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THE EFFECT OF REPEATED READING STRATEGY ON ORAL READING FLUENCY OF A FOURTH GRADE STUDENT WITH READING DIFFICULTIES

Fatmeh Mahmud Al Jaffal

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United Arab Emirates University
College of Education
Department of Foundation of Education

THE EFFECT OF REPEATED READING STRATEGY ON ORAL READING
FLUENCY OF A FOURTH GRADE STUDENT WITH READING DIFFICULTIES

Fatmeh Mahmud Al Jaffal

This thesis is submitted in partial fulfillment of the requirements for the degree of
Master of Education (Special Education)

Under the Supervision of Dr. Hala El Howeris

December 2014

Declaration of Original Work

I, Fatmeh Mahmud Al-Jaffal, the undersigned, a graduate student at the United Arab Emirates University (UAEU), am the author of this thesis, entitled “*The Effect of Repeated Reading Strategy on Oral Reading: Fluency of an Elementary Student with Reading Difficulty*”, hereby, solemnly declare that this thesis is an original research work that has been done and prepared by me under the supervision of Dr. Hala El Howeris, of the College of Education at UAEU. This work has not been previously formed as the basis for the award of any academic degree, diploma or a similar title at this or any other university. The materials borrowed from other sources and included in my thesis have been properly cited and acknowledged.

Student's Signature _____ Date _____

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Approval of the Master Thesis

This Master Thesis is approved by the following Examining Committee Members:

1) Advisor (Committee Chair): Hala El Howeris

Title: Associate Professor

Department of Special Education

College of Education

Signature _____ Date _____

2) Member: Negmeldin Alsheikh

Title: Associate Professor

Department of Curriculum and Instruction

College of Education

Signature _____ Date _____

3) Member: Efthymia Efthymiou

Title: Assistant Professor

Department of Special Education

College of Education

Signature _____ Date _____

This Master Thesis is accepted by:

- 1) Dean (Acting), College of Education: Dr Ali Al-Kaabi

Signature _____ Date _____

- 2) Dean, College of the Graduate Studies: Professor Nagi T. Wakim

Signature _____ Date _____

Copy _____ of _____

Abstract

This study aims at examining the effects of repeated reading strategy on the oral reading fluency of a 9-year-old Fourth Grader with reading difficulties in a private school in the United Arab Emirates. The research employed a quantitative means by using a Single-Subject Design. A pre-post-test design was used. The results of this study indicate that repeated reading strategy is found to be overall effective on oral reading speed and oral reading accuracy. This study has some recommendations for teaching instructions and research. For example, teachers can use it as an instructional approach for improving the oral reading 11w1fluency not only for those with reading difficulties, but for all students. As for research, future studies should consider including a larger number of students who experience reading difficulties.

Keywords: Special education, reading difficulty, repeated reading strategy, oral reading fluency, reading speed and accuracy, UAE.

Title and Abstract in Arabic

أثر استراتيجية القراءة المتكررة على الطلاقة في القراءة لدى طالب في الصف الرابع يعاني من صعوبات قراءة الملخص

تهدف هذه الدراسة إلى دراسة أثر استراتيجية القراءة المتكررة على طلاقة القراءة لطالب في الصف الرابع عمره 9 سنوات يعاني من صعوبات في القراءة في مدرسة خاصة في دولة الإمارات العربية المتحدة. تم استخدام أسلوب البحث الكمي لجمع البيانات باستخدام اختبار قبلي وبعدي. تم جمع وتحليل البيانات. تشير النتائج إلى أن استراتيجية القراءة المتكررة وجدت لتكون فعالة وذات تأثير إيجابي على القراءة بطلاقة، وبالتحديد سرعة القراءة وصحتها. هذه الاستراتيجية يمكن أن تكون مفيدة كمنهج لتدريس القراءة لتحسين الطلاقة في القراءة ليس فقط لدى الطلاب الذين يعانون من صعوبات في القراءة وإنما لجميع الطلاب على اختلاف قدراتهم. هذه الدراسة تعتبر نقطة انطلاق لمزيد من الدراسات لتضم عدد أكبر من الطلاب الذين يشتركون بنفس المشكلة وهي صعوبات القراءة.

الكلمات المفتاحية : التعليم الخاص، صعوبة القراءة، استراتيجية القراءة المتكررة، القراءة بطلاقه، دقة القراءة، سرعة القراءة، الإمارات العربية المتحدة.

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Dedication

I dedicate my thesis work to my dear mother, may God bless her soul, my dear father, my dear husband, my beloved family members and my close friends. I will always appreciate all they have done.

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Glossary

Reading accuracy: It is the ability to produce effectively a phonological representation of each word, either as it is a part of the reader's sight-word vocabulary or by use of a more effortful decoding technique, for example, sounding out the word. Abilities required for accuracy of decoding include alphabetic principles, the ability to blend sounds, the capacity to use cues to recognize words as a part of content, and a large sight-word vocabulary of high-frequency words (Hudson & Torgesen, 2006, p.116).

Reading disability/difficulty: “A reading disability demonstrates difficulties in reading skills of an individual. This could be unexpected in relation to age, cognitive ability, quantity and quality of instruction, and intervention. The reading difficulties are not the result of generalized developmental delay or sensory impairment” (Lundberg & Høien, 2001; Mather & Goldstein, 2001).

Reading fluency: “It is an ability to read text quickly, accurately, and with appropriate expression” (National Reading Panel, 2000; Kuhn & Stahl, 2003 p. 58)

Reading rate or speed: “It is modified as fluent recognition of individual words and the speed and smoothness with which a reader moves through connected content” (Torgesen & Hudson, 2006).

Repeated reading: Repeated reading is a strategy that requires a student to read the same passage a number of times until a criterion level is reached.

CHAPTER ONE - INTRODUCTION

1.1. Introduction

In this chapter, the following topics will be discussed, reading, reading fluency, repeated reading strategy, the statement of the problem, purpose of the study, research Questions, significance of the study and limitations of the study.

1.2. Reading

Reading is a complex endeavor that is made up of multiple components, all of which must be executed and orchestrated by the reader with the goal of making meaning from printed text. The reader must quickly and accurately recognize printed words, understand the various meanings of words, and create a cohesive mental model of the meaning of the text. Effective reading requires the reader to make accurate sense of the text by making inferences based on connections within and beyond the current text (Snow, 2002).

Roberts and Wanzek (2012) noted that most children master reading at an age appropriate level and continue to develop their reading skills or abilities over their school years and beyond. However, they indicated that students who continue to display reading problems after Grade three experience difficulties

“accessing the general curriculum not only in reading, but also other content areas such as social studies and science where mastery of reading is often expected for building background knowledge and learning new information” (p. 90).

Reading is one of the most important and critical educational skills because it influences virtually all academic disciplines (Roberts & Wanzek, 2012; Chapman & Tunmer, 2003). Additionally, reading research has further established that

reading skills are inseparably linked to problem solving, critical thinking, writing, researching, organizing ideas, reasoning, and creativity (Strong et al., 2002). Reading fluency is a crucial skill for efficient and effective reading. According to the work of LaBerge and Samuels (1974), which is based on the theory of automatic information processing, poor readers experience difficulty with fluency, because visual information is transformed and processed by the reader until the individual comprehends what is being read.

1.3. Reading Fluency

This broad definition of fluency has been identified by several researchers such as Kuhn and Stahl (2003), Rasinski (2012), Pikulski, and Chard (2005) who proffered a deep construct view of reading fluency as:

“Efficient, effective word recognition skills that permit a reader to construct the meaning of the text. Fluency is manifest inaccurate, expressive oral reading is applied during, and make possible, silent reading comprehension” (p.3).

The National Reading Panel (2000) identifies fluency as “one of five critical components of effective reading instruction”, and according to its report issued later, the highest student outcomes are achieved when a clear and direct systematic instruction is provided to teach both foundational reading skills which are, phonological awareness and phonics as well as higher level reading tasks as fluency (Roberts & Wanzek, 2012).

According to Roberts & Wanzek (2012), “reading fluency is comprised of three component skills, or fluency indicators; accuracy of word decoding, automaticity of word recognition, and prosody of oral text reading”. Accuracy of

interpreting alludes to the ability to effectively produce a phonological representation of each word saying, either for it is a part of the reader's sight-word vocabulary or by utilization of a more effortful decoding procedure, for example, sounding out the expression (Hudson & Torgesen, 2006). Skills are needed for accuracy of decoding including alphabetic principles, the ability to compound sounds, the ability to utilize signs to recognize words as a part of content, and a large sight-word vocabulary of high-recurrence words (Hudson & Torgesen, 2006).

Correct decoding is a necessity for building the following component of reading fluency—automaticity, which alludes to the capacity to perceive the words rapidly and automatically, with minimal cognitive exertion or consideration. Automaticity is attained through practice to the point where preceded effortful assignments, such word decoding, get to be quick and easy while prosody is considered a sign that the reader is effectively building the meaning of a passage as they read (Torgesen & Hudson, 2006). Certainly, prosody might both serve as a sign that a reader comprehends while reading, and furthermore may promote comprehension (Rasinski, 2004).

Fluency has been the one area of reading instruction that was needed inside the context of classroom reading instruction (National Reading Panel, 2002). In light of the National Reading Panel (2002) report, classroom instruction has seen a movement to incorporate additional time used on fluency instruction in the U.S., especially in the elementary Grades. This movement has prompted clashing perspectives of what constitutes fluent reading (Robert 2011). Rasinski (2012) contends that comprehension endures in poor readers not because they do not have

the cognitive assets to make meaning out of text but since they consume their assets in word recognition. He further states, “Readers develop their word recognition automaticity in the same way that other automatic processes in life are developed – through wide and deep practice” (p.517)

Due to reading’s universal influence on academic, personal and social success, reading competency is a primary concern in today’s schools (Fuchs, Fuchs, Hosp, & Jenkins, 2001). If children do not acquire the ability to be a proficient reader, at a young age it places them at a considerable disadvantage in all academic pursuits. Despite all of the understanding gained regarding the crucial role of reading in academic and social success there remains a group of children for whom learning to read remains difficult at best and elusive at worst because they lack reading fluency. For this reason, the ability to read fluently at an early age has become increasingly emphasized as an invaluable skill (Burns, Snow & Griffin, 1998; Dumas, Hansen, & Haushereer, 2011; National Institute of Child Health and Human Development, 2000; Pikulski & Chard, 2005).

According to Fletcher, Lyon, Fuchs, and Barnes (2007) the majority of students identified with learning disabilities (LDs) experience reading difficulties. Indeed, many students with high-incidence disabilities (e.g. behavioural disorders, mild intellectual disability, attention deficit-deficit hyperactivity disorder, speech and language impairment and high functioning autism), have serious reading difficulties (Benner, Nelson, Ralston, & Mooney, 2010).

Struggling readers are often characterized as reading with inappropriate phrasing in a monotone voice (Hudson et al., 2005). Struggling readers generally

have reading problems other than fluency. They can also have difficulties in decoding, vocabulary, and comprehension (Archer, Gleason, & Vachon, 2003). Also, they stated that "struggling readers, the ones who can't read fluently, are the ones who fall further behind every year- in reading as well as the content areas" (p. 1).

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1995) and International Classification of Diseases (ICD-10; WHO, 1994), list "Reading Difficulties" among the specific developmental disorders as a common, cognitive and behavioral heterogeneous developmental condition characterized primarily by severe difficulty in the mastery of reading, regardless of intelligence within the normal range.

The Individuals with Disabilities Education Act (IDEA) identifies the Specific Learning Disability (SLD) as "A disorder in one or more basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, speak, read, write, spell, or to do mathematical calculations. One of those disabilities is reading difficulty".

Mather and Goldstein (2001) demonstrate that "a person with a reading disability exhibits unanticipated problems in reading skills regarding to age, cognitive capacity, amount and nature of instruction, and intervention". On the other hand, the Abu Dhabi Education Council (ADEC) Special Education Policy and Procedures Handbook (2012, p.12) identifies the SLD as "an impairments in one or more process related to perceiving, thinking, remembering or learning". It goes on to

identify the particular skill, an acquisition that may be developmentally hindered such as decoding, phonetic knowledge, word recognition and comprehension.

Students with reading difficulties may experience a difficulty in mastering any of reading skills like reading fluency, which is most often defined as the ability to read text quickly, accurately, and with appropriate expression (National Reading Panel, 2000; Kuhn & Stahl, 2004; Meisenger et al., 2009). The most commonly occurring reading disability is characterized by inaccurate word reading (Torgesen, 2004). Duke and Pressley (2005) emphasize the complex nature of reading difficulties when they point out that reading difficulties include the spectrum from trouble decoding words to problems retaining information. Identifying areas of reading problems for remediation has led to research into areas including inappropriate phrasing (Hudson, Lane, & Pullen, 2005), and an excessive attention to decoding (Griffith & Rasinski, 2004).

The development of fluency – made up of the two components of automaticity and prosody - is crucial because it forms the link from word recognition accuracy to text comprehension (Pikulski & Chard, 2005). It is not enough for readers to be able to read text accurately, they also need to read it automatically (Rasinski, 2012) as this frees up cognitive energy for the real purpose of reading which is text comprehension. Rasinski (2012, p. 519) also states that if “automaticity is the fluency link to word recognition, prosody completes the bridge by linking fluency to comprehension”, as it allows the reader to infer information not explicitly stated in the text.

In addition, Hudson et al. (2005) discuss the links between reading rate, reading accuracy and prosody and reading proficiency – the components of fluency – and the need to make fluency development a critical part of any comprehensive reading program. Fluency, which Allington (1983, p.55) previously characterized as “the most neglected” reading skill, where its role in explaining reading difficulties has become a focal point for researchers attempting to develop remediation strategies for students experiencing reading difficulties (Begeny et al 2009; Therrin 2004; Therrien, Gormley & Kubina 2006).

There have been many strategies used by many educators over the past years to improve reading fluency. Some examples of classroom based oral reading intervention programs are shared books, paired reading, choral reading, echo reading, multisensory strategies, and repeated reading strategies. All those approaches were designed to assist students with the development of foundation skills such as phonological awareness and phonics as well as higher level reading tasks, such as fluency (Allington, 2000).

1.4. Repeated Reading Strategy

Repeated Reading Strategy (RRS) is an instructional strategy originally created by Dahl and Samuels (Snow et al., 1998; Dahl 1977). It motivates prosody improvement through prompting phrase boundaries and the accurate teaching of the strategies that fluent readers use (Chard et al., 2002; Meyer & Felton, 1999); it motivates prosody progress through provoking phrase limits and the accurate teaching of the strategies that fluent readers use (Rasinski, 2003; Schreiber, 1980).

The aim of the strategy is to help non-fluent readers build automatic word identification skills (Dhal, 1977). This strategy consists of a non-fluent student, orally reading a passage several times. Students are instructed not to proceed to the next section of the text, or next passage, until the desired level of fluency is achieved. The reading passages provided to students are chosen so that they match the students' reading level that consists approximately of 100 to 200 words in length.

Repeated Reading (RR) is effective because by reading the same passage repeatedly, the number of word identification errors declines, reading speed increases, and oral reading expression improves (Samuels, 2002). Since the 1970s, the RR intervention has been implemented with many variations with positive results. Chard, Vaughn and Tyler (2002) reviewed a number of intervention programs and concluded that repeated reading strategy significantly improves student's reading fluency and comprehension.

There are two major instructional approaches related to improving reading fluency. The first approach, repeated and monitored oral reading, involves students reading passages aloud several times whilst receiving guidance and feedback from the teacher. The second approach, independent silent reading involves students reading extensively on their own (Mason, 2007). Research that has explored the effect of these two approaches on the improvement of reading fluency show that students who read and reread passages orally as they get feedback, get to be better readers. Repeated oral reading generously enhances word identification, speed, and accuracy as well as fluency (National Reading panel Report, 2000).

The Repeated Oral Reading (ROR) improves the reading ability of students with reading difficulties throughout the elementary school years and it has been shown to have a positive effect on struggling readers at higher-Grade levels (Mason, 2007). The recent research has focused more on the individualized repeated reading instructional methodologies and its effect on developing conceptual components of fluency, these were accuracy, prosody, and reading rate (Rasiniski, 2012).

1.5. Statement of the Problem

Reading is one of the most important and critical educational skills because it influences virtually all academic disciplines (Wanzek & Roberts, 2012; Chapman & Tunmer, 2003). Additionally, reading research has further established that reading skills are inseparably linked to problem solving, critical thinking, writing, researching, organizing ideas, reasoning, and creativity (Strong et al., 2002). Students with poor fluency often experience reading difficulties. In addition, research has shown that students with a lack of fluency are likely to misunderstand what they read (Fountas & Pinnell, 1996; Allington, 2004; Hudson et al. 2005; Peebles, 2007).

Although the previous researches have shown that literacy intervention programmes improve literacy skills including oral reading fluency, to date no study has been found that investigated the impact of literacy intervention programs on oral reading fluency in the UAE. Therefore, this study intends to examine the effect of repeated reading strategy on oral reading fluency of an elementary student with reading difficulties in the UAE.

1.6. Purpose of Study

The objective of this study is to examine the effects of repeated reading strategy on oral reading fluency of an elementary student with reading difficulties in the UAE. More specifically, the objective of this study is to:

- a) Examine the effects of repeated reading strategy on reading accuracy of an elementary student with reading difficulty.
- b) Examine the effects of repeated reading strategy on oral reading rate of an elementary student with reading difficulty.

1.7. Research Questions

This study addresses two research questions, these are:

- i- What are the effects of repeated reading strategy on oral reading accuracy of an elementary student with reading difficulty?
- ii- What are the effects of repeated reading strategy on oral reading rate of an elementary student with reading difficulty?

1.8. Significance of the Study

Substantial research of the National Institute of Child Health and Human Development (NICHD, 2003) shows clearly that without systematic, focused, and intensive reading intervention programs, the majority of children rarely “catch up” in reading to develop basic reading skills by age nine, which predicts a lifetime of illiteracy.

Unless these children receive the appropriate instruction, more than 74% of the children entering first Grade who are at-risk for reading failure will continue to have reading problems into adulthood. Additionally, the early identification of children at- risk for reading failure, coupled with the provision of comprehensive

early reading interventions can reduce the percentage of children reading below the basic level in the Fourth Grade (i.e., 38%) to six percent or less (NICHD, 2003).

The literacy intervention programs increase student's fluency, as one of the most widely used intervention strategies designed to improve reading fluency, was a strategy called repeated reading. Since the 1970's and early 1980's, this strategy was accepted as an appropriate and effective strategy at improving reading fluency (Bramuchi, 2009; p.20).

The results of many studies have examined the efficacy of repeated readings on fluency and comprehension, suggest that the use of repeated reading strategies does increase oral fluency and comprehension (e.g., Vandenberg et al., 2008). In addition, the effectiveness of repeated reading strategy has been documented with elementary school students with reading deficits or learning disabilities, especially elementary students who speak English as a second language (Chalfouleas et al., 2004; Nelson et al., 2004).

As noted by Mason (2007), the repeated reading intervention program improves the reading ability of students with reading difficulties throughout the elementary school years and it has been shown to have a positive effect on struggling readers at higher-Grade levels. Wanzek and Roberts (2012) indicate that the early identification and remediation could result in immediate improvement to prevent long-term learning difficulties across a range of subjects, not just literacy. Although there is a large number of studies examining the impact of reading intervention strategies on oral reading fluency, no study has been found that investigates the impact of repeated reading intervention strategy on oral reading fluency in the UAE.

Therefore, this study intends to examine the effects of repeated reading strategy on oral reading fluency of an elementary student with reading difficulties in the UAE. Additionally, this study intends to fill the gap concerning the lack of research in the area of oral reading fluency in the Arab world, because only four published studies were found that investigated the impact of reading comprehension strategies on the UAE students who are deaf or hearing impaired (e.g., Al-Hilawani, 2003; Sartawi et al., 1998), and applying reading strategies among the UAE students with disabilities (Elhoweris et al., 2011).

1.9. Limitations of the Study

The fact this study is limited to one fourth Grade student with reading difficulty from an elementary school in Abu Dhabi Emirate may limit the generalizability of this study. This study utilized the ABA single subject design. According to Ryan and Filene (2012), this design is problematic for prevention/early intervention research, as the goal of these types of services is having effects that are more lasting. Additionally, it is difficult to generalize about the repeated reading intervention effects because this study is a small-scale study with only one participant receiving the intervention.

CHAPTER TWO - LITERATURE REVIEW

2.1. Introduction

Many theories are presented in this chapter as an explanation for the effectiveness of the repeated reading intervention strategy for improving oral reading fluency. This chapter is organized into following sections, theoretical framework that attempts to explain the need of improving fluency skills; then there will be a discussion about the definition of fluency, the effect of fluency instruction on improving oral reading fluency; effect of repeated reading instruction, and summary of the literature review.

Numerous researchers believe that reading speed rises simultaneously with accuracy, and as readers practice, their speed and accuracy improves. The second property, (effortlessness), alludes to the absence of effort, the student must spend to decode the text. The higher number of sight words a student can perceive and the better the decoding skills of the reader, the easier the task of reading fluently became. Installed in the property of effortlessness is reading comprehension. If the readers are not using cognitive resources on decoding, they are utilizing those resources for comprehension without needing to stop to contemplate the meaning (Robert, 2011).

Meaning is constructed effortlessly as the reader processes the text. The third property, (autonomy), alludes to the fact that the reader engages in the processes of decoding and comprehending the text without consciously attending to either. Finally, the property of lack of conscious awareness circles back to the concept of

effortlessness. Readers are able to identify almost any word they encounter without contemplating it (Kuhn et al., 2010).

2.2. Theoretical Framework

Various theories have attributed the difficulties in reading to difficulties in reading fluency. For instance, the automaticity theory which emerged as a result of the work by Samuels and Laberg (as cited in Chard et al. , 2002). Samuels (1974) recommends that learning to read include expanding automaticity in processing word units (e.g., letter-sound correspondences), transforming these units into recognizable words, and combining the words while reading a passage.

In fact, improvement in the processing of units, words, and connected texts cognitively frees the reader to think about the meaning of the text. The automatic data processing theory brought about research that concentrated on enhancing the speed at which students perceived words (e.g., Ehri & Wilce, 1983), and on repeated reading (e.g., Donaldson 2011)

Therefore, this theory is considered as the theoretical framework for repeated reading intervention. LaBerge and Samuels (1974) define fluency as the freedom from word identification problems resulting in an emphasis on word recognition (National Reading Panel, 2000). Reading fluency means high-speed or automatic word recognition that frees cognitive resources to focus attention on the meaning of a text. Previously, this was typically measured by a combination of reading rate (speed) and reading accuracy as freedom from errors (Osborn, 2007).

According to Rasinski (2012) a growing number of studies demonstrate that fluency is a major concern for students in Grades 4, 5, in middle school and in high

school (Rasinski et al., 2005). The of reading fluency has attracted the attention of an enormous number of researchers for quite a long time, as they understood its impact on other reading skills particularly comprehension (Rasinski et al., 2005). Rusky (2011) indicated that fluency is the gateway to understanding. In addition, Lyon (1995) and Torgesen et al. (2001) state that the reading process involves two separate but highly interrelated areas word identification and comprehension.

It has been conclusively proved that difficulties with automatic word recognition substantially affect a reader's ability to comprehend efficiently what they are reading (Rasinski, 2006). In addition, Hudson et al. (2005) define and describe three key elements of reading fluency including, accuracy in word decoding, automaticity in recognizing words, and appropriate use of prosody or meaningful oral expression while reading.

These three key components are an entry to comprehension. Indeed, readers must be able to decode words correctly and effortlessly (automaticity) and then combine them into meaningful phrases with the convenient expression to make what they read meaningful (Rasinski, 2006; 704-706). Rasinski (2012) states that authentic fluency instruction has shown remarkable potential for helping a wide range of students improve their fluency, reading achievement, and motivation for reading (e.g., Biggs et al., 2008; Griffith & Rasinski, 2004; Rasinski et al., 2011; Solomon & Rasinski). Therefore, the following section focuses on the empirical studies that focus on the effect of fluency instruction on improving student's oral reading accuracy and rate.

2.3. Review of the Literature

2.3.1 The Role of Reading Fluency

As schools struggle to eradicate illiteracy, it is important for reading teachers to select and implement research-based strategies. Research has previously shown that a literacy intervention program allows fluency to increase as the vast majority of students could be taught to read (Bramuchi, 2009).

Many reading approaches are being implemented to teach reading skills and, because of its importance, reading fluency in particular. In the following section, the researcher giving a glimpse of some approaches targeting reading fluency.

a) *Shared Reading Approach*: “This is a general instructional practice that involves an adult reading a book to a child or group of children without any extensive interaction from the children, this practice allows the teacher to model fluent oral reading to students experiencing difficulties” (Blevins, 2001; Rasinski, 2003). Other related forms of shared book reading such as interactive shared book reading use a variety of techniques to more actively engage the students. Furthermore, oral support and modelling for readers is provided using intervention programs based on assisted reading, choral reading, paired reading and the use of audiotapes and computer programs (Rasinski, 2003).

b) *Assisted Cloze*: In this strategy, sessions last 10-15 minutes. The teacher chooses a text at the student's instructional level. The teacher reads aloud while the student follows quietly and tracks with a finger. At some points, the teacher stops and the student is expected to read the following word in the text. The process proceeds until the whole passage has been read. After that, the student takes the teacher's turn while the teacher takes the student's (Ellis, 2009).

c) **Choral Reading**: This is a reading strategy, which can be implemented with students as individuals or in groups. Each session lasts for 10-15 minutes in which the teacher chooses a passage at students' instructional or independent level. During reading session, the teacher reads the passage aloud and students read aloud as well, so teacher and students read together. In this strategy teacher encourages students to read with expression (Moskal & Blachowicz, 2006).

d) **Duet Reading**: In this strategy, the teacher picks a passage at the student's instructional or independent level. During reading, the teacher and the student take turns to read one word at a time, while the teacher follows in the passage with an index finger. When the student becomes more fulfilled, the teacher can change the ratio to move more responsibility to the student: for instance, if the teacher reads a single word aloud, the student reads three words aloud in advance (Gallagher, 2008).

e) **Echo Reading**: In this strategy to improve student's reading fluency, the teacher chooses a text at the student's instructional level. The teacher begins by reading a small part (e.g., one or two sentences) while the student tracks silently. The student then reads the same short part aloud and the read-aloud action continues, substituting turns between teacher and student, till the end of the passage. At whatever point the student performs a reading mistake or hesitates for 3 seconds or more, the teacher stops the student and show the mistake, and then asks the student to not only read the incorrect word out loud correctly, but also the whole phrase that includes the incorrect word, then resumes the reading task (Ellis, 2009; Homan et al.,1993).

f) **Repeated Reading Strategy (RRS)**: This strategy comprises a non-fluent reader orally reading a passage many times. Students are told not to move to the following part of the passage or the next section, until the required level of fluency is attained.

The reading passages given to students are picked at the students' instructional level and are almost 100 to 200 words long. As indicated by Samuels (2002), repeated reading is a successful strategy in light of the fact that by reading the same passage many times; the quantity of word identification errors falls, reading speed increases, and oral reading expression improves. Since the 1970's, the RR intervention has been implemented with many variations with positive results. Therrien (2004) also supports these findings, particularly for students with learning disabilities. Therefore, this study focused on the repeated reading intervention. The ROR substantially improves word recognition, speed, and accuracy as well as fluency. According to Cohen (2011), RRS works as a scaffold for struggling readers by providing them with short-term, achievable mini-goals such as completing a passage in faster time (speed), increasing words read correctly (accuracy), and reading for a better understanding of the text (comprehension). Previous researchers indicate that RR builds the learners' confidence level and encourages them to invest more time and effort into achieving the skill of reading fluently (Dowhower 1994; Nuttall 1996).

Moreover, Rasinski (2003) notes that Repeated Reading strategy is a fun approach which is easy to carry out, and that provides a window into the readers' ability to accommodate the skills connected with reading fluently (NICHD, 2000). Oral reading helps students connect written words with spoken words, improves their reading speed and flow, and provides chances to feel the enjoyment of reading with a real purpose. It can also construct confidence and reinforce learners' view of themselves as readers (Greenberg et al., 2002).

2.3.2. Why Repeated Reading Strategy?

Repeated reading, as rehearsed in many occasions, often provides instructional phonological practice which helps segmentation and parsing of written text, subsequently facilitating word and phrase decoding, lumping of larger meaningful units, and, eventually, reading fluency and comprehension (Han & Chen, 2010).

Schreiber (1980) notes that there could be ‘epiphenomenal’ gains from repeated reading, such as the discovery of the appropriate syntactic phrasing, including intonation, stress, and duration, which are not explicitly represented in the written form of language. So, according to research repeated reading strategy does not only enhance reading fluency, but also it addresses almost all reading skill components.

2.3.3. Effect of Repeated Reading Strategy

One of the most widely used intervention strategies designed to improve reading fluency is a strategy called repeated reading. Samuels (1979) identified repeated reading as additional reading program consisting of rereading a short passage until a sufficient level of reading fluency is reached (Bramuchi, 2009). The RRS was considered as a very popular strategy since the 1970s and early 1980s to be accepted as an appropriate strategy to improve reading fluency (Bramuchi, 2009). Indeed, in 2004, Therrien concluded that dramatic improvement in reading fluency obtained through repeated reading intervention, while having moderate impact on students’ reading comprehension. A large body of research has documented the impact of repeated reading intervention strategy of improving oral reading fluency

among students with reading disabilities and difficulties. For instance, Bramuchi (2009) examined the impact of reading to read, a one-on-one repeated reading intervention designed for Second and Third Grade students below Grade level reading.

The data analysis of this study revealed a significance difference in the post-test mean differences in reading fluency; however, the improvement in comprehension was not, significant. Additionally, Vandenberg et al. (2008) found that the use of repeated reading strategies does increase oral fluency and comprehension among high school students with specific learning disabilities. Zigel (2009) conducted another study that examined the effects of repeated readings on the reading fluency and comprehension of four middle school students who were attending an outpatient treatment program for behavior problems.

Morgan (2007) found that there is a relationship between repeated readings and improved reading fluency as well as improvement in comprehension. Alber-Morgan et al. (2007) conducted also three experiments examining the effects of repeated readings on third and fourth Grade students' fluency and comprehension. The results of this study showed that peer repeated reading strategy has a great impact on the students' fluency, accuracy, and comprehension.

As cited in Strickland et al. (2013), Chafouleas et al. (2004) investigated the effects of repeated reading with three different conditions which are repeated reading with feedback, and repeated reading with feedback and a conditional reward on three students' oral reading fluency in elementary Grades, including one student with learning disabilities. The results demonstrated that the student with learning

disabilities included in the study oral reading fluency continuously improved and a progressive decrease in error rate for every one of the three conditions.

Therrien and Hughes (2008) compared the effects of repeated reading and question generation on the reading fluency and comprehension skills of 32 students including 18 with LD in Grades 4 through 6. The results of this study revealed that the students with learning disabilities in the repeated reading group significantly improved their reading fluency on last passage readings ($d = 0.80$).

Five studies employed repeated reading as part of a group of other reading interventions to determine the effects on students' reading skills. The studies implemented repeated reading as part of an intervention package to enhance the reading skills of students with LD, other health impairments, and students in general education. Two of the studies applied experimental designs. One study was conducted using a pretest-posttest case design, and two of the studies employed single-subject designs. Results of these five studies revealed that both groups of students demonstrated significant gains and growth in fluency. In addition to that, findings from Therrien's study in 2004 indicated that repeated reading improves the reading fluency and comprehension of both students with and without learning disabilities (Therrien et. al., 2006).

Yurick et al. (2006) used total class and pull out methods to implement repeated readings in different formats for the students in Third-Fifth Grades. The results of this study indicate that the participants' accuracy, oral reading rate and comprehension improved. In conclusion, repeated reading intervention strategy is an effective method for improving reading fluency among students with and without disabilities. Previous research suggested that students could increase their level of

fluency (Mastropieri et al., 1999). Duffy-Hester (1999) suggested that repeated reading strategy to be utilized with children at their instructional level.

In an attempt to pinpoint particular element of repeated readings that may emphatically influence reading skills, a study was implemented with high school students in which Therrien (2004) found that repeated readings enhanced comprehension and fluency for students with disabilities and students with learning disabilities. Prior reviews of the literature showed that comprehensively, the repeated reading intervention constantly enhances students' fluency rates and reading accuracy.

Adding another findings of a case study showed a positive impact of repeated reading strategy conducted by Morris and Gaffney (2011), was that in one year a struggling eighth-Grade student improved his oral reading rate by approximately 33% of reading rate. Although the goal of the tutorial repeated reading intervention was to improve a student's reading fluency, it turned out that post-test increases in rate were large and educationally significant (p.338)

2.3.4. Summary of the Literature Review

It is obvious from the review of literature that repeated reading strategy is a powerful and effective reading intervention in enhancing oral reading fluency, including accuracy, speed and reading comprehension (Kuhn & Stahl, 2003; Therrien, 2004, Scheriff, 2012; Duffy-Hester, 1999).

The efficiency of repeated readings has been reported with elementary school students with reading difficulties or learning disabilities, ESL learners, middle school students with emotional and behavioural issues, middle school

students with visual impairments and high school students with learning disabilities (Valleley & Shriver, 2003). Therrien (2004) summarized the positive impact of repeated reading strategy among a huge number of reading approaches implemented over the years to enhance reading fluency. One strategy known as repeated reading has been shown to be efficient in improving reading fluency and, to a lesser degree, reading comprehension with students with learning disabilities.

The efficiency of repeated readings has been reported with elementary school students with reading difficulties or learning disabilities, ESL learners, middle school students with emotional and behavioral issues; middle school students with visual impairments and high school students with learning disabilities. Although, there is a large number of studies examined the impact of repeated reading intervention strategy on oral reading fluency, no study has been found that investigated the impact of repeated reading intervention strategy on oral reading fluency in the UAE, hitherto.

Additionally, this study intends to fill the gap concerning the lack of research in the area of oral reading fluency in the Arab world, because only four published studies were found that investigated the impact of reading comprehension strategies on Emirati students who are deaf/hard of hearing (e.g., Al-Hilawani, 2003; Sartawi et al., 1998), reading strategies among the UAE students with disabilities.

This study, therefore, intends to examine the effect of repeated reading strategy on oral reading fluency of an elementary student with reading difficulty in the UAE. More specifically, the research questions are:

1. What is the effect of repeated reading strategy on oral reading accuracy of an elementary student with reading difficulty?

2. What is the effect of repeated reading strategy on oral reading rate of an elementary student with reading difficulty?

CHAPTER THREE - METHODOLOGY

3.1. Introduction

This chapter describes the methodology used in this study and its related procedures as:

- i. Research design
- ii. The participant and the sampling technique
- iii. Instrument
- iv. Data collection procedures
- v. Data analysis
- vi. Ethical considerations

3.2. Research Design

This study utilized an ABA single-subject research design. The ABA design and constitutes three measurement periods: baseline (A) during intervention (B) removal of intervention (A). Specifically, the targeted condition is repeatedly measured during a baseline period before the intervention is introduced (A). Once a constant pattern of baseline responses has been established, the intervention is introduced and the condition is again repeatedly measured (B). Next, the intervention is terminated, but the measurement of the condition continues for a period (A) (Ryan & Filene 2013).

The use of the ABA design is suitable for this study because the main objective of this study is to examine the impact of repeated reading intervention strategy on oral reading fluency (reading accuracy and rate) of an elementary student with reading difficulty in the UAE. Then after couple of months the researcher

intended to measure if the results of repeated reading strategy showed the efficacy of repeated reading strategy is still effective or terminated since the intervention was terminated. (See table 1).

Baseline (A)	Treatment (B)	Baseline (A)
Before the intervention	During the intervention	After removal of intention

Table 1: A-B-A Single Subject Design

3.3. The Participant and the Sampling Technique

It is difficult to estimate the percentage of individuals with disabilities in the UAE due to the absence of adequate data and statistics. However, evidence suggests that the percentage of people with disabilities in the UAE is similar to who worldwide average (8-10%) of the population (Bradshaw, Tennant, & Lydiatt, 2004).

Identification of the sample followed the guidelines of the purposive sampling technique, as the student being investigated was drawn from an English support class for students with reading difficulties from an elementary school located in the UAE. The participant was a Third Grader English support class that had an average of 15 students. The English support class lasted for two terms, 60 minutes for each period, conducted once a week. The teacher mainly worked on phonological awareness and writing.

The community of the school is multi-ethnic, including about 1650 students from different socio-cultural backgrounds such as Asians, Americans, Africans, Arabs, along with local Emiratis. The school is a private elementary school (up to

Ninth Grade), with an average class size of 26 students. The sample consists of one Arab boy student (9 years) at fourth Grade who is experiencing reading difficulty.

3.4. Instruments

According to the National Reading Panel (2002), reading fluency is defined as reading a text with speed, accuracy, and proper expression. In addition to that, Wilger (2008) indicates that reading fluency is comprised of three component skills, or fluency indicators: accuracy of word decoding, automaticity of word recognition, and prosody of oral text reading.

This study focused on the first two components, accuracy and automaticity, as prosody is mainly relates to comprehension rather than fluency. Indeed, prosody is an indicator that the reader is actively constructing the meaning of a passage as they read (Torgesen & Hudson, 2006). Prosody may both serve as an indicator that a student is comprehending as they read and as an aid comprehension (Rasinski, 2004). As has been discussed earlier, this study focused on two components of reading fluency, accuracy and automaticity.

According to Laberge & Samuels (1974), automaticity refers to recognizing how to do something so well you do not have to think about it. While automaticity, according to Blevins (2001, p.7), “refers to the ability to accurately and quickly recognize many words as whole units”. Automaticity refers to the reading rate of reading (speed) which is determined in Words per Minutes, (WPM) or Words Correct per Minute (WCPM) (Learning Point Associates, 2005). Accuracy, on the other hand, focuses on a reader’s ability to identify correctly words on the first attempt. “When a word is identified correctly, the meaning from the reader’s oral

vocabulary makes sense with other words in the sentence” (Learning Point Associates, 2004, p. 23).

To measure the oral reading fluency of the participant (reading rate and accuracy) 100-word passages were used in this study as recommended by previous researchers to examine oral reading fluency (e.g., Weinstein & Cooke, 1992; Samuels, 2002). The reading passages are at the students’ reading instructional level. Five passages were used over almost four weeks. All the five reading passages were selected by the researcher from the KG2 curriculum after deciding that KG2 is the student’s instructional level. Each story contained topics and themes commonly found in children's literature and each passage length was about 100 words in length. In addition, the student had no prior exposure to these reading passages.

The criterion adopted by the study was that the participant reads the passage with no more than two or three mistakes, so he can move to the next passage or by reading and rereading the passage typically four times (Cohen, 2011). After four readings, or when the criterion is met, the participant may proceed to the next section of the text. To determine the student’s instructional reading level, the participant was given three different passages as follows: a 100 - word grade four passage which is his actual Grade level, a 100 - word grade five passage which is one level above his Grade level, and a 100 - word grade 3 passage which is one level below his Grade level. The results of accuracy were as follows:

- I. Grade 3 passage: 44 incorrect words and 56 correct words
- II. Grade 4 passage: 49 incorrect words and 51 correct, and
- III. Grade 5 passage: 68 incorrect words and 32 correct words.

Since the student was at the frustration level over the three levels of passages, he was given a grade 2 100 - word passage; the result was 56 correct words and 44 incorrect words. Then the student was given a first grade 100 - word passage. He read it with 68 correct words and 32 correct words. Then the student was given a KG2 100 -word passage, he read with 84 correct words and 16 incorrect words. He did not reach the independent level, so he was given a KG1 100 - words passage.

The result was that he read 96 correct words and only four incorrect words. Consequently, KG1 is the independent level of the student, while KG2 is his instructional level. The child's independent reading level (90-95) is typically decided from books in which he/she can read with no more than one error in word identification in every 100 words and has a comprehension score of no less than 90 percent. At this level, the child reads orally in a natural tone, free from tension. His silent reading is faster than his oral reading and performance by a student is demonstrated by very good speed and accuracy on a task or set of tasks. Assistance is not appropriate (Franz, 2014).

The instructional reading level (75-80) is normally decided from books (or other material) which the child can read with no more than single word identification error in almost 20 words. The comprehension score has to be 75 percent or more. At this level, the child reads orally without pressure and performance by a student is demonstrated by reasonable speed or accuracy that improves outstandingly with skilled aid, that is, with scaffolding (Franz, 2014). The task or set of tasks is suitable for instructional circumstances where skilled support is applicable (Franz, 2014).

The frustration level (70-underneath) is checked by the book in which the child clearly struggles to read. The errors were various. The child reads without a

natural rhythm and in an unnatural voice. No child has to be asked to read at his frustration level, yet the teacher needs to realize that this level does exist for him (Franz, 2014).

3.4.1. Validity

Validity is a basic source of evidence and has to be analysed in any process of test construction/adaptation. Content validity evidence not only helps theoretically define the construct of interest but also lays the basics for an accurate elaboration of the variance in the scores gained. However, such evidence is rarely gained and demonstrated precisely, although it would be highly considerable (Carretero, Dios, & Pérez, 2007).

To determine the validity of measures and the content validity of the passages used in the intervention, passages were sent to three experts in the area of teaching English language in the UAE University. The three experts indicated that the measures and the passages are appropriate for the participant in this study. Accordingly, a pre-test and a post-test were developed to measure the effects of repeated reading intervention strategy at improving the participant's oral reading fluency. The instruments of this study were developed by the researcher and were administered individually.

3.4.2. Reliability

Reliability is defined as the degree which a questionnaire, test, observation or any measurement strategy creates the same results on repeated attempts. Briefly, it is the steadiness or consistency of scores over the long run or crosswise over rates. Remember that reliability relates to scores not individuals (Joppe, 2000).

In this study, the researcher had to determine the reliability of the experiment, by giving the same passage to the student for the pre and post-tests, to be read by two students with the same disability, which is reading difficulty and share the same instructional level, which is KG2 to read the same story “*The Shape of Things*” twice; the first reading was at the beginning of the week, the second was at the end of the same week, and the results were as follows:

Passage Title	Date, time, & place	Words	CW	ICW	Duration
The Shape of Things	Thursday, May 22, 2014. School at 1:37 p.m.	100	74	26	6:47 mins

Table 2: Student (1) first reading attempt results (reading rate and accuracy)

Passage Title	Day and Date Time & place	No of words	CW	ICW	Duration
The Shape of Things	Thursday May 29, 2014 School at 2:00 p.m.	100	78	22	6:39 mins

Table 3: Student (1) second reading attempt results (reading rate and accuracy)

Data displayed in both Table 2 and Table 3 show the results of reading rate, which is represented in duration, which is the time used to read the 100 - word story and measured in minutes and seconds. The results of accuracy, which is also, represented in the number of correct words (CW) and the number of incorrect words (ICW) of the two reading attempts of the first student are displayed on the tables. In the first reading attempt; the student read the story “*The Shape of Things*” with 26 incorrect words and 74 correct words in 6 minutes, and 47 seconds. In the second reading attempt, the student read the story with 22 incorrect words and 78 correct words in 6 minutes and 39 seconds. As will be noticed, the difference

between incorrect words and correct words in both readings was clear since it is four incorrect words less and four correct words increase, and the student read the story 8 seconds faster than in the first reading.

Data showed in Table 4 and Table 5 demonstrate the results of reading rate represented in duration, which is the time the participant consumed to read a 100 words story and measured in minutes and seconds. The accuracy, which is represented in the number of correct words (CW) and incorrect words (ICW) of the two reading attempts of the second student. In the first attempt, the student read the story “The Shape of Things” with 27 incorrect words and 73 correct words in 7 minutes and 10 seconds. In the second reading attempt, the student read the story with 25 incorrect words and 75 correct words in 6 minutes and 40 seconds. As will be recognized, the difference between incorrect words and correct words in both readings was not significant since it is 2 errors less and 2 correct words increase, but the student read the story 30 seconds faster than the first attempt. However, there was a difference, although it was not statistically significant.

Obviously, the results of reading rate and reading accuracy of both students’ readings are approximately the same, either among the first reading attempts or the second reading attempts. Therefore, since measurement strategy created the same results on repeated attempts; the experiment is considered reliable. Therefore, the researcher decided to use the measurement tool, which is the story “The Shape of Things” for the pre and post –tests of the participant.

Passage Title	Day, time & place	Words	CW	ICW	Duration
The Shape of Things	Thursday, May 22, 2014 School at 1:51 p.m.	100	73	27	7:10 mins

Table 4: Student (2) first reading attempt results (reading rate and accuracy)

Passage Title	Day and Date Time & place	No of words	CW	ICW	Duration
The Shape of Things	Thursday May 22, 2014 School at 1:51 p.m.	100	75	25	m:s 6:40

Table 5: Student (2) second reading attempt results (reading rate and accuracy)

3.4.3. Pre-Test

The pre-test was used to establish a baseline record of the student's oral reading fluency level (accuracy and rate). The researcher gave the same story "*The Shape of Things*" to the participant to read, and the results are displayed in Table 6:

Passage Title	Day, time and place	Words	CW	ICW	Duration
The Shape of Things	Thursday, May 29, 2014. School at 2:20 pm	100	75	25	7:31 min

Table 6: Results of pre-test reading rate and accuracy

The results of the pre-test as shown in Table 6 demonstrate that the number of errors committed by the participant while reading the story was 25 incorrect words while the number of correct words was 75, and the participant read the story in 7 minutes and 31 seconds. Compared with the results the pre-test to the results of the two students in their first and second reading attempts, it will be noticed that they are either very close in accuracy or in duration.

The participant was given a final post-test to measure the effect of repeated reading intervention strategy on the participant's reading rate and accuracy and to determine the progress the student has made during the study. More specifically, the

student read the same story “*The Shape of Things*”, which was used in the pre-test before the intervention; and the results shown on Table 7:

Passage Title	Day and Date	Time And place	Words No.	CW	ICW	Duration
The Shape of Things	Thursday, June 26, 2014.	School at 11:20	100	93	7	4:39 mins

Table 7: Results of post-test reading rate and accuracy

Data displayed on Table 7 show the significant improvement in both accuracy and rate. In accuracy, there is a sharp improvement since the number of incorrect words (ICW) dropped from 25 to 7, while the number of correct words (CW) has increased from 75 to 93. In accuracy not only the participant has shown a significant improvement, but also in reading rate since he only needed 4 minutes and 39 seconds to read the story. Compared to the pre-test rate results, which was 7 minutes, 31 seconds, this is considered as a huge and significant progress. See Figure 1.

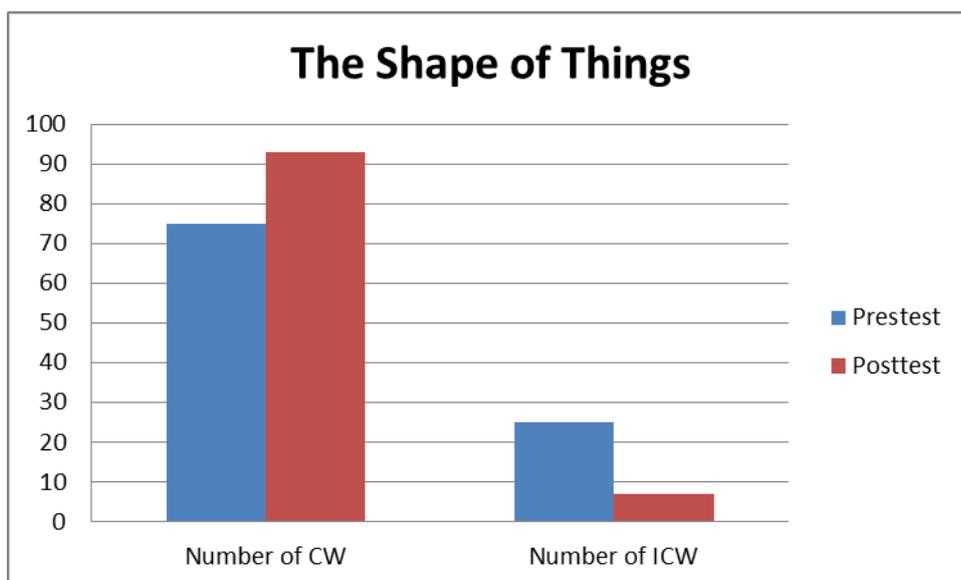


Figure 1: Results of pre-test and post-test

3.5. Procedures

Kita (2011) notes that repeated reading is a strategy that is designed to increase the recognition of unfamiliar words more quickly and pronounce them more accurately. This study adopted the procedures in Kita (2011). As per Franz (2014), most children are really taught by the teacher at their instructional levels. This is the level at which the teacher "extends" the student in his thinking and reading. The independent level, then again, is the level at which the child can read effectively and with joy. Reading scores for the most part allude to the instructional levels.

The researcher conducted each session every day after school day at 1:30 P.M. or during exams in which school day ends at 10:00 A.M. Each session's length depended on the duration the student took to read the passage and the time which was used for the feedback the teacher gave to the student. The teacher replays the audio tape for the student, so he listens to his mistakes, then the researcher reads the word correctly while the student repeats.

Therrien and Kubina (2006) notes that providing feedback, and monitoring student's oral reading is essential and plays a major role in repeated reading program's success, and it often motivates the children and allows them to see explicitly their progress. After that, the student reads the text one more time until he masters the reading, which is no more than two to three mistakes.

To build upon repeated reading strategy as in Kita (2011), the researcher utilized flash cards to enhance the participant's ability to read unfamiliar words within a passage. The words that the student struggled with within the unfamiliar passages were the words chosen for flashcards. Between each reading, the researcher and the participant used to review the flashcards, which provided the participant

practice with the struggling words out of context. Therefore, he had practice with vocabulary words in and out of context. This study was designed to last for almost four weeks. Data were obtained from researcher observations, pre-tests, post-tests, and participant's fluency chart, and repeated reading sessions, which were audio taped and transcribed.

First, the pre-test was administered to measure the participants' reading rate and accuracy. Then the researcher determined the reading rate and accuracy of the participant. After the establishment of the baseline, the repeated reading intervention strategy was used with the participant individually. All the passages used, matched the participant's instructional level. The reading of the student was audiotaped during each single session in order to revise the number of correct and incorrect words read after the session ending.

The participant is first asked to orally read passage of 100 words unfamiliar, reminding him that he should read carefully because there will be no opportunity to go back. Second, if the student commits an error and moves on, the researcher will not stop him to correct his mistake. However, if the student struggled with a word for 3 seconds and could not recognize it by himself, the researcher would tell him the word and record it as an error.

To keep track of his mispronunciations, the researcher used a repeated reading tracking chart and a running reading record. Recording the sessions allowed the researcher to review his oral reading and ensure that all miscues had been recorded on the Running Reading Record form (Roberts 2011). Johnston (2000) emphasizes that running records of oral reading are a vehicle for error analysis and the teacher

must engage in the imaginative challenge of figuring out the logic of errors. For teachers, the most useful aspect of errors is that people do not make them randomly.

The researcher timed the participant reading to determine the number of words per minute he recognized at first sight with correct pronunciation. At the beginning of every reading, the researcher set the timer to zero and started it as soon as the student began to read. The researcher used the repeated reading tracking sheet which displayed the date, time and place, passage number, reading round number, correct words (CW), correct words per minute (CWPM), words per minute (WPM), incorrect words (ICW) and duration which is measured in minutes and seconds.

3.6. Ethical Issue

The code of Ethics and Conduct (2009) recommends that researchers value the dignity and worth of all persons equally, with sensitivity to the dynamics of perceived authority or influence over others and with particular regard to people's rights including those of privacy and self-determination. Accordingly, the researcher respected the participant's voluntary decision to participate in this study. All the data collected were kept anonymous and confidential.

The code of Ethics and Conduct (2009) also notes that researchers have a responsibility to develop and follow procedures for valid consent, confidentiality, anonymity, fair treatment and due process that are consistent with those rights. So a parent consent form was signed by the participant's parents and the school principal's consent form was signed by the school principal as approval to start conducting the study.

3.7. Data Analysis

To calculate accuracy the researcher needed to calculate words per minute first using the equation used by Kita 2011, which is ($\frac{\text{words in the story}}{\text{seconds it takes to read the text}} \times 60 = \text{WPM}$), then the researcher calculated the WCPM using the equation ($\frac{\text{correct words read}}{\text{seconds it takes to read the story}} \times 60 = \text{WCPM}$). In addition, to calculate reading speed the researcher tracked the change of Word Correct per Minute over the number of reading trials, which should increase from one reading to the next.

This tracking sheet, according to Kita (2011, p.20), will allow the researcher to reflect on what was completed throughout each reading session and provide immediate feedback to the student at the end of each session. With the information which the researcher gathered, she was able to recognize that repeated reading could be used to increase the student's fluency. "Based on the literature review, frequent opportunities to practice with the same text should be effective and will enhance the student's reading performance. The student can benefit from repeated exposure of the same text." (Kita, 2011 p.20).

Pre-test: The researcher started analyzing the data by documenting the results of the pre-test on a table to include the passage title, date, time and place, number of words in the passage, the number of correct words read, the number of incorrect words, duration student used to read the passage, words read per minute, and correct words read per minute. The participant read "The Shape of Things" a 100 - word story and he spent 7 minutes and 31 seconds to read it, with 75 correct words (CW)

and 25 incorrect words (ICW). This means, 13.3 words per minute and 9.9 correct words per minute.

3.8. Researcher Observations

The researcher observed the participants' progress during the intervention by using the tracking sheet. Also the researcher observed the motivation of the participant toward the strategy before starting reading, because the reading sessions were conducted at the end of the school day and this may affect the student's performance.

However, every time the student was called for reading session, would to show excitement toward reading in general, and toward recording himself reading specifically, especially after he started to realize how much improvement he was gaining from reading from one session to the next. The researcher would show the participant the result of his performance after each session, which highly motivated him to move to the next round to reach the required goal.

As per Alber-Morgan (2006), instructors should tell students how many words they read correctly at the end of each session and give students a comparison to their previous performances. Alber-Morgan (2006) adds that there are greater improvements in reading rates when students are provided with performance feedback of incorrect words over performance feedback of correct words. As the researcher noticed, approximately, the third reading session that the participant started to show excitement and motivation. Therefore, he started to run into the allocated area for reading instead of waiting for the researcher to take him there.

CHAPTER FOUR - RESULTS

4.1. Introduction

This chapter reveals the major findings of the study.

4.2. Findings of the Study

The purpose of this study was to investigate the effect of repeated reading strategy on reading accuracy and reading speed on a student with reading difficulty drawn from a private school in Al-Ain, Abu Dhabi Emirate.

More specifically, the research questions are as follows:

1. What is the effect of repeated reading strategy on oral reading accuracy on a student with reading difficulties?
2. What is the effect of repeated reading strategy on oral reading rate on a student with reading difficulties?

The results in relation to the participant's oral reading accuracy and reading rate are shown in the data analysis displayed in all figures (1-7). Reading accuracy is represented in words read per minute (WPM), correct word read per minute (WCPM). While reading rate (speed) is represented by the duration measured in minutes and seconds, which is spent to read a story and measured in minutes and seconds. The research questions will be discussed separately.

- **RQ1:** What is the effect of repeated reading strategy on oral reading accuracy on a student with reading difficulties?

Accuracy means the number of correct words (CW) the number of incorrect words (ICW), the number of correct words read per minute (CWPM) and words read per minute. Results of number of correct words and number of correct words are shown in the figures. See Figure 2 and Figure 3.

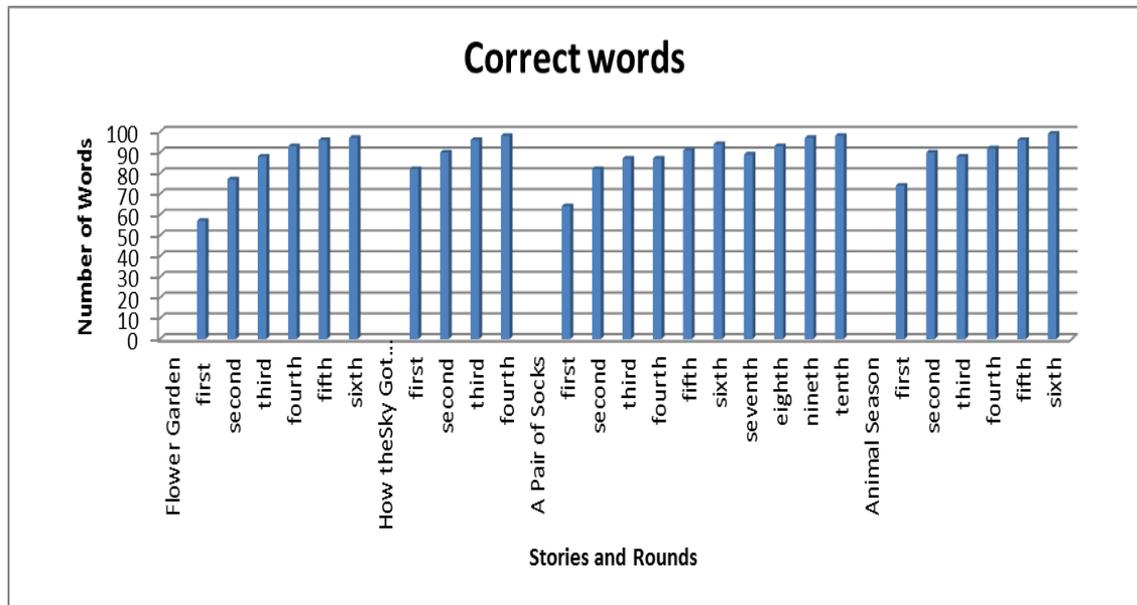


Figure 2: Results of correct words for all reading attempts

Figure 2 displays all reading attempts and results of the number of correct words read per each attempt, it is noticeable that correct words have increased over reading attempts for all the four stories. Starting from the first story “*Flower Garden*” when the number of correct words was 57 in the first reading, 77 in the second reading, 88 in the third reading, 93 in the fourth reading 96 in the fifth, and correct words in the last reading; in which the participant achieved the criterion of this study which is to read a passage with no more than 3 errors.

In the second story “*How the sky Got its Stars*”, the participant reached the criterion of only two errors with a result of 98 correct words at the fourth reading

attempt, faster than he did in any of the other three stories. In the third story “*A Pair of Socks*”, the participant started with only 64 correct words in the first reading. However, he reached the criterion with 98 correct words after ten reading attempts. During reading the last story “*Animal Season*”, there was a huge improvement in the number of correct words from the first reading with 74 correct words to 90 correct words in the second reading. The participant repeated this story six times to reach the required criterion 99 correct words. Because of the constant increase of the number of correct words read per reading attempt, the number of incorrect words decreased over all the reading attempts. The results are displayed in Figure 3.

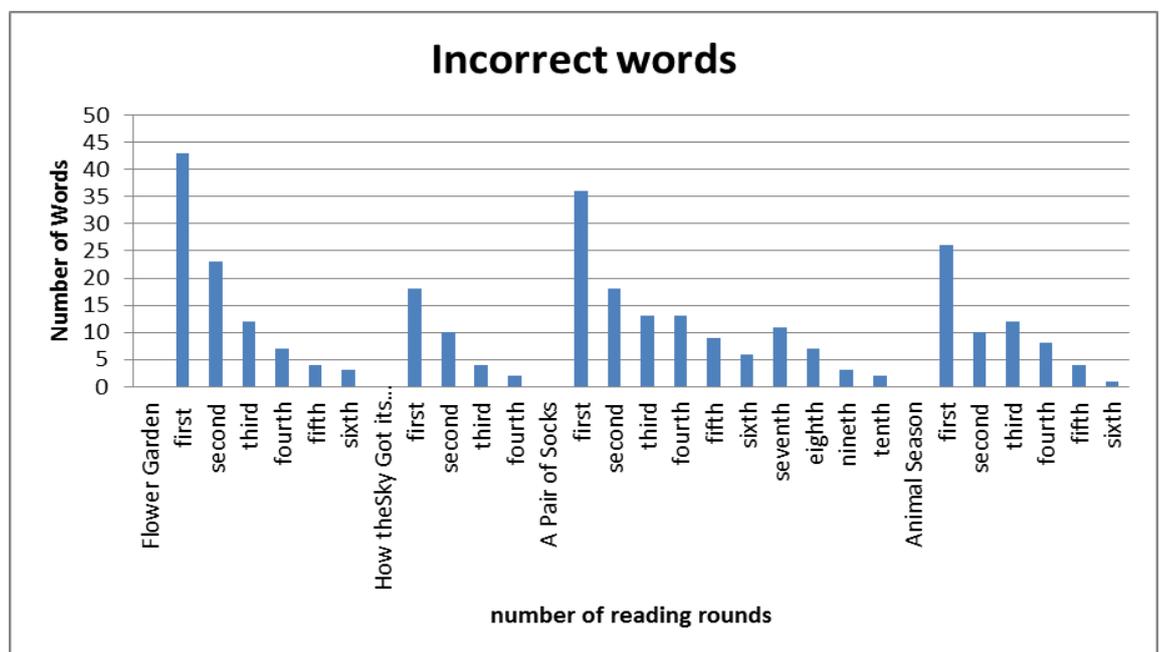


Figure 3: Results of Incorrect words for all reading attempts

For correct word read per minute and word read per minute, each story will be discussed separately. All results are displayed on Figures 4 and Figure 5.

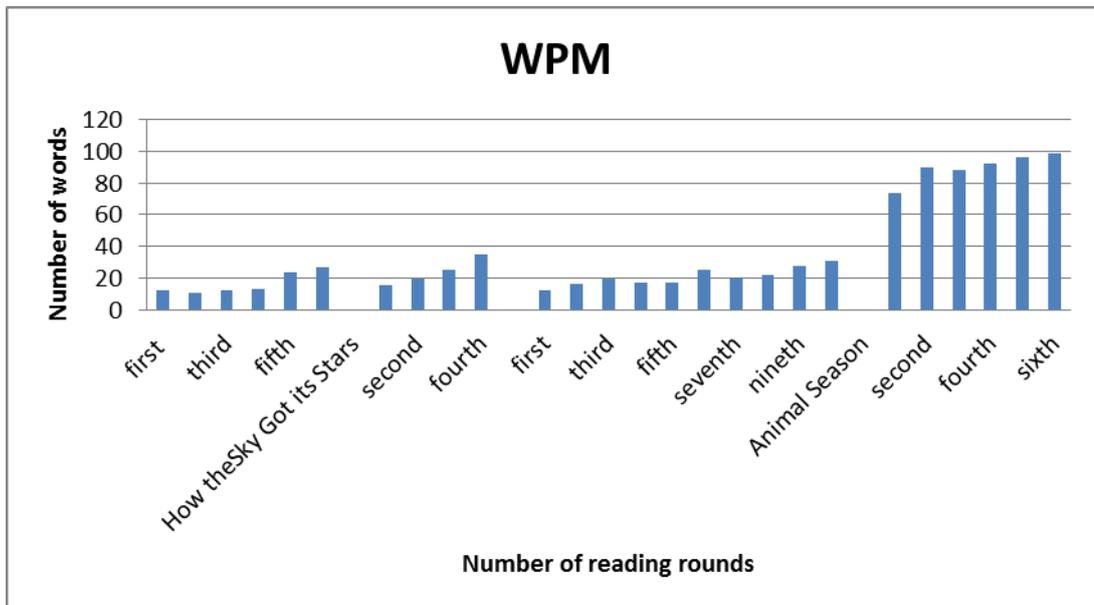


Figure 4: Results of words read per minute for all reading attempts

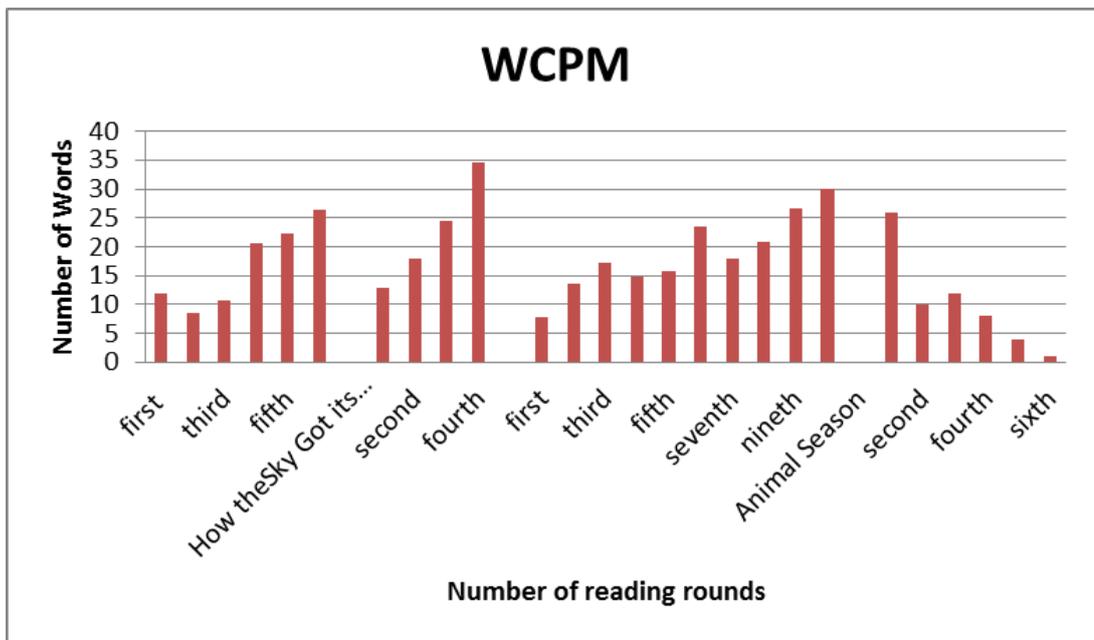


Figure 5: Results of correct words read per minute for all reading attempts

- **Story 1: Flower Garden**

The accuracy of the student's reading has increased over the six readings. The correct words per minute in the first reading was 11.8 while in the sixth reading attempt improved to 26.4 WCPM, and words read per minute WPM increased from the first reading of 12.7 WPM to 27 WPM in the last reading.

- **Story 2: How the Sky Got its Stars**

As can be seen in the graph, the reading accuracy of the student in this story increased over the four readings. At the first reading, WCPM was 13 words, and improved at the fourth reading to 34.5 words. In addition, WPM has also improved by 20.7 differences between the first and fourth reading attempts.

- **Story 3: A Pair of Socks**

In this story, there were ten reading attempts. During these attempts, the number of WPM was 12.2 then it kept increasing to reach 30.6 WPM. Regarding the number of CWPM, it also significantly improved from 7.8 words in the first reading to be 30 words in the last reading attempt.

- **Story 4: Animal Seasons**

As the data shown in regards to the last story (Animal Season), it would be apparently noticed that the number of WCPM has increased over the six readings from 9 words in the first reading to be 33 correct words per minute in the last reading attempt. The same applies for the number of WPM, which also showed a significant progress from the first reading with 12.5 words read per minute to be 32.9 words in the sixth reading, which is the last reading attempt.

- **Q2** of the study is What is the effect of repeated reading strategy on oral reading rate (speed) on a student with reading difficulties?

The answer for the second research question for this study is shown in the data displayed in Figure 6 and following explanation about each story reading rate results.

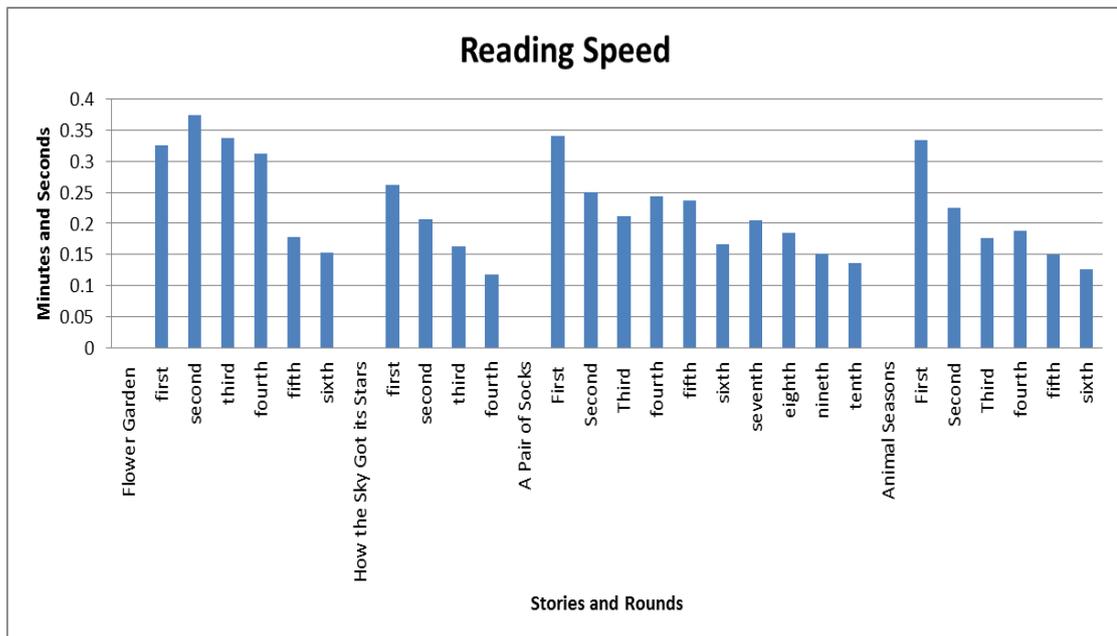


Figure 6: Results of reading rate (speed) for all reading attempts

- **Story 1: *The Flower Garden*** the participant needed 7 minutes and 49 seconds to read the 100 - word story in the first reading attempt. Whereas, in the sixth reading he only needs 3 minutes and 40 seconds.
- **Story 2: *How the Sky Got its Stars***- Reading rate has improved, the student needed 6 minutes and 17 seconds to read the 100 - word story in the first reading attempt, whereas in the fourth reading he only needs 2 minutes and 50 seconds, with 3.67 seconds difference than the first reading attempt, to reach the criterion of the study.

- **Story 3: *A Pair of Socks***- The reading rate has obviously improved over the tenth readings. The student spent 8 minutes and 24 seconds to read the story in the first round, while he only spent 3 minutes and 38 seconds in the tenth reading to reach the criterion.
- **Story 4: *Animal Seasons***- Oral reading rate has noticeably improved over the six readings. Starting with 8 minutes for the first reading attempt, which dropped, in the last reading attempt to 3 minutes and 2 seconds.

So as Therrien (2004) concluded dramatic improvement in reading fluency can be obtained through repeated reading intervention. This study also indicates a dramatic improvement in reading fluency in both components (accuracy and rate).

4.3. Summary of Major Findings

All study results indicate:

- Dramatic improvement in reading accuracy as shown in figures 2 – 5.
- Dramatic improvement in reading rate as shown in figure 6.
- Word miscues have no specific pattern, like omission, substitution, addition or any other type of miscue as is shown table 8 (see the appendix). Mainly, mistakes were non-recognition of blended letters or sounds. E.g. /sh/ /ch/ or /h/, but when the student was moving from one reading to the next and got the researcher's feedback, and listened to his reading, recognized his miscues, he overcame them gradually. The results of all reading rounds indicate that repeated reading strategy has an obvious impact on oral reading rate and oral reading accuracy.

CHAPTER FIVE - DISCUSSION

5.1. Introduction

This chapter includes a discussion of the results of the study, recommendations for future research and implications of practice based on the findings of the study.

The results shed light on the study's two main research questions.

1. What is the effect of repeated reading strategy on reading accuracy of an elementary student with reading difficulty?
2. What is the effect of repeated reading strategy on oral reading rate of an elementary student with reading difficulty?

The study found that the participant's reading accuracy and reading rate have improved significantly over the 4 readings and 26 reading rounds, as previously shown in Figures 2-7. All reading attempts, starting from the first story (*Flower Garden*) and ending with the last story (*Animal Season*) witnessed a significant increase of the correct words. However, in the third story (*How the Sky Got Its Stars*) there was a decline in the number of correct words from 94 in the sixth reading attempt to 89 correct words in the seventh reading attempt.

Another occurred after a consistent improvement in accuracy while reading the last story (*Animal Season*) from 90 correct words in the second reading attempt to 88 correct words in the third reading attempt. These were the only two falls happened among 26 reading attempts. In regards to the reading rate which is represented in duration (see Appendix A: Table 8) there was an increase of the duration to read the third story (*A Pair of Socks*) from the third round to the fourth

round with 45 seconds. Another increase was in the same story from round six to round 7 with 54 seconds. The story (A Pair of Socks) was repeated ten times to reach the criterion of no more than two errors in each passage, meaning that the participant put extra effort to reach the criterion in this story.

Another point the researcher needs to shed light on is word miscue. Going over the mistakes which were committed in the reading attempts, it will be noticed that mistakes do not represent any specific pattern of miscue like, admission, substitution or any other type of miscues. (See appendix B, tables 9-12)

In a study by Chafouleas et al. (2004) examining the effects of repeated reading (RR), the results showed that the oral reading fluency of one student with learning disabilities progressively increased and a gradual decrease in error rate for all three conditions (Strickland, Boon, & Spencer, 2013). Another study was conducted by Therrien and Hughes (2008) which compared the effects of repeated reading and question generation. The results of this study revealed that the students with learning disabilities in the repeated reading group significantly improved their reading fluency on last passage readings.

5.2. Implications for Practice

Abu Dhabi Education Council (ADEC) makes every effort to achieve its vision to have its education "recognized as a world-class education system that supports all learners in reaching their full potential to compete in the global market" (ADEC, 2012). Improving reading skills is one of the most crucial skills needed to be recognized as an essential component of the learning process, which is part of the education system. This study clearly suggests that fluency needs to be a concern for teachers at all Grade levels.

As the study conducted by Rasinski, et al., (2005) suggests, the lack of a reading curriculum (reading has not traditionally been given emphasis in secondary schools) may be an important cause for reading comprehension difficulties among secondary school students. Some attention to fluency for those students who are not fluent readers offers promise of significant improvements in reading comprehension and overall academic performance across content areas.

The researcher hopes that this study will lead to further research into the role of fluency in the primary, middle and secondary Grades and will inspire primary, middle and secondary teachers, regardless of their content specialty, to attempt to make reading fluency an integral part of their reading instruction.

5.3. Limitations

The fact that this study is limited to one fourth Grade student with reading difficulty from an elementary school in the U.A.E may limit the generalizability of this study. Besides, this study utilized the ABA single subject design, which according to Ryan and Filene (2012) is problematic for prevention/early intervention research, as the goal of these types of services is having an effect that is more lasting. Additionally, it is difficult to generalize about the repeated reading intervention effects, because this study is a small-scale study with only one participant receiving the intervention. In light of the limitations, the researcher makes her recommendations for future research.

5.4. Recommendations for Future Research

In light of the study limitations, the researcher makes her recommendations.

- First, the present study can be conducted on a larger number of students with reading difficulty, so the results can be generalized.

- Second, a more in depth study could be conducted in different schools, private and public, and then compare the results to investigate the effectiveness of repeated reading strategy for many students regardless of the type of the school they are enrolled in.
- Third, the study can be conducted with students from different Grade levels, elementary, middle and high to investigate if repeated reading strategy is an effective reading strategy for students at different ages.
- Fourth, the researcher also recommends a further post-test after months to check if the positive impact of repeated reading strategy is still effective.
- Fifth, while the results of the intervention showed a significant improvement in both reading accuracy and reading speed; it would be interesting to study whether repeated reading strategy would show the same impact on reading comprehension.
- Sixth, the same study might involve a control group participant for results to be compared with participants with reading difficulty.
- Seventh, the researcher recommends applying the strategy, but to assess reader's motivation and check whether motivation affects the results of the strategy or not.
- Finally, for further research, the researcher recommends to make a comparative study between repeated reading strategy and other reading strategies included within classroom teaching instructions, to evaluate the efficacy of each.

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APPENDIX A

1= Flower Garden; 2= How the Sky Got its Stars; 3= A Pair of Sock; 4= Animal Seasons

<i>Story</i>	<i>Round</i>	<i>Day / June 2014</i>	<i>School / Time</i>	<i>Word No.</i>	<i>CW</i>	<i>CWPM</i>	<i>ICW</i>	<i>Duration</i>	<i>WPM</i>
1	1 st	Monday 2	1:39 pm	100	57	11.8	43	7:49	12.7
	2 nd	Tuesday 3	1:46 pm	100	77	8.5	23	9:00	11.11
	3 rd	Wednesday 4	1:47pm	100	88	10.8	12	8:05	12
	4 th	Thursday 5	09:50am	100	93	20.6	7	7:30	13
	5 th	Thursday 5	10:10am	100	96	22.4	4	4:17	23.3
	6 th	Wednesday 8	10:05am	100	97	26.4	3	3:40	27
2	1 st	Monday 9	09:32am	100	82	13	18	6:17	15.9
	2 nd	Monday 9	10:00am	100	90	18	10	4:57	20
	3 rd	Tuesday 10	09:22am	100	96	24.4	4	3:56	25.4
	4 th	Tuesday 10	09:32am	100	98	34.5	2	2:50	35.2
3	1 st	Thursday 12	10: 23am	100	64	7.8	36	8:10	12.2
	2 nd	Thursday 12	10:48 am	100	82	13.6	18	6:00	16.6
	3 rd	Thursday 12	11:02am	100	87	17.11	13	5:05	19.6
	4 th	Sunday 15	10:22am	100	87	14.9	13	5:50	17
	5 th	Sunday 15	10:40am	100	91	15.9	9	5:42	17.5
	6 th	Sunday 15	10:53am	100	94	23.5	6	4:00	25
	7 th	Sunday 15	11:00am	100	89	18	11	4:54	20.4
	8 th	Monday 16	09:38am	100	93	20.8	7	4:27	22.4
	9 th	Monday 16	09:50am	100	97	26.6	3	3:38	27.5
	10 th	Monday 16	09:58am	100	98	30	2	3:16	30.6
4	1 st	Tuesday 17	10:00am	100	74	9	26	8:00	12.5
	2 nd	Tuesday 17	10:17am	100	90	16.6	10	5:25	18.4
	3 rd	Tuesday 17	10:31am	100	88	20.7	12	4:14	23.6
	4 th	Tuesday 17	10:48am	100	92	20	8	4:30	22.2
	5 th	Wednesday 18	10:00am	100	96	26.7	4	3:35	27.9
	6 th	Wednesday 18	10:20am	100	99	33	1	3:02	32.9

Table 8: Collected data through the intervention

No. of Words	Round 1	Round 2	Round 3	Round 4	Round 5
1	Butterflies	I	Doesn't	Doesn't	It
2	Doesn't	Hardly	It	It	Planting
3	It	Cardboard	Cardboard	Cardboard	Daisies
4	Checkout	Sitting	Sitting	Trowel	geraniums
5	Stand	Our	Trowel	Bag	
6	Hardly	Going	Thick	Daisies	
7	Wait	Heavier	Planting	Geraniums	
8	Cardboard	Last	Purple		
9	Sitting	Our	Daisies		
10	Our	Own	Daffodils		
11	Laps	Spread	Geraniums		
12	Smile	Thick	Tulip		
13	Us	Planting			
14	Going	Pansies			
15	Each	Each			
16	This	Daisies			
17	Getting	White			
18	Heavier	Snow			
19	Last	Daffodils			
20	Our	Tulips			
21	Own	Geraniums			
22	Trowel	High			
23	Spreads	Butterflies			
24	Thick				
25	Bag				
26	Potting				
27	Soil				
28	Planting				
29	Mix				
30	Purple				
31	Pansies				
32	Each				
33	End				
34	Daisies				
35	White				
36	As				
37	Daffodils				
38	Tulips				
39	Window				
40	High				
41	Geraniums				
42	Above				
43	Street				

Table 9: Mistaken words over the five rounds in story *Flower Garden*

No. of Words	Round 1	Round 2	Round 3	Round 4
1.	Things	Things	Things	Hills
2.	Things	Things	Things	Hills
3.	Coyote	All	When	
4.	Watched	Lakes	Hills	
5.	Hills	Lakes		
6.	Small	Lots		
7.	Bright	Bright		
8.	Them	Another		
9.	Maybe	Han d		
10.	Maybe	Long		
11.	Could			
12.	Could			
13.	Put			
14.	Said			
15.	Another			
16.	Hang			
17.	Decide			
18.	Long			

Table 10: Mistaken words over the four rounds in story *How the Sky Got its Stars*

No. of Words	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7
1	I've	I'll	Spots	I'll	Doesn't	Match	Be
2	Grabbed	It	Luck	Worn	Seem	Torn	Same
3	His	Doesn't	Still	It	Stinky	Terrible	Terrible
4	Basket	Seem	Worn	Stinky	Sudsy	Same	It
5	Was	Pair	I'll	Quite	Slimy	Seem	Stinky
6	But	Quite	Seem	Grabbed	Grabbed	His	Doesn't
7	Here	Sudsy	Quite	Same	Luck		Grabbed
8	Finally	Folded	Sudsy	His	Terrible		His
9	Be	Puffy	Puffy	Basket	Heel		Torn
10	Worn	Grabbed	Baskets	Finally	His		Luck
11	Be	Baskets	Finally	Heel			socks
12	Worn	Heel	Heel	Luck			
13	Doesn't	Torn	Torn	seem			
14	Fair	Terrible					
15	Match	Luck					
16	But	Still					
17	Has	Be					
18	Heel	Worn					
19	What						
20	Terrible						
21	Luck						
22	Still						
23	Spots						
24	Won't						
25	Part						
26	Stinky						
27	Grimy						
28	Quite						
29	Folded						
30	Sudsy						
31	Slimy						
32	Warm						
33	Fluffy						
34	Just						
35	Puffy						
36	Wrong						

Table 11: Mistaken words over the seven rounds of the story *A Pair of Socks*

No. of Words	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6
1	Wild	Comes	Start	Wild	Hatch	Fawns
2	collect	Wild	Harvest	Blooms	Wobble	
3	bloom	Bloom	Meadow	Meadows	Harvest	
4	meadows	Hatch	Birds	Birds	Autumn	
5	Birds	Wobble	Parents	Parents		
6	From	About	Nest	Wobble		
7	Their	Climb	Fawns	Shelter		
8	parents	Shelter	Wobble	autumn		
9	Them	Nuts	Mother			
10	wobble		Shelter			
11	about		Autumn			
12	places					
13	when					
14	autumn					
15	blows					
16	Their					
17	mother					
18	hotter					
19	harvest					
20	Mice					
21	climb					
22	travel					
23	nectar					
24	animals					
25	shelter					
26	Cool					

Table 12: Mistaken words over the six rounds in the story *Animal Seasons*

APPENDIX B

LETTERS OF CONSENT

B.1: Parental Consent Form

Parental Permission for Children Participation in Research

Title: The Effect of Repeated Reading Strategy on reading accuracy and reading rate on a Student with reading difficulty.

Introduction

The purpose of this form is to provide you (as the parent of a prospective research study participant) information that may affect your decision as to whether or not to let your child participate in this research study. The person performing the research will describe the study to you and answer all your questions. Read the information below and ask any questions you might have before deciding whether or not to give your permission for your child to take part. If you decide to let your child be involved in this study, this form will be used to record your permission.

Purpose of the Study

If you agree, your child will be asked to participate in a research study about Repeated Reading Strategy. The purpose is to examine if this strategy affects reading accuracy and reading rate of a student with reading difficulty.

What is my child going to be asked to do?

If you allow your child to participate in this study, he will be asked to sit with the researcher during the second break for 15 minutes five times a week to read a passage many times then move into another text and his reading will be audio recorded to check carefully about his reading mistakes. , so this study may take 5-7 weeks to complete. Your child is the only one who is participating in this study.

What are the risks involved in this study?

There are no foreseeable risks to participating in this study.

United Arab Emirates University
Faculty Of Education / Special Education

What are the possible benefits of this study?

The possible benefits of participation is that the participants' reading will improve, and he may start to enjoy reading as his peers.

Does my child have to participate?

No, your child's participation in this study is voluntary. Your child may decline to participate or to withdraw from participation at any time. You can agree to allow your child to be in the study now and change your mind later without any penalty.

What if my child does not want to participate?

In addition to your permission, your child must agree to participate in the study. If your child does not want to participate he will not be included in the study and there will be no penalty. If your child initially agrees to be in the study they can change their mind later without any penalty.

Will there be any compensation?

Neither you nor your child will receive any type of payment participating in this study.

How will your child's privacy and confidentiality be protected if he participates in this research study?

Your child's privacy and the confidentiality of his data will be protected and his name will not be mentioned in any occasion. He will be named as a participant.

If it becomes necessary for the United Arab Emirates University to review the study records, information that can be linked to your child will be protected. Your child's research records will not be released without your consent. The data resulting from your child's participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no

identifying information that could associate it with your child, or with your child's participation in any study.

Your child will be audio recorded. Any recordings will be stored securely and only the research team will have access to the recordings. Recordings will be kept for the date of defense in case the committee members ask for them and then will be erased.

Whom to contact with questions about the study?

Prior, during or after your participation you can contact the researcher Fatima Al jaffal at 0502338829 or send an email to 201180805@uaeu.ac.ae for any questions or if you feel that you have been harmed. This study has been reviewed and approved by The United Arab Emirates University Committee.

Signature

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him to participate in the study. If you later decide that you wish to withdraw your permission for your child to participate in the study you may discontinue his participation at any time. You will be given a copy of this document.

My child MAY be [audio and/or video] recorded.

My child MAY NOT be [audio and/or video] recorded.

Anonymous
Printed Name of Child

Signature of Parent(s)

Signature of Investigator

Date
April 16, 2014

Date
April 16, 2014

B.1. School Principal Consent Form

School Principal Permission for Children Participation in Research

Title: The Effect of Repeated Reading Strategy on reading accuracy and reading rate on a Student with reading difficulty.

Introduction

The purpose of this form is to provide you (as the principal of the school of the participant taking part in this study) information that may affect your decision as to whether or not to let the child participate in this research study. The person performing the research will describe the study to you and answer all your questions. Read the information below and ask any questions you might have before deciding whether or not to give your permission for the child to take part. If you decide to let the child be involved in this study, this form will be used to record your permission.

Purpose of the Study

If you agree, the child will be asked to participate in a research study about Repeated Reading Strategy. The purpose is to examine if this strategy affects reading accuracy and reading rate of a student with reading difficulty.

What is the child going to be asked to do?

If parents allowed their child to participate in this study, he will be asked to sit with the researcher after school four to five times a week to read a passage many times then move into another text ,and his reading will be audio recorded to check carefully about his reading mistakes. So this study may take 5-7 weeks to be completed. The student will not be withdrawn from any class.

What are the risks involved in this study?

There are no foreseeable risks to participating in this study.

What are the possible benefits of this study?

The possible benefits of participation is that the participants' reading will improve, and he may start to enjoy reading as his peers.

How will the child's privacy and confidentiality be protected if he participates in this research study?

The child's privacy and the confidentiality of his data will be protected and his name will not be mentioned in any occasion. He will be named as a participant.

If it becomes necessary for the United Arab Emirates University to review the study records, information that can be linked to the child will be protected. The child's research records will not be released without his parent's consent. The data resulting from the child's participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate it with the child, or with the child's participation in any study.

The child will be audio recorded. Any recordings will be stored securely and only the research team will have access to the recordings. Recordings will be kept for the date of defense in case the committee members ask for them and then will be erased.

Whom to contact with questions about the study?

Prior, during or after the study you can contact the researcher Fatima Al jaffal at 0502338829 or send an email to 201180805@uaeu.ac.ae.com for any questions or if you feel that the child has been harmed or in case you received any complaints from the participant's parents or from the participant himself. This study has been reviewed and approved by The United Arab Emirates University Committee.

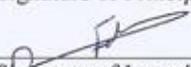
Signature

You are making a decision about allowing one of the school students to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him to participate in the study. If you later decide that you wish to withdraw your permission for the child to participate in the study you may discontinue his participation at any time. You will be given a copy of this document.



Signature of Principal

April 16, 2014
Date



Signature of Investigator

April 16, 2014
Date