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The Relationship between the Home Literacy Environment and the Development
of Emergent Literacy Skills in Palestinian Preschoolers in Lebanon

By

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DEDICATION

I dedicate my thesis work to my family and many friends. A special feeling of gratitude goes to my loving parents who encouraged and pushed me every step of the way. My brother and role model in life Fadi offered me endless love and care and showed me, rather than told me, the importance of perseverance and hard work.

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The Relationship between the Home Literacy Environment and the Development of Emergent Literacy Skills in Palestinian Preschoolers in Lebanon

Beesan Ibrahim Hammad

ABSTRACT

Literacy acquisition can be best thought of as a developmental continuum, rather than an all-or-nothing phenomenon, that originates early on in a children's lives before they start formal schooling. How and how often parents expose their children to literacy before entering school is vital for later literacy development. This is especially important in Palestinian children facing multiple risk factors. As a result, the home literacy environment is recognized as an important setting for children to observe others' literacy behaviors and engage in direct and indirect literacy activities with others. Researchers hypothesize that parental teachings and storybook exposure promote emergent literacy and language skills respectively. This study used correlational analysis to examine the relationship between the different aspects of the home literacy environment using the Home Literacy Environment Questionnaire (HLEQ) and the emergent literacy and language skills of Palestinian refugee children living in Burj El-Barajneh camp. Emergent literacy and language skills were measured using Teacher Rating of Oral Language and Literacy (TROLL) and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The study also aimed at demonstrating the extent to which preschool enrolment and parents' educational levels correlate with the home literacy environments and children's emergent literacy and language performance. The study found that the correlation between parental literacy teaching and emergent literacy skills indicates that indirect reading activities have a larger effect on the emergent literacy skills than direct ones. This has significant implications for the role of parental involvement in children's education. Future research should consider the quality of preschool education, the emotional quality of adult-child interactions, and Palestinian refugees residing outside of refugee camps to draw better conclusions.

Keywords: Home Literacy Environment, Palestinian Refugees, Emergent Literacy, Preschool, Language, Parental Involvement

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Chapter 1

Introduction

Literacy is recognized as one of the most essential skills that reflect on children's academic success (Stoiber & Gettinger, 2011). A student with limited ability to read and write will struggle in school, potentially exhibiting adverse attitudes toward school in general; good readers are more likely to experience learning opportunities through reading than those who are poor readers. (Cervetti, Jaynes, & Hiebert, 2009). The journey toward reading and writing however, does not begin in school. It begins in the earliest years of the child's life- long before entering preschool. Hence, this journey is affected by the quality and quantity of early literacy exposure including book exposure and adult-child literacy interactions within the home. Researchers suggest that parental teaching and storybook exposure are activities that stimulate language acquisition of early literacy skills (Leslie & Allen, 1999). This is especially significant for children living in poverty and who are exposed to risk factors that include limited access to resources and social support, noise pollution, and authoritarian parenting (Evans, 2004). Palestinian children growing up in Palestinian refugee camps in Lebanon are a perfect illustration of the need to give children a head start in their skills to avoid widening the literacy gap.

Purpose of the Study

The study adds to the existing body of knowledge about the Home Literacy Environment (HLE) (Caroll, 2013; Payne, Whitehurst, and Angell, 1994; Ricci, 2011; Schmitt, Simpson, & Friend, 2011) of Palestinian families residing in Borj El-Barajneh

refugee camp with children aged 4-6 years. The study aims to examine the effect of HLE and storybook reading on the emergent literacy, the set of pre-reading and writing skills, and language skills of Palestinian children. The use of questionnaires to measure HLE and the assessment of children's early literacy and oral language skills indicates the relationship between the mentioned variables. Additionally, since UNRWA schools follow the Lebanese curriculum and use English as the language of instruction, children's early literacy and oral language skills will be assessed in English (L2).

In a study by Al-Haroub in collaboration with UNRWA (2011), findings showed that low scholastic achievement comes second after seeking employment as the main reasons behind dropping out in Palestinian Refugees in Lebanon (PRLs) (Al-Haroub, 2011). Children's emergent literacy skills are predictive of later literacy proficiency, which in turn is correlated with later academic success (Kastner, May & Hildman, 2001; Sahragard, Baharloo & Soozandehfar, 2011). So acquiring emergent literacy skills can lead to higher achievement rates and decrease the risk of dropping out.

Children of PRLs are born and raised facing multiple risk factors that hinder their development. In spite of their longstanding presence in Lebanon, PRLs remain excluded from key social, political, and economic aspects which, when combined, place PRLs in sorry conditions (Chaaban, Salti, Ghattas, Irani, Ismail & Batlouni, 2010). Individual factors set aside, family factors, school features, and community factors are some of the identified risk factors that contribute to students' academic vulnerability. For instance, around 4,000 "Non-ID" Palestinians reside in Lebanon without any legal documentation, which has major implications on their ability to receive their human rights and access basic services (UNHCR, 2016, p.3). Similarly, PRLs are reduced to live in camps of poor

conditions in terms of infrastructure and services since the cost of living outside of camps is unaffordable to many (United States Department of State, 2015). Around ninety percent of PRLs live in poverty, including 9% living in extreme poverty with an average monthly expenditure of US\$ 195, which is US\$ 234 less than the Lebanese average, as reported by UNRWA (2016). PRLs also have limited basic health services, especially in light of the budget cuts UNRWA has been facing, which can be linked to the multitude of physical and mental health problems they face (Chaaban et al., 2010). This is not to mention the prohibition of PRLs to enter syndicates and the restricted access to the National Social Security Fund, and wages that are below minimum wage (450\$ per month) (Danish Immigration Service, 2014).

Statement of the Problem

Statistics show an increase in dropouts and a deterioration in the success rate of PRLs. In a 2010 report published by the American University of Beirut (AUB) titled “Socio-Economic Survey of Palestinian Refugees in Lebanon,” it was reported that 95% of elementary school-aged children attend school (Chaaban et al., 2010). This percentage is significant since 28.5% of the entire PRL population, are aged 14 or less (Chaaban et al., 2015). However, the percentage drops to 51% in secondary school (Chaaban et al., 2010). A report on school dropout was published by the United Nations Relief and Works Agency UNRWA (2013) stating that the majority of dropouts had repeated at least one grade.

According to Al Daleel Al Madani (2014), the situation has further worsened with the mass influx of 60,000 Palestinian refugees from Syria who rely on UNRWA for basic financial and social support. As UNRWA currently faces a severe funding shortage, the

agency has been facing difficulties in providing key services to PRLs (Chaaban et al., 2015). The present research helps highlight the importance of tackling the root of the problem rather than relying on corrective measures at later stages that have high cost and low efficiency. Hence, it sheds light on the importance of the parental role in teaching their children about literacy and conducting literacy-based activities at home instead of relying on the scarce educational services provided by NGOs and UNRWA.

Research has indicated that the real methodical failure in education is in early childhood education (ECE) for reasons that include large class size, inexperienced teachers, and scarce resources (CGECCD, 2013). Still, ECE receives minimal attention, especially in developing countries, where more basic needs like food and shelter are lacking (Pramling Samuelsson & Kaga, 2008). This applies to PRLs as UNRWA does not run preschools in Lebanon, for it only provides elementary, secondary, and vocational education. So a large percentage of Palestinian children start out behind. The gap widens as they spend less hours in class in double-shift schools, for the poor conditions of the schools do not allow for larger class sizes; hence, 63% of classes operate on double-shift basis (Hillenkamp, 2008).

Non-profit organizations are the ones to provide early childhood education to only *half* of the preschool-aged Palestinian refugee children compared to their Lebanese counterparts whose gross enrollment ratio was 83% in 2012 (UNICEF, 2013). However, these organizations do not receive enough funding or support to establish high quality preschools. For among the 92 preschools established in camps all over Lebanon, around 80% need renovations of classrooms and/or playgrounds with 85% lacking appropriate child-friendly equipment for an optimal learning environment (Daleel Madani, 2014).

Also, there is no unified curriculum for early childhood development, and those curricula that prevail, are traditional. Moreover, most teachers teaching at preschools in Palestinian refugee camps are not professionally qualified with only very few having university degrees. Some, however, have received some vocational training. This is largely due to the low wages that NGO's provide as a result of limited financial resources. On average, PRLs' wages are below the minimum wage as half of the workers are paid less than 500,000 LBP (Lebanese Pounds) a month (Al-Nashif & El-Khoury, 2012).

Likewise, parental levels of education and involvement in their children's education are correlated with their children's levels of achievement and dropout rates. An UNRWA (2013) report stated that around 90% of school dropouts- which are mainly due to underachievement- had a father who was illiterate or only received basic education. Hence, parents' level of education, which affects the home literacy environment (HLE), is in turn affecting students' achievement and further contributing to dropout rates (Carroll, 2013; Leslie & Allen, 1999). It is important to note that the percentage of literacy among PRLs is significantly high for individuals aged 15 years and over as it reached around 92% (Nashif & El-Khoury, 2012). However, the level of educational interest, not whether they're literate or not, is what affects the parents' beliefs and involvement in their children's education (UNRWA, 2013).

These educational deficits alone limit the educational opportunities and career choices of Palestinians in Lebanon. As of 2008, the "pass rate" of Palestinian students in UNRWA classes was only 53% -10% less than their Lebanese counterparts in governmental schools (Schenker, 2012). Because of the inaccessibility to preschools, the lack of quality, when accessible, and the fact that children spend most of their time at

home, it is important to give support to the home environment and provide opportunities for literacy development.

Research Question/Hypothesis

For the purpose of this study, the following questions were addressed:

- 1) To what extent does HLE predict the emergent literacy and oral language skills of PRLs?
- 2) How does the parents' level of education and literacy beliefs predict HLE outcomes?
- 3) Do children enrolled in preschool (moderator variable) develop better early literacy and oral language skills than children not enrolled?

It is hypothesized that:

- 1) Children living in a more print-rich environment will generally score higher on early literacy and oral language assessment.
- 2) Book exposure will positively correlate with oral language skills whereas parental teaching and shared book reading will positively correlate with literacy skills.
- 3) Parental level of education will be positively correlated with HLE outcomes.
- 4) Children enrolled in a preschool will score higher on early literacy and oral language assessments.

Chapter 2 discusses the research regarding the links between HLE and early literacy skills by addressing the early reading theories that led to the current understanding of emergent literacy, what variables constitute emergent literacy skills, how emergent literacy predicts later reading abilities, and studies conducted on HLE and how they promote emergent literacy development. Chapter 3 will tackle the methodology

of the study. The results and discussion of the findings of the study will be addressed in chapters 4 and 5. The implications and conclusions will be discussed in chapter 5.

Chapter 2

Literature Review

This chapter includes 3 sections. The first section will include a summary of the main theories on acquiring emergent literacy skills, reading theories, and the components of emergent literacy. The second section presents the different conceptualizations on what HLE is, including parental beliefs and home literacy activities, and how these affect varying emergent literacy outcomes. The last section explores the role of socioeconomic status (SES) influences on HLE and literacy and language development. Several studies have been conducted on the role of HLE and parental involvement and their effect on the development of parental literacy skills (Carroll, 2013; Ricci, 2011; Tichnor-Wagner, Garwood, Bratscje-Hines & Vernon-Feagans, 2015).

Importance of Emergent Literacy

Early childhood education is essential as it has long lasting effects on and is predictive of later cognitive abilities, social behavior, and school progress (Barnett, 2008). Early reading ability, or emergent literacy skills, seems to be especially predictive of later academic success; also, reading ability underlies success in multiple aspects of life. Strong reading comprehension abilities reflect on success in varied areas of study, including science, social studies, and mathematics (Snow, 2010). Similarly, success in the workforce also correlates with reading comprehension skills, with individuals with low reading comprehension skills at a higher risk of unemployment. In a study on literacy and the labor force in Brazil, the probability of being employed in the public sector increases

by 8.1% when the person is more literate (Soares de Baldini Rocha & Ponczek, 2011). Moreover, proficient readers show a higher likelihood to be more socially integrated, more engaged in civic activities, and less prone to societal alienation (Arnot, Schneider, Evans, Tongcan Liu, Welply & Davies-Tutt, 2014; Venezky, 1992).

Considerable research has been conducted over the past few decades on the development of literacy in young children. Emerging literacy results by the end of kindergarten are found to be highly predictive of later reading achievements levels when assessed at the end of Grade 1 (Trehearne, 2011). Such a finding is suggestive of a 90 percent probability that kindergarteners struggling with reading and writing will remain poor readers, and consequently writers, by the end of Grade 4 (Trehearne, 2011). Preschool and kindergarten literacy acquisition can even affect literacy achievement in middle and high school. A longitudinal study conducted by Hanson and Farrell (1995) tracked 4,000 students from kindergarten to Grade 12 and showed "...that students who learned to read in kindergarten were found to be superior in reading skills and all other educational indicators as measured as seniors in high school" (p. 929) as opposed to those who did not learn to read in kindergarten.

Theoretical Framework

Research on early literacy development has shed light on understanding the process in which children acquire literacy and language skills (McCabe, Boccia, Bennett, Lyman & Hagen, 2010; Whitehurst et al., 1998). There are many theories related to literacy development, and it is important to explore the key ones that have influenced how researchers, educators, and parents approach literacy-related tasks. Whitehurst and Lonigan (1998) describe the term "emergent literacy" as a developmental continuum

which originates early on in a child's life rather than in an "all-or-one phenomenon" that begins when a child starts school (p:848). Such a view on emergent literacy suggests that there is no clear demarcation between reading and pre-reading (Lonigan, Burgess & Anthony, 2000). Still, acquiring emergent literacy skills largely depends on the child's environment and the amount of language and literacy exposure (Senechal, 2006).

The current understanding of emergent literacy and how language develops is a result of various theoretical influences. Chomsky (1986) believed that children are born with an innate ability to acquire language. He believed that a special biological brain mechanism, called a Language Acquisition Device (LAD) is what enables the child to take in experiences as input and produce speech in a subconscious and unguided process (Wen, 2013).

Unlike Chomsky, Piaget (1980) believed that cognition and language are interrelated. His theory of cognitive development is one of the most famous theories that was used by literacy educators in that children progress in stages towards literacy achievement (White & Coleman, 2000). Piaget showed that children, through active exploration of their environments, internalize knowledge from the outside by constructing it from the inside (Ensar, 2014). He believed that children engage in symbolic thought by using words and phrases to represent ideas and events during the preoperational stage (ages 2-7) (Burns, Roe & Ross, 1999). They later begin to use written symbols to represent words to understand that symbols are basic to reading comprehension (Ensar, 2014). Therefore, advanced emergent literacy skills are a result of the child's ability to internalize literacy concepts, or constructs, in a rich HLE. Practitioners who use this theory believe that the type of content that children are exposed to must relate to their

level of cognitive development (Kennedy et al., 2012). Hence, emergent literacy activities at home should be related to the child's cognitive development.

Another theory that explained how emergent literacy skills develop is Vygotsky's (1978) sociocultural theory. Vygotsky believed that social interactions between children and adults are what lead children towards emergent literacy proficiency as they don't just learn words by ways of thinking (Mason & Sinha, 1992). He suggested that parents, educators, and the culture in general are responsible for a child's cognitive development (Vygotsky, 1978). He related the development of thought to that of language. Educational implications of his theories include modeling processes rather than giving instructions, providing opportunities for the child to advance towards higher levels of emergent literacy within his/her "zone of proximal development" (Mason & Sinha, 1992). Parental involvement is key in Vygotsky's theory as parents plan activities that are not too difficult nor too easy within the home environment to encourage language acquisition.

During the early 1900s, it was generally believed that children begin to develop literacy skills in grade 1 (Tracey & Morrow, 2017). A study by Morphett and Washburne (1931) showed that 6-year-old children performed better on reading tasks than younger ones in an attempt at determining the optimal age in which a child should receive reading instruction. As a result, it was recommended to parents and educators not to attempt to teach children literacy skills before they enter school and was believed that trying to teach them would cause damage because they are too young. This theory shares common ideas with those of Piaget in that children advance through similar stages yet at different rates (Godwin, Herb, Ricketts & Wymer, 2013).

The stages model theory is another theory that became popular with its assertion that children read in stages of word identification and that the more children read, the more they develop strategies used in reading (Bowman & Treiman, 2002). Chall (1983) was among the stage model theorists who identified four stages of word identification: pre-alphabetic stage (logographic stage), partial alphabetic stage, full alphabetic stage, and consolidated alphabetic stage. The pre-alphabetic stage is associated with the following features: using visual cues, memorizing the shape of the letters or words, identifying words based on letter-sound associations, and recognizing environmental print and logos (Masonheimer, Drum & Ehri, 1984). The partial alphabetic stage uses “Phonetic Cue Reading” which further utilizes letter-sound cues (Bowman & Treiman, 2002). The full alphabetic stage involves having the child process all the letters of a word before moving to the fourth stage whereby letter-sound associations become automatic (Masonheimer et al., 1984).

The role of family literacy and the child’s literacy skills is discussed in all of the above theories; however, it was extensively discussed by family literacy theories (Tracey & Morrow, 2017). Henderson and Mapp (2002) reported that children whose parents are more involved have better social skills and behavior, higher grades, and lower rates of school absence. Family literacy theorists share ideas that include the importance of creating programs to help family members develop their literacy skills, the relationship between family literacy and child literacy skills, and the way literacy is being used at home (Godwin et al., 2013). Similarly, Jordan, Snow, and Porche (2000) claimed that families with developed literacy abilities supply their children with a literacy-rich home environment.

All the above mentioned theories have been valuable in helping educators understand how early reading skills develop. Emergent literacy theorists claim that children's earliest experiences in reading and oral language are all part of their literacy development (Mason & Sinha, 1992). They believe that children's reading, writing, listening, and speaking skills begin at birth.

Reading Theories

Parents and educators have numerous choices of methods and techniques to use when they carry out literacy-related activities. An understanding of the main four theories of reading provides a foundation for parental and educational emergent literacy practices. The three main theories are bottom-up, top-down, and interactive reading theories.

Bottom-Up Theory of Reading

The early models of the reading process like those discussed by the behavioral psychologists Gough (1972) and La Berge and Samuels (1974) represented a letter-by-letter approach to understanding reading. Gough described the reading process as a "...sequentially-ordered set of transformations from letter, to phoneme, to lexical level representation, and finally to deep structural representation" (Kennedy et al., 2012, p:74). LaBerge and Samuels (1974) described the cognitive processes involved as three separate systems: the visual memory system, the phonological memory system, and the semantic memory system which feed into the process that determines the reader's understanding of the text. The Bottom-up approach can be mostly useful in lower grade levels as students still haven't developed automatic decoding skills (Skudiene, 2002). So only when readers begin to decode automatically can they direct their attention toward comprehending

(LaBerge & Samuels, 1974). However, this view does not take into consideration other variables like the child's background knowledge or the sociocultural context (Kennedy et al., 2012).

Top-Down Theory of Reading

The top-down theory emphasizes the thought processes involved in reading. This theory drew on psycholinguistics' views on reading (Fatemi, Vahedi, & Seyyedrezaie, 2014). Theorists like Smith and Goodman have emphasized the role of using relevant prior knowledge and syntactic and semantic knowledge to identify unfamiliar words (Kennedy et al., 2012). This indicates that reading proceeds from whole to part. Furthermore, Škudienė (2002) believed that a minimum of 5000 words is required for top-down processing to be possible and would be mostly effective with advanced language learners.

Still, many believe that top-down and bottom-up are two routes to the same destination and that the differences are superficial (Neuman & Dickinson, 2001). Additionally, evidence from research shows that neither top-down nor bottom-up models can explain the reading process completely (Stanovich, 2000). Hence, an interactive model of continuous bottom-up and top-down processing is needed for the reader to use both graphic and contextual information to comprehend text (Perfetti, Landi, & Oakhill, 2005).

Interactive Theory of Reading

The interactive reading theory reasons that when bottom-up decoding is ineffective, the information processing system compensates by relying on other sources

like contextual information (McGill-Franzen & Allington, 2011). Current evidence indicates that such compensatory processing is both obligatory and automatic (Fuchs, Fuchs, Hosp & Jenkins, 2001). Stanovich, the theorist behind the interactive-compensatory model of reading, claims that reading involves several types of interactions with the written text (1980). He argues that fluent readers use less processing capacity for word reading, which frees up capacity for comprehension (Stanovich, 1980). Moreover, Stanovich describes what he calls the “Matthew Effect” whereby the rich get richer and the poor get poorer as children learn to read (Stanovich, 1986). This implies a reciprocal relationship whereby vocabulary knowledge enables reading comprehension, which in turn supports vocabulary development (Stanovich, 1986).

Components of Emergent Literacy

Research provides information about the components of emergent literacy from two perspectives. One consists of quantitative studies which have inspected the relation between emergent literacy and later acquisition of conventional literacy. Another perspective consists of qualitative studies which have examined the development of how preschool-aged children respond to different literacy-related activities (Whitehurst & Lonigan, 1998).

In a meta-analysis by Shanahan and Lonigan (2010) on measures related to later academic success, six variables were found to be significant indicators: alphabet knowledge, phonological awareness, rapid automatized naming of letters, rapid automatized naming of colors and objects, writing of name, and phonological memory. In addition, print knowledge, oral language, visual processing, reading readiness, and

concepts about print were found to be predictive of later literacy abilities (Shanahan & Lonigan, 2010).

Alphabet Knowledge

Knowledge of the names, sounds, and symbols of the alphabet, alphabet knowledge, is important for learning to read and write (Jones, Clark & Reutzel, 2012). Although all emergent literacy skills are valuable for preparing children for future reading and writing, alphabet knowledge is consistently identified in the literature as the strongest predictor of later achievement in literacy (NELP, 2009; Hall, Toland, Grisham-Brown & Graham, 2013; Lonigan & Shanahan, 2009). It is believed that knowledge of letter names facilitates the process of information processing that is necessary for reading as most of the letters' names contain sounds that are symbolized by letters in words (Worde & Boettcher, 1990).

Several studies have supported the importance of alphabet knowledge. For example, in a meta-analysis of research evidence on the effect of alphabet knowledge on later literacy skills by the National Early Literacy Panel (NELP), it was found that alphabet knowledge had the strongest relationship with scores on decoding, reading comprehension, and spelling measures (NELP, 2009). Similarly, a study by Otaiba, Puranik, Rouby, Greulich, Sidler, and Lee (2010) showed that children who had strong letter identification abilities also had strong spelling success. For a child who learns letter names becomes more interested in letter sounds and the spelling of words (Piasta, Pupura & Wagner, 2010).

When it comes to how alphabet knowledge can be best taught, only a few studies have examined the effect of alphabet knowledge instruction by itself (NELP, 2009) and the curricula available for alphabet knowledge instruction are quite varied (Justice, Pence, Bowles, & Wiggins, 2006). As many early childhood curricula include letter name knowledge which helps acquire letter-sound knowledge (Piasta, 2006). Others; however, hold the belief that letter name knowledge is only correlated with letter-sound knowledge (Foulin, 2005). Consequently, some teach alphabet knowledge through letter knowledge (Piasta, 2006), and others choose to refer to letters only by sound (Piasta, Purpura & Wagner, 2010).

Phonological Awareness

Phonological awareness, sensitivity to speech sounds, encompasses several skills: some of which are simple and others are complex (Justice & Schuele, 2004). At the simple level, phonological awareness encompasses the ability to identify and make judgments related to the general sound structure of the language (i.e. syllable division, making rhymes, and identifying beginning sounds in words) (Schuele & Boudreau, 2008). Phonological awareness at the complex level manifests as the ability to isolate and manipulate individual sounds, which is called phonemic awareness (Anthony & Lonigan, 2004). Phonological awareness is often confused with phonics. Phonological awareness involves the ability to analyze the sound structures *orally*; however, phonics relates to print symbols that represent the sound structures and grows out of alphabetic knowledge (Justice & Schuele, 2004).

Numerous studies have demonstrated the importance of phonological awareness. A study by Noble, Farah, and McCandliss (2006) showed that acquisition of phonological

awareness was correlated with a decrease in SES-related differences in reading. Another longitudinal study by Singleton, Horne, and Thomas (1999) used computer-based screening measures to study the performance of children on phonological awareness tasks. The results were highly predictive of the variance in reading on standardized tests a year after (Singleton et al., 1999). Another longitudinal study found that phonological awareness is a unique significant predictor of reading, writing, spelling, mathematics and science when assessed at three stages (ages 7, 11, and 14) (Savage, Carless & Ferraro, 2007).

It is important to note that phonological awareness is an important yet insufficient indicator of proficient reading. Teaching phonological awareness as well as alphabet knowledge revealed better results, and teaching phonological awareness skills with phonics achieves the strongest outcomes for children (NELP, 2009). Thus, instruction can be more effective when a number of skills are combined.

Phonological Memory

The correlation between phonological awareness and early literacy skills is well established; however, the relationship between phonological memory and early literacy skills has recently become the focus of research. Findings from several studies have attributed the variance in reading differences among children to a specific aspect of short-term memory, the phonological loop (Passenger, Stuart & Terrell, 2000). According to the memory model, the phonological loop is composed of two interactive sections: a phonological store for receiving verbal input and an articulatory rehearsal system where the verbal information from the phonological store is rehearsed in avoidance of decay

over time (Baddeley, 2003). Phonological memory is measured by immediate recall of verbal material, like repetition of pseudo words (Lonigan & Shanahan, 2009).

Evidence from research has shown that phonological memory skills are strongly linked to later school success (Passenger, Stuart & Terrell, 2000) and that targeting phonological memory can improve reading skills. Maridaki-Kassotaki (2002) taught Greek kindergarteners to repeat lists of pseudo words throughout the school year, and found that children who received the training performed better than the control group in reading. A study by Service (1992) showed that the best predictor of learning English was how accurately the children were able to acquire unfamiliar words and that this correlates with language acquisition. Hence, efficient phonological memory can improve children's ability to maintain a precise representation of phonemes associated with the letters of words while decoding, therefore, dedicate more cognitive capacity for comprehending (Lonigan, Allan, & Lerner, 2011).

Rapid Automated Naming

Rapid automatized naming (RAN) is yet another component that is an indicator of early literacy skills. It involves naming a series of familiar items like colors, animals, letters, digits, or name as quickly as possible (Lervag & Hulme, 2009). Performance on RAN measures correlates with a variety of early literacy skills both concurrently and longitudinally (Furnes & Samuelsson, 2011). The dominant view that RAN taps a causal influence on reading skills was explained by Wimmer, Mayringer, and Landerl (2000) in that both RAN and reading relate to the speed with which retrieval of phonological representations from long-term memory takes place. However, this idea fits better with findings that RAN is a better indicator of reading fluency rather than accuracy

(Schatschneider, Fletcher, Francis, Carlson, & Foorman, 2004). Another explanation is that they “both depend on variations in the rate of development of a global speed of processing construct” (Lervag & Hulme, 2009, p: 1041).

An opposing view suggests that RAN is a controversial predictor of reading ability. While RAN proves to be a predictor of reading, little is known about whether RAN can predict spelling (Furnes & Samuelsson, 2011). The few studies that have investigated the association between RAN and spelling showed that RAN predicts spelling in English (Savage, Pillay & Melidona, 2008) but not Greek and German (Nikolopoulos, Goulandris, Hulme, & Snowling, 2006; Furnes & Samuelsson, 2011).

Oral Language

Children gain the needed oral language skills through everyday experiences to become proficient readers and writers. Oral language processes include various skills like “vocabulary (receptive and expressive), syntactic and semantic knowledge, and narrative discourse processes (memory, comprehension, and storytelling)” (NICHD Early Child Care Research Network, 2005, p:1). Researchers have presented evidence that oral language plays a critical role in reading development independent of phonological processes (Share & Leikin, 2004). However, the relationship between oral language and emergent literacy is not linear (Cabell, Justice, Konold & McGinty, 2011). The effect of language on code-related skills like phonological awareness and emergent writing is what mediates reading (NICHD Early Child Care Research Network, 2005). After the child masters the skills that form the foundation for later reading success, oral language then doesn’t only support decoding, but also comprehension (Shanahan & Lonigan, 2012).

During the early years, oral language skills have been shown to boost children's reading ability, including semantic, syntactic, and conceptual knowledge and narrative discourse (Storch & Whitehurst, 2002). In a study by Dickinson, McCabe, Anastasopoulos, Peisner-Feinberg, & Poe (2003), they found that vocabulary caused the same amount of variance as phonological awareness to reading, suggesting that oral language is important to a child's emergent literacy skills (Dickinson et al., 2003).

Research shows that language and literacy are two different constructs. Unlike literacy skills, oral language skills are acquired before formal schooling (Storch & Whitehurst, 2002). A child with a supportive HLE during the first year of life will grow up to have better receptive language and phonemic awareness by the age of five (Rodriguez & Tamis-LeMonda, 2011). Additionally, children with impaired oral language ability are at risk of developing reading difficulties (Carroll, 2013). Cabell et al. (2011) explain this claiming that language impairment inhibits full participation in literacy-related activities. Similarly, children with strong oral language skills capitalize their learning opportunities by being more likely to attend to and learn from literacy-related activities as well as elicit information from adults (Cabell et al., 2011). As a result, studies suggest that reading skills develop as a result of both oral and code-related skills (Storch & Whitehurst, 2002).

Writing

Whitehurst and Lonigan (1998) consider writing as an important emergent literacy component. Although reading has received more attention than writing in studies, both rely on the same skills (i.e. understanding the relationship between letters and sounds) (Carroll, 2013). According to NELP (2008), alphabet knowledge, phonological

awareness, name writing, and print knowledge are the four emergent literacy skills that predict a child's spelling skills. Children's ability to write their names predicts their print knowledge and alphabet knowledge yet not their phonological awareness (Welsch, Sullivan, & Justice, 2003). A longitudinal study of 259 preschool children along with their parents showed that children's conceptual knowledge of print predicted early spelling (Pinto, Bigozzi, Gamannossi, & Vezzani, 2009). Such studies show that children's ability to spell their own names is a reflection of their general knowledge about print and sounds. The results of a study on 296 preschool children revealed that print knowledge and letter-writing skills made significant contributions to name writing, while print knowledge, alphabet knowledge, and name writing predicted letter writing (Puranik, Lonigan, & Kim, 2012). Unlike Blair and Savage's (2006) study which showed that letter-sound knowledge and phonological awareness were strong predictors of children's name-writing skills, Welsch, Sullivan, and Justice (2003) reported that phonological awareness was not predictive of name writing. They instead claimed that letter-name recognition and print knowledge were predictors of name writing (Welsche, Sullivan, & Justice, 2003). Evidently, there is no consensus on what skills contribute to name writing and different skills seem to be related to name-writing skills depending on the study.

Print Awareness

The role of the environment has been regularly described as important to the development of emergent literacy. Children's interactions with print in various environmental contexts reveal a lot about literacy. Print awareness represents the ability to interact with and reflect on written language (Senechal, LeFevre, Smith-Chant, & Colton, 2001). This leads to understanding both the form and function of print, which is a

distinct skill from other metalinguistic and oral language skills (Senechal et al., 2001). This includes understanding of letters, rule of organizing print (left to right directionality in English), and concept of word (Piasta, Justice, McGinty, & Kaderavek, 2012). Print knowledge involves understanding the difference between pictures and print, letters and numbers, and other conventions of print (Puranik, Lonigan, & Kim, 2011). Hence, children's print awareness is a continuum of a highly contextualized understanding of print to de-contextualized and conventional awareness (Goodman, 1986).

A child's ability to differentiate between the various functions of print is an important first step towards acquiring emergent literacy skills (Storch & Whitehurst, 2002; Walpole, Chow, & Justice, 2004). Children who understand the functions and conventions of print is an indicator to acquiring letter-sound relationships (Puranik, Lonigan, & Kim, 2011). A study by Lonigan, Schatschneider, and Westberg (2008) showed that there is an average correlation between print knowledge and spelling. As a result, explicitly teaching children about print is a key ingredient in backing up their literacy development. Studies have clearly shown that children have to have certain emergent literacy skills in order to become proficient readers. But how can parents boost the development of these skills?

Home Literacy Environment (HLE)

Families can support their children's literacy development by providing them with literacy-related resources and activities long before they begin formal schooling (Han, 2010). The HLE to which children are exposed has significant influences on their emergent literacy development (Burgess, Hecht, & Lonigan, 2002). Children from a rich and stimulating HLE are more likely to profit from interactions with family members and

literacy-related activities (Tichnor-Wagner et al., 2015). The differing home literacy experiences account for the differences in emergent literacy skills of children (Tichnor-Wagner et al., 2015). Consequently, it is not surprising that a growing number of studies have documented the relationship between HLE and emergent literacy development (Weigel, Martin, & Bennett, 2006). Researchers have emphasized the role of home literacy practices that enable the language and literacy development of young preschool-aged children. In fact, past studies on HLE have described the implications of the different kinds of familiar support on the acquisition of emergent literacy skills which can be of great interest to parents and educators.

Making the concept of HLE clear involves discussing the factors that are included in the construct. The perception of the concept of HLE has been noticeably changing though the definition usually varies depending on the purpose and focus of the study (Burgess et al., 2002). Although previous studies have explored only a few measures of literacy practices like shared book reading, current studies have been stressing the importance of examining the multiple aspects of HLE (Bennett, Weigel, & Martin, 2002; Weigel et al., 2006). As a result, researchers suggest that a more inclusive approach to studying HLE should be adopted to allow for finding a stronger link between HLE and emergent literacy development, which is yet to be explained (Burgess et al., 2002).

Multiple aspects of HLE and literacy outcomes

Parents can support their children's emergent literacy acquisition by providing them with several types of literacy-related resources (Saracho, 2002). Components of the HLE include shared book reading, parental explicit teaching of reading and writing, access to age-appropriate resources, parental literacy beliefs, watching education TV

programs, rhyming, and parental engagement in literacy activities (Aram & Levin, 2002; Saracho, 2002). Similarly, literacy experiences that take place outside of the home like visiting a library or a neighboring museum also add to the child's literacy acquisition (Rodriguez et al., 2009).

It is important that age-appropriate literacy resources and materials be available in homes as they facilitate children's engagement in parent-child interactions and literacy related activities (Rodriguez et al., 2009). Such literacy materials may include selections of books, writing materials, educational toys, and computer. A study by Evans, Kelley, Sikora, and Treiman (2010) asserted that the family's scholarly culture- indicated by the number of books- notably affected the child's academic success. It should be noted that in addition to the number of books at home, everyday printed materials like newspapers or advertisements also provide children with literacy opportunities (Saracho, 2002). Park (2008) pointed out that the assessment of the number of books at home needs to be cautiously interpreted as it reflects the economic power of the family to purchase books. Additionally, the relation between access to computers and reading ability was found positive yet unclear if partly due to family's economic status (Weinberger, 1996).

Parent-child shared book reading is a prevailing aspect of HLE that has received attention (Curenton & Justic, 2008; Senechal & LeFevre, 2002). Indeed, scholars have provided both theoretical and empirical evidence of the benefits of engaging in shared book reading. Adult-child shared storybook reading's effect on oral language and emergent literacy development has been looked at in a number of studies (Justice & Pullen, 2003). Justice and Pullen (2003) claim that recurrent engagement in adult-child storybook reading allows for the successful transmission of literacy skills from adult to

child. Whitehurst et al. (1998) state that parents can engage in two types of shared storybook reading- dialogic reading and print referencing. Dialogic reading refers to parental use of interactive behaviors as they read with their children like asking open-ended questions, offering feedback to children's answers, and following children's interests (Chow & McBride-Chang, 2003). It is found to be more effective when used in combination with phonics instruction (Justice & Pullen, 2003). Print referencing is similar to dialogic reading in that it involves adult-child interactions; however, the former involves asking questions and making connections about print and tracking the print while reading (Ezell, Justice, & Parsons, 2000).

Correlational studies suggest that shared book reading exposure is linked to better print awareness, reading comprehension, and oral language skills (DeBaryshe, 1993). A meta-analysis conducted by Bus, de Jong, van Ijzendoorn, and Pellegrini (1995) on parent-child book reading showed that the higher frequency of parent-child reading led to better child acquisition of emergent literacy skills and overall reading achievement. During shared book reading, children have opportunities to improve their vocabulary skills, which in turn affects their later reading skills (Senechal & LeFevre, 2002). For example, preschoolers' exposure to storybooks was a significant predictor of their scores on receptive and expressive vocabulary measures (Senechal, LeFevre, Hudson, & Lawson, 1996). Several studies have shown that most socioeconomically disadvantaged children enter kindergarten with language and literacy skills that are not as developed as their peers of higher SES (Aulls, 2003). Consequently, children from low SES backgrounds who do not take part in shared book reading with their parents were reported to grow up to become passive students (Kelly, 2008).

In a more comprehensive view of home literacy, parental involvement has been increasingly emphasized as another important aspect of the HLE. Research has shown that sustained parental involvement positively correlates with reading achievement, test scores, motivation, engagement, and rates of graduation (Steiner, 2014). In a longitudinal study by Senechal and LeFevre (2002), parental involvement in teaching children to read and write was related to emergent literacy skills, which in turn predict word reading in later grades. Senechal, LeFevre, Thomas, & Daley (1998) claim that children can be subject to two types of literacy activities at home: informal and formal. Informal activities expose children to the meaning beyond the printed words, whereas formal activities involve teaching explicit reading and spelling skills (Senechal & LeFevre, 2002). These types of involvements are reflections of parental beliefs about literacy and the HLE which contribute to higher achievement results (Carroll, 2013).

DeBaryshe (1995) found that parents with literacy beliefs consistent with current emergent literacy models were more likely to provide their children with varied and frequent joint reading activities. The study also showed that parents who believed that it is the school's responsibility rather than theirs to prepare their children for school were more likely to report challenges (DeBaryshe, 1995). Still, individual differences in parental literacy beliefs affect parents' own behavior. For example, in a study by DeBrayshe, Binder, and Buell (2000), parents who had a whole language approach belief were found to be more likely to engage in modeling reading and writing to their children. The children of such parents had a developed ability to write. However, parents who had a phonics approach to literacy involvement had children with more developed vocabulary, grammar, decoding, and encoding (DeBaryshe et al., 2000). Such a study supports the

hypothesis that the approach parents adopt in how they teach their children to read, if they do, is related to the beliefs they have on reading, which consequently affects children's literacy skills.

However, the different types of experiences with print do not have to be mutually exclusive (Senechal et al., 1998). Parents might focus on content of the story and simultaneously encourage their children to pay particular attention to printed letters. Also, parents are more likely to engage their children in explicit literacy activities as children approach formal schooling years (Hood, Conlon, & Andrews, 2008). Even with the increasing effort to study the formal aspect of home literacy experiences, several issues remain unexplored when compared to the exhaustive investigation made on shared book reading (Senechal & LeFevre, 2002).

Parents' own literacy practices and their association with children's literacy and language development have been examined as yet another component of the HLE. Burgess et al. (2002) characterize home literacy experiences as active and passive HLEs based on the child's role in learning. Unlike an active HLE which involves a child's direct participation in literacy-related activities, a passive HLE involves a child's indirect learning through observing adult models. A study by Van Steensel (2006) showed that having parents or siblings at home who frequently read for personal motives affects children's performance on a vocabulary test. Van Steensel explained this finding by stating that children's vocabulary attainments is positively impacted by adults who engage in personal literacy activities used richer vocabulary (2006). Yet some finding on parents' own reading practices and their influence on their children reading have been challenged. A study by Payne, Whitehurst, and Angell (1994) reported low correlations

between parents' reading practices and their children's language acquisition. This suggests that active literacy practices that involve children as major participants benefit children much more than passive ones.

Although many previous studies on HLE have mostly investigated the frequency of literacy-related activities, a growing number of studies has been dedicated to the quality of HLE (Bingham, 2007). In a study by Roberts, Jurgens, and Burchinal (2005), qualitative measures of home literacy practices as well as the frequency of shared book reading showed that the overall quality of the HLE was a strong predictor of emergent literacy skills.

Studies have revealed that the quality of parent-child literacy interactions strongly affects the development of emergent literacy skills (Bingham, 2007). Sonnenschein and Munsterman (2002) found that engaging and enjoyable reading interactions significantly improved young children's reading motivation. Similarly, a study by Baker, Mackler, Sonnenschein, and Serpell (2001) revealed that first graders who engaged in affective storybook interactions with parents indicated the frequency of grade-3 reading of chapter books. Such results suggest that enjoyable and high-quality parent-child interactions facilitate young children's literacy learning and motivate them toward literacy.

Baker et al. (2001) claimed that the type of talks parents use during book reading helps children understand the quality of reading interactions. They state that the nature of the parents' remarks used when reading to their children can be classified into talk about content and talk about print (2001). Parents were found to be more likely to engage in talk about text meaning which was further classified into immediate content talk and non-immediate content talk (Sonnenschein & Munsterman, 2002; Baker et al., 2001).

Immediate content talk focuses on explicit facts in the text, whereas non-immediate context talk goes beyond the content in the text (i.e. make predictions about the story) (Han, 2007). Additionally, types of talk during shared book reading were found to be related to the affective quality of shared book reading (Baker et al., 2001). Their study showed that parents who talked more to their children about non-immediate content created a more affective atmosphere than parents whose talk focused on basic skills. Still, it is important to note that other factors like the type of text and how familiar is the book might affect the type of talk used during shared book reading (Neuman, 1996). This implies that shared book reading takes place between parent, child, and text. For instance, children paid more attention to rhymes and rhythms in familiar and predictable stories than those reading narrative texts and focused on the meaning aspect.

In conclusion, parental beliefs, the quality of the HLE, and parent-child storybook reading all play a part in how children develop their literacy and language skills. However, the mentioned factors were mostly considered in families of medium to high SES. For the family's socioeconomic status influences children's language development (Hartas, 2011).

SES, HLE, and Literacy Outcomes

A high level of variability in emergent literacy skills exists between children of low SES when compared to children from medium to high SES (Chatterji, 2006). Several studies have established a link between low SES, HLE, and poor literacy skills. For example, Aikens and Barbarin (2008) examined the contribution of the home environment, along with the neighborhood and school context, as one of the settings that explains how SES can affect reading achievement. Also, Aram, Korat, Saiegh-Haddad,

Hassunha Arafat, Khoury, & Hija (2013) conducted a study on the role of SES, HLE, and maternal mediation of writing in Arabic-speaking kindergarteners and found that children whose parents are more educated and hold more skilled professions demonstrate better early literacy skills. Hartas (2011) explains that the effect of SES on language skills is due to parents' decisions on how they allocate resources like time and money. The amount of time the parents spend with their children on literacy activities as well as the amount of money they spend on educational activities and materials have the potential to improve children's emergent literacy skills (Gershoff, Aber, Raver, & Lennon, 2007).

Evans (2004) explains that children living in low SES homes not only have less exposure to books, but also have parents who are less involved in their schooling. Similarly, parents with higher levels of education were reported to read much more frequently to their children than those with lower levels of education (Froiland, Powell, Diamond & Son, 2013). Research indicates that the number of books at home is positively related to shared reading frequency (Bracken & Fischel, 2008) for books provide a rich medium for shared book reading and makes it possible for children to be exposed to more vocabulary words (Froiland et al., 2013). Research on family variables and emergent literacy skills show that shared book reading is an effective way for parents of low SES to stimulate their children's emergent literacy skills (van Kleeck, 2008). Parents who frequently read to their children help familiarize them with how books work, expose them to print, and share more vocabulary words (Whitehurst & Lonigan, 1998).

Mistry, Biesanz, Taylor, Burchinal, & Cox (2004) claim that income has a larger effect on children living in poverty than those not living in poverty. They also state that this relationship weakens as income increases (Mistry et al., 2004). They explain this

stating that poverty places stresses on parents that influence the family system including the parents' mental health, social integration, and type of parenting and involvement (Mistry et al., 2004). Other studies have demonstrated that the correlations between poverty and child academic achievement are stronger than those associated with gender or ethnicity (Duncan & Brooks-Gunn, 2000). For example, when compared to Caucasian peers, African American children showed significant gaps which were associated with low SES rather than gender or ethnicity (Chatterji, 2006).

Certain measures may have different reliabilities, for large measurement errors account for lower correlations (Mol & Bus, 2011). Still, the studies on HLE and its effect on children living in multiple risk factors like PRLs seem to be limited, especially in the youngest age group. Those available mostly rely on parents for information which tends to be unreliable (Gustafsson, Hansen & Rose, 2013). This also puts the study at risk of systematic bias as parents rely on selective memory and deny any problems or difficulties that their children might struggle with. However, it remains difficult to assess the validity of the data collected from parents. A more appropriate approach to collecting data on HLE would be using a combination of questionnaires, observations, and interviews as proposed by Anders et al. (2012).

Chapter 3

Methodology

This chapter aims to describe the methodology of the research. It includes how the research questions were addressed and which tools were used. It also includes a summary of the sample, predictor and child outcome measures, and the procedure.

Research Questions

The first research question explored the HLE of Palestinian families with children aged 4-6 and the impact on children's emergent literacy skills. This was done using parental questionnaires of the HLE and parental involvement (HLEQ) in emergent literacy activities and assessments of children's emergent literacy skills including measures of alphabet knowledge, print awareness, and oral language. This research question addressed the following issues: quality of shared book reading, children's book exposure, and parental teaching of emergent literacy skills while controlling for child age. Spearman correlation coefficient was calculated to determine the relationship among all independent variables to determine whether there is a relationship among the measures. Correlation coefficients were also calculated to determine the relationship between the predictor and child outcome variables. Descriptive analyses of correlations within the tools and among HLEQ and emergent literacy skills (TROLL and DIBELS) are discussed in Chapter 4.

The second aim of the study was to examine the role of parents' level of education in predicting the HLE and children's emergent literacy outcomes. This was also measured

using the parental questionnaire. Correlation coefficients were used to numerate the relationship between levels of education and TROLL and HLEQ respectively. This was addressed by comparing the scores on emergent literacy tasks. Descriptive and inferential analyses were used to discuss the data.

The third question investigated whether children enrolled in preschool developed better emergent literacy skills than those not enrolled. Correlational analysis was used to determine the relationship. Average scores were compared on both TROLL and HLEQ and discussed using descriptive analyses.

Hence, the study is correlational and aims at explaining the relationship between HLE and, a more complex variable, emergent literacy. Another purpose is to predict emergent literacy outcomes when the independent variable is known.

The theoretical basis for predictions tested in the current study were based on Senechal and LeFevre's (2002) model. Consistent with their theory, it was predicted that book exposure was expected to predict receptive vocabulary and oral expression; however, the quality of shared book reading and parental literacy teaching would predict print awareness and alphabet knowledge yet not oral language skills.

The model also hypothesized that storybook exposure is not predictive of emergent literacy skills including print knowledge and alphabet knowledge for book exposure in itself is not enough to promote specific emergent literacy skills. Instead, acquisition of alphabet knowledge and print knowledge requires parental guidance through literacy teachings distinct from shared book reading. Book exposure would only

predict oral language because preschoolers are exposed to language through books, yet print does not necessarily have to be the focus of these interactions.

Sample

Purposive sampling was used to select twenty 4-6-year-old children from 3 preschools located in Burj El-Barajneh Camp located in the southern suburbs of Lebanon's capital Beirut. Burj El-Barajneh Camp was selected because it is the largest refugee camp in Beirut. Purposive sampling is used when the researcher selects a sample that s/he believes would provide the data needed (Fraenkel, Wallen, Hyun, 2012).

Purposive sampling was utilized to select children who are high and low achievers and whose parents have varying degrees of educational attainment. Children were selected based on teacher input and referrals. Eight students who vary in their achievement levels were selected as per teacher suggestions so that the sample would be representative of the population. All children were selected from families who are PRLs living in Burj El-Barajneh Camp. Although UNICEF (2013) stated in their report that preschool education is provided to only half of pre-school aged PRLs, preschool administrators and NGO officers claimed that very few children are not enrolled and that most of the ones not enrolled are Syrian and not Palestinian. As a result, only 4 boys and 4 girls who have not attended preschool were selected. At the time of data collection in June 2017, 50% of the children were 4-5 years old and 50% of the children were 5-6 years old. As for the highest attained parental levels of education, 4 (25%) attained some elementary school, 1 graduated from elementary school (6.25%), 4 (25%) attended some high school, 5 (31.25%) graduated high school, 1 (6.25%) attended some college, and 1 (6.25%) had graduated from college. The parents or guardians of these children filled out the TROLL

and HLEQ. Parents were offered the option of having the HLEQ and TROLL read to them.

Table 1
Demographics Descriptives

	Mean (N)	%
Gender of Child		
Male	8	50
Female	8	50
Age of Child		
4-4.5 Years Old	4	25
4.5-5 Years Old	4	25
5 Years or Older	8	50
Highest Level of Schooling Completed by Parents		
Some Elementary School	4	25
Graduated from Elementary School	1	6.25
Some High School	4	25
Graduated from High School	5	31.25
Some College	1	6.25
Graduated from College	1	6.25
Parents' Age		
22-30 Years Old	9	56.3
31-40 Years Old	5	31.3
41-50 Years Old	1	6.3
Over 60 Years	1	6.3

Predictor Measures

HLE

After collecting input from the teachers on who the lowest and highest achieving students are, parent participants were asked to complete a family reading questionnaire, the Home Literacy Environment Questionnaire (HLEQ) (Appendix A) (Stoiber & Gettinger, 2008). The HLEQ contains six subscales: core reading development subscale: Core Reading Development (CRD); parental literacy teachings subscales: Shared Book Reading Activities (SBRA) and Parental Early Literacy Behavior (PELB) and child

literacy interest subscales: Child Reading Interest (CRI), Child Book Reading Behavior (CBRB), and Child Early Literacy Behavior (CELB) (Carroll, 2013). The questionnaire also includes items on parents' demographics (i.e. age, marital status, income, education).

The HLEQ aims to be used as a predictive measure of early literacy skills (Carroll, 2013). It is a measure that was created specifically for the Exemplary Model of Early Reading Growth and Excellence (EMERGE) to examine parental perceptions of their involvement in the HLE (Stoiber & Gettinger, 2011). Parents are expected to answer questions on a 4-point Likert scale (1= never, 2= few times, 3= sometimes, 4= daily) (Brittnacher, 2014). The HLEQ has multiple-item scale consistency- indicating reliability scores that range between minimally adequate and strong reliability (Carroll, 2013).

There are several methods to assess early literacy skills which include diagnostic and informal assessments and screening (Lonigan et al., 2011). Diagnostic assessments are the most reliable and valid of all measures; however, they are both costly and time-consuming and can only be administered by trained professionals. Hence, they are usually replaced with screening measures that are considered brief and cost-effective diagnostic assessments (Lonigan et al., 2011). They can also be administered by an individual with minimal training.

Child Outcome Measures

DIBELS: There are currently few available screening tools to assess children's early literacy and oral language skills. One of these measures is the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) which was administered to assess early literacy skills. DIBELS Benchmark Assessment Materials- kindergarten level are available online

for researchers and educators to use for free (Good & Kaminski, 2007). It is composed of indicators of the basic early literacy skills: phonemic awareness (Initial Sound Fluency (ISF) and Phonemic Segmentation Fluency (PSF)), and alphabetic principle and phonics (Nonsense Word Fluency (NWF)) (Good & Kaminski, 2015). Each of the DIBELS measures has specific instructions for administration and scoring which allows for educators to be better able to compare students. The purpose of the DIBELS Benchmark goals is to provide educators with the minimum levels of performance that children need to be considered on the right track of becoming a proficient reader (University of Oregon Center on Teaching and Learning, 2008). DIBELS is based on measurement procedures similar to that of Curriculum-Based Measurement (CBM), and its cut scores are research-based and criterion-referenced (Matlock, 2013).

The reliability and validity of DIBELS was examined by the Early Childhood Research Institute on Measuring Growth and Development in a four-year longitudinal study (Good et al., 2004). They reported that all DIBELS measures have an estimated reliability in the .90s. DIBELS measures were also compared to the Woodcock-Johnson Broad Reading Cluster and found to be valid (Good et al, 2004).

TROLL: Teacher Rating of Oral Language and Literacy Skills (TROLL) (Appendix B) which is a research-based tool developed based on the skills identified as significant in the New Standards for Speaking and Listening (Dickinson, McCabe & Sprague, 2001). It was designed to be used by teachers for instructional decisions, progress monitoring, and communicating with parents (Dickinson, McCabe & Sprague, 2003). TROLL was also designed to be used with parents as a source of rating which provides multifaceted input on the child's early language and literacy skills. Hence, for

the purpose of the study, TROLL will be used as a parent rating-scale since part of the sample does not attend preschool.

TROLL is made up of 25 questions to be answered on a 4-point scale (Morrow, Roskos & Gambrell, 2016). The assessment yields sub scores in reading, writing, oral language, and total score which will be converted to a percentage of each child (Morrow, Roskos & Gambrell, 2016). It takes up to 10 minutes to complete and does not require any prior training. The instrument was found to be both reliable and valid as it significantly correlates with other assessments of oral language (McCabe et al., 2010).

Procedure

Three preschools were contacted for consent to talk to the teachers. Classroom teachers were asked to provide the names of the lowest and highest achieving male and female students. These students' parents were first asked by the preschool for their oral consent to be contacted by the investigator to fill in a consent form in Arabic that consents participating in "the Home Literacy Environment Questionnaire" and "Teacher Rating of Oral Language and Literacy".

Both HLEQ and TROLL were administered after being translated, back translated, and piloted in Arabic. Parents were given the option of either completing the questionnaire and rating scale by themselves or having them read to them. The parents were also asked to sign a parental consent form that allows administering DIBELS (The Dynamic Indicators of Basic Early Literacy Skills) to their children. Children were similarly asked to provide their oral assent to participating in the study. They underwent

an assessment to collect data on their performance in phonological awareness, print concepts, alphabet knowledge, and language (Justice & Kaderavek, 2004) using DIBELS.

The HLEQ required around 20 minutes to be filled when read by the investigator and around 15 minutes when read by the parents themselves. TROLL required around 10 minutes to be filled when read by the investigator and around 7 minutes when read by the parents themselves. Regarding DIBELS, LNF, PSF, and NWF allowed children 1 minute to produce as many answers as they can, so each subtest required a total of 2-3 minutes to be administered. ISF, however, required around 3 minutes in total as it allows children as much time they require to complete the task.

Parents were contracted via phone to set up for a time and ask for directions to their houses. The investigator was accompanied by a Palestinian woman who resides in the camp for guidance on how to move around the camp. Data collection required around 2 weeks with an average of 8 family visits per week. The duration of each family visit was around 1 hour and a half.

Predictor Measures

Home Literacy Environment: The HLEQ functions as one of the predictor measures. Stoiber, Gettinger, VanGrisenven, Hernandez, and Fenelon (2011) had used the HLEQ in their study and reported that parental involvement in both CBRB and CELB showed significant associations with scores on literacy measures.

The HLEQ contains 6 subscales (see Appendix A). The Child Reading Development subscale (CRD) included questions on the number of children's books, frequency of reading to the child, library visits, and other literacy-related activities. For

instance, parents reported how often they read books to their child at bedtime in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily).

The Shared Book Reading Activities subscale (SBRA) includes questions on how parents involve their children in shared book reading activities and what dialogic reading techniques do they use. For example, parents reported how often they point to letters and name them while reading with their children in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily).

The PELB subscale examines the literacy activities parents engage in but are not part of shared book reading. Parents were asked questions like how frequently they made up rhyming words with their children in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily). The SBRA and PELB subscales measure formal reading exposure as well as the quality of parental literacy teaching.

The CRI subscale measures how interested children are in reading books. For instance, parents reported how often their children read or looked at books by themselves in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily).

The CBRB subscale is used to measure how engaged the child while being read to. For example, parents specify how often their children find words with the same letter as their names in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily).

The CELB subscale measures children's interest in literacy activities other than shared book reading activities. For example, parents answered questions on how

frequently their children drew or wrote in a typical week on a four-point scale (1=never, 2=few times, 3=sometimes, and 4=daily).

The CRI, CBRB, and CELB subscales are used to study the relation between child interest in reading-related activities and emergent literacy and oral language outcomes. The CRI subscale assesses children's willingness to pretend to read a book or be read to. The CBRB subscale, however, addresses how engaged is the child while being read to. The CELB subscale measures the children's interest in engaging in literacy-related activities other than shared book reading activities. This subscale was used to consider how interest, or the lack of it, may affect to which degree parents engage their children in literacy activities.

HLEQ test had 6 subscales and 52 items categorized into the different subscales (refer to Appendix A for detailed questionnaire). The scale was unified for each item based on a 4-points scale (1 to 4 points for Never to Daily respectively). Total scores were calculated by adding individual scores on these 52 scales; total scores vary from a minimum of 20 to a maximum of 208 (Appendix A). The score of each subscale and total HLEQ was then unified on a 100- points scale in the same way it was done for TROLL test ($(\text{Test score}) / (\text{maximum possible score}) \times 100$).

Child Outcome Measures

The TROLL contains three subscales: reading, writing, and language use. Most, but not all, of the items are assessed on a four-point rating scale. Total scores range from 24 to 98. Percentiles reported for the norming sample were compared to TROLL total scores (Dickinson et al., 2003).

For TROLL, the tool had 3 subscales and 25 items, each measured on a scale that is mainly based on a 4-points scale yet can sometimes slightly vary (refer to Appendix B for detailed scoring). The total score of each subscale and total of all subscales can be easily calculated by adding each individual score. These scores were then further unified on a 100-point scale by dividing them with the maximum possible scores of each subscale ($(\text{Test score})/(\text{maximum possible score})\times 100$).

The DIBELS ISF, Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF), and Initial Sound Fluency (ISF), and Words Read Correctly (WRC) subtests were administered.

In the LNF subtest, children are shown randomly arranged upper and lowercase letters on a sheet of paper and asked to name as many of them as they can. Low scores on LNF indicate a higher risk for poor reading outcomes but do not correspond to the “big idea” of early literacy (Good & Kaminski, 2007). The number of letters correctly named per minute is the LNF score.

The PSF subtest involves orally presenting the children with words of 3-4 phonemes. The children are prompted to say the individual phonemes for each of the words. The total PSF score is the total number of phonemes correctly identified in one minute.

NWF, the test of alphabetic principle, involves having children read VC and CVC nonsense words. This reflects the child’s knowledge of letter-sound correspondence and ability to blend letters into words. The total NWF score is the total number of correctly produced letter sounds in one minute.

The ISF subtest assesses the ability to recognize and produce the initial sounds in orally presented words. The child produces or points to the beginning sounds in pictures. The total score is the product of the total correct responses and 60 over the time required to complete the task.

The WRC subtest assesses the ability to read VC, CV, and CVC words correctly. The child sounds out the word and is scored on the Correct Letter Sounds (CLS) produced. The total score on WRC is the total number of correctly produced words.

Chapter 4

Results

This chapter addresses the results of the study. Results are organized as follows:

- (1) correlations among variables, HLEQ and DIBELS, HLEQ and TROLL, (2) correlations among preschool enrollment and HLEQ, DIBELS, and TROLL, and (3) correlations among parents' education and HLEQ.

Data Analysis

The standard deviations and means were calculated for predictor variables and child outcome variables in Table 1. The correlations among the predictor variables from HLEQ and child outcome variables are displayed in Table 3, Table 4, and Table 5.

Table 2
Means and Standard Deviations

	<i>Variable</i>	Mean	SD
TROLL	<i>Oral Language</i>	83.20	12.12
	<i>Reading</i>	73.81	18.03
	<i>Writing</i>	65.63	19.98
	<i>Total</i>	74.87	15.15
HLEQ	<i>PELB</i>	50.59	13.66
	<i>CBRB</i>	59.38	20.11
	<i>CELB</i>	73.44	14.61
	<i>SBRA</i>	55.53	17.26
	<i>CRI</i>	65.31	18.12
	<i>CRD</i>	57.42	13.79
DIBELS	<i>LNF</i>	13.63	10.61
	<i>ISF</i>	2.97	1.01
	<i>PSF</i>	8.63	6.93
	<i>CLS</i>	3.75	5.54
	<i>WRC</i>	0.56	1.09

Descriptive analyses were computed on both dependent and independent variables as well as the demographic questions gathered. Spearman correlation coefficients were computed among predictor and independent variables to determine any correlations.

The strength of association between the two variables is defined in the below table.

ρ	Strength of association
-1	Perfect negative correlation
From -1 to -0.75	Strong negative correlation
From -0.75 to -0.25	Moderate negative correlation
From -0.25 to 0	Weak negative correlation
0	No correlation
From 0 to 0.25	Weak positive correlation
From 0.25 to 0.75	Moderate positive correlation
From 0.75 to 1	Strong positive correlation
1	Perfect positive correlation

Home Literacy Environment and Emergent Literacy and Oral Language Outcomes

Correlations among Predictor and Child Outcomes

All correlations among the independent variables are found to be strongly positive among the HLEQ subscales (Table 3.1). Strong correlations are noted between Child Reading Interest and Parental Early Literacy Behavior ($r=.793$), Child Reading Interest and Shared Book Reading Activities ($r=.782$), Child Reading Interest and Child Book Reading Behavior ($r=.829$), Child Early Literacy Behavior and Shared Book Reading Activities ($r=.794$), and Child Book Reading Behavior and Child Early Literacy Behavior ($r=.789$). Correlations among TROLL scores in Table 4 indicate strong correlations except among Reading and Oral Language. Correlations among DIBELS scores (Table 5) are also found to be strong except for Phoneme Segmentation Fluency and Letter Naming

Fluency ($r=.649$), Initial Sound Fluency ($r=.643$), and Non-Word Fluency- Correct letter Sounds ($r= .565$) respectively.

Table 3
Correlations for Predictor Variables (HLEQ)

	CRD	PELB	SBRA	CRI	CBRB	CELB
CRD	1.000	0.657	0.749	0.671	0.443	0.472
PELB	0.657	1.000	0.593	0.793	0.574	0.677
SBRA	0.749	0.593	1.000	0.782	0.671	0.794
CRI	0.671	0.793	0.782	1.000	0.829	0.788
CBRB	0.443	0.574	0.671	0.829	1.000	0.789
CELB	0.472	0.677	0.794	0.788	0.789	1.000

Table 4
Correlations for TROLL

	Oral Language	Reading	Writing	Total Score
Oral Language	1.000	0.654	0.807	0.825
Reading	0.654	1.000	0.866	0.954
writing	0.807	0.866	1.000	0.937
Total Score	0.825	0.954	0.937	1.000

Table 5
Correlations for DIBELS

	LNF	ISF	NWF- CLS	NWF- WRC	PSF
LNF	1.000	0.791	0.772	0.837	0.649
ISF	0.791	1.000	0.812	0.812	0.643
NWF- CLS	0.772	0.812	1.000	0.814	0.565
NWF- WRC	0.837	0.812	0.814	1.000	0.871
PSF	0.649	0.643	0.565	0.871	1.000

HLEQ and DIBELS

Tables 6 and 7 display the correlations between the predictor variable and child outcome variables. The correlations among HLEQ and DIBELS in Table 6 suggest moderate to strong correlations. Correlations that were strong and found to be significant include the following: Child Reading Interest and Letter Naming fluency ($r=.902$), Child Book Reading Behavior and Letter Naming Fluency ($r=.79$), Child Early Literacy

Behavior and Letter Naming Fluency ($r=.804$), and Child Book Reading Behavior and Non-Word Fluency- CLS ($r=.762$). All other correlations are moderate except for a no correlation between Child Reading Development and Phoneme Segmentation Fluency ($r=.059$).

Child Reading Behavior is the factor that represents the book exposure variable. It is weakly to moderately correlated to DIBELS scores. No relationship exists between CRD and PSF. Both parental literacy teachings subscales (PELB and SBRA) are found to be moderately correlated with all DIBELS scores. Child literacy interest subscales (Child Book Reading Behavior, Child Early Literacy Behavior, and Child Reading Interest) have the highest correlations with DIBELS scores that range between high moderate to strong.

Table 6
Correlations between HLEQ and DIBELS

		DIBELS				
		LNF	ISF	PSF	NWF-CLS	NWF-WRC
HLEQ	CRD	0.478	0.427	0.059	0.282	0.270
	PELB	0.695	0.399	0.347	0.561	0.403
	SBRA	0.701	0.574	0.309	0.517	0.576
	CRI	0.902	0.678	0.603	0.692	0.555
	CBRB	0.790	0.706	0.693	0.762	0.650
	CELB	0.804	0.641	0.630	0.694	0.579

HLEQ and TROLL

The correlations between HLEQ and TROLL in Table 7 suggest moderate to strong positive correlations. Strong correlations are mainly noted between Child Book Reading Behavior and Reading ($r=.799$), Child Early Literacy Behavior and Reading ($r=.774$), Child Book Reading Behavior and Writing ($r=.767$), Child Early Literacy Behavior and Writing ($r=.851$), Child Book Reading Behavior and TROLL Total Score

($r=.765$), and Child Early Literacy Behavior and TROLL Total Score ($r=.8$). A weak positive relation is noted between Child Reading Development and Reading ($r=.248$).

Child Reading Development is weakly to moderately correlated to all DIBELS scores except PSF (weak correlation). Both parental literacy teachings subscales (PELB and SBRA) are found to be moderately correlated with all DIBELS scores. Child literacy interest subscales (CRI, CBRB, and CELB) are all moderately to strongly correlated with DIBELS scores.

Table 7
Correlations between HLEQ and TROLL

		TROLL			
		Oral Language	Reading	Writing	Total Score
HLEQ	CRD	0.269	0.248	0.401	0.297
	PELB	0.325	0.518	0.585	0.526
	SBRA	0.530	0.594	0.715	0.622
	CRI	0.426	0.715	0.745	0.717
	CBRB	0.519	0.799	0.767	0.765
	CELB	0.595	0.774	0.851	0.800

Preschool Enrollment and Emergent Literacy and Oral Language Outcomes

Table 14 shows that parents of and students enrolled in a preschool scored higher on all HLEQ subscales. The differences among the two groups are highest in CBRB and CRI and lowest in CRD and CELB. Table 9 shows that enrollment was moderately correlated with all subscales except SBRA and CELB.

Table 8
Means of HLEQ subscales in enrolled and unenrolled children

		HLEQ					
		CRD	PELB	SBRA	CRI	CBRB	CELB
Enrolled		61.72	57.50	63.85	75.00	70.25	81.88
Not Enrolled		50.26	39.06	41.67	49.17	41.25	59.38

Table 9
Correlations between enrollment and HLEQ

		Enrollment
HLEQ	CRD	0.303
	PELB	0.407
	SBRA	0.148
	CRI	0.577
	CBRB	0.433
	CELB	0.202

Table 10 shows that enrolled children scored higher than those unrolled on all TROLL tests. The main variance in mean scores was noted in Writing. Table 11 shows that all TROLL scores are moderately correlated with enrollment.

Table 10
Means of HLEQ subscales in enrolled and unenrolled children

		TROLL			
		Oral	Reading	Writing	Total
Enrolled		86.88	81.90	75.42	81.94
Not Enrolled		77.08	60.32	49.31	63.10

Table 11
Correlations between enrollment and TROLL

		Enrollment
TROLL	Oral Language	0.478
	Reading	0.589
	Writing	0.664
	Total Score	0.589

Table 12 shows that enrolled students' scores are higher on all DIBELS tests than those not enrolled. Children not enrolled scored 0 on Non-Word Fluency tests. Table 13 shows that DIBELS scores are moderately correlated with enrollment. The highest correlation is noted between enrollment and Letter Naming Fluency, whereas the lowest correlation is noted between enrollment and Non-Word Fluency- Words Read Correctly.

Table 12
Means of HLEQ subscales in enrolled and unenrolled children

		DIBELS				
		LNF	ISF	PSF	NWF CLS	NWF WRC
Enrolled		19.40	3.42	11.00	6.00	0.90
Not Enrolled		4.00	2.22	4.67	0.00	0.00

Table 13
Correlations between enrollment and DIBELS

		Enrollment
DIBELS	LNF	0.729
	ISF	0.547
	PSF	0.496
	NWF-CLS	0.649
	NWF-WRC	0.513

Parents' Level of Education and Emergent Literacy and Oral Language Outcomes

Figure 1 demonstrates the distribution of parents' educational levels. The highest percentage of parents' educational levels is "graduated from high school" (31.25%) followed by "some elementary school" (25%) and "some high school" (25%). Correlations show a strong correlation between parents' education and Child Reading Interest ($r=.752$). All other subscales are moderately correlated with parents' education.

Figure 1
Distribution of parents' educational levels

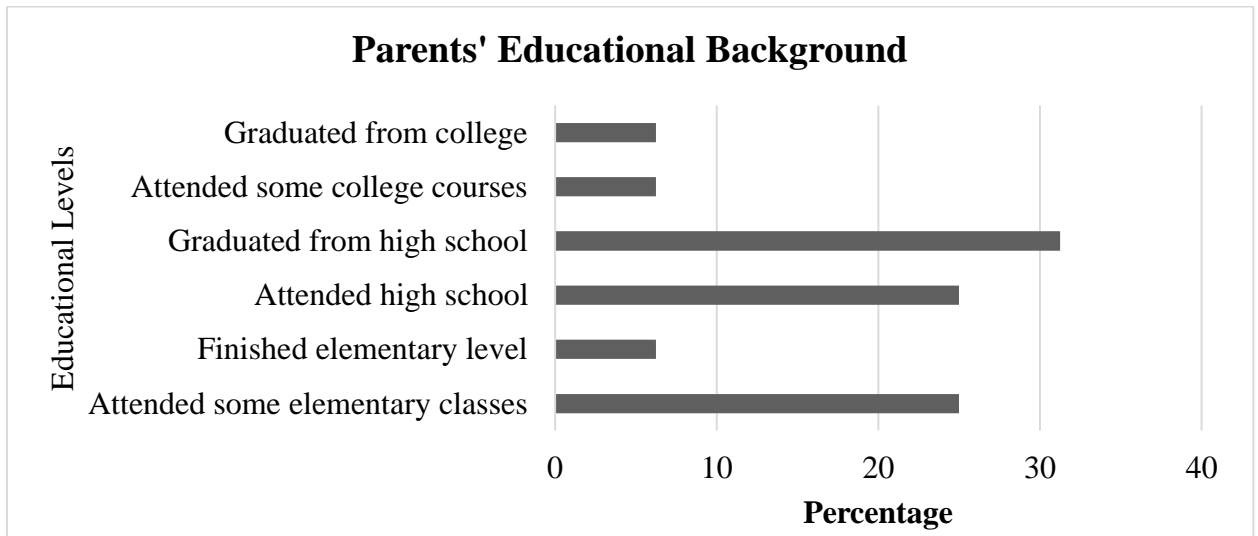


Table 14
Correlations between level of educational levels and HLEQ

		Level of education
HLEQ	CRD	0.483
	PELB	0.691
	SBRA	0.646
	CRI	0.752
	CBRB	0.716
	CELB	0.719

Chapter 5

Discussion

This chapter reviews of the research questions and hypotheses the results of the study discussed in relation to previous research.

Research Questions and Hypotheses

The primary purpose of this research was to take a further look at the HLE and how it can predict the emergent literacy skills of preschool-aged children. This question is particularly important as children's reading skills development and later academic success may be for the most part determined by the early HLE. Parental involvement at an early stage of children's literacy acquisition has been shown essential for academic success (Dearing, Simpkins, Krieder, & Weiss, 2006). It was predicted that parents' reports of children's book exposure and explicit teaching of emergent literacy skills during shared book reading activities or other settings would predict certain emergent literacy outcomes. It was also hypothesized that book exposure would solely predict oral language. However, parental teachings during and separate from shared reading would predict print awareness and alphabet and not oral language abilities. These predictions were based on previous studies with similar findings (Senechal, 2006; Hood et al., 2008).

This present study also sought to understand how home literacy activities may differ for families whose children are enrolled in preschools from those whose children are not; subsequently, showing the importance of early enrollment in preschools. This is especially important as most parents do not have the knowledge or appreciate the value of

applying literacy-related activities with their children. Finally, the study examined to which extent does the parents' level of educational attainment affect the different aspect of the HLE.

Discussion of Results

The first research question in the study investigated whether and to what extent book exposure, parental teaching of emergent literacy, and quality of shared book reading predict emergent literacy abilities. It was predicted that book exposure (CRD) only predicts language skills whereas parental teachings (PELB and SBRA) would predict phonological and phonemic awareness skills.

Correlational analyses results showed that book exposure was only moderately correlated with oral language skills. Child interest and parental teaching subscales; however, were more highly correlated with language skills than book exposure. Still, the fact that Child Reading Development has a strong relation with most subscales, especially Shared Book Reading Activities, highlights the importance of frequent shared book reading to facilitate children's development of their oral language skills. Prior research shows that the correlation between shared book reading and oral language skills development is important since oral language skills are highly linked to children's later reading skills (Griffin, Hemphill, Camp, & Wolf, 2004; Storch & Whitehurst, 2002).

The correlations between parental literacy teaching subscales (PELB and SBRA) and emergent literacy skills (Reading, Writing, and all DIBELS scores) indicate that parents' direct teaching of literacy skills (PELB) has a smaller effect on emergent literacy skills than indirect reading activities (SBRA). This is in accord with previous studies that

have investigated the importance of implicit rather than explicit teaching of literacy skills (Burgess et al. 2002; Van Steensel, 2006). Still other studies have stressed the importance of actively teaching literacy skills to young children in combination with quality shared book experiences (Bingham, 2007; Roberts, Jurgens, and Burchinal (2005). Similar to Hood et al.'s (2008) study which showed that parental teaching predicts children's print knowledge skills but not their oral language skills, this study shows a stronger relation between book exposure and literacy skills than language skills. A large number of key studies have shown the importance of incorporating a print-referencing style to shared book reading by using verbal and non-verbal referencing that actively orients children to print but not language (Justice & Ezell, 2002).

The book exposure subscale (CRD) had a moderately weak relation with both oral language and literacy skills. Although the relation was slightly higher with literacy than oral language skills, the difference is not big enough to draw the conclusion that one affects the other. There are several reasons behind this weak correlation. First, all families come from a low SES that doesn't permit them to buy books. Also, there is limited access to a public library in the camp. Additionally, parents whose children are enrolled at a preschool rely on them for exposing their children to books. As a result, children's language skills possibly develop as a result of child-adult interactions and watching educational programs on TV- which all parents reported doing with their children. Furthermore, most parents claimed that their children initiated asking questions and starting conversations after watching TV. A large number of parents reported on TROLL that watching educational TV programs affected their children's vocab. What's more is

that when asked about examples of some TV shows the children watched, they were mostly in Arabic with very few in English.

Another possible explanation would be the fact that children's oral language skills were the only skills scored as per parents' ratings on TROLL without using another assessment tool. This may have resulted in overrated or biased reporting of their children's oral language skills which might have played a role in weakening the correlation.

Child interest subscales were moderately correlated with book exposure and moderately to strongly correlated with parent teaching subscales. Among all subscales, child interest in reading, reading engagement and interest in learning literacy skills (CRI, CBRB, and CELB) were found to be the most positively correlated with alphabet knowledge (LNF) as well as Reading and Writing scores. The subscales were also found to be more predictive of oral language skills than other subscales. Child interest subscales were also found to be moderately correlated with Oral Language, the highest being with CELB. In addition, child interest subscales were all strongly correlated to each other, which is why they can be considered as one construct. Even though child literacy interest was not predictive of other emergent literacy predictors, the small correlation implies that children's attitudes towards book reading predicts later literacy results (Bracken & Fischel, 2008; Morgan, 2005; Scarborough & Dobrich, 1994). Child interest in reading is also correlated with other variables since children who are interested in reading are more likely to be read to and have an influence on mothers' reading behaviors (Morgan, 2005).

When examining the child interest subscales, the average score was 66%. This indicated that children expressed a high interest in reading. This interest exists regardless of children's scores on emergent literacy tests.

The second question examined whether being enrolled at a preschool predicted higher literacy outcomes. Enrollment yielded higher scores across all variables without exception. The largest differences in average scores between those enrolled and not enrolled in HLEQ were noted in Child Book Reading Behavior (70.25 and 41.25 respectively) and Child Reading Interest (75 and 49.17 respectively) whereas the lowest were in Child Reading Development (61.72 and 50.26 respectively) and Parental Early Literacy Behavior (57.5 and 39 respectively). This suggests that both enrolled and unenrolled children had limited access and exposure to books within the home environment. The fact that Parental Early Literacy Behaviors did not vary largely between those whose children were enrolled and those who weren't could be explained by the fact that most parents had acquired low levels of education with only 6.25% of parents having attained a university degree. These parents could be labeled conventional and not facilitative in light of the fact that they believe that there is little they could do to prepare their children for school and that it is the school's responsibility to teach their children (Weigel et al., 2006).

The largest differences in mean scores on TROLL were noted in Writing ($M_{\text{enrolled}}= 75.42$; $M_{\text{not enrolled}}= 49.31$) and Reading ($M_{\text{enrolled}}= 81.9$; $M_{\text{not enrolled}}= 60.32$) whereas the smallest was in Oral Language ($M_{\text{enrolled}}= 86.88$; $M_{\text{not enrolled}}= 77.08$). Correlational analysis showed that all TROLL scores were only moderately related to enrollment. This could be explained by the fact that parental teaching and shared book

reading subscales were also moderately related to Writing ($r= 0.585$ and $r= 0.594$). This implies that parents of unenrolled children were less likely to be involved in implicit or explicit teaching of literacy skills.

Correspondingly, children who are not enrolled scored much lower on tests of literacy (DIBELS) than those enrolled with a noticeable difference in their Letter Naming Fluency scores (19.4 and 4 respectively). This further supports that attending preschool is crucial to emergent literacy skills development and later literacy development.

The third question examined whether parents' educational level correlated with the home environment. Correlations showed that the higher the parents' level of education, the higher the child's interest in reading and literacy-related activities. Since child interest subscales were moderately to strongly correlated to most emergent literacy and oral language skills, the conclusion that a relation exists is likely.

Levels of education were least correlated with the book exposure subscale ($r= 0.483$). For even with parents with higher levels of educational attainment, they were still unable to afford buying books to their children. Also, CRD was found to be weakly correlated with most emergent literacy and oral language skills. Hence, it is safe to deduce that parental levels of education can only predict specific HLE aspects, especially CRI ($r=0.752$), which in turn affect children's emergent literacy and oral language skills.

Chapter 6

Conclusion

The last section includes implications for practice, future research possibilities, and limitations of the study.

Implications

The implications of the current study are discussed in this section. There is support as to why it is assumed that families of low SES do not value literacy, engage in few literacy activities, possess few books and reading materials, and do not encourage the development of their children's literacy skills (Van Steensel, 2006). On the other hand, this study suggests that parents from low SES do engage in literacy with their children. The average score on CRD is 61.72 which indicates that parents read to their children an average of 3-5 times a week. Also, the average scores on parental teaching subscales (PELB= 57.5 and SBRA= 63.85) also indicate engagement in literacy activities with children. This shows that parents sometimes engaged their children in shared book reading activities and implemented some dialogic reading techniques. This is of course done using textbooks provided by the preschools and other available printed material available at home. Parents also reported engaging their children in literacy activities that including rhyming words and singing songs on frequent basis.

The HLE is a key setting for literacy acquisition- especially in Palestinian camps contexts where the quality of preschool education available is highly traditional. As a result, parents can create opportunities for their children engage in literacy activities by

having them observe others engage in literacy experiences, engage in shared reading and writing experiences with others, and benefit from direct teaching of skills while engaging in literacy activities.

The fact that many Palestinian students drop out of school as they level up in school mainly due to academic difficulties might imply a background of language and literacy impairments since it is critical to academic success (Bashir & Scavuzzo, 1992; Bishop & Adams, 1990; Wolke, Samara, Bracewell, & Marlow, 2008). To avoid this problem, the role of parents lies in engaging their children in literacy experiences to be able to detect and prevent problems at early stages.

Reading to children is beyond merely reading the text, for it involves supporting children's understanding of language usage and complex events. Shared book reading experiences become more effective when adults engage the children. Adults would ask guiding questions that require their children to respond appropriately, which is important to their development of reading and comprehension skills (Stoiber & Gettinger, 2011).

There are numerous strategies that can be used to make shared book reading experiences more worthwhile. Neuman, Hood, and Neumann (2009) described in their study how a parent was able to scaffold her child's emergent literacy skills. The parents used environmental print in her surroundings as well as household objects by using a multisensory approach to engage her child in literacy experiences (Neuman et al., 2009). The simple strategies used by this parent are very engaging and can be applied by any parent who possesses basic knowledge of literacy.

Even though preschool curricula exist to help children prepare for formal schooling, parents must be appreciated and utilized as partners. This could happen by providing parents with enough knowledge, skills, and strategies on how to use the home environment to boost their children's literacy and language development even if they lack them themselves. For example, when asked about parent training, a head of one of the contacted preschools stated that some NGOs had brought in some speakers to discuss topics that were theoretical in nature rather than practical. Hence, training sessions on assessment, shared book reading strategies, phonics, vocab use, and language exercises could all be beneficial.

A basic checklist that allows parents to assess their children's cognitive, gross and fine motor, and language skills development would enable them to better understand their children's strengths and weaknesses. Parents would also benefit from being trained on using specific educational resources, games, and online programs. Parent activity packets could be sent by the preschool for guided practice. A small library containing English and Arabic books, both printed and online, could be opened within the camp premises with extension activities handed out along with each book. Mothers are especially likely to attend since most are unemployed.

Limitations

This study is an important source of information on the home literacy environment of Palestinian refugee children in Lebanon. Still, the study poses certain limitations for a variety of reasons. The first being generalizability of it since the sample size is small. This is partly because of time constraints and partly due to the fact that unlike what prior research claimed, very few children were out of preschools. When NGOs and preschools

were contacted for names of children who were both enrolled and not enrolled, I was only able to manage to get in contact with 8 children who were not enrolled in preschools. NGO representatives and heads of preschools claimed that children might be enrolled in preschools at a later age but never start formal schooling without at least one year of attending preschool. Therefore, for the studies' results to be generalized, a larger sample of preschool-aged children who are both in and out of preschool, is required both in and out of camps.

Another limitation of the study is that prior research studies on Palestinian refugees are scarce and mostly demographic in nature. Studies on the educational status of PRLs are general and derive data from various UN sources, which doesn't encompass ECE as part of its services or research.

Third, the assessment and intervention tools that were used were indicative of the general performance of the child, but did not provide a detailed report on specific emergent literacy skills. Also, children were not being tested on cognitive skills which didn't allow for further understanding of the cognitive nature of the children's performance.

Directions for Future Research

A huge part of children's development of literacy skills takes place before children start formal schooling. While this study did not suggest strong relations between the home literacy environment and emergent literacy and language skills, several other studies have yielded more significant results (Hood et. al, 2008; Senechal & Lefevre, 2002). The HLE's relation with Palestinian children's development of literacy and

language skills still needs further scrutinizing, especially with the increase in dropouts. The quality of preschool education provided to these children should be further considered.

Still, some individual parental factors might be influencing the types of activities they engage their children in and how effective they are. Future studies could be conducted to attempt to measure the influence of other parental factors that were not considered within the scope of this study. Also, this study did not inquire about the effect of siblings or other relatives on the development of children's skills. This consideration may provide further insight into the influence of other family members on children's literacy and language skills.

The emotional quality of parent-child interactions was not addressed in this study. However, the importance of this variable has been frequently discussed in prior studies (Roberts et. Al, 2005). In the case of Palestinian parents, it is possible that the parents' financial, social, and emotional states could be influencing the quality of these interactions and subsequently affecting the child outcomes. Hence, the emotional quality of adult-child interactions could be another avenue for further research.

More research also needs to be conducted with Palestinian refugees living outside of camps or of higher SES. This study paves the way for other researchers to take a closer look at the specific variables within the home environment that might be affecting children's language and literacy development. This allows for more implications of and recommendations for parental involvement in children's literacy development.

References

- Aikens, N. L. & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: the contribution of family, neighborhood, and school contexts. *Journal of Educational Psychology, 100*(2), 235–251.
- Al-Haroub, A. (2011). UNRWA school dropouts in Palestinian refugee camps in Lebanon: a qualitative study. Retrieved from https://www.aub.edu.lb/ifi/public_policy/pal_camps/Documents/research_reports/20111212ifi_pc_unrwa_research_report01_hroub_english.pdf
- Al-Nashif, N. & El-Khoury, S. (2012). Palestinian employment in Lebanon: facts and challenges. Retrieved from http://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_236502.pdf
- Anders, Y., Rossbach, H.-G., Weinert, S., Ebert, S., Kuger, S., Lehl, S., & von Maurice, J. (2012). Home and preschool learning environments and their relations to the development of early numeracy skills. *Early Childhood Research Quarterly, 27*, 231–244
- Anthony, J., & Lonigan, C. (2004). The nature of phonological awareness: Converging evidence from four studies of preschool and early grade school children. *Journal of Educational Psychology, 96*, 43–55.
- Aram, D., & Levin, I. (2002). Mother-child joint writing and storybook reading: relations with literacy among low SES kindergarteners. *Merrill-Palmer Quarterly, 48*, 202–224
- Aram, D., Korat, O., Saiegh-Haddad, E., Hassunha Arafat, S., Houry, R., & Hija, J. (2013). Early literacy among Arabic speaking kindergartners: The role of socioeconomic status, home literacy environment and maternal mediation of writing. *Cognitive Development, 26*(9), 1517–1536.
- Arnot, M. Schneider, C., Evans, M. Yongcan Liu, Y. Welply, O. & Davies-Tutt, D. (2014). *School approaches to the education of EAL students: Language development, social integration and achievement*. University of Cambridge: Bell Foundation.
- Aulls, M. & Sollars, V. (2003). The differential influence of the home environment on the reading ability of children entering grade one. *Reading Improvement, 40*(4), 164–178.
- Bachir, A. S. & Scavuzzo, A. Children with language disorders: Natural history and academic success. *Journal of Learning Disabilities, 25*(1), 53-70.
- Baddeley, A. (2003). Working memory and language: an overview. *Journal of Communication Disorders, 36*, 189–208.

- Baker, L., Mackler, K., Sonnenschein, S., & Serpell, R. (2001). Parents' interactions with their first-grade children during storybook reading and relations with subsequent home reading activity and reading achievement. *Journal of School Psychology, 39*(5), 415-438.
- Barnett, W. S. (2008). *Preschool education and its lasting effects: Research and policy implications*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved from <http://epicpolicy.org/publication/preschooleducation>
- Bennett K. K., Weigel, D. J., & Martin, S. S. (2002). Children's acquisition of early literacy skills: examining family contributions. *Early Childhood Research Quarterly, 17*, 295-317.
- Bingham, G. E. (2007). Maternal literacy beliefs and the quality of mother-child book-reading interactions: Associations with children's early literacy development. *Early Education and Development, 18*(1), 23-49.
- Bishop, D. V. & Adams, C. (1990). A prospective study of the relationship between specific language impairment, phonological disorders and reading retardation. *Journal of Child Psychology, Psychiatry, and Allied Disciplines, 31*(7), 1027-1050.
- Blair, R. & Savage, R. (2006). Name writing but not environmental print recognition is related to letter-sound knowledge and phonological awareness in pre-readers. *Reading and Writing: An Interdisciplinary Journal, 19*, 991-1016.
- Bowman, M. & Treiman, R. (2002a). Relating print and speech: The effect of letter names and word position on reading and spelling performance. *Journal of Experimental Child Psychology, 82*, 305-340.
- Bracken, S. S. & Fischel, J. E. (2008). Family reading behavior and early literacy skills in preschool children from low-income backgrounds. *Early Education and Development, 19*, 45-67.
- Brittnacher, L. (2014). The role of the personal and contextual factors on emergent literacy skills. Doctor's Thesis (Unpublished), The University of Wisconsin-Milwaukee, Milwaukee. UMI Number: 3646813.
- Burgess, S. R., Hecht, S. A., & Lonigan, C. J. (2002). Relations of the home literacy environment (HLE) to the development of reading-related abilities: A one-year longitudinal study. *Reading Research Quarterly, 37*(4), 408-426.
- Burns, P. L., Roe, B. D., & Ross, E. P. (1999). *Teaching reading in today's elementary schools*. Boston, M.A.: Houghton Mifflin Co..
- Bus, A. G., van Ijzendoorn, M. H., & Pellegrini, A.D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research, 64*, 1-21.

- Cabell, S. Q., Justice, L. M., & Kaderavek, J. (2008). *Emergent Literacy: Lessons for Success*. San Diego, CA, USA: Plural Publishing.
- Cabell, S. Q., Justice, L. M., Konold, T. R., & McGinty, A. S. (2011). Profiles of emergent literacy skills among preschool children who are at risk for academic difficulties. *Early Childhood Research Quarterly, 26*, 1–14.
- Carroll, C. J. (2013). The effects of parental literacy involvement and child reading interest on the development of emergent literacy skills. Retrieved from <http://dc.uwm.edu/cgi/viewcontent.cgi?article=1235&context=etd>
- Cervetti, G. N., Jaynes, C. A., & Hiebert, E. H. (2009). Increasing opportunities to acquire knowledge through reading. E.H. Hiebert (Ed.), *Reading more, reading better: Solving Problems in the Teaching of Literacy* (pp. 79-100). NY: Guilford.
- Chaaban, J., Ghattas, H., Habib, R., Hanafi, S., Sahyoun, N., Salti, N., Seyfert, K., Naamani, N. (2010). Socio-economic survey of Palestinian refugees in Lebanon. Retrieved from <https://www.google.com.lb/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjQ26fm17zQAhXGEywkHYd-A30QFggbMAA&url=http%3A%2F%2Fwww.unrwa.org%2Fuserfiles%2F2011012074253.pdf&usq=AFQjCNF0anOetcelGmOKpclYXXkP98yTrQ&sig2=RW6E-mCCWEctoMEwgR84tQ>
- Chaaban, J., Salti, N., Ghattas, H., Irani, A., Ismail, T., Batlouni, L. (2015), “Survey on the Socioeconomic Status of Palestine Refugees in Lebanon 2015”, Report published by the American University of Beirut (AUB) and the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).
- Chall, J. S. (1983). *Stages of reading development*. New York: McGraw-Hill.
- Chatterji, M. (2006). Reading achievement gaps, correlates, and moderators of early reading achievement: Evidence from the Early Childhood Longitudinal Study (ECLS) kindergarten to first grade sample. *Journal of Educational Psychology, 98*(3), 489-507.
- Chomsky, N. (1986). *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- Chow, B. W., & McBride-Chang, C. (2003). Promoting language and literacy development through parent-child reading in Hong Kong preschoolers. *Early Education and Development, 14*, 233–248.
- Curenton, S. M., & Justice, L. M. (2008). Children’s preliteracy skills: Influence of mothers’ education and beliefs about shared-reading interactions. *Early Education and Development, 19*(2), 261-283.
- Daleel Madani. (2014). Rehabilitation and support for early childhood education in refugee camps in Lebanon. Retrieved from <http://daleel->

madani.org/project/rehabilitation-and-support-early-childhood-education-refugee-camps-lebanon

- Danish Immigration Service. (2014). *Stateless Palestinian refugees in Lebanon*. Retrieved from file:///C:/Users/Beesan/Desktop/RapportLibanon8102014pdf.pdf
- Dearing, E., Simpkins, S., Krieder, H., & Weiss, H. B. (2006). Family involvement in school and low-income children's literacy: Longitudinal associations between and within families. *Journal of Educational Psychology, 98*, 653-664.
- DeBaryshe, B. D. (1995). Maternal belief systems: Linchpin in the home reading process. *Journal of Applied Developmental Psychology, 16*, 1-20.
- DeBaryshe, B. D., Binder, J. C., & Buell, M. J. (2000). Mothers' implicit theories of early literacy instruction: Implications for children's reading and writing. *Early Child Development and Care, 160*, 119-131.
- Dickinson, D. K., McCabe A., Sprague K. (2001). Teacher Rating of Oral Language and Literacy (TROLL): A research-based tool. *Center for the Improvement of Early Reading Achievement*. Ann Arbor, MI: University of Michigan CIERA Report #3-016.
- Dickinson, D. K., McCabe, A., Anastasopoulos, L., Peisner-Feinberg, E. S., & Poe, M. D. (2003). The comprehensive language approach to early literacy: The interrelationships among vocabulary, phonological sensitivity, and print knowledge among preschool-aged children. *Journal of Educational Psychology, 95*, 465-481.
- Dickinson, D. K., McCabe A., Sprague K. (2003). Teacher Rating of Oral Language and Literacy (TROLL): Individualizing early literacy instruction with a standards-based rating tool. *The Reading Teacher, 56*(6), 554-564.
- Duncan, G. J. & Brooks-Gunn, J. (2000). Family poverty, welfare reform, and child development. *Child Development, 71*, 188-196.
- Godwin, E., Herb, B., Ricketts, A. & Wymer, S. (2013). Theories of Literacy Development 1930s – Present Day. Retrieved from [http://hillerspires.wikispaces.com/file/view/Theories%](http://hillerspires.wikispaces.com/file/view/Theories%20of%20Literacy%20Development%201930s%20-%20Present%20Day)
- Ensar, F. (2014). How children construct literacy: Piagetian perspective. *International Journal of Secondary Education, 2*(2), 34-39.
- Evans, G.W. (2004). The environment of childhood poverty. *American Psychologist, 59*, 77-92.
- Evans, M, Kelley, J. Sikora, J. & Treiman, D. (2010) Family scholarly culture and educational success: Books and schooling in 27 nations. *Research in Social Stratification and Mobility, 28*(2), 171-197,

- Ezell, H. K., Justice, L. M., & Parsons, D. (2000). Enhancing the emergent literacy skills of preschoolers with communication disorders: A pilot investigation. *Child Language Teaching and Therapy, 16*, 121–140.
- Fatemi, A. H., Vahedi, V. S. & Seyyedrezaie, Z. S. (2014). The effects of top-down/bottom-up processing and field-dependent/field-independent cognitive style on Iranian EFL learners' reading comprehension. *Theory and Practice in Language Studies, 4*(4), 686-693.
- Foulin, J. N. (2005). Why is letter-name knowledge such a good predictor of learning to read? *Reading and Writing, 18*, 129–155.
- Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading, 5*(3), 239–256
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). New York, NY: McGraw Hill.
- Froiland, J. M., Powell, D. R., Diamond, K. E., & Son, S.-H. (2013). Neighborhood socioeconomic well-being, home literacy, and early literacy skills of at-risk preschoolers. *Psychology in the Schools, 50*, 755-769.
- Parental expectations and school relationships as contributors to adolescents' positive outcomes (PDF Download Available). Available from: https://www.researchgate.net/publication/258164787_Parental_expectations_and_school_relationships_as_contributors_to_adolescents%27_positive_outcomes [accessed Nov 28 2017].
- Furnes, B. & Samuelsson, S. (2011). Phonological awareness and rapid automatized naming predicting early development in reading and spelling: Results from a cross-linguistic longitudinal study. *Learning and Individual Differences, 21*(1), 85–95.
- Gershoff, E., Aber, J., Raver, C. & Lennon, M. (2007). Income is not enough: incorporating material hardship into models of income association with parenting and child development. *Child Development, 78*(1), 70–95.
- Good, R.H., Kaminski, R.A., Shinn, M., Bratten, J., Shinn, M., Laimon, D., Smith, S., & Flindt, N. (2004). Technical adequacy of DIBELS: results of the early childhood research institute on measuring growth and development (Technical Report, No. 7). Eugene, OR: University of Oregon.
- Good, R.H. & Kaminski, R.A. (2007). *Dynamic Indicators of Basic Early Literacy Skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Available: <http://dibels.uoregon.edu/>
- Good, R. & Kaminski, R. (2015). What are DIBELS? Retrieved from <https://dibels.org/dibels.html>

- Goodman, Y.M. (1986). Children coming to know literacy. In W.H. Teale & E. Sulzby (Eds.), *Emergent literacy*, (pp. 1-16). Norwood, NJ: Ablex.
- Gough, P. B. (1972). *One second of reading*. In J. F. Kavanagh, & I. G. Mattingly (Eds.), *Language by ear and by eye*. Cambridge, MA: MIT Press.
- Griffin, T.M., Hemphill, L., Camp, L., & Wolf, D. P. (2004). Oral discourse in the preschool years and later literacy skills. *Language*, *24*, 123-147.
- Gustafsson, J. E., Yang Hanse, K., & Rosen, M. (2013). Effects of home background on student achievement in reading, mathematics, and science at the fourth grade. In M.O. Martin & I. V. S., Mullis (Eds.), *TIMSS and PIRLS 2001: Relationships among reading, mathematics, and science achievement at the fourth grade-implications for early learning*. Boston College, USA, Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College.
- Hall, A. H., Toland, M. D., Grisham-Brown, J., & Graham, S. (2013). Exploring interactive writing as an effective practice for increasing Head Start students' alphabet knowledge skills. *Early Childhood Education Journal*, *42*, 423-430.
- Han, J. (2010). Influence of the Home Literacy Environment on Pre-Kindergarten Children's Emergent Literacy Skills.
- Hanson, R. A. & Farrell, D. (1995). The long-term effects on high school seniors of learning to read in kindergarten. *Reading Research Quarterly*, *30*(4), 908-933
- Hartas, D. (2011). Families' social backgrounds matter: Socio-economic factors, home learning and young children's language, literacy and social outcomes. *British Educational Research Journal*, *37*(6), 893-914.
- Henderson, A. T. & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: Southwest Educational Development Laboratory.
- Hillenkamp, B. (2008). The challenges of Palestinian education. Lebanese-Palestinian Dialogue Committee. Retrieved from <http://www.lpdc.gov.lb/getattachment/a567436b-58a7-4ba7-9e10-e52c7e986ed6/%D8%AA%D8%AD%D8%AF%D9%8A%D8%A7%D8%AA-%D8%A7%D9%85%D8%A7%D9%85-%D8%AA%D8%B9%D9%84%D9%8A%D9%85-%D8%A7%D9%84%D9%81%D9%84%D8%B3%D8%B7%D9%8A%D9%86%D9%8A%D9%8A%D9%86.aspx>
- Hood, M., Conlon, E., & Andrews, G. (2008). Preschool home literacy practices and children's literacy development: A longitudinal analysis. *Journal of Educational Psychology*, *100*(2), 252-271.
- Jones, C. D., Clark, S. K., & Reutzell, D. R. (2013). Enhancing alphabet knowledge instruction: Research implications and practical strategies for early childhood educators. *Early Childhood Education Journal*, *41*, 81-89.

- Jordan, G. E., Snow, C. E., & Porche, M. V. (2000). Project EASE: The effect of a family literacy project on kindergarten students' early literacy skills. *Reading Research Quarterly, 35*(4), 524-546.
- Justice, L. M., & Ezell, H. K. (2002). Use of storybook reading to increase print awareness in at-risk children. *American Journal of Speech-Language Pathology, 11*(1), 17-29
- Justice, L. M., & Pullen, P.C. (2003). Promising interventions for promoting emergent literacy skills: Three evidence-based approaches. *Topics in Early Childhood Special Education, 23*, 99-113.
- Justice, L. M. & Kaderavek, J. N. (2004). Embedded-explicit emergent literacy intervention I: background and description of approach. *American Speech-Language-Hearing Association, 35*, 201-211.
- Justice, L., & Schuele, C. M. (2004). Phonological awareness: Description, assessment, and intervention. In J. Bernthal & N. Bankson (Eds.), *Articulation and phonological disorders* (5th ed., pp. 376–405). Boston: Allyn & Bacon.
- Justice, L. M., Pence, K., Bowles, R. B., & Wiggins, A. (2006). An investigation of four hypotheses concerning the order by which 4-year-old children learn the alphabet letters. *Early Childhood Research Quarterly, 21*, 374–389.
- Kastner, J. W., May, W., & Hildman, L. (2001). Relationship between language skills and academic achievement in first grade [Abstract]. *Perceptual and Motor Skills, 92*, 381-390.
- Kennedy, E., Dunphy, E., Dwyer, B., Hayes, G., McPhillips, T., Marsh, J., O'Connor, M. and Shiel, G. (2012). Literacy in early childhood and primary education (3-8 years). NCCA: Research Report No 15.
- Kelly, S. (2008). Race, social class, and student engagement in middle school English classrooms. *Social Science Research, 37*, 434-448.
- LaBerge, D., & Samuels, S. J. (1974). Toward a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293–323.
- Lervag, A. & Hulme, C. (2009). Rapid automatized naming (RAN) taps a mechanism that places constraints on the development of early reading fluency. *Psychological Science, 20*(8), 1040-1048.
- Leslie, L., & Allen, L. (1999). Factors that predict success in an early literacy intervention program. *Reading Research Quarterly, 33*, 294-318.
- Maternal mediation of writing and children's early spelling and reading: The Semitic abjad versus the European alphabet (PDF Download Available). Available from: https://www.researchgate.net/publication/271936500_Maternal_mediation_of_writing_and_children%27s_early_spelling_and_reading_The_Semitic_abjad_versus_the_European_alphabet [accessed Nov 28 2017].

- Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: evidence from a latent-variable longitudinal study. *Developmental Psychology, 36*(5), 596-613.
- Lonigan, C. J., & Shanahan, T. (2009). *Executive summary: Developing early literacy: Report of the National Early Literacy Panel*. Retrieved from http://lincs.ed.gov/publications/pdf/NELP_Summary.pdf
- Lonigan, C. J., Allan, N. P. & Lerner, M. D. (2011). Assessment of preschool early literacy skills: linking children's educational needs with empirically supported instructional activities. *Psychology in the Schools, 48*, 488–501.
doi:10.1002/pits.20569
- Maridaki-Kassotaki, K. (2002). The relation between phonological memory skills and reading ability in Greek-speaking children: Can training of phonological memory contribute to reading development? *European Journal of Psychology of Education, 17*, 63-75.
- Mason, J.M., Sinha, S. (1992). *Emerging literacy in the early childhood years: Applying a Vygotskian model of learning and development (Technical Report No. 561)*. Urbana-Champaign, IL: University of Illinois.
- Masonheimer, P. E., Drum, P. A., & Ehri, L. C. (1984). Does environmental print identification lead children into word reading? *Journal of Reading Behavior, 16*, 257-271.
- Matlock, K. (2013). The reliability of oral reading fluency indicators and their effective use as a response to intervention progress monitoring tool. *Journal of Educational Research and Policy Studies, 13*(3), 110-129.
- McCabe, A., Boccia, J., Bennett, M. B., Lyman, N., & Hagen, R. (2010). Improving oral language and literacy skills in preschool children from disadvantaged backgrounds: Remembering, writing, reading (RWR). *Imagination, Cognition and Personality, 29*(4), 363-390.
- McGill-Franzen, A. & Allington, R. (Eds) (2011). *Handbook of reading disabilities research*. New York, NY: Routledge.
- Mistry, R. S., Biesanz, J. C., Taylor, L.C., Burchinal, M., & Cox, M.J. (2004). Family income and its relation to preschool children's adjustment for families in the NICHD study of early child care. *Developmental Psychology, 40*, 727–745.
- Mol, S. E., & Bus, A. G. (2011). To read or not to read: A meta-analysis of print exposure from infancy to early adulthood. *Psychological Bulletin, 137*, 267-296.
doi:10.1037/a0021890
- Morgan, A. (2005). Shared reading interactions between mothers and pre-school children: Case studies of three dyads from a disadvantaged community. *Journal of Early Childhood Literacy, 5*, 279-304.

- Morphett, M. V. & Washburne, C. (1931). When should children begin to read. *Elementary School Journal*, 31, 496-503.
- Morrow, L. M., Roskos, K., & Gambrell, L. B. (2016). *Oral language and comprehension in preschool: teaching the essentials*. New York, NY: The Guilford Press
- National Early Literacy Panel (NELP). (2009). *Developing early literacy: Report of the national early literacy panel, executive summary*. Washington, DC: National Institute for Literacy.
- Neuman, S. B. (1996). Children engaging in storybook reading: The influence of access to print resources, opportunity, and parental interaction. *Early Childhood Research Quarterly*, 11, 495-513.
- Neuman, S.B. & Dickinson, D. (Eds) (2001). *Handbook for early literacy research*. NY: Guilford Publications.
- Neuman, M. M., Hood, M., & Neumann, D. L. (2009). The scaffolding of emergent literacy skills in the home environment: A case study. *Early Childhood Education Journal*, 36, 313–319
- NICHD Early Child Care Research Network. (2005). Pathways to reading: The role of oral language in the transition to reading. *Developmental Psychology*, 41(2), 428-442.
- Nikolopoulos, D., Goulandris, N., & Hulme, C., & Snowling, M. J. (2006). The cognitive bases of learning to read and spell in Greek: evidence from a longitudinal study. *Journal of Experimental Child Psychology*, 94(1), 1-17.
- Noble, K.G., Farah, M.J. & McCandliss, B.D. (2006). Socioeconomic background modulates the effect of phonological awareness on reading. *Cognitive Development*, 21, 349–368.
- Otaiba, S.A., Puranik, C.S., Rouby, D.A., Greulich, L., Sidler, J.F., & Lee, J. (2010). Predicting kindergarteners' end-of-the-year spelling ability based on their reading, alphabetic, vocabulary, and phonological awareness skills, as well as prior literacy experiences. *Learning Disabilities Quarterly*, 33, 171-183.
- Park, H. (2008). Home literacy environments and children's reading performance: a comparative study of 25 counties. *Educational Research and Evaluation*, 14(6), 489-505.
- Passenger, T., Stuart, M., & Terrell, C. (2000). Phonological processing and early literacy. *Journal of Research in Reading*, 23(1), 55-66.
- Payne, A. C., Whitehurst, G. J., & Angell, A. L. (1994). The role of home literacy environment in the development of language ability in preschool children from low-income families. *Early Childhood Research Quarterly*, 9, 427-440.

- Perfetti, C. A., Landi, N., & Oakhill, J. V. (2005). The acquisition of reading comprehension skill. In M. J. Snowling, M. S. Seidenberg, & C. Hume (Eds.), *The science of reading: Handbook of reading research*. Oxford: Blackwell.
- Piaget, J. (1980). Schemes of action and language learning. In M. Piattelli-Palmarini (Ed.), *Language and Learning* (pp. 163-183). Cambridge, MA: Harvard University Press.
- Piasta, S. B. (2006). Acquisition of alphabetic knowledge: Examining letter- and child-level factors in a single, comprehensive model. *Electronic Theses, Treaties, and Dissertations*, Paper 931, Florida State University.
- Piasta, S. B., Purpura, D. J., & Wager, R. K. (2010). Fostering alphabet knowledge development: A comparison of two instructional approaches. *Read Write*, 23(6), 607-626.
- Piasta, S. B., Justice L. M., McGinty, A. S., Kaderavek, J. N. (2012). Increasing young children's contact with print during shared reading: longitudinal effects on literacy achievement. *Child Development*, 83, 810-820.
- Pinto, G., Bigozzi, L., Gamannossi, B. A., & Vezzani, C. (2009). Emergent literacy and learning to write: A predictive model for Italian language. *European Journal of Psychology of Education*, 24, 61-78.
- Pramling Samuelsson, I. & Kaga, Y. (Eds.). (2008). *The contribution of early childhood education to a sustainable society*. Paris: UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0015/001593/159355e.pdf>
- Puranik, C. S., Lonigan, C. J., & Kim, Y. S. (2012). Contributions of emergent literacy skills to name writing, letter writing, and spelling in preschool children. *Early Childhood Research Quarterly*, 26(4), 465-474.
- Ricci, L. (2011). Home literacy environments, interest in reading and emergent literacy skills of children with Down syndrome versus typical children. *Journal of Intellectual Ability*, 55(6), 596-609.
- Roberts, J., Jurgens, J., & Burchinal, M. (2005). The role of home literacy practices in preschool children's language and emergent literacy skills. *Journal of Speech, Language, and Hearing Research*, 48, 345-359.
- Rodriguez, E. T., Tamis-LeMonda, C. S., Spellmann, M. E., Pan, B. A., Raikes, H., Lugo-Gil, J., & Luze, G. (2009). The formative role of home literacy experiences across the first three years of life in children from low-income families. *Journal of Applied Developmental Psychology*, 30, 677-694.
- Rodriguez, E. T. & Tamis-LeMonda, C. S. (2011). Trajectories of the home learning environment across the first 5 years: Associations with children's vocabulary and literacy skills at prekindergarten. *Child Development*, 82, 1058-1075.

- Sahragard, R., Baharloo, A., & Soozandehfar, S. M. A. (2011). A closer look at the relationship between academic achievement and language proficiency among Iranian EFL students. *Theory and Practice in Language Studies* 1(12), 1740-1748.
- Saracho, O. N. (2002). Family literacy: Exploring family practices. *Early Child Development and Care*, 172(2), 113-122.
- Savage, R., Pillay, V., & Melidona, S. (2008). Rapid serial naming is a unique predictor of spelling in children. *Journal of Learning Disabilities*, 41(3), 235-250.
- Savage, R., Carless, S., & Ferraro, V. (2007). Predicting curriculum and test performance at age 11 years from pupil background, baseline skills and phonological awareness at age 5 years. *Journal of Child Psychology and Psychiatry*, 48(7), 732-739.
- Scarborough, H. S., & Dobrich, W. (1994). On the efficacy of reading to preschoolers. *Developmental Review*, 14, 145-302.
- Schatschneider, C., Fletcher, J. M., Francis, D. J., Carlson, C. D., & Foorman, B. R. (2004). Kindergarten prediction of reading skills: a longitudinal comparative analysis. *Journal of Educational Psychology*, 96, 265-282.
- Schenker, D. (2012). Palestinian refugees languish in Lebanon. *The Middle East Quarterly*, 19(4).
- Schmitt, S. A., Simpson, A. M., & Friend, M. (2011). A longitudinal assessment of the home literacy environment and early language. *Infant and Child Development*, 20(6), 409-431.
- Schuele, C. M. & Boudreau, D. (2008). Phonological awareness intervention: Beyond the basics. *Language, Speech, and Hearing Services in Schools*, 39, 3-20.
- Senechal, M., LeFevre, J., Hudson, E., & Lawson, E. P. (1996). Knowledge of storybooks as a predictor of young children's vocabulary. *Journal of Educational Psychology*, 88(3), 520-536.
- Senechal, M., LeFevre, J., Thomas, E., & Daley, K. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly*, 32, 96-116.
- Sénéchal, M., LeFevre, J. A., Smith-Chant, B. L., & Colton, K. V. (2001). On refining theoretical models of emergent literacy: The role of empirical evidence. *Journal of School Psychology*, 39(5), 439-460.
- Senechal, M. & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: a five-year longitudinal study. *Child Development*, 73(2), 445-460.
- Senechal, M. (2006). *The effect of family literacy interventions on children's acquisition of reading from K to Grade 3*. Portsmouth, NH: National Institute for Literacy.
- Service, E. (1992). Phonology, working memory and foreign language learning. *Quarterly Journal of Experimental Psychology*, 45, 21-50.

- Shanahan, T. & Lonigan, C. J. (2010). The National Early Literacy Panel: A summary of the process and the report. *Educational Researcher*, 39(4), 279-285.
- Shanahan, T. & Lonigan, C. J. (2012, October). The role of early oral language in literacy development. *Language Magazine*, 12(2), 24. Retrieved from <https://www.languagemagazine.com/5100-2/#>
- Share, D. L., & Leikin, M. (2004). Language impairment at school entry and later reading disability: Connections at lexical versus supralexical levels of reading. *Scientific Studies of Reading*, 8, 87–110.
- Siklawi, R. (2010). The dynamics of Palestinian political endurance in Lebanon. *Middle East Journal*, 64(4), 597-611.
- Singleton, C., Horne, J., & Thomas, K. (1999). Computerised baseline assessment of literacy. *Journal of Research in Reading*, 22, 67-80.
- Skudiene, V. (2002). A comparison of reading models, their application to the classroom and their impact on comprehension. *Studies about Languages*, 2, 94-98.
- Snow, C.E. (2010). Academic language and the challenge of reading for learning about science. *Science*, 328(5977), 450-452. Retrieved from [http://mfile.narotama.ac.id/files/Jurnal/MIT%202010-2011%20\(pdf\)/Academic%20Language%20and%20the%20Challenge%20of%20Reading%20for%20Learning%20About%20Science.pdf](http://mfile.narotama.ac.id/files/Jurnal/MIT%202010-2011%20(pdf)/Academic%20Language%20and%20the%20Challenge%20of%20Reading%20for%20Learning%20About%20Science.pdf)
- Soares de Baldini Rocha, M. & Ponczek, V. (2011). The effects of adult literacy on earnings and employment. *Economics of Education Review*, 30(4), 755–764
- Sonnenschein, S., & Munsterman, K. (2002). The influence of home-based reading interactions on 5-year-olds' reading motivations and early literacy development. *Early Childhood Research Quarterly*, 17, 318-337.
- Stanovich, K. (1980). Toward an interactive-compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly*, 16, 32–71
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21(4), 360-407.
- Stanovich, K. E. (2000). *Progress in understanding reading: Scientific foundations and new frontiers*. New York, NY: Guilford Press.
- Steiner, L. M. (2014). A family literacy intervention to support parents in children's early literacy reading. *Reading Psychology*, 35, 703-735.
- Stoiber, K., & Gettinger, M. (2008). Applying a response-to-intervention model for early literacy development among low-income children. *Topics in Early Childhood and Special Education*, 27, 198-213.

- Stoiber, K. C., Gettinger, M., VanGrinsven, L., Hernandez, M., and Fenelon, M. (February, 2011). *Promoting Early Literacy Practices in Low Income Minority Families*. Paper presented at the National Association of School Psychologists. San Francisco, CA.
- Storch, A. S., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model, *Developmental Psychology*, 38, 934-947.
- Strong, H. A., Wehby, J. H., & Falk, K. B. (2016). Reading fluency interventions for middle school students with academic and behavioral disabilities. *Reading Improvement*, 53(2), 53-64.
- The Consultative Group on Early Childhood Care and Development (CGECCD). (2013). The importance of early childhood development to education. Retrieved from <http://www.beyond2015.org/sites/default/files/ECD-Education-Post-2015.pdf>
- Tichnor-Wagner, A., Garwood, J. D., Bratscje-Hines, M. & Vernon-Feagans, L. (2015). Home literacy environment and foundational literacy skills for struggling and nonstruggling readers in rural elementary schools. *Learning Disabilities Research & Practice*, 31(1), 6-21.
- Tracey, D. H. & Morrow, L. M. (2017). *Lenses in reading: An introduction in theories and models*. New York, NY: The Guilford Press
- Trehearne, M. P. (2011). *Learning to read and write and loving it! Preschool-kindergarten*. USA: Sage Publications.
- Ugland, O. F. (2003). Difficult past, uncertain future: living conditions among Palestinian refugees in camps and gatherings in Lebanon. Fafo. Retrieved from <http://almashriq.hiof.no/general/300/320/327/fafo/reports/409.pdf>
- United Nations High Commissioner for Refugees (UNHCR). (2016). The situation of Palestinian refugees in Lebanon. Retrieved from <http://www.refworld.org/pdfid/56cc95484.pdf>
- United Nations Relief and Works Agency (UNRWA). (2013). UNRWA school dropout: an agency wide study.
- United Nations Relief and Works Agency (UNRWA). (2016). AUB and UNRWA launch survey on the socioeconomic status of Palestine refugees in Lebanon. Retrieved from <http://www.unrwa.org/newsroom/press-releases/aub-and-unrwa-launch-survey-socioeconomic-status-palestine-refugees-lebanon>
- United States Department of State. (2015). *2014 Country Reports on Human Rights Practices – Lebanon*. Retrieved from <http://www.refworld.org/docid/559bd55a12.html>

- University of Oregon Center on Teaching and Learning. (2008). *General information about DIBELS measures*. Retrieved from <https://dibels.uoregon.edu/dibelsinfo.php>
- van Kleeck, A. (2008). Providing preschool foundations for later reading comprehension: The importance of and ideas for targeting inferencing in storybook-sharing interventions. *Psychology in the Schools, 45*, 627–643.
- Van Steensel, R. (2006). Relations between socio-cultural factors, the home literacy environment and children’s literacy development in the first years of primary education. *Journal of Research in Reading, 29*(4), 367-382.
- Venezky, R. L. (1992). *Matching literacy testing with social policy: What are the alternatives?* Philadelphia: University of Pennsylvania, National Center on Adult Literacy.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Walpole, S., Chow, S., & Justice, L. M. (2004). Literacy achievement during kindergarten: Examining key contributors in an at-risk sample. *Early Education & Development, 15*(3), 245-264.
- Weigel, D. J., Martin, S. S., & Bennett, K. K. (2006). Contributions of the home literacy environment to preschool-aged children’s emerging literacy and language skills. *Early Child Development and Care, 176*(3,4), 357-378.
- Weinberger, J. (1996). A longitudinal study of children’s early literacy experiences at home and later literacy development at home and school. *Journal of Research in Reading, 19*(1), 14-24.
- Welsch, J. G., Sullivan, A., & Justice, L. M. (2003). That’s my letter! What preschoolers name writing representations tell us about emergent literacy knowledge. *Journal of Literacy Research, 35*, 757-776.
- Wen, H. (2013). Chomsky’s language development theories: Rescuing parents out of dilemma. *International Journal of Learning & Development, 3*(3), 148-153.
- White, C. S., & Coleman, M. (2000). *Early childhood education: Building a philosophy for teaching*. Upper Saddle River, N. J.: Merrill.
- Whitehurst, G. J. & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development, 69*(3), 848-872.
- Whitehurst, G. J., Falco, F., Lonigan, C. J., Fischel, J. E., DeBaryshe, B. D., Valdez-Menchaca, M.C. & Caulfield, M. (1998). Accelerating language development through picture-book reading. *Developmental Psychology, 24*, 552-558.

- Wimmer, H., Mayringer, H., & Landerl, K. (2000). The double-deficit hypothesis and difficulties in learning to read a regular orthography. *Journal of Educational Psychology, 92*, 668-680.
- Wolke, D, Samara, M., Bracewell, M., & Marlow, N. (2008). Specific language difficulties and school achievement in children born at 25 weeks of gestation or less. *The Journal of Pediatrics, 152*(2), 256–262.
- Worde, P.E. & Boettcher, W. (1990). Young children acquisition of alphabet knowledge. *Journal of Reading Behavior, 22*(3), 277-295.

Appendix A: Home Literacy Environment Questionnaire

PARENTS, CHILDREN, AND EARLY READING

FIRST, we are interested in what YOU do with your child.

PLEASE ANSWER QUESTIONS HONESTLY

HOW OFTEN DID YOU or SOMEONE at home in a TYPICAL WEEK:

	Daily 6 - 7 times	Sometimes 3 - 5 times	Few Times 1 - 2 times	Never
Read a book or story to your child at bedtime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read or tell a story to your child at other times beside bedtime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sing songs or recite nursery rhymes with your child	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do play activities (such as a puppet or toy animals) or play actions to extend the story you read or told	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do "finger play" songs or games with your child (such as "Itsy Bitsy Spider")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up stories, poems, or silly words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up rhyming words with your child (such as cat-zat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sing the ABCs with your child	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have back-and-forth conversations with your child about books or activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Find the first letter of your child's name in everyday print, like signs or ads (such as in McDonalds, or Walmart)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Count the number of syllables in words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Print words or provide your child with pencils, markers or other materials to write or pretend to write	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Look at other printed material with your child, such as comics, magazines, or newspaper ads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Often 6 - 7 times	Sometimes 3 - 5 times	Few Times 1 - 2 times	Never
Read the title page or cover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to "turn the page"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read the names of the author and/or illustrator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to point to the title, author, and/or illustrator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell the story in your own words	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Point to and name pictures as you read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Point to letters and name them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Point to words in the book as you read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to find letters, especially in his/her name, and name them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to label or describe pictures ("What's this?")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to point to pictures ("Where is the ____?")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to point to a word ("Can you find the word <u>zoo</u> ?")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to read a word ("What does this word say?")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read incorrectly and wait for your child to correct you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask child what will happen next	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ask your child to explain what happened or why something happened	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Often 6 - 7 times	Sometimes 3 - 5 times	Few Times 1 - 2 times	Never

The next set of questions are about your CHILD.

In the last week, HOW OFTEN did your CHILD...

	Daily 6 - 7 times	Sometimes 3 - 5 times	Few Times 1 - 2 times	Never
Reads or looks at books by him or herself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recites nursery rhymes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retells stories from TV, movies, videos, or books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finds the first letter of his/her name in everyday print (such as signs, ads, magazines)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pretends to read books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Points to and reads familiar letters or words (in books, on signs, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Draws, writes, or pretends to write	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asks you to read books to him/her	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listens quietly as someone reads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enjoys being read to (doesn't try to leave while you read)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asks "What does this say?" when looking at books, signs, or other printed materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Turns pages of a book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reads the title or cover of a story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reads the page numbers of a book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finds words with the same letters as his/her name	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Says "The End" at end of a story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Points to pictures in a book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Labels pictures of objects in a book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retells story while turning pages of a book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guesses what will happen next of a story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asks you questions or makes comments about the story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asks you, "What does this say?"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tells you about activities he/she did without you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make up nonsense words or pretend to talk in another language	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the last TWO MONTHS how often have you or someone done the following:

	Often 6 - 7 times	Sometimes 3 - 5 times	Few Times 1 - 2 times	Never
Given your child a book or magazine as a gift	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taken your child to visit a library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taken your child to the museum, zoo, or other places in the community to learn special things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brought home learning materials for your child (books, tapes, puzzles, videos)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watched an educational TV program or video with your child	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1. Please estimate the number of children's books that are available in the household:

Check one:

_____ None

_____ 1-20 books

_____ 21-40 books

_____ 41-60 books

_____ 61-80 books

_____ more, please estimate _____

2. Does your child have a favorite book? **YES** **NO**

If YES, about how many times have you **read** it to your child? _____

3. How old was your child when you started reading picture books to him or her?
(please estimate age) _____

Please tell us the following about you and your child:

How old is your child? 3 to 3 1/2 3 1/2 to 4 4 to 4 1/2 4 1/2 to 5 5 or older

Does your child have any learning problems? Yes No

Does your child have any behavior problems? Yes No

How many children do you have? _____

Are you: Married Single Divorced

What is your age? Under 21

22-30

31-40

41-50

51-60

Over 60

My household income is: less than \$25,000

\$25,000-\$40,000

more than \$40,000

How much schooling did you complete?

Some high school

Graduated from high school

Some college

Graduated from college

Attended or completed graduate school

What is your relationship to this child?

Mother

Father

Grandmother

Grandfather

Aunt or Uncle

Foster Parent/Guardian

HOME LITERACY ENVIRONMENT SUBSCALES OF SURVEY QUESTIONS

CRD (8)

1. Read a book to your child at bedtime.
2. Read or tell a story to your child at other times beside bedtime.
3. Look at other printed material with your child, such as comics, magazines, or newspaper ads.
4. Given your child a book or magazine as a gift.
5. Taken your child to the museum, zoo, or other places in the community to learn special things.
6. Brought home learning materials for your child (books, tapes, puzzles, videos).
7. Watched an educational TV program or video with your child
8. How old was your child when you started reading picture books to him or her?

CRD SUBTOTAL: _____ (out of 32 possible)

PELB (8)

1. Sing ABCs with your child.
2. Do “finger play” songs or games with your child (such as “Itsy Bitsy Spider”).
3. Make up stories, poems, or silly words.
4. Make up rhyming words with your child (such as cat-zat).
5. Have back-and-forth conversations with your child about books or activities.
6. Find the first letter of your child’s name in everyday print, like signs or ads (such as in McDonalds, or Walmart).
7. Count the number of syllables in words
8. Do play activities (such as a puppet or toy animals) or play actions to extend the story you read or told.

PELB SUBTOTAL: _____ (out of 32 possible)

SBRA (13)

1. Ask your child to “turn the page”.
2. Read the names of the author and/or illustrator.
3. Tell the story in your own words.
4. Point to letters and name them.
5. Point to words as you read.
6. Ask your child to find letters, especially in his/her name, and name them.
7. Ask your child to label or describe pictures (“What’s this?”).
8. Ask your child to point to pictures (“Where is the _____?”).
9. Ask your child to point to a word (“Can you find the word zoo?”).
10. Ask your child to read a word (“What does this word say?”).
11. Read incorrectly and wait for your child to correct you.
12. Ask child what will happen next
13. Ask your child to explain what happened or why something happened.

SBRA SUBTOTAL: _____ (out of 52 possible)

CRI (5)

1. Reads or looks at books by him or herself.
2. Pretends to read books.
3. Asks you to read books to him/her.
4. Listens quietly as someone reads.
5. Enjoys being read to (doesn't try to leave while you read).

CRI SUBTOTAL: _____ (out of 20 possible)

CBRB (11)

1. Turns pages of a book
2. Finds the first letter of his/her name in everyday print (such as signs, ads, magazines).
3. Points to pictures in a book.
4. Retells story while turning pages of a book.
5. Guesses what will happen next of a story.
6. Asks you questions or makes comments about the story.
7. Asks you, "What does this say?".
8. Reads the title or cover of a story.
9. Reads the page numbers of a book.
10. Says "The End" at end of a story.
11. Label pictures of objects in the book

CBRB SUBTOTAL: _____ (out of 40 possible)

CELB (8)

1. Draws, writes, or pretends to write.
2. Tells you about activities he/she did without you.
3. Make up nonsense words or pretend to talk in another language.
4. Points to and reads familiar letters or words (in books, on signs, etc.).
5. Finds words with the same letters as his/her name.
6. Recites nursery rhymes by him or herself.
7. Retells stories from TV, movies, videos, or books.
8. Asks "What does this say?" when looking at books, signs, or other printed materials.

CELB SUBTOTAL: _____ (out of 32 possible)

TOTAL HLEQ SCORE: _____ (out of 208 possible)

Deleted Questions That Did Not Load On Any Subscale

Estimate the number of children's books that are available in the household

Print words or provide your child with pencils, markers or other materials to write or pretend to write

Sing songs or recite nursery rhymes.

Read the title page or cover

Point to and name pictures as you read

Does your child have a favorite book?

Appendix B: Teacher Rating of Oral Language and Literacy (TROLL)

Teacher Rating of Oral Language and Literacy

David K. Dickinson

Center for Children & Families, EDC

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LANGUAGE USE:

1. How would you describe this child's willingness to **start a conversation** with adults and peers and continue trying to communicate when he/she is not understood on the first attempt? Select the statement that best describes how hard the child works to be understood by others.

Child almost never begins a conversation with peers or the teacher and never keeps trying if unsuccessful at first.	Child sometimes begins conversation with either peers or the teacher. If initial efforts fail he/she often gives up quickly.	Child begins conversations with both peers and teachers on occasions. If initial efforts fail, he/she will sometimes keep trying.	Child begins conversations with both peers and teachers. If initial efforts fail, he/she will work hard to be understood.
1	2	3	4

2. How well does the child **communicate personal experiences** in a clear and logical way? Assign the score that best describes this child when he/she is attempting to tell an adult about events that happened at home or some other place where you were not present.

Child is very tentative, only offers a few words, requires you to ask questions. Has difficulty responding to questions you ask.	Child offers some information, but information needed to really understand the event is missing (e.g., where or when it happened, who was present, the sequence of what happened).	Child offers information and sometimes includes the necessary information to really understand the event.	Child freely offers information and tells experiences in a way that is nearly always complete, well sequenced, and comprehensible.
1	2	3	4

3. How would you describe this child's pattern of **asking questions** about topics that interest him/her (e.g., why things happen, why people act the way they do)? Assign the score that best describes the child's approach to displaying curiosity by asking adults questions.

To your knowledge, the child has never asked an adult a question reflecting curiosity about why things happen or why people do things.	On a few occasions the child has asked adults some questions. The discussion that resulted was brief and limited in depth.	On several occasions the child has asked interesting questions. On occasion these have led to an interesting conversation.	Child often asks adults questions reflecting curiosity. These often lead to interesting, extended conversations.
<i>English competence:</i> 1	2	3	4

4. How would you describe this child's use of talk while **pretending** in the house area, when playing with blocks, etc.? Consider the child's use of talk with peers to start pretending and to carry it out. Assign the score that best applies.

Child rarely or never engages in pretend play or else never talks while pretending.	On occasion the child engages in pretending that includes some talk. Talk is brief, may only be used when starting the play, and is of limited importance to the on-going play activity.	Child engages in pretending often and conversations are sometimes important to the play. On occasion child engages in some back-and-forth pretend dialogue with another child.	Child often talks in elaborate ways while pretending. Conversations that are carried out "in role" are common and are an important part of the play. Child sometimes steps out of pretend play to give directions to another.
<i>English competence:</i> 1	2	3	4

5. How would you describe the child's ability to **recognize and produce rhymes**?

Child cannot ever say if two words rhyme and cannot produce a rhyme when given examples (e.g., rat, ____).	Child occasionally produces or identifies rhymes when given help.	Child spontaneously produces rhymes and can sometimes tell when word pairs rhyme.	Child spontaneously rhymes words of more than one syllable and always identifies whether words rhyme.
<i>English:</i> 1	2	3	4

6. How often does (CHILD) use a **varied vocabulary** or try out new words (e.g. heard in stories or from teacher)?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

7. When (CHILD) speaks to adults other than you or the teaching assistant is **he/she understandable**?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

8. How often does (CHILD) **express curiosity** about how and why things happen?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

LANGUAGE SUBTOTAL: _____

READING:

9. How often does (CHILD) like to hear books read in the full group?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

10. How often does (CHILD) attend to stories read in full or small groups and react in a way that indicates comprehension?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

11. Is (CHILD) able to read story books on his/her own?

Does not pretend to read 1	Pretends to read 2	Pretends to read and reads some words 3	Reads the written words 4
-------------------------------	-----------------------	--	------------------------------

12. How often does (CHILD) remember the story line or characters in books that he/she heard before either at home or in class?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

13. How often does (CHILD) look at or read books alone or with friends?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

14. Can (CHILD) recognize letters? (choose one answer)

- None of the letters of the alphabet.....01
- Some of them (up to 10).....02
- Most of them (up to 20).....03
- All of them.....04

15. Does (CHILD) recognize his/her own first name in print?

NO 1	YES 2
---------	----------

16. Does (CHILD) recognize other names?

No 1	One or two 2	A few (up to 4 or 5) 3	Several (6 or more) 4
---------	-----------------	---------------------------	--------------------------

17. Can (CHILD) read any other words?

No 1	One or two 2	A few (up to 4 or 5) 3	Several (6 or more) 4
---------	-----------------	---------------------------	--------------------------

18. Does (CHILD) have a beginning understanding of the relationship between sounds and letters (c.g. the letter B makes a "buh" sound)?

No 1	One or two 2	A few (up to 4 or 5) 3	Several (6 or more) 4
---------	-----------------	---------------------------	--------------------------

19. Can (CHILD) sound out words that he/she has not read before?

No 1	Once or twice 2	One syllable words often 3	Many words 4
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READING SUBTOTAL: _____

WRITING:

20. What does (CHILD's) writing look like?

Only draws or scribbles 1	Some letter-like marks 2	Many conventional letters 3	Conventional letters and words 4
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21. How often does (CHILD) like to write or pretend to write?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
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22. Can (CHILD) write his/her first name, even if some of the letters are backwards?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
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23. Does (CHILD) write other names or real words?

No 1	One or two 2	A few (up to 4 or 5) 3	Several (6 or more) 4
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24. How often does (CHILD) write signs or labels?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
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25. Does (CHILD) write stories, songs, poems, or lists?

NEVER 1	RARELY 2	SOMETIMES 3	OFTEN 4
------------	-------------	----------------	------------

WRITING SUBTOTAL: _____ (out of 24 possible)

ORAL LANGUAGE SUBTOTAL: _____ (out of 32 possible)

READING SUBTOTAL: _____ (out of 42 possible)

TOTAL TROLL SCORE: _____ (out of 98 possible)

Appendix C: IRB Approval



Institutional Review Board (IRB)

لجنة المراجعات

NOTICE OF IRB APPROVAL

To: Ms. Beesan Hamad
Advisor: Dr. Garene Kaloustian
Assistant Professor
School of Arts & Sciences

APPROVAL ISSUED: 26 May 2017
EXPIRATION DATE: 26 May 2018
REVIEW TYPE: EXPEDITED – Initial

Date: May 26, 2017

RE: IRB #: LAU.SAS.GK3.26/May/2017

Protocol Title: *The Relationship between the Home Literacy Environment and the Development of Emergent Literacy Skills in Palestinian Preschoolers in Lebanon*

The above referenced research project has been approved by the Lebanese American University, Institutional Review Board (LAU IRB). This approval is limited to the activities described in the Approved Research Protocol and all submitted documents listed on page 2 of this letter. **Enclosed with this letter are the stamped approved documents that must be used.**

APPROVAL CONDITIONS FOR ALL LAU APPROVED HUMAN RESEARCH PROTOCOLS

LAU RESEARCH POLICIES: All individuals engaged in the research project must adhere to the approved protocol and all applicable LAU IRB Research Policies. **PARTICIPANTS must NOT be involved in any research related activity prior to IRB approval date or after the expiration date.**

PROTOCOL EXPIRATION: The LAU IRB approval expiry date is listed above. The IRB Office will send an email at least 45 days prior to protocol approval expiry - Request for Continuing Review - in order to avoid any temporary hold on the initial protocol approval. It is your responsibility to apply for continuing review and receive continuing approval for the duration of the research project. Failure to send Request for Continuation before the expiry date will result in suspension of the approval of this research project on the expiration date.

MODIFICATIONS AND AMENDMENTS: All protocol modifications must be approved by the IRB prior to implementation.

NOTIFICATION OF PROJECT COMPLETION: A notification of research project closure and a summary of findings must be sent to the IRB office upon completion. Study files must be retained for a period of 3 years from the date of notification of project completion.

IN THE EVENT OF NON-COMPLIANCE WITH ABOVE CONDITIONS, THE PRINCIPAL INVESTIGATOR SHOULD MEET WITH THE IRB ADMINISTRATORS IN ORDER TO RESOLVE SUCH CONDITIONS. IRB APPROVAL CANNOT BE GRANTED UNTIL NON-COMPLIANT ISSUES HAVE BEEN RESOLVED.

If you have any questions concerning this information, please contact the IRB office by email at irb@lau.edu.lb

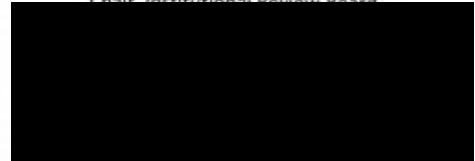
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The IRB operates in compliance with the national regulations pertaining to research under the Lebanese Minister of Public Health's Decision No.141 dated 27/1/2016 under LAU IRB Authorization reference 2016/3708, the international guidelines for Good Clinical Practice, the US Office of Human Research Protection (45CFR46) and the Food and Drug Administration (21CFR56). LAU IRB U.S. Identifier as an international institution: FWA00014723 and IRB Registration # IRB00006954 LAUIRB#1



Dr. Costantine Daher
Chair, Institutional Review Board



DOCUMENTS SUBMITTED:

LAU IRB Initial Protocol Application	Received 5 May 2017
Proposal	Received 5 May 2017
Consent Form - Arabic	Received 5 May 2017, not approved
Parental consent - Arabic	Received 5 May 2017, Modified 23 May 2017
Letter to Preschools	Received 5 May 2017, Modified 20 May 2017
HLEQ (parents) - Arabic	Received 13 May 2017
TROLL (Parents) - Arabic	Received 13 May 2017
Comments raised by the IRB	PI's response received
May 13, 2017	May 20, 2017
May 23, 2017	May 23, 2017
Rutgers - HSCP Approval Letter – Garene Kaloustian	Received 9 May 2014
NIH Training – Beesan Hamad	Cert.# Dated 1543977 (26 October 2015)