

NOTRE DAME UNIVERSITY-LOUAIZE

TEACHING READING USING MULTIPLE INTELLIGENCES:
AN ACTION RESEARCH INVESTIGATING THE PROFILES OF ONE PRESCHOOL
CLASSROOM

by
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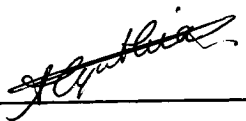
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Dedication

I dedicate this thesis to my loving family for their everlasting love and support.

To my parents, Romeo and Amal, thank you for guiding my steps since I was young and making me the person I am now.

To my brother, Cyril, and my sisters, Vanessa and Melissa, thank you for your constant encouragement and concern.

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Table of Contents

Dedication.....	iv
Acknowledgements.....	v
Table of Contents.....	vi
Abstract.....	ix
Chapter One: Introduction	1
1. Contextual Background	1
2. Statement of the Problem	2
3. Purpose of the Study.....	3
4. Research Questions and Hypotheses	3
5. Definition of Terms	4
5.1 Literacy and Reading.....	4
5.2 Multiple Intelligences.....	5
Chapter Two: Literature Review	6
1. Teaching Reading	6
2. Traditional Classrooms	8
3. Multiple Intelligences.....	9
3.1 Description of MI	9
3.2 MI and Foreign Language Learning	14
3.3 Criticisms of MI theory	16
4. New Perspective for Teaching and Learning	18
5. Role of the Teacher in the MI Classroom.....	19

Chapter Three: Methodology	24
1. Type of Research	24
2. Participants	25
3. Instruments	26
4. Procedure	28
Chapter Four: Research Findings	31
1. Description of Children's Profiles during Data Collection	31
1.1 The linguistic child.....	31
1.2 The kinesthetic child.....	32
1.3 The logical-mathematical child.....	33
1.4 The visual-spatial child.....	35
1.5 The musical child	37
1.6 The interpersonal child.....	39
1.7 The intrapersonal child.....	40
2. Description of Children's Reading Knowledge during the Research Observation.....	41
3. Description of Children's Knowledge during the Traditional and Modern Reading Performance.....	43
Chapter Five: Analysis and Interpretation of Results.....	49
1. Analysis for Both Story-Experiences.....	49
2. Comparison between Findings and Literature Review.....	53
Chapter Six: Conclusion and Recommendations	59

1. Answering Questions and Testing Hypotheses Based on the Results of the Study	59
2. Limitations.....	60
3. Recommendations for Teachers.....	61
4. Recommendations for Future Research.....	64
References.....	67
Appendix A.....	76
Appendix B.....	80
Appendix C.....	84
Appendix D.....	88

Abstract

Reading is universally considered as a fundamental cognitive process of acquiring information from written text. Since individuals acquire reading skills differently, there is no single way for teaching reading. For many years, the educational system has valued primarily linguistic and mathematical ways of learning and has placed a stronger emphasis on test scores than on the learners themselves. In 1983, Howard Gardner developed the theory of multiple intelligences (MI), focusing on different intelligences in learning. This study is a qualitative action research that aimed at investigating how children learned to read by highlighting each child's dominant intelligence and by exploring how MI affected reading performance. As a teacher-researcher, I integrated MI theory in the learning process of seven children and focused on the unique ways they learned to see if their reading performance improved. The results and their implications showed that the use of MI in learning led to better reading performance.

It is recommended that teachers should place more emphasis on learners' needs and their dominant ways in processing information. Reading instruction should be redirected in such a way that teaching, learning and literacy are equitable for all students. A match between learner needs and the educational environment enables learners to engage in active, rich and effective learning experiences.

Keywords: Reading, multiple intelligences, learning, learner's needs.

Chapter One: Introduction

1. Contextual Background

Reading constitutes an essential part of language. It is a means of learning, sharing ideas and information, or even taking pleasure in a work of literature. During the process, readers have to decode the written or printed text in order to construct meaning. According to Pinker (2003), since reading and writing are not acquired independently, early instruction encourages literacy skills to flourish and develop. “This helps to explain why most children do not learn to read until they get to school” (Thompson & Nicholson 1999, p.1). Effective reading instruction helps learners make sense of written language. Children need to learn to read because the purpose of reading is not just to decode words into sounds or syllables but to understand the meaning of a written text. Children need an environment in which awareness and knowledge of reading skills produces effective learning (Boegehold, 2012; Prashnig, 2008). Is this what is actually being done in our schools today? Countless are the situations in which learners become passive due to teaching practices that are not suitable for their needs. Such learning environments are really no longer conducive to successful and satisfactory learning (Prashnig, 2008).

Traditional education practices with a strong emphasis on mathematical and linguistic skills limit many learners from developing and enhancing their potential (Prashnig, 2008; Gardner 2003; Gardner & Hatch, 1989). An over-reliance on these two skills favors students strong in these areas and fails to consider that children have different intellectual potentials (Christodoulou, 2010). According to Armstrong (2009), teachers need to expand and implement new strategies that go beyond the ones that are applied in the classrooms. Unlike traditional practices, the knowledge and use of new instructional

techniques encourages teachers to embrace children's learning differences and try to ensure that everyone receives an education that maximizes his or her own intellectual potential (Gardner, 1993). To achieve this purpose, traditional classes should shift to learner-centered classes where the real focus is on learners' needs and interests. Based on that, teachers can orchestrate their classes to make learning effective for their students.

2. Statement of the Problem

This study highlights a major problem that students and specially children have been and are still facing today: reading is being taught through one intelligence, basically the linguistic intelligence while children use different intelligences when learning.

As a KG2 teacher, I encountered situations in which some of my colleagues used one approach to introduce short stories and that is by reading them to the class instead of using different ways to set up the story such as using flash cards, listening to a CD player or even encouraging interactions between students to cater for the children individual differences. Since there is no single way for learning how to read, reading instruction should take into consideration children's different pathways that lead to reading achievement.

Reading ability may be automatically linked to linguistic intelligence while reading can be taught with other intelligences (Armstrong, 2009; Gardner, 1993). Studies are being conducted to show whether children can learn to read not only by using language to extract meaning from text but also employing other ways to understand a story. Some examples might include listening to music, dancing, building a puzzle, using hands-on experience, or even working in groups. Using MI theory as a model of practice has the possibility to accommodate all students' learning experiences. Given the amazing brain power, students

can learn any subject matter successfully if the instructional methods used are matched with their learning proclivities and if they are exposed to a variety of materials (Prashnig, 2008).

3. Purpose of the Study

This study attempted to explore how teachers, based on children's multiple intelligences, accommodated reading experiences to promote effective learning. The purpose was to investigate the implementation of MI theory in reading, and compare it to traditional teaching where all kinds of students received the same type of teaching. As a teacher/researcher, I wanted to see whether students that received instruction geared toward their multiple intelligences (MI) performed better in reading than students who did not. Knowing that children use all their intelligences in learning about different topics, and the teachers' role is to orchestrate between the different intelligences, this study targeted the use of the more dominant intelligence in being effective on children's reading performance. When teachers accept this diversity and modify instruction towards the specific intelligence of each child to manifest themselves by playing with the materials that display their intelligence, reading performance improves (Prashnig, 2008; Beachner & Pickett, 2001).

4. Research Questions and Hypotheses

The questions that emerged from this study are the following:

- Do children use multiple intelligences when they learn how to read?
- According to a child's dominant intelligence, can teachers enhance the reading environment?

By exploring children's different intelligences, teachers might recognize that not all children learn reading in the same way and therefore identify the multiple intelligences profile of each child based on their predisposition for learning.

The research hypotheses are:

- If children use different intelligences in learning how to read, their reading performance improves.
- If teachers are aware of the importance of multiple intelligences in learning and accommodate them for each learner, reading performance develops.

5. Definition of Terms

5.1 Literacy and reading. According to Thompson, & Nicholson (1999), “literacy has derived from the needs of human society for a recorded form of language” (p.xi). It is the ability to use the symbols of a writing system. Simply defined, “literacy is the ability to read and write” (Crystal, 2003, p.275; Inglis & Aers, 2008). Since this study was about how children learn to read using multiple intelligences, the focus was on defining reading. As Klein & McMullen (1999, p.1) defined it, reading is a “cognitive skill that involves connecting visual input in the form of arbitrary symbols (orthography) to linguistic representations (meaning)”. It is a combination of cognitive capacities, visual abilities, and various types of knowledge (linguistic knowledge and knowledge of specific comprehension strategies) (Snow, 2002). In other words, it is a complex process of decoding the symbols of a writing system in order to derive or construct meaning. Since the identification of the print form of words is not an end in itself but a means to comprehension of a text, the reader must actively interact with the printed page to derive meaning. This is usually done when the reader predicts, makes inferences, organizes information, summarizes and draws conclusions (Spafford & Grosser, 2005; Shaywitz, 2003; Thompson & Nicholson, 1999; Klein & McMullen, 1999).

5.2 Multiple intelligences. The definition of intelligence in the twenty-first century diverged immensely from that of the early twentieth. Since then, myriad of definitions were written but this study limited the definition to some of the leading voices in the field. In the traditional view, intelligence was a uniform cognitive capacity which could be measured by short-answer tests. It was inherited and unchanging. In his book *The psychology of Intelligence*, Piaget (2002) defined intelligence as developmentally constructed in the mind of the learner, and moved from concrete to abstract stages of understanding. According to Vygotsky, intelligence was a function of activity mediated through material tools, psychological tools, and other human beings (Doghra, Hogan & Leighton 2009; Bentham 2002). Sternberg (1985, 2000) saw intelligence as triarchic, with analytic, creative, and practical components that need to be balanced. Gardner revolutionized the idea of intelligence by founding his theory of multiple intelligences which pluralized the traditional concept. To him, Intelligence is made up of different realms of knowing: verbal-linguistic, logical-mathematical, visual-spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal and naturalistic. In *Multiple Intelligences- The theory in practice* (1993), Gardner defined intelligence as “the ability to solve problems, or to fashion products, that are valued in one or more cultural or community settings” (p.7). He added to his definition that “intelligence is a biopsychological potential. Whether and in what respects an individual may be deemed intelligent is a product [...] of his genetic heritage and his psychological properties, ranging from his cognitive powers to his personality dispositions” (p.51) (Presseisen, 2008; Viens & Kallenbach, 2004; Gardner 1993).

Chapter Two: Literature Review

1. Teaching Reading

According to Thompson (cited in Edwards and Corson, 1997), for over a century, there have been two main approaches to teaching reading: analytic approaches and global approaches, also known as bottom-up and top-down (Ashton-Townsend, 2010; Warner, 2013; Sousa, 2014).

The central notion behind the analytic or bottom-up approach is that “reading is a matter of decoding a series of written symbols into their aural equivalent” (Nunan, 1995, p.64). According to this model, the reader processes each letter. Then these letters/graphemes are matched with the phonemes/ sounds of the language. These minimal units of meaning in the sound system are blended together to form words. Meaning is therefore the end process in which language is translated from one form of symbolic representation to another. Cambourne (1979, cited in Nunan 1995) used the term “outside-in” rather than bottom-up. He provided the following illustration to show how the process works:

Print → every letter discriminated → phonemes and graphemes matched → blending → pronunciation → meaning

According to this model, the reader processes each letter as it is encountered. It is assumed that the reader possesses an oral vocabulary which is extensive enough to allow decoding to proceed. Most teachers of reading encounter children who are able to decode print and thereby read without understanding the meaning of the text. Thus, if the purpose of reading is to comprehend the meaning of a written text, then decoding does not lead to comprehension anymore (Sousa, 2014).

The second approach is the global/ top-down or even psycholinguistic approach. The central notion behind it is that “the reader rather than the text is at the heart of the reading process” (Nunan 1995, p.65). This approach emphasizes the reconstruction of meaning rather than the decoding of words. Cambourne (1979, cited in Nunan, 1995) provided the following schematization of the approach:

Past experience, language intuitions and expectations- selective aspects of print-meaning- sound/pronunciation if necessary

What is fundamental to this process is the interaction between the reader and the text, i.e. readers bring in their knowledge, expectations, interests, attitudes, and motivation to the text they read in order to extract meaning. Oller (1979, cited in Nunan, 1995) also stressed the importance of taking into consideration psychological as well as linguistic factors in accounting how people read. He pointed out that the link between our knowledge of linguistic forms and that of the world was very close (Wearmouth, 2003).

To sum up, analytic or bottom-up approaches “include instruction about the sounds that correspond to the letters of printed words, that is, explicit phonics instruction” whereas global or top-down approaches “exclude such instruction and consider print words largely as tokens of meaning for the child’s understanding of the text” (Thompson & Nicholson, 1999 p.103; Treiman, 2001; Anderson, 2005).

There has always been a controversy of whether to adopt the bottom-up or top-down approach for teaching children how to read. What matters in fact is not which approach to use in as much as focus on the real purpose of reading: comprehension. Moreover, since children have different intelligences, they might use different approaches to tackle reading and as a result, teachers need to be aware of that to be able to provide an appropriate and

effective learning environment. Teachers need to orchestrate their classes in order to make the learning environment more engaging, interactive and fun. A comprehensive model for teaching reading aims at assisting students by enhancing their potential and developing their reading skills. Are these latter introduced properly and effectively in today's classrooms?

2. Traditional Classrooms

In his landmark research study *A place called school*, John Goodlad (1984) described a typical school day like this:

[...] the teacher sat at a desk, watching the class or reading. The students sat at table-type desks arranged in rows. Most were writing, a few were stretching, and the remainder were looking contemplatively or blankly into space. [...] In the other, the teacher was putting an algebraic equation on the chalkboard and explaining its components to the class. In visits to several other academic classes that day, I witnessed no marked variations on these pedagogical procedures and student activities (cited in Silver, Strong, and Perini, 2000, p.46).

As described in the above traditional classroom, the teacher lectured while standing at the front of the classroom, wrote on the blackboard, asked students questions, and waited while students finished their written work (Armstrong, 2009). Elements of such traditional teaching included: students sitting at desks, confined to limited activities, doing little brain stimulation, feeling tension and stress, having low learning motivation, and experiencing little room for individuality (based on experience and handouts by Eric Jensen and Jeanette Vos, cited in Prashnig 2008; Simpson, 2013; Uden and Beaumot, 2006).

In the eyes of modern educators, teacher-centered methods dominated traditional teaching. The sole purpose was delivery of information regardless of students' needs and

preferences. Consequently, this promoted rote learning and memorisation. According to Prashnig (2008), the problem lied not in “what” was being taught but “how” it was done. Such traditional teaching methods discourage children from remaining sensitive to their own capacities for learning. As long as teaching methods are not varied and teachers continue to use identical teaching strategies for everyone, they will not reach students who need them the most, will keep losing their students in the learning process and, what is even worse, lose them as lifelong learners. As more studies emerge, some teachers become aware of the importance of the individual’s needs in relation to learning and therefore abandon old methods in favour of learner-centered classes and useful approaches to learning. The rise of the multiple intelligences provided valuable insight about the diversified ways in which any person can learn.

3. Multiple Intelligences

3.1 Description of Multiple Intelligences

In 1983, Howard Gardner, a cognitive psychologist at Harvard University, published his ground-breaking book, *Frames of mind: The theory of multiple intelligences*. This marked the birth date of the Multiple Intelligence theory. His work expanded the traditional notion of intelligence beyond linguistic and mathematical competencies, and redefined what intelligence is. Gardner (1993) defined intelligences as “biological proclivities or potentials, which are realized or not realized, depending upon the cultural context in which they are found” (p.221). Gardner’s theory echoed across the educational field. Unlike psychologists who refuted his theory, educators and teachers from around the world welcomed his ideas.

In Gardner's view, since "it is fundamentally misleading to think about a single mind, a single intelligence, a single problem-solving capacity" (2003, p. 13), the purpose of school should be to develop intelligences and to help students reach goals that are appropriate to their particular spectrum of intelligences. "A fuller appreciation of human beings occurs if we take into account" the various types of intelligences (Gardner, 2003, p.5). Students who were helped to do so felt more engaged and competent, and therefore more inclined to serve the society in a constructive way.

Based on his studies, Gardner realized that intelligences were expressed in multiple forms. These intelligences are a "set of abilities, talents, or mental skills" (Gardner, 2006, p.6). In addition to linguistic and logical mathematical abilities, he identified kinesthetic, visual-spatial, musical, interpersonal, and intrapersonal. Thirteen years later, he added to the original seven the naturalist intelligence, and more recently a ninth, existential intelligence (Gardner, 2003; Armstrong, 2009; Campbell, 2008; Prashnig, 2008).

Before describing the intelligences, it is important to mention the essential points of the model: (Gardner, 2003, p. 8; Armstrong, 2009, p.15-16)

- Each person possesses all intelligences.
- No two people, not even identical twins, possess exactly the same profiles of intelligences.
- Most people can develop each intelligence to an adequate level of competency.
- Intelligences work together in complex ways.
- There are many ways to be intelligent within each category.

These points highlight the essence of Multiple Intelligence theory.

The following is a short description of how each of the major intelligences is manifested in children. The linguistic or word smart child enjoys reading books, telling stories, and writing. The logical-mathematical or number smart child likes playing with numbers, counting, and making patterns. The visual-spatial child enjoys movies, puzzles and arts activities such as drawing and painting. The bodily-kinesthetic child takes pleasure in working with the hands or body such as playing with play dough or dancing. Also, the kinesthetic child finds it hard to sit still in one place and taps with his pencil when distracted. The musical child responds favourably when a song is put on and likes to play musical instruments. Also, when given a piece of reading, the musical child reads rhythmically and enjoys changing intonation. As the name indicates, the interpersonal or social smart child has many friends and likes to be in the company of others. Unlike the interpersonal child, the intrapersonal or self-smart child likes to spend time alone, whether in playing or while working. They display a sense of independence and always show self-confidence. And finally, the naturalist child is the one that has sensitivity to nature, seasons, plants and animals. The naturalistic child likes to share nature collections with his class, such as acorns, leaves or even small animals.

The following is a description of Gardner's intelligences:

Intelligence	Core components
Linguistic	<p>Ability to use language effectively, whether orally or in writing.</p> <p>Ability to manipulate words in a sentence (syntax), sounds (phonology), and meanings of language (semantics).</p>

Logical-mathematical	<p>Ability to use numbers effectively, calculate, quantify, and carry out complex mathematical operations.</p> <p>Ability to analyze and classify information, theorize and create patterns and hypotheses.</p>
Visual-Spatial	<p>Ability to perceive the visual-spatial world accurately. It includes sensitivity to color, line, shape, form, space, and the relationship that exists in these elements.</p>
Bodily-kinesthetic	<p>Ability to manipulate objects and use a variety of physical skills such as coordination, balance, flexibility and tactile capacities.</p>
Musical	<p>Ability to perceive, discriminate, transform and express musical forms. In other words, sing, play instruments, compose, appreciate and produce rhythms, pitch and form of musical expression.</p>
Interpersonal	<p>Ability to understand and interact with other people effectively, have social responsibilities and compassion.</p>
Intrapersonal	<p>Ability to understand oneself, one's own thoughts, feelings, weaknesses and desires, and use such knowledge in planning and directing one's own life.</p>
Naturalist	<p>Ability to observe, understand, and organize patterns in the natural environment, including plants, animals, rocks, clouds and stars.</p>

Existential	Ability to understand oneself in relation to the cosmos and ability to understand the meaning of life and death.
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Adapted from: Gardner, 1993; Armstrong, 2009; Silver, Strong and Perini, 2000; Beachner & Pickett, 2001; Prashnig, 2008; Campbell, 2008; Peariso, 2008

These intelligences are the basis for differentiated instruction. In other words, accepting the diverse cognitive profiles that each person has means accepting that instruction must change to accommodate each learner's needs (Campbell, 2008). Since each person possesses different abilities to learn, providing various ways of learning is a necessity. Therefore, teachers should vary their instructional tools in order to reach all types of learners.

Multiple intelligences theory proposed that it is more fruitful to describe an individual's ability in terms of several relatively independent but interacting cognitive capacities rather than in terms of a single intelligence (Moran, Kornhaber, and Gardner, 2006). According to Michael Posner, founding director of Cornell University's Sackler Institute for Developmental Psychology and now a professor emeritus of psychology at the University of Oregon, intelligence shouldn't be thought of as a single and fixed entity, but rather as working and interactive since it is wired in the brain and with proper training, intelligence can change and develop. Everyone has all eight types of the intelligences at varying levels of aptitude, and all learning experiences do not have to relate to a person's strongest area of intelligence. For example, if someone is skilled at learning new languages, it doesn't necessarily mean that they prefer to learn through lectures. Someone with high visual-spatial intelligence, such as a skilled painter, may still benefit from using rhymes to

remember information. Judy Willis, a neurologist, middle school teacher, and author of several books on the subject, said that educators can achieve a lot just by designing lessons that appeal to multiple senses. She suggested that teachers lead a child into a new subject through their particular strengths and interests. Once the child is engaged, the teacher can challenge them to use a different, weaker skill set for another part of the lesson, helping them develop those parts of their brain (Rubenstein, 2009).

3.2 MI and Foreign Language Learning

Stephen Krashen, emeritus professor of linguistics and education at the University of Southern California, introduced some of the most influential concepts to the study of language acquisition, and more specifically foreign language learning. In his view, children acquire second languages in the same way they learn their first, which is by being exposed to interesting and comprehensible listening and reading material. In other words, children acquire a language when they understand the meaning of spoken or written messages, and when they have meaningful interactions with other children (McCaul, 2016).

With the rise of multiple intelligences in the educational field, studies done by Morgan and Fonseca (cited in Arnold & Fonseca, 2004) showed a significant correlation between MI and foreign language learning. Other MI studies carried out in the realm of English as a foreign language (EFL) investigated the relationship between EFL learners' MI profiles and their language learning strategies (Hajhashemi, 2011, cited in Derakhshan & Faribi 2015). The results below show the use of MI in foreign language learning classrooms:

- In linguistic intelligence for instance, speaking skill could be improved if an individual's MIs was recognized (Derakhshan, & Faribi, 2015).

- Musical intelligence had an effect on learning English (Arnold & Fonseca, 2004). The musical class changed the level of learning because students understood better by manifesting their intelligence (playing instruments and listening to music).
- Visual teaching aids such as charts, pictures, drawing, slides, posters, and video helped students learn English better (Arnold & Fonseca, 2004). In the foreign language classroom, many learners manifested their logical-mathematical intelligence by problem-solving tasks as they constantly reread a text to acquire a familiarity with the vocabulary and structures, and focused mainly on meaning to solve the problem (Arnold & Fonseca, 2004).
- Students developed their bodily-kinesthetic intelligence when teachers provided opportunities for physical challenges during the foreign language lesson (Christison, 1998). The use of different types of playing, drama, games and other activities that were related to the body intelligence improved comprehension skills.
- In the interpersonal intelligence, working in groups and being cooperative in learning improved listening and speaking skills. Students developed their intelligence through activities that involved them in solving problems and resolving conflict (Christison, 1998).
- In the intrapersonal intelligence, teachers helped EFL students develop their intelligence by understanding their own styles of learning and expressing their own preferences (Christison, 1998).

Based on these studies, children were capable of learning English as a foreign language because teachers supported language learning by bringing in the different types of

intelligences into their classrooms. In other words, teachers provided a variety of language activities that engaged multiple forms of intelligences to produce effective learning.

3.3 Criticisms of MI Theory

Along with the expanding popularity of multiple intelligences especially in the educational field, and as is the case with every new philosophy, there had been a growing body of writing that criticized the theory. The following paragraphs present some of the most common criticisms regarding the application of multiple intelligence theory in learning:

To begin with, what critics disagreed mainly about was the definition of intelligence. By creating his ground-breaking theory in 1983, Gardner wanted to challenge the definition of intelligence which was only considered as a singular entity and used as a measure to indicate general ability. As stated earlier in this chapter, Gardner pluralized the definition of intelligence by stating that intelligences could be manifested in different forms (Farmer, 2016; Armstrong, 2009). According to him, children can learn any subject matter using different intelligences and not only the ones traditionally used.

Other opponents of MI theory suggested that it lacked empirical support (Waterhouse, 2006; Shearer & Karanian, 2013; Gilman, 2001). Collins (1998), cited in Armstrong (2009), stated that "evidence for the specifics of Gardner's theory is weak, and there is no firm research showing that its practical applications have been effective" (p.95). MI theory represents a wide range of techniques, tools, strategies, and methods, and each teacher is encouraged to develop their own unique approach and implement them in their classrooms. This suggests that one classroom could be very different from MI in another

classroom and therefore results cannot be valid like in standardized tests and when using quantitative tools.

Some others criticized the impracticality of MI regarding its application in instructional settings (Feldman, 2012). Differentiating instruction encouraged teachers to categorize students based on their preferred ways of learning and accommodate instruction according to learners' needs. Teachers mentioned the increased workload and materials they had to prepare to tailor lessons appropriate to their students. Matching materials according to each child's dominant intelligence is time consuming and requires a lot of preparation. Teachers also mentioned that not all intelligences could be applicable. For instance, the musical intelligence could not be integrated into all subjects. Others mentioned that the intelligences could not fit proportionally since some were used more than others. Some others stated that not knowing the theory adequately and applying it without prior planning could cause teachers to misguide their students (Kennedy-Murray, 2016; Kosnik & Beck, 2009; Fleetham, 2006; IJER, 2005).

In summary, since its inception and as is the case with other theories, MI attracted considerable attention from people in the educational field and its popularity is still expanding to reach the generation of the 21st century. While some have welcomed the theory and considered it as the ultimate way for reaching the most number of students in the classroom, others refuted it and criticized it (Akhtar 2015, Christodoulou et al. 2010). Psychologists argued that there was no empirical evidence to support the concept. Multiple intelligences were considered as divisions deriving from the human intelligence. Neuroscientists have found no data to support the existence of these multiple divisions in the brain (Gilman 2016, Southey 2015, and Armstrong 2009).

The theory has been widely criticized by educators and psychologists all over the world, yet, despite these criticisms, it is adopted by many educators and incorporated into new teaching methods. Regardless of the way in which intelligence is defined or measured, teachers using modern instruction acknowledge that each learner has different intellectual abilities, and strive to provide effective learning experiences to all. Despite the criticism, practitioners have found that the theory had myriad of implications for teaching and more specifically for language learning. The aim of using MI in the classroom is to highlight students' strengths and widen their potential from uni-dimensional to offer a more holistic approach to learning. According to different studies by Ozdemir et al. (2006), the application of MI in educational settings have led to better performance and retention of knowledge as well as more understanding of content. Moreover, it provided teachers with a framework for making instructional decisions (Christodoulou et al. 2010). Other specific studies on MI and reading done by Bas and Beyhan (2010), Stanciu et al. (2011) and Soleimani (2012) justified the efficiency of multiple intelligence-based teaching and learning strategies on the traditionally designed activities (Modirkhamene et al. 2012, Soleimani 2012). In other words, instruction based on MI in comparison with the traditional way of teaching has proved to be more effective.

4. New Perspective for Teaching and Learning

Silver, Strong, and Perini (2000) used the metaphor of the house to stand for teaching. They suggested the use of multiple intelligences to make a better house of teaching, not by destroying older practices, but instead by remodelling and improving those practices to reach more students. When teachers made a shift in their instruction, learning was likely to be different from how it was a century ago (Watkins et al. 2007).

Gardner (1993), the founder of Multiple Intelligences theory, stated the following:

“It is of utmost importance that we recognize and nurture all of the varied human intelligences, and all of the combinations of intelligences. We are all so different largely because we all have different combinations of intelligences. If we recognize this, I think we will have at least a better chance of dealing appropriately with the many problems that we face in the world” (p.12). The multiple intelligences that each person has represent a door to understanding diversity in the classroom (Silver, Strong, and Perini, 2000). Disregarding human diversity harms the development of human potential; this is the reason why teachers should use various instructional tools to help children develop their learning potential.

Gardner suggested that teachers “present material in numerous ways and provide a curriculum full of choices in order to maintain a learner-centered teaching approach in keeping up with MI theory” (Phillips, 2010, p.9; Edwards, 2009). When students in class realized that their individuality was accepted and they were allowed and encouraged to learn their way, their motivation went up, their schoolwork became more enjoyable, their study skills improved, and with these positive developments their self-esteem increased (Prashnig, 2008). Effective learning therefore did not occur unless students were actively engaged in the learning process (Watkins et. al., 2007). Therefore, teachers’ role lies in providing rich materials that help learners engage in learning and use different instructional tools to reach diversity in their classrooms.

5. Role of the Teacher in the MI Classroom

According to Gardner (1993), Beachner and Pickett (2001), the role of educators would be to try to understand the abilities and interests of the students. In other words, it is important for teachers to know what goes on in their students’ heads, how they think, what

makes them succeed or fail, and how they need to be treated to allow them to grow and develop their full learning potential. If the instructional methods used are matched with their intelligences, students can learn any subject matter successfully (Prashnig, 2008).

To do so, teachers are to create a classroom environment that allows students to process information the way they do in the world outside of school. Outside school, children tend to rely on their natural ways of learning (Silver, Strong, and Perini, 2000). Young children for instance involve their hands a lot, have large amounts of learning materials and “play” with things during the learning process. Since learning does not occur solely in the brain, teachers might offer students different strategies for building meaning of what is going on around them. Some examples might include physical involvement, understanding and sense-making, and interaction with others (Watkins et al., 2007). In other words, to make information intake or learning truly successful and fun, instruction should allow for listening, talking, discussing, reading, watching, thinking, imagining, hands-on involvement, doing, experiencing or feeling (Prashnig, 2008). Effective learning therefore occurs when students are actively engaged in the learning process i.e. when they construct meaning by linking prior knowledge and experiences to what is being learned (Lambert & McCombs, 1998; Brown & Campione, 1998; Baron, 1998; cited in Watkins et. al, 2007).

A teacher in the MI classroom contrasts sharply with a teacher in a traditional classroom. Multiple intelligences provide a way for teachers to “expand the repertoire of techniques, tools, and strategies beyond the typical linguistic and logical ones predominantly used in (...) classrooms” (Stanford, 2003, p. 82 cited in Phillips, 2010). In the MI classroom, the teacher continually shifts her method of presentation, often combining intelligences in creative ways. She draws pictures on the blackboard or shows a videotape to illustrate an

idea. She often plays music at some time during the day. The MI teacher provides hands-on experiences, whether this involves getting students up and moving about, or passing an artefact around to bring to life the material studied, or having students build something to reveal their understanding. The MI teacher also has students interacting with each other in different ways and where possible, creates opportunities for learning to occur through living things or in the middle of the natural world (Armstrong, 2009). In other words, while teachers deliver content to students through presentation and lecture in traditional classrooms, they create an environment that encourages student to actively find meaning in what they are learning in today's classrooms. Therefore, in the former type of instruction knowledge is transmitted to students whereas it is constructed in the latter (Watkins et. al. 2007).

Knowledge and application of multiple intelligences helps teachers create a learning environment which caters as much as possible for each student's needs. When teachers celebrate the multiple intelligences and talents of each child, students feel welcome into the classroom and their differences shine. Moreover, they become more confident learners, satisfied with their own learning progress (Prashnig, 2008; Beachner & Pickett, 2001).

Even after twenty years after coming up with MI, Gardner insisted that his theory was not a set of prescribed rules that schools should act upon and educators apply equally to all learners in all settings. Its use in schools should reflect a teaching and learning goal that strives "not to leave any student out of the learning loop like the traditional schooling has done" (Mbuva, 2003, p.11 cited in Phillips 2010). Gardner also believed that "much work needs to be done on the question of how the intelligences can best be mobilized to achieve specific pedagogical goals" (2003, p.11). So our role as educators would be to try to reach

all students in an effective way. More precisely, through this study, my role as a teacher was to explore to what extent the application of multiple intelligences in teaching and learning could affect children's reading performance.

As mentioned earlier, learning shifted from teacher-centered classes to learner-centered classes where the focus is on the learners. Since this study was about children, teachers were therefore invited to remodel their practices and design them in a way that promoted children's awareness of their own learning. Besides, tailoring learning activities must be based on children's preferred styles or preferences (Watkins, 2010). Howard Gardner's Theory of Multiple Intelligences honored and promoted the development of all seven avenues of intelligence in young children. This approach provides a framework to identify how children learn; to build on their strongest assets; to help them become more intelligent by exposing them to a variety of ways of learning; to better individualize for their interests and needs; and to use teaching strategies that make learning more efficient, successful, and enjoyable for all children. Teachers can foster meaningful learning experiences by using multiple teaching tools and strategies and by building positive, supportive relationships with children. Knowing which students have the potential for a certain strong intelligence helps create opportunities where the strength can be fostered.

In other words, MI theory highlights the role of the teacher in organizing the learning experience according to students' capabilities and that is by engaging learners in the learning process (Tan, 2006, cited in Yalmanci and Gozum, 2013). Teachers should have knowledge about the education based on MI theory in order for them to identify the intelligence profile of the students having difficulty in comprehending the subject and to prepare appropriate activities for these profiles. According to Hasenekoglu and Gurbuzoglu (2009), it is thought

that students can be academically more successful through education based on MI theory in which they can be more effective, use the materials by themselves, speak and discuss freely, learn by seeing and acting, and use their undiscovered intelligence fields. For this reason, in our era where individual differences come into prominence, more importance should be attached to the theory of MI that can support the students' individuality, and make learning more pleasant (Yalmanci & Gozum, 2013).

Gardner (cited in Strauss, 2013) suggested that teachers both individualize and pluralize their teaching. In the former, he invited teachers to learn as much as they could about each student, and teach each person in ways that they found comfortable and learn effectively. In the latter, he invited teachers to teach important materials in several ways, not just one (e.g. through stories, works of art, diagrams, role play). In this way, teachers could reach students who learned differently.

Since the theory of MI states that all seven intelligences are equally needed to function productively, educators should place a greater emphasis on the development and use of these intelligences. Teachers should structure the presentation of material in a way that engages most of the intelligences (Peters, 2010). In other words, teachers should reinforce the same material in a variety of ways. By activating this variety in the classroom, teachers are facilitating a deeper understanding of the material. Since children come to class with different sets of developed intelligences, teachers can provide students ways to use their more developed intelligences to assist in the understanding of a subject which normally employs their weaker intelligences. It is therefore important to avoid labeling students as one type of learner. Gardner stated that any person can think of a certain topic in multiple ways once this topic is understood.

Chapter Three: Methodology

This study is a qualitative action research that aimed at investigating how children learned to read by highlighting each child's dominant intelligence and therefore how MI affected their reading performance. By definition, action research in education is an approach in which teachers study their own problems or concerns in their own classrooms (Gay & Airasian, 2003). It is done "using qualitative methods to describe what is happening and to understand the effects of some educational intervention" (Mills 2003, p.5, cited in Gay & Airasian, 2003). Teachers observe what happens in the classroom to understand how children learn and therefore test the effects of their intervention in the learning process.

1. Type of Research

In order to observe the effectiveness of teacher intervention on children's learning, the teacher/ researcher implemented an action research to explore the extent to which a MI approach could achieve positive educational change in the specific school environment studied. According to Corey, Glickman, and Calhoun in Gay and Airasian (2003), action research in education involves teachers identifying a school-based topic or problem to study, collecting and analyzing information to solve or understand that topic or problem, and aims at improving professional development and school improvement (Stringer, 2014; Townsend, 2013). Since identifying the area that needed improvement was primary in this type of research, as a preschool teacher the focus was on learning how multiple intelligences assisted children in learning to read and if implementing this type of learning might have improved their reading performance. For this action research, the qualitative approach was used.

Unlike the quantitative approach that uses structured techniques to measure data, the qualitative approach uses unstructured techniques in data collection (Wyse, 2011). In this study, such unstructured technique included the collection of narrative data over a certain period of time in the researcher's naturalistic setting. More precisely, this study examined the way in which KG2 students manifested their multiple intelligences, described their interactions and relationships with each other in their natural surroundings. As a teacher-researcher, having spent enough time in the same setting as my students and focused on each child, gathering data directly from their interactions with each other and with their environment was a good opportunity. The results might therefore improve knowledge about this topic and eventually affect pre-schoolers' instruction.

2. Participants

Unlike quantitative research which involves a large sample, qualitative research typically involves a small group of participants. "Although both qualitative and quantitative research methods are used in action research, it is clear that in action research qualitative methods are used most frequently" (Gay & Airasian, 2003, p.262). A major benefit that ensued from using qualitative method in action research was that teachers developed a deeper understanding of students since the study was being conducted in the teacher's own classroom (Tracy, 2013).

For this study, seven subjects were selected to represent Gardner's seven basic intelligences from a population of 20 students enrolled in the KG2 classroom at Sagesse High School, a Lebanese Catholic school that teaches English as a first foreign language. Since Arabic is the native language in Lebanon, English is considered as a foreign language, as is true of other countries around the world. Outside the classroom, students had very few

opportunities to use English language. Enrolled in an educational system that uses English as a first foreign language, the participants were exposed to the language fourteen periods per week besides other subjects. The age of the participants varied between 54 and 72 months. It could be assumed that all participants came from middle to high class families since the school's tuition fees were considered as one of the highest nationwide. As a teacher/researcher, the focus in this study was more on investigating the effect of MI theory in helping EFL children to read as opposed to traditional reading instruction.

Being a qualitative action research, interpretation of results depended on the characteristics of the group. The study aimed at identifying and understanding important details from the data to be collected. At the KG2 level, all participants were expected to be familiar with the letters of the alphabet yet they did not know how to read. During the academic year, children learned identifying, using and writing one letter of the alphabet per week, and soon started blending sounds to make short words. Data was collected during a two-month observation. Children were introduced to two types of reading instruction. The former was based on traditional reaching instruction while the latter integrated MI in reading. As stated earlier, the purpose of this study was to gain insight on how MI could positively affect children's reading performance.

3. Instruments

According to Gay and Airasian (2003, p.14), "to deeply understand the participants and their context requires both spending substantial time in the natural setting and collecting a great deal of data". The researcher needed to gather data from fieldwork, by spending a lengthy period of time in the same setting as participants (Tracy, 2013). The types of data collected in qualitative action research are diverse. Some examples that were used in this

study include: observations, interviews, questionnaires/ surveys, and readily available data (Willis, 2008). This latter includes students' portfolios, list of class activities or even writing samples. Field notes reflect the experiences of the observer, factual descriptions, interactions between participants, and personal reactions (Gay & Airasian, 2003). Observations were made during the teacher's own class instruction for a two-month duration and were followed by interviews with parents. After the interviews, questionnaires were given to parents. They provided the teacher with information about children experiences outside school.

According to Gardner (1993), assessment is a part of the natural learning environment, where children are engaged in a learning situation, and can be referred to as contextualized testing since it occurs in a context with which children are familiar. Unlike contextualised testing, decontextualized testing refers to assessing children in isolation. As its name indicates, it suggests testing children's abilities by removing the context they are familiar with. Assessment should occur through observing children in a natural, comfortable, playful context (Brodie, 2013; Snow & Van Hemel, 2008). According to Armstrong (2009) and Strickland (1998), the single best tool for assessing students' multiple intelligences is simple observation. This allowed the researcher to observe students' behaviors as they occurred naturally. When children are immersed in rich activities, teachers can observe which intelligences are highly manifested and which are not. Based on that, teachers can "frame assessment so that students can demonstrate their knowledge using their stronger intelligences" (Phillips, 2010, p.8). Besides observation, the researcher could make extensive use of field notes. They included the researcher's descriptive data, i.e. what was seen and heard during the observations, and the reflective data, i.e. the researcher's thoughts or ideas based on the intelligences observed. Another important qualitative data collection

approach is the interview (Gardner, 1993; Armstrong, 2009). It provided the researcher with additional information about the children's behaviours from home and not acquired from observation. Such information might enlighten the teacher about a profile the child did not reflect in school. An additional data source that falls under qualitative research is the questionnaire. It can be completed by parents to supply information about students when a large number of responses are needed (Gay & Airasian, 2003).

4. Procedure

Prior to engaging in the study, a letter for approval was sent to the school rector and academic dean including a clear explanation on the purpose of the research. Upon their request, a copy of the project had to be submitted after the research completion. Once their consent was obtained, the principal of the preschool division was informed of what the study entailed, explaining the procedures and expectations. Gaining acceptance and trust from the school personnel, I set sail.

In this qualitative study, the researcher, being the teacher as well, was a participant observer who engaged fully in the activities studied and understood the natural environment lived by the participants. During the first two months, the teacher/ researcher observed students to see their profile of intelligences at work and play. The time spent in observation helped identify the children's intelligences. At the same time, writing notes, keeping samples of students' work and taking pictures served as concrete evidence for exploring students' manifestation of the multiple intelligences in learning.

After observing children for about two months, a checklist for assessing multiple intelligences was filled for each child (Refer to Appendix A). An interview with parents followed two weeks later to assist the researcher in obtaining additional information about

the children. It provided additional data about children that could not be acquired during the observation. The time limitation to each interview was up to ten minutes. The questions that emanated during the interview were unstructured resulting from the flow of the conversation. Responses provided by parents were spontaneous and open-ended. They included information about their children's behaviors, interests and attitudes outside school. To reinforce the large amount of data that was needed, a questionnaire (Refer to Appendix B) was sent home for completion. It included closed-end items related to each of Gardner's basic intelligences.

Once the data was gathered, the focus was on individual observations of each type of the intelligences manifested. 7 out of 20 children were selected for the study. The intelligences studied were the linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal and intrapersonal.

After identifying the sample, two stories of the same difficulty level were introduced (Refer to Appendix C). The first story was read in a classical-traditional way, i.e. the teacher read aloud the story while standing at the front of the classroom whereas the second story experience took into consideration students' different intelligences prior to the reading performance. Children heard the story, worked with the materials that displayed their intelligences, and then tried to read it aloud. To understand the relationship between intelligences and learning, children were assessed according to their individual dominant intelligence. The linguistic child had to retell a similar story then read aloud to the classroom. The logical-mathematical child had to match number cards with letter cards to make a short sentence related to the story. The musical child was asked to play with an instrument (for example, maracas) according to the song related to the story. The visual-

spatial child had to paint a picture that illustrated the story. The bodily-kinesthetic child played with hands-on activities such as constructing shapes or words from play dough. The interpersonal child pretended to be the teacher and read to their peers. Unlike the interpersonal child who likes learning in a social context, the intrapersonal child was assessed on a one-to-one basis, i.e. tell what they liked/ disliked about the story, and what the story would be like if they were the protagonist. As stated earlier, learning should occur in an authentic, playful and meaningful context.

For both stories, children were assessed in the same way. They had to read the story and answer simple comprehension questions since reading is not an end in itself but a means to an end. The purpose behind reading the story is to understand its meaning. The teacher had to make sure that all children read fluently, understood the main idea of the story, and told the sequence of events of the selection. If children were able to do so, then learning had occurred.

Chapter Four: Research Findings

1. Description of Children's Profiles during Data Collection

The profiles of the children described below were based on the information provided from the data collection and interpretation of how the dominant intelligence served and affected the learning process, more precisely reading:

1.1 The linguistic child. Angie's profile showed that she learned best using her linguistic intelligence. She showed great interest in books. She always got stories from home and asked if the teacher could read them in class to her and her friends. Whenever it was storytelling time, Angie hurried to sit first on the carpet. She sat next to me, her eyes fixed on the book, carefully following my finger as it moved on the page. Happiness and contentment of being read to could be seen on the look of her face as she smiled. Angie interacted with the stories we read by asking questions about the characters and anticipating incidents. She also had a vast and active imagination. She went beyond the plot and always asked what might happen next. For instance, she asked what might happen next when the story ended with "and they lived happily ever after". Besides, Angie possessed an extensive vocabulary. She used complete sentences and detailed descriptions when telling about an incident or retelling a story.

The last day before the Christmas holiday, Angie brought a story and insisted that the teacher reads it for the class but time failed us because we were busy with the activities and Santa's visit. She took the story sadly and put it in her bag.

While waiting for her parents to pick her up at the end of the day, Angie always asked for permission to sit in the reading corner. She crossed her legs, carefully picked up a book and attempted to read it.

Moreover, Angie tried to write her name on all the worksheets we did in class. Sometimes, she attempted to write words but ended up scribbling. Once, Angie asked how the word “love” is written to write it later on a drawing she made. She felt proud of herself as she handed in the paper.

In parents-teacher meeting, Angie’s mother told me that her child insisted on her every night to read her a story before going to bed. In fact, Angie’s love for books came from her home environment.

1.2 The kinesthetic child. Giuseppe’s profile showed that he learned best through the bodily-kinesthetic intelligence. He could not sit properly for a long time, moved from his place often in class, either to sharpen his pencils or to take a tissue paper. During any session, be it Math or English, Giuseppe asked to use the toilet twice or even more, just to have a walk outside the classroom. He always found an excuse to get out of the classroom.

When kids were asked to get their pencil cases from their cubbies, Giuseppe more often ran rather than walked toward his destination. He seemed to be more excited than the others and he expressed it perfectly through his body.

In the early morning, before the arrival of all the kids to class, Giuseppe always asked to use the play dough even if there were other toys to play with. Also whenever there was free time, Giuseppe preferred play dough on other games. He always came to me and asked: “Miss Cynthia, can I take play dough?” Giuseppe enjoyed making different shapes and called me with excitement whenever he was done so that I could take a look at his work. He seemed proud of the little things he could accomplish.

One time during a science lesson, a real turtle and the spine of a porcupine were brought in to class. Since the lesson was about “how animals protect themselves”, it was

interesting to show kids ways that animals use to stay safe. Giuseppe was among the first kids to ask if he could hold the turtle and touch the spine. He wanted to feel the hard shell that kept the turtle's body safe and the needle-like spine that served as a protection for the porcupine. The turtle and spine were passed once for each child but Giuseppe insisted on touching them another time. On the next lesson, Giuseppe asked about the turtle and the spine. He wanted to see them again so that he could feel them. He liked the experience because it allowed him to better understand how animals react.

On another occasion, the teacher was reading to the kids a story called "Pretend you're a cat". The main idea was well illustrated in pictures of children pretending to be different animals. As soon as Giuseppe heard: "What else can you do like a snake?", he fell on the ground and started moving his body, slowly sliding from left to right, imitating the snake movement. His friends were pleased and soon started imitating him. As the story moved to other animals, Giuseppe and the other kids pretended to be these animals: they purred like a cat, neighed and galloped like horse, flipped their wings like a bird and swam like fish. The children and Giuseppe in particular were having fun. The teacher did not stop him because this was his way of demonstrating his understanding of how humans can imitate the movements and sounds of different animals. Giuseppe's dominant intelligence was well manifested in his need for experimenting things to see how they work.

1.3 The logical mathematical child. Jason's profile showed that he learned best using his logical-mathematical intelligence. He enjoyed working with numbers, be it counting, adding or subtracting. He was able to add three addends to find their sum while his friends were still learning addition with two addends. While working with sheets, Jason rushed to finish the assigned page. He liked to solve addition sentences on his own and when

he was asked to wait for his friends, he replied by saying: “I know how to do them by myself”. When writing numbers from 1 to 30, Jason was among the first to finish. He presented neat and careful work. Whenever he completed his tasks, Jason waited quietly for his friends by getting himself busy sharpening his pencils and putting them in order. He always sorted them according to their size, from the smallest to the longest.

In parents-teacher meeting, Jason’s mother said that he enjoyed playing games on the computer, not the easy and childish ones but those for people above 18. She said he enjoyed competing with his dad to be the winner. Jason asked a lot of questions in order to figure out how things work.

On one occasion, Jason brought credit cards. I thought he took them without his parents’ knowledge or permission but soon realized that their date had expired. He said: “my dad gave them to me to use them when I go to the bank”. When he was asked how, he replied: “I insert it, press a number and I can get money”. This might be one of the reasons why Jason enjoyed play with numbers.

During play time, Jason’s favorite toy was building blocks such as Lego. He built structures and felt proud when he showed them to his teachers. When asked about the type of structure he built, he answered: “that’s a tall building” or “I made a long train track” or “this is a robot”.

When Jason was the helper, he organized the bags of the kids and lined them all by the wall without the request of the assistant. He wanted to have order in all things around him.

During science periods, Jason participated enthusiastically. He had a rich home background. When learning about reptiles, he said with excitement: “if the cobra bites you,

you will die in one minute”. On another occasion, the lesson was about monkeys. Dealing with young kids, it was early for their age to go deep into the different species but Jason suddenly jumped and said: “that’s a baboon”. On another period, the lesson was about lions. Jason could differentiate between the male and female. When he was asked how he knew, the reply was that the male had “hair” while the female did not. He said he had seen them in the zoo. Jason had a special interest in animals. He always asked questions to learn more about them, their survival, their shelter, their food.

On one occasion, kids were taken outside school to watch a play. Jason enjoyed counting to 100 on the way back. As soon as he felt we were getting close, he asked: “how much time we need to reach school?” The teacher replied: “around 10 minutes”. He started counting as if he was challenging himself to see if he could finish to 100 before the bus reached its destination. His friends enjoyed participating with him and all what was heard in the bus was the excitement of children as they counted happily to 100.

1.4 The visual-spatial child. Joyce’s profile showed that she learned best using her visual-spatial intelligence. Her handwork was beautifully done and her coloring was nice and neat. Her work was similar to that of an older kid. Joyce chose colors that matched, colored smoothly and never went outside the lines. She was once asked to take a play dough while her other classmates finished their work. Instead, she took her markers and a piece of paper, and headed to the group that was playing with play dough. She did not mind drawing and doodling while the others made beautiful shapes from play dough. Whenever there was free time, Joyce asked for a piece of paper, took her markers and started drawing pictures. She enjoyed scribbling and drawing and never got bored. Few weeks after the academic year

started, the Arabic teacher revealed her amazement about Joyce's illustrations. She said that Joyce was talented since she always presented neat work and detailed drawings.

Besides coloring, Joyce enjoyed playing with puzzles on the carpet. Since she was among the first kids to arrive in the morning, she put her bag in the room, gave her homework to the assistant, and chose a puzzle. She stayed on the carpet till the bell rang, focused on the completion of the puzzle even if her friends called her to join them with other games.

In addition, Joyce enjoyed creating and cutting shapes out of paper. Sometimes she drew a shape, punched it and colored it. Other times, she created pictures by cutting small shapes and gluing them on a piece of cardboard. She enjoyed her creations because she showed them proudly to her teachers once she was done.

Joyce also had an inquisitive eye on painting. She was eager to help put the paint in small cups when she and her friends were to paint a rainbow. All the colors were available except for light blue. White paint had to be added to the dark blue paint in order to obtain a lighter color. Most of the kids were excited to see the experiment but Joyce's eyes opened wide in amazement. She was so curious to see how dark blue changed to light blue with just the turn of a brush.

Joyce perceived the world accurately. She could tell the number of legs an insect or an animal had although not all legs could be seen in the picture of a flying bug or a sitting rabbit. She could easily tell the number of legs unlike her friends who asked: "where are the other legs? We can see only two". Joyce could also differentiate between two and three-dimensional figures. Unlike her friends who were still confused about the nature of the shapes, she could easily discriminate between a circle and a ball, a square and a cube, a

triangle and a pyramid. During play, Joyce activated her visual and spatial intelligence by her ability to pretend. When she played with the kitchen set, she asked what my favorite food was and pretended to prepare it. She got the pot, put in the vegetables, pretended to add water and stirred. Also, she offers her teacher a cup of coffee and asks if sugar was needed. She also pretended to make cookies and offered them to her friends. She knew how to put back the toys in order before starting a lesson or going home. She placed each toy neatly in its box and each box in its right place.

When it was pick-up time, Joyce often kept her dad waiting until she completed her work. Even if she was told: “you can do it tomorrow”, she stayed seated until she finished her task.

Joyce seemed not to get enough with her art in class since she brought in pictures she colored or drawings she made at home. She was enthusiastic about her work in general and got pleased when she got stamps or stickers.

1.5 The musical child. Karl’s profile showed that he learned best through his musical intelligence since he always hummed or whistled while working. When the kids were asked about the source of the sound, they replied altogether: “It’s Karl”. In addition, Karl never stopped tapping rhythms with his pencil. When he was asked: “Are you tapping on a drum?” he laughed and then stopped. But soon after, he did it again. Karl surely was a musical person. In fact, he enjoyed music periods with his teacher. During observation, it noticed how enthusiastic and energetic he was. He knew the lyrics of all the songs and moved with his body happily and in excitement. His love for music and ability to connect with songs was well manifested in his animated movements and rhythmic dancing.

On the last day before Christmas, the kids sat in a circle. Each child in turn was asked to tell what they would like from Santa. Karl said “a drum” with light in his eyes and excitement in his voice. When he was asked if he liked it, he started acting as if he had one right in front of him.

When the teacher entered the classroom once after the break, Karl and his friend were singing a song. He was singing with excitement and his friends were repeating after him. When the kids were asked about the song, Karl stood swiftly and sang it all so happily.

Most of the times when the kids were working in the practice book, Karl asked if the teacher could put some music. He enjoyed studying while having music in the background. When the music is on, Karl swung on his chair as if imitating the rhythm of the song. When there was no music, he said: “please! Please Miss Cynthia, put us music!”

Once, the kids were listening to a fast rhythmic song similar to the tune of *London Bridge*. The song played twice on the CD player and as soon as it ended, Karl jumped and asked if he could hear it again. As soon as it ended for the third time so far, Karl asked if it could be repeated again. When the answer was negative, Karl said: “please miss, for the last time!” Karl never got bored with music.

Every time a story was to be covered in the big book, the kids listened to it on the CD player prior to the reading. But on one occasion, the player did not work so the teacher told the kids: “it is ok; I will read it for you”. Karl immediately stood up and said: “can I get another CD player from another class?” Since music plays an essential role in his learning, Karl was desperate to get a CD player from another section. When the answer was positive, he ran out of the class and came back holding the other player with a big smile on his face.

As the teacher entered the class once after the break, Karl came and said: “look Miss, I made a dance with lines, like a pattern” and he sang a short song made of his own words. He was excited as he sang it because his eyes were shining.

Whenever the teacher passed around to check students’ books, Karl was either humming or tapping his pencil or moving his body as if he was dancing. When asked: “why do you keep humming and singing in class?” He replied: “I love to work with music”. This answer revealed Karl’s true desire to learn with music.

1.6 The interpersonal child. Romy’s profile showed that she learned best through her interpersonal intelligence. Since she always completed her tasks before the allotted time, Romy asked if she could help her friends. She always helped others when they were coloring, punching, or cutting.

Romy enjoyed working in groups to socialize with her peers. She always asked if she could sit next to her friends. She felt sad when she was told to go back to her place because she was bothering her friends. In the playground, Romy was more of a leader than a follower. She liked being the center of attention of her friends. Romy was an enthusiastic child who was liked by all her friends. She also had high self-esteem. On one occasion, she hurt the hand of her friend and was asked to apologize. Although she knew that what she did was wrong, Romy refused to say “sorry” properly though she muffled the word more than three times.

Romy did not have boundaries with anyone because of her ability to easily seek out company. She mingled with all ages, whether it were her friends or her teachers. She told jokes and made the class laugh when discussing a topic. On one occasion, the kids had to clap their hands to count the syllables in words. Every child had to say a word, clap their

hands and count the syllables. All children provided words such as: lemon-nest-dinosaur-igloo. These were words they were familiar with and which started with letters already encountered. Romy was the only one who gave the word “seniorita” and as soon as she uttered it, her friends burst into laughter. This was one of the funny incidents that Romy shared with the class. When recounting the incident to her mom during the parents-teacher meeting, the mother said that Romy often did this at home, just like her dad.

Romy’s social character was also manifested through sharing. Romy allowed her friends to play with her toys all day even in the playground. Also, she liked sharing her food with her friends. During breakfast, Romy always asked if she could change her place and sit with her friends. She took her lunchbox and did not mind sharing her snacks with the group. Romy liked keeping company. She was a natural leader and enjoyed the attention of being listened to. Romy explored the world around her through interaction with her peers and even teachers.

1.7 The intrapersonal child. Yara’s profile showed that she learned best through her intrapersonal intelligence. Yara was a very quiet child who barely participated in class and hardly ever talked to anyone. When reading about this type of intelligence, the teacher/researcher was interested in understanding how learning occurred in an intrapersonal child, knowing that this intelligence could be defined in two words: self-smart. In the playground, Yara stayed alone most of the time. When she was invited to play with someone, she refused and walked alone, looking at children as they ran and screamed. In class, Yara also worked alone. She learned from her observations of others. She liked quiet places such as the table that was closest to the reading center. Almost every morning, she was invited to get involved with an activity in the classroom. When she worked one on one with her teachers, Yara was

vocal and felt comfortable sharing her feelings. She was in touch with her feelings and knew how to differentiate between her emotions as well. In general, she understood rules and never disobeyed. Yara came once and said: “Miss, it is very noisy, I cannot concentrate”. Yara rarely interacted with other children on her own; she usually required someone to approach her. Although she might have been on the outskirts of the group, Yara was in tune with what was going on in the class.

During parents-teacher meeting, Yara’s parents said that although she had a brother, she preferred to be alone most of the time.

Yara was able to focus better when she worked on her own. Her learning was based on constant observation and interpretation of what was going on around her. Though she did not manipulate much with her hands, Yara constructed her knowledge by watching others and figuring things out.

To sum up, the above description of the intelligence profiles in this chapter was based on the observation of children during work and play. It highlighted that children had different intelligences and showed how each child’s dominant intelligence marked their propensity for learning. The following paragraph describes what children had learned during the observation period that was set for the research.

2. Description of Children’s Reading Knowledge during the Research Observation

Ten weeks had passed since the beginning of schooling till the time of the assessment. During this time, children were taught one letter of the alphabet each week. They became familiar with the following letters: N, n- A, a- D, d- S, s- M, m- I, i- T, t- C, c- O, o and F, f. They had knowledge of the letter names and the sounds they represent: /n/- /a/- /d/- /s/- /m/- /i/- /t/- /k/- /o/ and /f/, as well as the ability to read and write the uppercase and

lowercase forms of each letter. Moreover, children learned to identify initial, medial and ending sounds of short words, as well as blend sounds to read simple words, such as: Nan- Dan- Dad- sad- mad- dim- mat- tan- tin- cot- Tom- in- an- on- sit- cat- fit- fat- fan- fin- Don- dot- Mom- etc. In addition, they learned to blend syllables, onset and rimes into words. Furthermore, children built a small sight vocabulary which included recognition of the letters of their names as well as reading and writing of high-frequency words such as: the- a- my- that- and- I- is- said- we- are- you- have. Children became familiar with words that rhyme.

During these ten weeks, each letter learned was accompanied with a short story and a high- frequency word. Children were taught about the directionality of text, tracked print accurately with their finger, starting from left to right. For the first two weeks, children had rebus stories which were a representation of the high-frequency words and pictures of objects. For the other eight weeks, the stories consisted of short sentences with simple words as well as a high-frequency word. As their knowledge of letters accumulated, children were taught to read by blending sounds. They used phonics to decode simple words. Building children's knowledge of sound-letter correspondence to read both familiar and non-familiar words helped them become independent learners free to concentrate on the meaning of the text (Thompson and Nicholson, 1999). While reading a story, attention was given to the context so that meaning could be established. Children were expected to identify the main idea of a selection, summarize story events, and make inferences to comprehend a selection, use illustrations, identify the sequence of events, retell details, and make predictions to understand a story. As mentioned earlier in this study, the purpose behind reading a text was

to extract meaning from print. That is why “reading for meaning” was considered as paramount (Thompson and Nicholson, 1999).

3. Description of Children’s Knowledge during the Traditional and Modern Reading Performance

For the purpose of this study, children’s reading assessment was based on two stories of the same difficulty level. Both stories included high-frequency words and simple short words that were composed of letters with which children were familiar. The first story was read in a traditional way i.e. the teacher being at the center of the class and of the reading performance whereas the second took into consideration children’s multiple intelligences prior to the reading performance.

The title of the first story was “We fit” whereas the second was “A tin can”. The following paragraph describes how “We fit” was introduced in a traditional way to children and its implications on their reading performance.

After distributing the story to each child, the lesson began with a pre-reading question based on what the class was about to read. Children were reminded not to open their books and give guesses based on the title and the picture illustrated on the cover page. They were asked whether the bear family could fit in the car since they were all going for a ride. After discussing the plausible answers, the teacher proceeded to reading the story. The small book consisted of eight pages, each of which was composed of a sentence illustrated with a picture. Children were reminded to use their finger to help guide their eyes as the teacher read aloud. While reading, pausing every now and then was essential to check children’s understanding. High-frequency words mentioned in the story were also highlighted. After reading, the sequence of events was reviewed and children were asked

whether they liked the story or not. Some shared their opinion enthusiastically and expressed themselves vocally while others remained silent.

After children had listened to the story, it was their turn to read. They were reminded again to put their finger on each word and to apply the skills they already learned for decoding words. They were given ample time to recognize the beginning, medial and ending sounds of words. While reading, some children relied on the illustrations provided on each page before attempting to read the sentence.

The following paragraph describes children's use of their multiple intelligences prior to the reading of the second story "A tin can". When looking at this lesson from a MI perspective, the researcher kept the basic approach but modified it to cater for the MI approach. Since it was important to establish connection between what children already know and what they were about to read, the reading lesson began with a small discussion related to the story. Children were asked few questions related to the story and were allowed to express their thoughts and opinion. The story was about a kid trying to make a toy out of a tin can. Children expressed themselves enthusiastically, gave guesses about how the boy might decorate his can based on their own experiences with toys and play.

Unlike the traditional way of teaching in which the teacher stood at the center of the class and read the story aloud, a CD player was used for this approach to reading. Children were reminded to use their finger as they listened to the player. As "We fit", "A tin can" also consisted of eight pages, each of which contained a sentence and an illustration. The player was stopped every now and then to let children discuss the sequence of events and details of the story. High-frequency words used on each page were also highlighted. Once details were discussed, the story was replayed without stopping the CD player. At the end, children were

asked if they liked or disliked “A tin can”. Answers were varied but most showed positive feedback about the story.

Now that children got familiar with the story, supplying an array of choices and opportunities allowed them to express their different intelligence strengths by exploring the context of the story in ways that suited them best. After they finished with the materials that displayed their intelligences, children shared what they worked on with the class.

- The linguistic child retold a similar story then read aloud to the classroom. Angie’s story was about a visit she paid to her grandma. When she got there, Angie realised that her grandma did not have a doll house like the one she had at home. In order to create a house for her doll, she asked her grandma to give her empty shoe boxes. Each box represented a room. Angie had one for the kitchen, another for the bedroom, etc. Like the boy in “A tin can”, Angie created her own toy house out of materials found around her. After telling the story enthusiastically to her classmates, Angie read the story aloud, stopped at punctuation marks and read with good intonation.
- The logical-mathematical child matched number cards with word cards to make a short sentence related to the story. Jason had to put words in order on a magnetic board. He could easily spot the words that came first. To him, it was like putting the pieces of a puzzle together. Jason ordered correctly the two sentences that were given to him: “I have a tin can” and “My dot is on the ball”.
- The musical child was asked to play with an instrument according to the song related to the story. Karl had the freedom to choose between a variety of instruments such as maracas, flute, drums and xylophone. Since he liked music so much, Karl stood for a

minute looking at the instruments. He held some in his hands to hear the sound they produced. After a short while, he picked the drums and hit the sticks as the song played on the CD player. Karl's body also moved with the rhythm. He smiled all the time. After that, Karl had to read the story. His tone of voice fluctuated as his eyes moved on the page. He read enthusiastically, sometimes stressing on key words in the sentence.

- The visual-spatial child had to draw a picture that illustrated the main idea of the story. Joyce had a variety of ways to color her drawing. Wooden pencils, felt pens, jumbo markers and paint were available. Joyce's favourite item was paint. She chose the exact colors of the illustration done in the story. Joyce was meticulous and perfectionist while drawing and painting, not skipping any detail. After her painting was complete, Joyce proceeded to reading the story. She moved her fingers on the words as she read smoothly. She just hesitated as she pronounced the word "tin" since it was new to her.
- The bodily-kinesthetic child, Giuseppe, had to play with hands-on activities. He was offered play dough since it was his favourite as mentioned in his intelligence profile. Giuseppe was asked to make a certain construction related to the story. He pressed his hands along the dough and made a shape close to the cylinder. When he was asked what it was, he said it was a can. Then he took a piece of play dough of a different color, stretched it into a long line and cut it into small pieces. He wrote the word "can" then put it on the cylinder. He decorated his can with dots which he made by pressing his fingers onto the dough. After he rolled the play dough back into a ball, Giuseppe read the story aloud. His reading was smooth all throughout the

story although he could not stand still while reading. He kept swinging back and forth as he read.

- The interpersonal child who liked to be at the center of an activity pretended to be the teacher and read to her peers. Romy imitated her teacher perfectly well. She walked around the class, raised her voice so that everybody could hear her and said to her friends: “today, we are going to read a new story” and she went on starting with the title. Romy did not forget to remind her friends to follow with their fingers as she read aloud. After she was done with her reading, she tried to discuss the events of the story with her friends. Romy played her role perfectly well and this showed how kids at this age like to imitate adults and want to be like them. Her friends were happy to interact with her. Playing teacher in front of her classmates gave her confidence throughout the tone of her voice since she read the story with no hesitation.
- Unlike Romy who presented the story and read it in a social context, Yara the intrapersonal child was assessed on a one-to-one basis. She was told to put herself in the shoes of the boy and describe how she would decorate the can if she had one. At first, Yara hesitated as if she was giving herself enough time to think about the answer then said: “I would put beads and laces”. Yara said that she did not like the way the boy decorated his can. From a girl’s view, she thought glitter and beads would make a nicer work of art. Yara chose bright colors such as fuchsia, pink and purple. After expressing her thoughts freely, she went on to read the story. It was noticed that Yara used phonics to decode and read simple words since she corrected herself once she made a mistake. She stopped right away when she said “tan” instead

of “tin” then checked the word again. She looked up to see the teacher who assisted her and asked her about the sound in the middle. She answered /i/ then said “ok, t- ti- tin”.

The aim of this study was to explore how multiple intelligences affected children’s learning and specially their reading performance. Having described children’s propensity for learning and more specifically for reading, analysis and interpretation of results in the next chapter were based on how the application or use of each child’s dominant intelligence served and affected the reading process.

Chapter Five: Analysis and Interpretation of Results

This chapter describes the results of using both a traditional versus a modern way of teaching on children's reading performance based on word identification, fluency of reading, and mainly reading comprehension. For both stories, word identification was based on the recognition of proper nouns, short words and high-frequency words.

1. Analysis for Both Story-Experiences

In the first story "We fit", some children articulated sounds while decoding short words like "can" while others were likely to be using stored information on at least some letters of the word, that is, the orthographic storage of the word. For example, once they recognized that the word started with /f/ they said /fit/. In general, proper nouns were easily identified since they begin with uppercase letters. "Mom", "Dad" and "Nan" were easy to read, but "Tim" was hard to decode for some because children had not practiced enough blending words with /i/. Some confused words with medial /i/ and /o/ like "Tim" and "Tom". Sound-letter correspondence was not evident for children relying heavily on phonics to decode high-frequency words like "have". It was important to note that some of the high-frequency words learned since the beginning of the year were irregular such as: the- that- said. On average, all children could identify high-frequency words in this story.

Some children spent more time than others on sounding out words. Pausing at each chunk of print and trying to focus on recognizing the sounds that form the words indicated that children focused more on uttering the word rather than getting the meaning from the whole sentence to understand the context. Based on that, reading for some was not smooth which affected the average reading fluency. Moreover, not given enough material to activate their knowledge and experiences limited their potential.

Reading comprehension was assessed based on comprehension questions related to the story. Some were factual, in that answers were explicitly stated in the story while others were inferential, in that answers were implicitly implied and required inference on the part of the child. For factual questions, children gave the exact words from the text but for inferential questions, answers were close to the words in the text. Children relied more on their understanding of the text and used their own words to express their ideas. The main idea was clearly identified by all children but not all could retell the details of the story.

The results of using a traditional way for teaching children to read suggested that not all children were able to read fluently and relate print to meaning. Absence of materials prior to the reading performance and personal involvement during the reading process had a negative effect on children's interaction with the story. Although children read correctly, they spent time decoding words. This might have affected their information recall when they were asked to retell the details of the story.

As was the case with the first story "We fit", results and interpretations of children's reading of "A tin can" were also based on word identification, reading fluency and comprehension, this time taking into consideration the manifestation of their multiple intelligences prior to the reading performance.

As mentioned earlier, word identification was based on the recognition of proper nouns, short words and high-frequency words. Children read fluently and with more ease sound-letter correspondences. In other words, they could identify the sound of each letter and blended these sounds to read short words accurately. Most of them read with appropriate expression. Some took risks in pronouncing difficult words like "tin" and "dot" and their

attempts ended with success as a sequence of their awareness of context clues as well as picture clues.

As for the reading fluency, children recognized familiar words easily, blended sounds almost automatically to read. As for unfamiliar or difficult words like “tin” and “dot”, children used their orthographic storage to decode. Few were the ones who stopped to sound out these two words. In general, reading was smooth and fluent.

Similar to that of the traditional way, reading comprehension was assessed based on comprehension questions related to the story. The MI children had to answer both factual and inferential questions. There was accuracy in answering both types of questions. Children did not guess the answers from general knowledge but were able to provide detailed answers. Also, they were able to retell the story with ease using their own words, mentioned the main idea as well as the details of the story. What made the difference between the two stories was that in the second, children had the chance to get involved in activities that suited their dominant intelligence. Unlike the first story in which children were passive, playing with materials that displayed their intelligences activated their involvement in the story and promoted their reading performance.

The following table represents a summary of the above stated results:

	Traditional way	MI and reading
Word identification	<ul style="list-style-type: none"> Proper nouns and HFW were easily identified. 	<ul style="list-style-type: none"> Identification of letters and blending their sounds resulted in accurate reading of short words.

	<ul style="list-style-type: none"> • Short words were either decoded using phonics or read from memory. 	
Reading fluency	<ul style="list-style-type: none"> • Using sound-letter correspondence and stopping to utter the words made reading not so smooth. 	<ul style="list-style-type: none"> • Awareness of context clues as well as picture clues made reading more fluent.
Comprehension	<ul style="list-style-type: none"> • Exact answers were provided for factual questions whereas similar answers were given for inferential ones. • Clear identification of the main idea. • Details were not easily recalled. 	<ul style="list-style-type: none"> • Accuracy was in both factual and inferential questions. • Detailed answers were provided. • New sentences were used for story retelling.

Based on these results, it could be suggested that multiple intelligences played a constructive role in helping children to read. The use of different materials prior to the reading performance as well as personal involvement during the reading process had a positive effect on children's motivation and interaction with the story. They were excited and animated while working with the materials that displayed their intelligences. The manifestation of their abilities through play increased their interest in the story. This helped them gain a better understanding of the reading material, express what they read in a way that was comfortable for them and answer questions accurately.

Results were also reflected in book reports which showed children's work in relation to the story. Children had to write the title of the story, draw and color a picture, and end up with a sentence that illustrated their drawing (Refer to Appendix D). Prior to using MI in learning, accuracy and details in children's book reports were not present. Children just wanted to get the report done. This was clearly evident in the time spent on work completion, handwriting quality, drawing and coloring. In the traditional way of teaching reading, children spent little time on their book report because of low motivation and interest in the story. Their handwriting was not neat since some letters were written outside the lines, drawings lacked details and colors, and sentences representing the drawings were poor.

Based on how the second story was introduced, applying MI in learning did not only help children in their reading performance but also in the quality of work following the story. Evidence was found in the desire for accuracy and details manifested in book reports. Children felt more enthusiastic while working. Their drawings were all colored and some of them represented an exact copy of the picture illustrated in the story. Sentences were complete and handwork was beautifully done.

2. Comparison between Findings and Literature Review

This last part of the chapter relates all the findings explored throughout this research to the second chapter which covers the review of literature.

The type of reading instruction used for the introduction of the first story "We fit" was based on a traditional way of teaching where reading was mainly based on the linguistic intelligence; no other intelligences were used since reliance was more on reading the text and asking questions related to the story. Children were not involved in the reading process and thus identifying some words was rather difficult, reading was slower and answering

comprehension questions was less accurate. These results are congruent with the review of literature which described a typical traditional classroom where the teacher stood at the front of the classroom, and addressed all students in the same way. Looking at students, they were confined to their seats with limited activities, did little brain stimulation and had low motivation (Silver et. al. 2000; Armstrong 2009). In such traditional classrooms where children experience little room for individuality and manifestation of their abilities and strengths, effective learning does not take place (Prashnig 2008; Watkins et. al. 2007).

Despite the different feelings expressed while reading the two stories, children used different approaches to tackle the words in the text. Some of them relied on their knowledge of the first sound and uttered the word according to its orthographic storage in their memory while others blended sounds together to read short words, and others still relied on the overall context to extract meaning then proceeded to say the words. Which approach children used did not matter as long as they understood the meaning behind each story. These results went parallel to the review of literature which stated that there were two approaches to reading: the bottom-up and the top-down (Thompson, 1997). In the former, readers processed individual sounds then proceeded to blend short words, and finally extracted meaning while in the latter, they brought in their knowledge and expectations to the text to extract meaning. Word pronunciation was of little importance as long as meaning was acquired (Anderson, 2005; Treiman, 2001; Thompson and Nicholson, 1999; Nunan, 1995; Cambourne, 1979). What mattered in fact was not which approach to use as long as comprehension took place. The performance of students on the second story proved the importance of using MI while learning. Since reading fluency was smoother in the second story than the former, it helped students to better comprehend the text.

Based on the observation made on children during the first two months of schooling, the teacher/ researcher realized that intelligences were manifested in different forms and teaching reading could be done using intelligences besides the linguistic. These results coincided with the review of literature which stated that the purpose of education was to go beyond the traditional notion of intelligence which was based on linguistic and mathematical competencies and develop the varied types of intelligences to help students reach their goals. Based on his studies on human intelligence and education, Gardner realized that each person has unique cognitive abilities and teachers need to be aware of these abilities and develop them to make learning effective for their students (Gardner, 1993; Armstrong, 2009). Teachers can frame instruction in a way where “students can demonstrate their knowledge using their stronger intelligences” (Phillips 2010, p.8).

Observing children from a MI perspective showed how their abilities were manifested. For instance, Angie’s dominant intelligence was the linguistic because she enjoyed telling stories and reading books; Joyce’s dominant intelligence was the visual-spatial since she enjoyed all types of art activities, and Jason’s dominant intelligence was the logical-mathematical because he participated well during math and science classes, etc. These manifestations of children’s intelligences indicated therefore that while some children had the ability to use language effectively, others employed their logical relations, and even others relied on their sensitivity to shapes and color. These intelligences suggested that teachers should accept that not all children possessed the same cognitive abilities and therefore remodel their teaching practices to accommodate all learners’ needs (Campbell, 2008).

During the course of this study, trying to understand the abilities and interests of these seven students was based on their actions and performance during work and play. As a result, teaching instruction was weaved in a way that helped them develop their learning potential. MI instruction was applied on the second story that the kids read, “A tin can”, after that children played with the materials that display their dominant intelligences. These results are compatible with the review of literature which stated that once teachers understood and accepted the abilities of their students, they needed to create a classroom environment that allowed their students to process information in the way they did outside of school (Gardner, 1993, Beachner & Pickett, 2001; Silver et. al., 2000).

Since applying MI instruction was about combining different intelligences in learning, the way “A tin can” was covered was contrary to the traditional way in which “We fit” was covered. Children listened to the story on a CD player then manifested their intelligences in different ways. They were allowed to discuss, match words with numbers, draw and color, sing and dance, and involve themselves and interact with the story. Thus, teachers are encouraged to shift their methods of presentation by combining intelligences in creative ways. This includes playing music, draw a picture, show a videotape, and provide hands-on experiences (Prashnig, 2008; Armstrong, 2009).

Once MI instruction was applied in the reading lesson, learning became more successful and fun both for the children and the teacher. This was obvious from the observations and results received from children on both stories. This confirmed the literature review which stated that once teachers celebrated the multiple intelligences and talents of each child, students were more confident learners, satisfied with their own learning progress (Prashnig, 2008; Beachner & Pickett, 2001).

After relating the positive implications that MI instruction had on children's reading, it is worth mentioning the challenges that were faced during the course of this study.

Understanding the definition of intelligence and more specifically multiple intelligences was a key core in getting to know what to expect from children at the KG2 level in terms of learning ability. It is worth mentioning that labelling students' profiles according to their dominant intelligence was not an easy task. The two-month observation was essential in that it allowed the teacher-researcher to observe children's reactions during work and play. Naming the dominant intelligence for some children was difficult, but what mattered most was knowing that all children were intelligent and had learning capacities that distinguished them from other learners.

Another challenge was to tailor reading activities that would match children's profiles of intelligence. Varying the instructional setting and the way children were assessed was time consuming and a lot of material had to be prepared. An important risk of implementing multiple intelligences in the classroom is that by attempting to match instruction according to a child's intelligence, teachers might spend a big amount of time (Peariso, 2008; Edwards, 2009). Gardner (1993) recognized that this appears daunting given the large numbers of students that teachers are charged of educating. "Education policymakers...mistakenly believe that teachers must [...] prepare eight or nine entry points for every lesson" (Moran et. al., 2006, p. 22 cited in Phillips 2010). In an interview with Edwards (2009), Gardner stated that "a teacher who is a keen observer can learn to distinguish different intellectual strengths [...] on the fly; there is no need to resort to expensive and time-consuming assessments [...] and as for teaching in multiple ways, it is

better to teach in two-ways than in one, and it is better to make use of other resources [...] rather than try to do it all on your own”.

For the purpose of this study, identification of children’s strengths was based on a two-month observation. Being novice in the field and wanting to explore how these intelligences were manifested in learning, reading instruction was planned based on Gardner’s seven intelligences. This is not to deny that the procedure was not time consuming but it provided insight into how I would develop myself as a teacher to make learning effective for the students.

The results obtained from this study proved that it was worth it. The comparison between traditional reading instruction and reading with multiple intelligences resulted in positive performance in the second story. As a teacher-researcher, the goal of learning to read was not only in detecting the dominant intelligences in as much as creating a rich learning environment and inviting children to celebrate their intelligences.

Teaching according to traditional methods is surely easier than implementing MI in instruction and individualizing learning to suit each person’s needs, yet the purpose of education is to pluralize learning experiences to reach all types of intelligences, and engage learners in different kinds of activities so that they can become skillful in all settings.

Chapter Six: Conclusion and Recommendations

This last chapter answers the questions as well as the hypotheses tested and examined at the beginning of this study, highlights the limitations encountered during the search, and wraps up with few recommendations for teachers and for future research.

1. Answering Questions and Testing Hypotheses Based on the Results of the Study

The above paragraphs presented a comparison between the data collected during the course of this study and the literature review. The following paragraph provides answers to the two main questions raised at the beginning and the hypotheses tested throughout this research.

According to the two main questions that emerged in the course of this study on whether children use multiple intelligences when they learn how to read and teachers enhance the reading environment according to a child's reading ability, answers were accepted.

The data collected and the results obtained from children's observation showed that not all children learned in the same way and that each possessed cognitive abilities that differentiated them from the others. Each child had a unique mix of intelligences and interests that they used during both work and play. Application of MI instruction made the teacher aware that reading could be taught using intelligences other than the linguistic. Identification of how children manifested their strengths showed that they could learn in the way that suited them best. Knowing that children used different intelligences to solve a problem or accomplish a certain task, my main focus was to examine how the use of their dominant intelligence affected their reading performance. Being aware of children's abilities, my role as a teacher was to adapt the learning environment so that children could

celebrate their differences. For that reason, different types of activities that tackle the seven different intelligences were included.

2. Limitations of the Study

The main limitation in this study was that the data gathered throughout the observations was limited to a few children only. Since this study examined only seven children from one preschool classroom, the implications and results could not be generalized to all preschoolers.

Another limitation was that data had been gathered and interpreted for a short period of time. Few months of an academic year were not enough to assess children and more over to generalize their reading performance based on their dominant intelligences since children might use different intelligences to approach different situations.

It is important to note that those results are important for future use in my classes. As a teacher, I hope to learn about the strengths and weaknesses in intelligence domains of my students, and how they perform when multiple intelligence techniques are used in instruction.

Developing lessons geared toward each students' intelligence may be considered as overwhelming and time consuming for most teachers yet, in this study, I simply tried to prepare a lesson that would cater for learner differences by reaching out to the main seven identified intelligences in the class, and test whether implementing such strategy might lead to successful learning and bring new meaning to education.

To further determine if MI Theory has a basis for use in other classrooms, it would require further research. I believe that educators could use this initial research design as a starting point to see if their students respond better to lessons taught with MI in mind.

3. Recommendations for Teachers

As mentioned earlier in this study, teachers do not have to change but remodel their practices in a way that is beneficial for all students. The MI setting of the second story contrasted sharply with the traditional setting of the first story. This distinction was done on purpose to show that teachers can enhance the learning environment to make it more effective for their students. The results of reading based on the traditional setting showed that students were less motivated because their interests and needs were not taken into consideration and therefore their performance was affected. The results of reading based on the MI setting showed that students' participation and confidence rose because the activities they were involved in catered for their needs and met their expectations. This discrepancy shows that once teachers are aware of multiple intelligences and provide opportunities for their students, learning potential increases.

Teachers need to adjust their practices to reach all types of students since the problem lies not in the material being taught but in the way it is presented to students. As in the first story, the same introduction was made to "A tin Can" but with a slight change. Besides asking children the pre-reading question, allowing them to play with materials that display their intelligences was essential for establishing connection between what they already know and what they were about to read. These results are comparable with the review of literature which stated that the problem was not in "what" was taught but "how" it was done (Prashnig, 2008). Thus, changing the quality of teaching lies not in destructing older practices but remodeling and improving those practices to reach more students (Silver et. al. 2000).

To reach more students, teachers need to be aware that not all children learn in the same way, that each uses certain intelligences more than others to tackle a certain problem or solve a certain task. They should recognize that each child has unique cognitive abilities and strengths. Based on the observations made during the first two months of schooling, the teacher realized that not all children approached learning in the same way and took into consideration nurturing each child's abilities. This statement is similar with the review of literature which stated that individual learning potential is fostered when teachers are conscious about their children's intellectual diversity (Prashnig, 2008; Gardner, 1993).

Contrary to this statement, studies done by Stahl (1999) and Willingham (2005) stated that matching student intelligences with instructional methods appropriate for them had no effect on learning (Peariso, 2008). Such a statement is incompatible with the review of literature because when children feel that their individuality is accepted and when their differences are celebrated their learning potential increases. Based on the results of the second story, children's participation and involvement increased because they had the opportunity to celebrate their diversity. They were enthusiastic when working with the materials that displayed their intelligences. Their excitement lasted all throughout the reading process and extended till the completion of the book report. These results verify of the review of literature which stated that the more students were encouraged to learn the way they know best, the more interest and involvement they felt in the learning process (Prashnig, 2008).

In conclusion, working on this study helped me perceive that not all children possess the same predisposition for learning and therefore widen my scope as a teacher to make learning more effective for my students. Based on the data collection process and reflection

on children's profiles, the teacher examined how each child displayed different intelligences both during work and play. As a result, a richer setting in which children could explore and learn based on their multiple intelligences was created. Given the opportunity to play with materials that tapped into their own strengths, children enjoyed expressing themselves in ways other than speaking and writing. Planning and implementing activities based on children's explorations and interests broadened the ways in which they expressed themselves and gave them multiple opportunities to expand learning. Encouraging children's multiple intelligences motivated them to challenge themselves and benefit from the learning process.

During the course of this study, the knowledge and application of MI in learning helped me as a teacher/ researcher perceive the following:

As is the case with every new theory, there were contradictory views about multiple intelligences. While so many researchers showed that the theory had positive effects on education, others did not agree that it might benefit student learning and was not properly applicable in all learning situations. By applying MI theory in the instruction of the second story, the load of the teacher in lesson planning increased. Gearing MI into learning was time consuming since the activities were adapted to suit each child's dominant intelligence. Besides, a lot of materials had to be prepared. This is to challenge teachers to go beyond traditional practices, create an environment where they can apply and develop new perspectives to teaching and learning. Teachers are encouraged to try and use MI theory to see if blending it with the educational system will benefit learning as it was shown in this study.

In a nutshell, multiple intelligences will continue to be an area of interest for educators all over the world. Having initially started by depicting one type of intelligence to help students with learning difficulties, it is nowadays acknowledged and used by more teachers in several fields. The uses of MI ideas continue to flourish in all settings especially with the 21st century generation and the rise of digital technology (Akhtar 2015). According to Gardner (2006) and Birchfield et al. (2008), MI practices provide promising approaches for effective learning and teaching. Since Gardner always maintained that MI cannot be considered as an educational goal in itself, the target of learning is how MI can aid in the achievement of this goal (Christodoulou et al. 2010).

4. Recommendations for Future Research

Based on the few studies that have been conducted in Lebanon on teaching reading using multiple intelligences, further studies are needed to investigate the impact of this theory on the reading performance of preschoolers as well as other grade levels.

Longitudinal studies would be an ideal next step in examining the effects of MI learning on life-long performances.

In addition, other studies must examine the effectiveness and educational benefits of applying the theory of multiple intelligences not only on reading but also on other language skills such as speaking and listening, writing and vocabulary learning, etc.

The MI theory offers a diversified way of understanding and categorizing learners' cognitive abilities, and combinations of abilities, by raising awareness on what makes learning effective and interesting for all students. By providing opportunities for authentic learning based on students' needs, interests and talents, the multiple intelligence classroom acts like the "real" world. It is vital to say that teaching strategies that are based on the MI

theory offer students multiple choices in the ways they will learn and demonstrate their learning (Arnold & Fonseca, 2004). By focusing on activities that draw on multiple intelligences, these teaching strategies encourage learners to build on existing strengths and knowledge to learn any new material.

Students are likely to become more engaged in learning as they use learning modes that match their intelligence strengths and therefore develop competencies across all intelligences. Also, students will be able to demonstrate and share their strengths. Building strengths gives students motivation which in turn leads to increased self-esteem. To this end, the implementation of the MI theory in teaching offers a better understanding of students' learning preferences and a greater appreciation of their strengths. Students are likely to become more engaged in learning as they use learning modules that match their intelligence strengths that, in addition, increase their engagement and success in learning. Generally speaking, implementation of the MI theory in teaching provides numerous opportunities for students to use and develop all intelligences not just the few they excel in. This study supported the data obtained from the literature review and analysis, and showed that students who fulfilled reading activities relevant to their dominant intelligence developed better reading skills than the students where no such differentiation during practice was done. This is not to neglect the weaker intelligences in each and every student, but this study examined the role of the dominant intelligence in helping students read. Teachers should be aware of different learners having different intelligences, embrace this variety and offer students ways that help them learn. The MI theory offers teachers different ways of teaching to different learners and it also inspires teachers to use innovative teaching techniques.

Students' engagement and success in learning stimulates teachers to raise their expectations, initiating a wider cycle that can lead to greater achievement for all.

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Appendix A

Checklist for Assessing Students' Multiple Intelligences

Checklist for Assessing Students' Multiple Intelligences (Armstrong, 2009)

Student's name: _____

Put a check on the manifestations that the child exhibits during a certain performance.

Linguistic intelligence:

- ___ writes better than average for age
- ___ tells stories and jokes
- ___ enjoys word games
- ___ enjoys reading books
- ___ develops spelling in an advanced way
- ___ has a good vocabulary for age

Logical-mathematical intelligence:

- ___ asks a lot of questions of how things work
- ___ enjoys working or playing with numbers
- ___ enjoys counting, adding, subtracting numbers
- ___ enjoys math and science games
- ___ shows interest in science-related subjects
- ___ enjoys putting things in categories, hierarchies, or other logical patterns

Spatial intelligence:

- ___ enjoys art activities
- ___ enjoys doing puzzles, mazes, or similar visual activities
- ___ likes to draw and doodle
- ___ enjoys looking at pictures more than text

___ builds interesting three-dimensional constructions (e.g. Lego buildings)

___ likes to view movies, slides, or other visual images

Bodily-kinesthetic intelligence:

___ shows physical prowess advanced for age

___ moves, twitches, taps, or fidgets while seated for a long time in one spot

___ loves to take things apart and put them back together again

___ puts his/her hands all over something he/she's just seen

___ enjoys working with clay or other tactile experiences

___ enjoys, running, jumping, wrestling, or similar activities

Musical intelligence:

___ enjoys playing percussion instruments and/or singing in a group

___ taps rhythmically on the table or desk while working

___ responds favourably when a piece of music is put on

___ remembers melodies of songs

___ sensitive to environmental noises (e.g. rain on the roof)

___ has a rhythmic way of speaking and/ or moving

Interpersonal intelligence:

___ have at least three close friends

___ seems to be a natural leader

___ enjoys informally teaching other kids

___ likes to play games with other kids

___ has a good sense of empathy or concern for others

___ others seek out his/her company

Intrapersonal intelligence:

- ___ displays a sense of independence or a strong will
- ___ does well when left alone to play or study
- ___ accurately expresses how he/she feels
- ___ has good self-esteem
- ___ prefers working alone to working with others
- ___ has an interest or hobby that he/she doesn't talk much about

Naturalist intelligence:

- ___ talks a lot about favourite pets, or preferred spots in nature
 - ___ likes field trips in nature, to the zoo, or to a natural history museum
 - ___ gets excited when studying about nature, plants, or animals
 - ___ brings to schools bugs, flowers, leaves, or other natural things to share with
classmates or teachers
 - ___ shows sensitivity to natural formations (e.g. mountains, clouds...)
 - ___ likes to hang around the cage, the aquarium or the terrarium in class
-

Appendix B

Questionnaire for Identifying Your Child's Dominant Intelligence(s)

Questionnaire for Identifying Your Child's Dominant Intelligence(s)

Student's name: _____

Answer these questions by putting a check on the manifestations that apply to your child.

Linguistic intelligence:

_____ Does your child like to listen to stories?

_____ Does your child like to read books?

_____ Does your child read or attempt to read road signs?

_____ Does your child have good knowledge about the alphabet?

_____ Does your child like word games?

_____ Does your child express his/her drawings with any form of writing?

Mathematical intelligence:

_____ Does your child ask a lot of questions about how things work?

_____ Does your child like playing with numbers (counting, adding, etc.)?

_____ Does your child enjoy math and science games?

_____ Does your child arrange things in patterns, categories, or hierarchies?

Visual-Spatial intelligence:

_____ Does your child enjoy art activities (drawing, painting, coloring, etc.)?

_____ Does your child enjoy doing puzzles?

_____ Does your child enjoy looking at pictures more than text?

_____ Does your child like to build interesting 3D constructions (Lego, etc.)?

_____ Does your child like to go to the movies?

Bodily kinesthetic intelligence:

- _____ Does your child show interest in any physical activity (ball, swimming, etc.)?
- _____ Does your child find it difficult to sit still for a certain period of time?
- _____ Does your child like to test things with his hands?
- _____ Does your child enjoy working with clay?
- _____ Does your child love to take things apart and put them back together?

Musical intelligence:

- _____ Does your child like to sing (alone or in a group)?
- _____ Does your child like to play on any musical instrument?
- _____ Does your child tap rhythmically on the desk while working?
- _____ Does your child respond favorably when a piece of music is put on?
- _____ Is your child sensitive to environmental noises (rain, traffic, birds, etc.)?

Interpersonal intelligence:

- _____ Does your child have at least 3 close friends?
- _____ Does your child like to play games with other kids?
- _____ Does your child prefer to work alone or with others?
- _____ Does your child seem to be a natural leader?
- _____ Does your child enjoy teaching informally other kids?

Intrapersonal intelligence:

- _____ Does your child display a sense of independence or strong will?
- _____ Does your child do well when left alone to play or study?
- _____ Does your child express accurately how he/she feels?
- _____ Does your child have good self-esteem?

Naturalist intelligence:

_____ Does your child like pets and talk much about them?

_____ Does your child like going out in nature (picnic, camping, etc.)?

_____ Does your child get excited when studying about plants, animals, nature?

_____ Does your child show sensitivity to natural formations (rocks, clouds, mountains)?

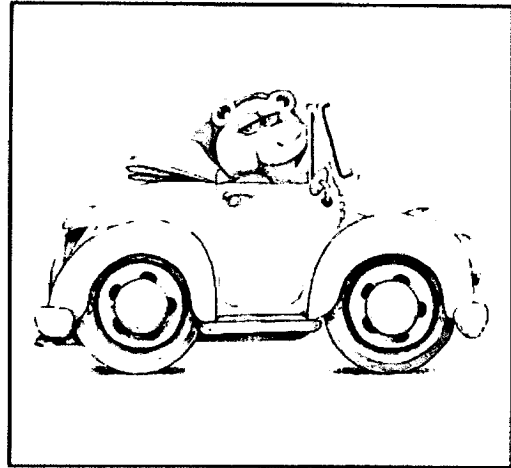
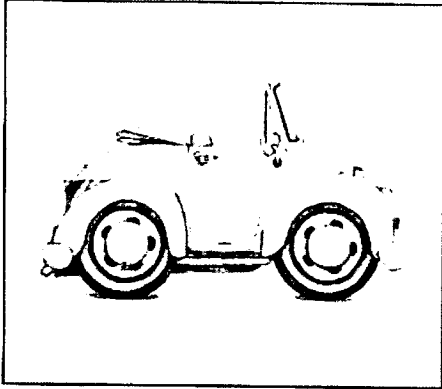
_____ Does your child hand around the cage or aquarium in a zoo?

Comments:

Appendix C

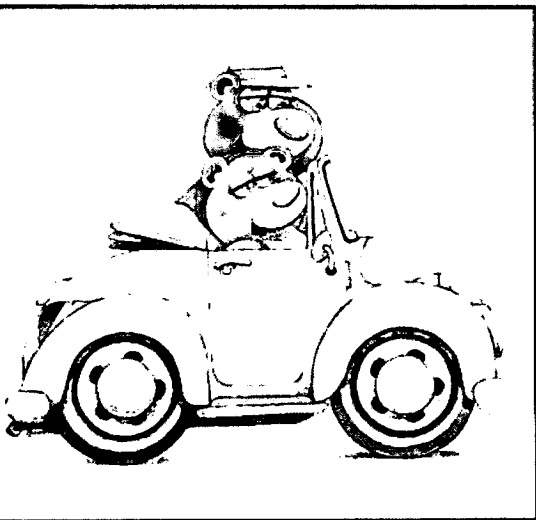
Stories

We Fit!



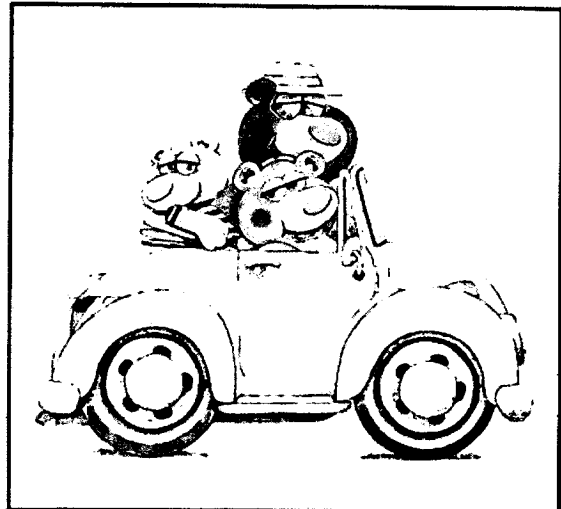
Mom can fit.

2



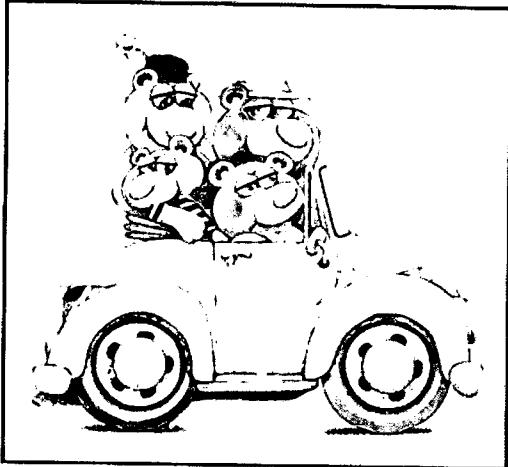
Dad can fit.

3



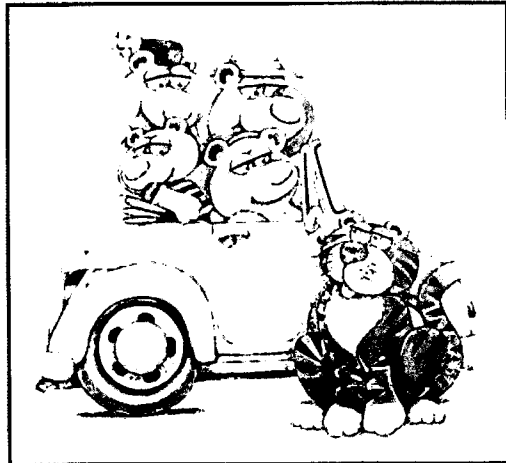
Tim can fit.

4



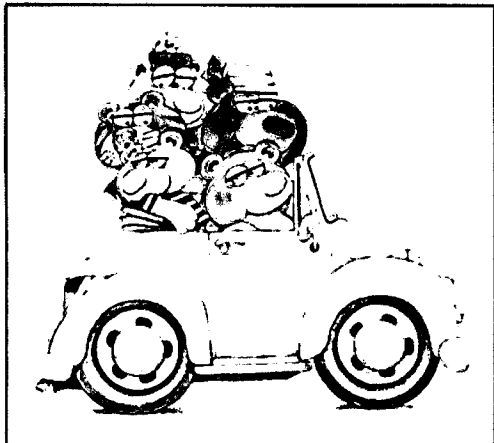
Nan can fit.

5



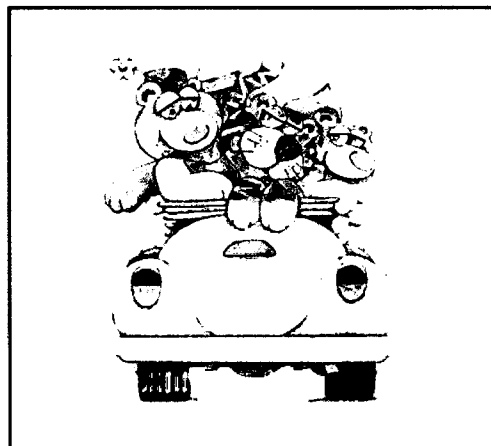
We have a cat.

6



The cat can fit.

7



We fit!

8

Decodable Words

fit	Dad	Nan
Mom	Tim	cat
can		

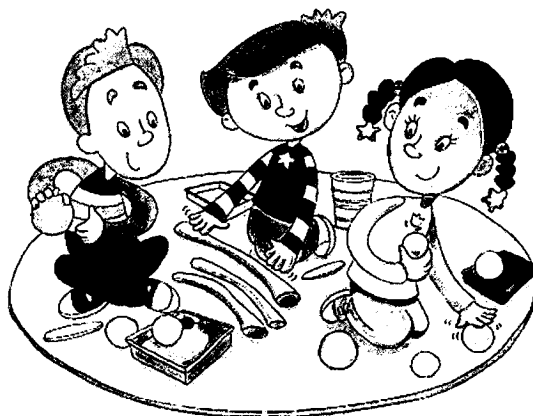
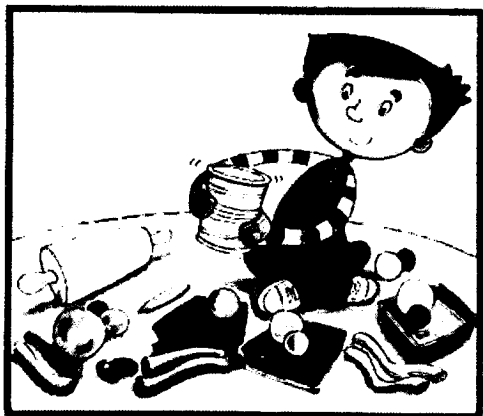
High-Frequency Words

we	a	the
have		

Appendix D

Book Report

A Tin Can



We sit on my tan mat.

2



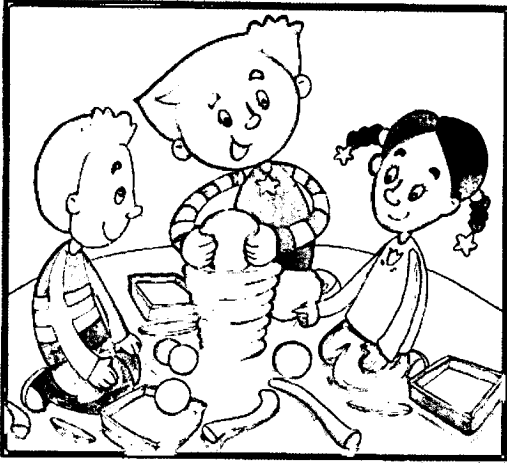
I have a tin can.

3



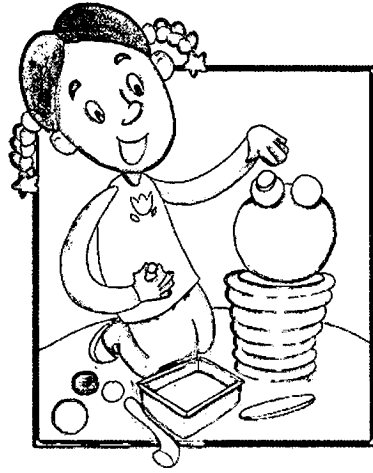
We have a ●.

4



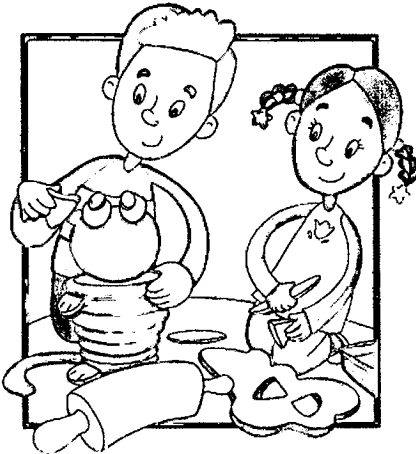
The ○ is on the tin can.

5



My dot is on the .

6



Is it a cat?

7



It is a fat cat!

8

Decodable Words

fin	mat	cat
can	dot	fat
on	it	sit
tan		

High-Frequency Words

a	I	the
we	have	is
my		



SAGESSE HIGH SCHOOL
MARY MOTHER OF WISDOM
AIN SAADE

**Preschool Division
Book Report**

Name: _____

Date: _____

KG2: _____

Title of the story:

Draw a picture that illustrates the story:

Write a sentence about your picture:
