performance in decoding tasks. As indicated by Table 8, children who had knowledge of phonological awareness skills did perform significantly better than children who had no phonological awareness on this subtest.

As for the comparison between the two other methods of instruction, it should be noted that no evidence was found of a significant difference. Hence, the presence of one level of phonological awareness process was not enough to facilitate learning to read skills needed for language development.

Overall, the picture of learning to read that emerged from evaluating results concluded through comparing the three methods of instruction is one of uniformity and clarity. Children appear to acquire literacy-related knowledge in the course of learning a

variety of phonological awareness skills. These phonological skills, in turn, impact the acquisition of reading skills through an interactive and dynamic process.

The results of the four hypotheses altogether provide solid support for the claim that explicit instruction in phonological awareness is more effective than alternative forms of instruction or no instruction in teaching phonological awareness and in helping children acquire reading skills which, in turn, help children acquire spelling skills. In addition, results showed that phonological awareness instruction benefited low- to middle- socioeconomic status children who lack the proper and necessary experiences for learning a foreign language. Thus, phonological awareness instruction for children who are learning to speak English as a second language provides an opportunity for those children to learn about word structure, which is a basic foundation of language.

In the light of the above discussed findings, the following conclusions are made: Lebanese children, speakers of Arabic language as their primary language, could be taught the English language along with most of its complexity in feasible and practical instructional methods. Lebanese kindergarteners improved their English literacy achievement by an important degree and it is consistent due to the presence of phonological awareness instruction in their daily classroom lessons. On the other hand, the absence of phonological awareness instruction on a daily basis resulted in poor early literacy experiences. Reading failure could be prevented if Lebanese private and public schools just applied what is known about beginning reading instruction.

Since phonological awareness instruction showed to be an important source of positive influence on reading achievement, Lebanese kindergarten teachers who have developed their own curriculum for teaching early literacy skills may need to consider

including a 15-minute instructional period at the beginning of the school year that systematically and explicitly links letter-sound correspondence instruction with phonological awareness instruction. Also, Lebanese kindergarten teachers who are required to use a specific reading textbook to teach early literacy skills may need to evaluate its content with the needs of children. In addition, kindergarten teachers need to pay special attention to the effectiveness of the parallel integrated sequence necessary in strengthening the word reading ability of children. Furthermore, how Lebanese kindergarten teachers teach the two component skills of letter-sounds and phonological awareness is as important to children's development in becoming readers as what they teach.

Whereby, the field of reading has developed a prevailing and influential consensus among educational, cognitive and medical researchers, as well as the best teachers, about the causes and cures of reading failure. These ideas have been successfully implemented in thousands of classrooms in various settings with impressive results. Therefore, teachers, who daily face reading disabled children and realize the existence of a gap in instruction, should seek information about reading instruction specifics, and be willing to apply them in their classrooms, specially, when those teachers observe and realize that children who arrive in first grade with more knowledge of letters, deeper phonological awareness, and the ability to recognize sight words with greater speed and accuracy are more likely to learn to read without difficulty.

Following these strategies and more, those teachers may succeed in preventing children to fail at higher level of schooling, protecting children from the frustration which

will occur during their long school years and lead them to behavioral problems, and building with pleasure the first base of their educational years.

Based on the results and implication of the current study, the following suggestions are made for further research. First, it is recommended that a larger sample of Lebanese kindergarteners attending private preschools will give us the opportunity to generalize the importance of phonological awareness instruction in these preschools. Second, it is interesting to study the effect of teaching the Arabic language using phonological awareness skills hand in hand with sound-symbol relations in Lebanese preschools. Third, it is suggested to compare children from diverse socioeconomic status in the Lebanese private schools to scrutinize the importance of phonological awareness instruction at different social levels, and to be more effectively tailor treatments to meet their needs. Fourth, it is important to study the relationship among the different components of phonological processing particularly phonological awareness, verbal memory, and naming tasks. These components may have problems that interfere with the development of accurate and fluent word recognition which results in constraints on comprehension. Finally, running a similar study, but longitudinally, will provide extremely valuable results and information, especially when including later reading attainment. Such research will also provide data about the long-term effects of phonological awareness instruction on reading achievement in early childhood language development.

BIBLIOGRAPHY

Adams, M.G. (1990). Beginning to Read: Thinking and learning about print. Cambridge, MA: MIT Press.

Arthur, L., & Makin, L. (2001). High Quality Early Literacy Programs. Australian Journal of Early Childhood, 26, 14-20.

Ashmore, R.A., Farrier, M.J., Paulson, L.H., & Chu, X. (2003). The Effects of Phonemic Awareness Drills on Phonological Awareness and Word Reading Performance in a Later Learned Alphabetic Script. Reading Improvement, 40, 33-43.

Ball, E.W., & Blachman, B.A. (1988). Phoneme Segmentation Training: Effect on Reading Readiness. Annals of Dyslexia, 38, 208-225.

Ball, E.W., & Blachman, B.A. (1991). Does Phoneme Awareness Training in Kindergarten Make a Difference in Word Recognition and Developmental Spelling? Reading Research Quarterly, 26, 49-66.

Barrett, M.D. (1985). Issues in the study of Children's Single word Speech. In M.D. Barrett (Eds), children's Single-Word speech. Chichester, England: Willey.

Beck, I., & Juel, C. (1995). The Role of Decoding in Learning to Read. American Educator, 8, 21-25, 39-42.

Blachman, B.A. (2000). Phonological Awareness. Handbook of Reading Research, 3, (pp. 483-502). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bradley, L. (1988). Making Connections in Learning to Read and Spell. Applied Cognitive Psychology, 2, 3-18.

Bradley, L., & Bryant, P. (1978). Difficulties in Auditory Organization as a Possible Cause of Reading Backwardness. Nature, 271, 746-747.

Bradley, L., & Bryant, P. (1983). Categorizing sounds and learning to read: A causal connection". Nature, 30, 419-421.

Bradley, L., & Bryant, P. (1985). Rhyme and Reason in Reading and Spelling. International Academy for Research in Learning Disabilities Monograph Series, No. 1. Ann Arbor: University of Michigan Press.

Bredekamp, S., Knuth, R.A., Kunesh, L.G., Shulman, D.D. (1992). What Does Research Say About Early Childhood Education? North Central Regional Educational Laboratory. Oak Brook: Learning Point Associates.

Bukatko, D., & Daehler, M.W. (1995). Child Development: A thematic Approach. Boston: Houghton Mifflin Company.

Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to Teach Phonemic Awareness to Young Children. Journal of Educational Psychology, 83, 451-455.

Byrne, B., & Fielding-Barnsley, R. (1993). Evaluation of a program to Teach Phonemic Awareness to Young Children: A 1-Year Follow-Up. Journal of Educational Psychology, 85, 104-111.

Byrne, B., & Fielding-Barnsley, R. (1993). Evaluation of a program to Teach Phonemic Awareness to Young Children: A 2- and 3-Year Follow-Up and a New Preschool Trial. Journal of Educational Psychology, 87, 488-503.

Cary, L., & Verhaeghe, A. (1994). Promoting Phonemic Analysis Ability Among Kindergarteners: Effects of Different Training Programs. Reading and Writing: An Interdisciplinary Journal, 6, 251-278.

Catts, H.W., Fey, M.E., Zhang, X., & Tomblin, J.B. (2001). Estimating the Risk of Future Reading Difficulties in Kindergarten Children: A Research-Based Model and Its Clinical Instrumentation. Language, Speech, and Hearing Services in Schools, 32, 38-50.

Chang, L., McBride-Chang, C., & Wagner, R.K. (1997). Growth Modeling of Phonological Awareness. Journal of Educational Psychology, 89, 621-630.

Chard, D.J., & Kameenui, E.J. (2000). Struggling First-Grade Readers: The Frequency and Progress of Their Reading. The Journal of Special Education, 34, 28-38.

Christensen, C.A. (1997). Onsets, Rhymes, and Phonemes in Learning to Read. Scientific Studies of Reading, 1, 341-358.

Colllier, V.P. (1995). Acquiring a Second Language for School. National Clearinghouse for Bilingual Education.

Cunningham, A. (1990). Explicit versus Implicit Instruction in Phonemic Awareness. Journal of Experimental Child Psychology, 50, 429-444.

Defies, J.C., & Aaron, M. (1996). Genetics of Reading Disability. Mental Retardation and Developmental Disabilities Research Reviews, 2, 39-47.

Ehri, L. (1979). Linguistic Insight: Threshold of reading acquisition. In T.G. Walter & G.E. MacKinnon (Eds.), Reading Research: Advances in Theory and Practice, 1 (pp. 63-114). New York: Academic Press.

Ehri, L., Nunes, S., Willows, D., Schuster, B.V., Yaghoub-Zadeh, Z., Shanahan, T. (2001). Phonemic Awareness Instruction Helps Children Learn to Read: Evidence from the National Reading Panel"s Meta-Analysis. Reading Research Quarterly, 36, pp. 250-287.

Ehri, L., & Robbins C. (1992). Beginners Need Some Decoding Skill to Read Words by Analogy. Reading Research Quarterly, 27(1), 12-28.

Ehri, L., & Sweet, J. (1991). Finger-Point reading of Memorized Text: What Enables Beginners to Process the Print. Reading Research Quarterly, 26, 442-462.

Fowler, A. (1991). How Early Phonological Development Might Set the Stage for Phoneme Awareness. In S. Brady and D. Shankweiler (Eds.), Phonological Processes in Literacy (pp. 97-117). Hillsdale, NJ: Lawrence Erlbaum Associates.

Fowler, C.A., Liberman, I.Y., & Shankweiler, D. (1977). On Interpreting the Error Pattern in Beginning Reading. Language and Speech, 20, 162-173.

Francis, D., Shaywitz, S., Stuebing, K., Shaywitz, B., & Fletcher, J. (1996). Developmental Lag versus Deficit Models of Reading Disability: A Longitudinal, Individual Growth Curves Analysis. Journal of Educational Psychology,88(1), 3-17.

Glover, J.A. & Bruning, R.H. (1987). Educational Psychology. Boston, MA: Little, Brown & Company.

Goswami, U. (2000). Phonological and Lexical Processes. Handbook of Reading research, 3 (pp. 251-267). Mahwah, NJ: Lawrence Erlbaum Associates.

Gunn, B., Biglan, A., Smolkowski, K., & Ary, D. (2000). The Efficacy of Supplemental Instruction in Decoding Skills for Hispanic and Non-Hispanic Students in Early Elementary School. Journal of Special Education, 34, 90.

Hart, B., & Risley, T. (1995). Meaningful Differences in the Everyday Experience of Young American Children. Baltimore: Brookes.

Harris, T.L., & Hodges, R.E. (1995). The Literacy Dictionary: The Vocabulary of Reading and Writing. Newark, DE: International Reading Association.

Henderson, E.H. (1992). The Interface of Lexical Competence and Knowledge of Written Words. In S. Templeton & D. Bear (Eds.), Developmental of Orthographic Knowledge and the Foundations of Literacy (pp. 1-30). Hillsdale, NJ: Erlbaum.

Hohn, W., & Ehri, L. (1983). Do Alphabet Letters Help Prereaders Acquire Phonemic Segmentation skill? Journal of Educational Psychology, 75, 752-762.

Hoien, T., Lundberg, L., Stanovich, K.E., & Bjaalid, I.K. (1995). Components of Phonological Awareness. Reading and Writing, 7, 171-188.

Jansky, J.J., Hoffman, M.J., Layton, J., Sugar, F., & Davies, M. (1989). Prediction: A Six-Year Follow-Up. Annals of Dyslexia, 39, 227-246.

Joseph, L.M. (2002). Facilitating Word Recognition and Spelling Using Word Boxes and Word Sort Phonic Procedures. School Psychology Review, 31, (p. 122+). National Association of School Psychologists.

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.

Kirtley, C., Bryant, P., MacLean, M., & Bradley, L. (1989). Rhyme, Rime and the Onset of Reading. Journal of Experimental Child Psychology, 48, 224-245.

Lebanese Ministry of Education, Preschool Curriculum (1997). The Official Newspaper, 26, 17-38

Liberman, A., Cooper, F., Shankweiler, D., & Studdert-Kennedy, M. (1967). Perception of the Speech Code. Psychological Review, 74, 431-461.

Liberman, I.Y., Shankweiler, D., Fischer, F.W., & Carter B. (1974). Explicit Syllable and Phoneme Segmentation in the Young Child. Journal of Experimental Child Psychology, 18, 201-212.

Lombardino, L.J., Ricco, C.A., Hynd, G.W., & Pinheiro, S.B. (1997). Linguistic Deficits in Children with Reading Disabilities. American Journal of Speech-Language Pathology,6, 71-78.

Lundberg I. (1991). Phonemic Awareness Can Be Developed Without Reading Instruction. In S. A. Brady & D. E. Shankweiler (Eds.), Phonological Processes in Literacy: A tribute to Isabelle Y. Liberman (pp. 47-53). Hillsdale, NJ: Lawrence Erlbaum Associates.

Lundberg, I., Frost, J., & Peterson, O. (1988). Effects of an Extensive Program for Stimulating Phonological Awareness in Preschool Children. Reading Research Quarterly, 23, 263-284.

Lundberg, I., Olofsson, A., & Wall, S. (1980). Reading and Spelling Skills in the First School Years Predicted from Phonemic Awareness Skills in Kindergarten. Scandinavian Journal of Psychology, 21, 159-173.

Mackay, D.G. (1972). The Structure of Words and Syllables: Evidence from Errors in Speech. Cognitive Psychology, 3, 210-227.

Maclean M., Bryant E., & Bradley L. (1987). Rhymes, Nursery Rhymes, and Reading in Early Childhood. Merrill-Palmer Quarterly, 33, 159-173.

Mann, V.A. (1993). Phoneme Awareness and Future Reading Ability. Journal of Learning Disabilities, 26, 259-269.

Mann, V.A., & Liberman, I.Y. (1984). Phonological Awareness and Verbal Short-Term Memory. Journal of Learning Desabilities, 17, 592-599.

Mcbride-Chang, C. (1999). The ABCs of the ABCs: The Developmental of Letter-Name and Letter-Sound Knowledge. Merrill-Palmer Quarterly, 45, (p 185). Wayne State University Press.

Miao, Y., Darch, C., & Rabren, K. (2002). Use of Precorrection Strategies to Enhance Reading Performance of Students with Learning and Behavior Problems. Journal of Instructional Psychology, 29, (pp.162+). George Uhlig Publisher.

Morais, J., Algeria J., & Content A. (1987). The Relationship Between Segmental Analysis and Alphabetic Literacy: An Interactive View. Cahiers de Psychologie Cognitive, 7, 415-438.

Morris, D. (1983). Concept of Word and Phoneme Awareness in the Beginning Reader. Research in the Teaching of English, 17, 359-373.

Morris, D., Bloodgood, J.W., Lomax, R.G., Perney, J. (2003). Development Steps in Learning to Read: A Longitudinal Study in Kindergarten and First Grade. Reading Research Quarterly, 38, (pp. 302+). International Reading Association Inc.

Nation, K., Hulme, C. (1997). Phonemic Segmentation, Not Onset-Rime Segmentation, Predicts Early Reading and Spelling Skills. Reading Research Quarterly, 32(2), 154-167.

National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching Children to Read: An Evidence-Based assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

National Assessment of Educational Progress. (1997). NAEP 1996 Trends in Academic Progress. Washington, DC: National Center for Education Statistics.

National Reading Panel Report. (2000). Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction: Reports of the Subgroups. Report of the National Reading Panel.

O'Conner, R., Jenkins, J., & Slocum, T. (1995). Transfer among Phonological Tasks in Kindergarten: Essential Instructional Content. Journal of Educational Psychology, 87, 202-217.

O'Connor, R.E., & Jenkins, J.R. (1999). Prediction of Reading Disabilities in Kindergarten and First Grade. Scientific Studies of Reading,3, p. 159.

O'Connor, R.E., Notari-Syverson, A., & Vadasy, P.F. (1996). Ladders to Literacy: The Effects of Teacher-Led Phonological Activities for Kindergarten Children with and without Disabilities. Exceptional Children, 63, pp. 117+.

O'Connor, R., & Qi, S. (2000). Comparison of phonological Training Procedures in Kindergarten Classrooms. The Journal of Educational Research, 93, 226.

Oudeans, M.K. (2003). Integration of Letter-Sound Correspondences and Phonological Awareness Skills of Blending and Segmenting: A Pilot Study Examining the Effects of Instructional Sequence on Word Reading for Kindergarten Children with Low Phonological Awareness. Learning Disability Quarterly, 26 (pp. 258+). Council for Learning Disabilities.

Perfetti, C., Beck, I., Bell, L., & Hughes, C. (1987). Phonemic Knowledge and Learning to Read Are Reciprocal: A Longitudinal Study of First Grade Children. Merrill Palmer Quarterly, 33, 283-319.

Peterson, C. & McCabe, A. (1992). Parental Styles of Narrative Elicitation: Effect on Children's Narrative Structure and Content. First Language,12, 299-321.

Pullen, P.C., Justice, L.M. (2003). Enhancing Phonological Awareness, Print Awareness and Oral Language Skills in Preschool Children. Intervention in School & Clinic, 39, 87+.

Raz, I.S., & Bryant, P. (1990). Social Background, Phonological Awareness, and Children's Reading. British Journal of Developmental Psychology,8, 209-225.

Rogoff, B. (1990). Apprenticeship in Thinking: Cognitive Development in Social Context. New York: Oxford.

Samuels, S.J. (1997). Introduction and Automaticity: Theory and Practice. Reading and Writing Quarterly: Overcoming Learning Difficulties, 13, 103-105.

Scarborough, H.S. (1990). Very Early Language Deficits in Dyslexic Children. Child Development, 61, 1728-1743.

Shaffer, D.R. (1999). Developmental Psychology: Childhood & Adolescence (5th ed). Pacific Grove, CA: Brook Cole Publishing Company.

Shankweiler, D., & Lierman, I.Y. (1972). Misreading: A Search for causes. In J.F. Kavanaugh & I.G. Mattingly (Eds.), Language by Eye and by Ear (pp. 293-317). Cambridge, MA: MIT Press.

Share, D.L., & Gur, T. (1999). How Reading Begins: A Study of Preschoolers' Print Identification Strategies. Cognition and Institution, 17, 177-213.

Share, D., Jorm, A., MacLean, R., & Matthews, R. (1984). Sources of Individual Differences in Reading Acquisition. Journal of Educational Psychology, 76, 1309-1324.

Shaywitz, S.E., & Shaywitz, B.A. (1996). Unlocking Learning Disabilities: The Neurological Basis. In S.C. Cramer, & W. Ellis (Eds.), Learning Disabilities: Lifelong Issues (pp. 255-260). Baltimore: Paul H. Brooks.

Shneider, W., Roth, E., & Ennemiser, M. (2000). Training Phonological Skills and Letter Knowledge in Children at Risk for Dyslexia: A Comparison of Three Kindergarten Intervention Programs. Journal of Educational Psychology, 92, 284-295.

Slavin, R.E., Karweit, N.L., Wasik, B.A., Madden, N.A., & Dolan, L.J. (1994). Success for All: A Comprehensive Approach to Prevention and Early Intervention. In R.E. Slavin, N.L. Karweit, & B.A. Wasik, (Eds.), Preventing Early School Failure (pp. 175-205). Boston: Allyn and Bacon.

Sodoro, J., Allinder, R.M., & Rankin-Erikson, J. (2002). Assessment of Phonological Awareness: Review of Methods and Tools. Educational Psychology Review, 14(3), 223-260.

Snider, V.E., (1997). The relationship Between Phonemic Awareness and Later Reading Achievement. The Journal of Educational Research, 90(4), 203-211.

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

Stahl, S.A., & Murray, B.A. (1993). Defining Phonological Awareness and Its Relationship to Early Reading. Paper Presented at the Annual Meeting of the American Educational Research Association, Atlanta.

Stanovich, K. E. (1986). Matthew Effects in Reading: Some Consequences of Individual Differences in the Acquisition of Literacy. Reading Research Quarterly, 21, 360-406.

Stanovich, K.E. (1991). Changing Models of Reading and Reading Acquisition. In L. Rieben & C.A. Perfetti (Eds.), Learning to Read: Basic Research and Its Implications (pp. 19-31). Hillsdale, NJ: Erlbaum.

Stanovich, K.E., Cunningham, A.E., & Cramer, B.B. (1984). Assessing Phonological Awareness in Kindergarten Children: Issues of Task Comparability. Journal of Experimental Child Psychology, 38, 175-190.

Torgesen, J.K., & Burgess, S.R. (1998). Consistency of Reading-Related Phonological Processes Throughout Early Childhood: Evidence From Longitudinal-Correlational and Instructional Studies. In J. Metsala & L. Ehri (Eds.), Word Recognition in Beginning Reading. Hillsdale, NJ: Erlbaum.

Torgesen, J., Morgan, S., & Davis, C. (1992). Effects of Two Types of Phonological Awareness Training on Word Learning in Kindergarten Children. Journal of Educational Psychology, 84, 364-370.

Treiman R. (1985). Onsets and Rimes as Units of Spoken Syllables: Evidence from Children. Journal of Exprimental Child Psychology, 39, 161-181.

Treiman, R., & Baron, J. (1983). Phonemic-Analysis Training Helps Children Benefit from Spelling Sound Rules. Memory and Cognition, 11, 382-389.

Treiman, R., & Zukowski, A. (1991). Levels of Phonological Awareness. In S. Brady & D. Shankweiler (Eds.), Phonological Processes in Literacy (pp. 67-83). Hillsdale, NJ: Lawrence Erlbaum Associates.

Uhry, J. (1999). Invented Spelling in Kindergarten: The Relationship with Finger-Point Reading. Reading and Writing, 11, 441-464.

Uhry, J. (1993). Predicting Low Reading from Phonological Awareness and Classroom Print. Educational Assessment, 1, 349+.

Vellutino, F., & Scanlon, D. (1987). Phonological Coding, Phonological Awareness and Reading Ability: Evidence from a Longitudinal and Experimental Study. Merrill-Palmer Quarterly, 33, 321-363.

Vellutino, F., & Scanlon, D. (1998). Research in the Study of Reading Disability: What Have We Learned in the Past Four Decades. Paper Presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.

Vygotsky, L.S. (1962). Thought and Language. E. Hanfmann & G. Vakar, Eds. & Trans. Cambridge, MA: MIT Press.

Walley, A. (1993). The Role of Vocabulary Development in Children's Spoken Word Recognition and Segmentation ability. Developmental review, 13, 286-350.

Williams, J. (1980). Teaching Decoding with an Emphasis on Phoneme Analysis and Phoneme Blending. Journal of Educational Psychology, 72, 1-15.

Wurr, A.J. (2003). Reading in a Second Language: A Reading Problem or a Language Problem? Journal of College Reading and Learning, 33, 157-168.

Yopp, H.K. (1988). The Validity and Reliability of Phonemic Awareness Tests. Reading Research Quarterly,23(2), 159-176.

Yopp, H.K. (1992). Developing Phonemic Awareness in Young Children. The Reading Teacher, 45, 696-703.

Yopp, H.K., & Yopp, R.H. (2000). Supporting Phonological Awareness Development in the Classroom. The Reading Teacher, 54 (pp. 130-142). International Reading Association Inc.

APPENDIX A

SAMPLE OF THE LETTERS ADDRESSED TO THE PRINCIPLES

Dear Principle

As per your conversation with Ms Ghina Khattab, a graduate student at Haigazian, I am writing this letter to ask your permission to allow Ms. Khattab to conduct her thesis research at your school. The title of her thesis is "Effects of Phonological Awareness Instruction on Reading Acquisition of the English Language in Lebanese Private School". Please be advised that at no time will the names of any schools be mentioned.

Thank you in advance for your cooperation in this matter and should you have any further questions regarding the students, myself or the university, please do not hesitate to contact me. We, at Haigazian, appreciate your positive enforcement.

Sincerely,

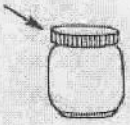
Ahlam Klailat, Ph.D.

Chair, Social & Behavioral Sciences Department

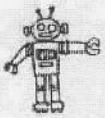
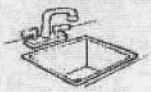
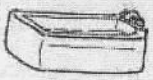
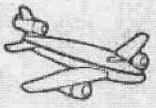
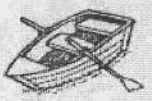
APPENDIX B

SAMPLE OF THE ASSESSMENT TEST

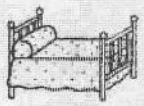
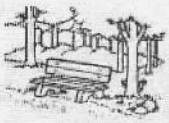
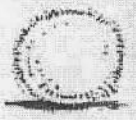
Phonemic Awareness: Recognizing Rhyming Sounds

Sample 	 ○	 ○	 ○
1. 	 ○	 ○	 ○
2. 	 ○	 ○	 ○
3. 	 ○	 ○	 ○
4. 	 ○	 ○	 ○
5. 	 ○	 ○	 ○

Phonemic Awareness: Recognizing Beginning Sounds

Sample			
1.			
2.			
3.			
4.			
5.			

Phonemic Awareness: Recognizing Ending Sounds

Sample	 ○	 ○	 ○
1.	 ○	 ○	 ○
2.	 ○	 ○	 ○
3.	 ○	 ○	 ○
4.	 ○	 ○	 ○
5.	 ○	 ○	 ○

Letter Recognition

Sample 	O ○	G ○	S ○
1. 	K ○	T ○	X ○
2. 	W ○	N ○	Y ○
3. 	d ○	o ○	c ○
4. 	t ○	l ○	f ○
5. 	j ○	p ○	g ○

Letter-Sound Relationships: Beginning Sounds

Sample k	 ○	 ○	 ○
1. p	 ○	 ○	 ○
2. s	 ○	 ○	 ○
3. t	 ○	 ○	 ○
4. g	 ○	 ○	 ○
5. y	 ○	 ○	 ○

Letter-Sound Relationships: Ending Sounds

Sample –s	 ○	 ○	 ○
1. –m	 ○	 ○	 ○
2. –d	 ○	 ○	 ○
3. –n	 ○	 ○	 ○
4. –p	 ○	 ○	 ○
5. –l	 ○	 ○	 ○

Word Recognition

Sample 	boy ○	go ○	jump ○
1. 	you ○	yes ○	my ○
2. 	is ○	look ○	like ○
3. 	see ○	some ○	too ○
4. 	come ○	like ○	look ○
5. 	where ○	do ○	what ○

APPENDIX C

SAMPLE OF THE PERFORMANCE SHEET

Performance Sheet

Name _____

School _____

Date _____

Subtest	Pupil Score (Circle the Number Correct)
Phonemic Awareness: Recognizing Rhyming Sounds	0 1 2 3 4 5
Phonemic Awareness: Recognizing Beginning Sounds	0 1 2 3 4 5
Phonemic Awareness: Recognizing Ending Sounds	0 1 2 3 4 5
Letter Recognition	0 1 2 3 4 5
Letter-Sound Relationships: Beginning Sounds	0 1 2 3 4 5
Letter- Sound Relationships: Ending Sounds	0 1 2 3 4 5
Word Recognition	0 1 2 3 4 5