

Reading Strategies among UAE Students with Learning Disabilities

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Abstract

The purpose of this study was to examine the reading strategies used by United Arab Emirates 6-10th grade students with learning disabilities while reading easy and difficult texts. Both quantitative and qualitative methodologies were employed in this study. Although all participants report that they are aware of a variety of reading strategies, the results of the think aloud protocol demonstrated that the participants do not use several reading strategies in the actual use of reading strategies. Additionally, the patterns of strategy use in their think aloud suggested that two more strategies including “Checking How Text Content Fits Purpose” and “Pausing and Thinking about Reading” were used for difficult texts than for easy texts.

Key Words: reading strategies, learning disabilities, UAE, 6-10th grade students

Introduction

Students who have learning disabilities are often overwhelmed in learning situations (Salend, 2005). The majority of students with learning disabilities have difficulties in reading. According to Gersten, Fuchs, Williams, and Scottbaker (2001), one of the most important skills students with learning disabilities need to learn is “how” to learn. Knowing that certain techniques and strategies can be used to assist learning, knowing which techniques are useful in which kinds of learning situations, and knowing how to use the techniques as powerful tools that can enable students with learning disabilities to become strategic, effective, and lifelong learners.

Several research studies have shown that reading strategies are promising approaches to fostering reading comprehension in students with reading disabilities (e.g. Gaddy, Bakken, & Fulk, 2008; Kim, Vaughn, Klinger, Woodruff, Reutebuch, & Kouzekanani, 2006; Stetter & Hughes, 2010; Vandenberg, Boon, Fore, & Bender, 2008). For instance, in a study that examined the way successful college students with learning disabilities compensated for their deficits in phonological processing. Trainin and Swanson (2005) found that students with learning disabilities relied on reading strategies to compensate for their phonological processing deficits. Moreover, results from several studies on reading strategy training (e.g., Bhat, Griffin, and Sindelar, 2003; Klinger, Vaughn, and Schumm, 1998; Paige, 2006) indicated that such training, if carefully developed and sustained for a sufficient time and closely managed by teachers, shows promise for effecting good maintenance and strategies transfer among students with learning disabilities. Findings of several previous research studies revealed that proficient readers tend to invoke strategies more flexible, adjust strategy use to text type and purpose for reading (e.g., Alsheikh, 2009; Feng & Mokhtari, 1998). Additionally, Lau (2006) used the think-aloud method to compare reading comprehension of good and poor native Chinese readers in secondary schools.

The author found that good readers who utilized the think-aloud procedures in combination with other effective reading strategies, are more motivated to read. In contrast, poor readers tend to have limited reading skills, are less motivated and gave up easily when they encountered problems on reading tasks. Feng and Mokhtari (1998) also found that efficient readers use strategies while reading difficult texts, whereas poor readers are not conscious of how and when to use strategies. Indeed, fluent readers use effective metacognitive strategies while reading. These strategies are often referred to as comprehension monitoring strategies (Baker & Brown, 1984).

While 20 years ago research on the reading comprehension problems of students with learning disabilities focused on difficulties with decoding text, other researchers view such problems as arising from difficulties across a wide range of language and thinking activities (Swanson and Hoskyn, 1998). The study of metacognition has become an important area of investigation. Yet, metacognition has been viewed as an integral component of reading. Several researchers have identified many metacognitive skills involved in reading (Mokhtari & Reichrad, 2002), such as clarifying the purposes of the reading, identifying the important aspects of the text, focusing attention on the main points of text rather than trivia, monitoring activities for comprehension purposes, self-questioning, and taking corrective actions when comprehension breaks down. In a study that examined the effectiveness of metacognitive strategies in teaching reading comprehension to five Chinese children with physical and multiple disabilities. Ip and Lian (2005) found that metacognitive instructional strategies might be effective. Additionally, a number of empirical investigations have established positive relationships between metacognitive strategies and reading comprehension among students with learning disabilities (e.g., Antoniou & Souvignier, 2007; Camahlan, 2006; Kim, Vaughn, Wanzek, & Wei, 2004; Gaddy, et al., 2008; Rottman and Cross, 1990; Stagliano & Boon, 2009; Vandenberg, et al., 2008). For instance, Camahlan (2006) examined the effects of metacognitive reading program on reading achievement and metacognitive strategies of students with dyslexia.

The findings of this study suggested that the use of metacognitive strategies improves the participant's reading achievement. Additionally, Vandenberg, et al., (2008) found that the use of the repeated reading strategy increased all the participants' oral reading fluency rates and the number of comprehension questions accuracy of practiced and unpractised passages. In a study aimed at examining the effects of a reading-strategy program on fifth to eighth graders with learning disabilities, Antoniou and Souvignier (2007) found that the experimental group outperformed the control group in reading comprehension, reading strategy knowledge, and reading self efficacy. Previous research indicated that students with learning disabilities are ineffective strategic learners. For instance, in a study that investigated the metacognitive strategies used by four upper elementary gifted students with reading disabilities during a reading comprehension think-aloud task, McGuire and Yewchuk (1996) reported that, although the students monitored their reading and reported use of evaluation, paraphrase, and regulation metacognitive strategies, they were not proficient in these strategies. Although students with learning disabilities may have the ability to process information, they do so with great inefficiency. It is not atypical for students with learning disabilities to be unaware of basic strategies that good readers use such as re-reading passages they don't understand. In a study that compared the cognitive and metacognitive performance of students with learning disabilities. Trainin and Swanson (2005) found that students with learning disabilities scored significantly lower than students without disabilities in word reading, processing speed, semantic processing, and short-term memory.

Although there are an overwhelming number of studies on various aspects of reading strategies among students with disabilities, there is very little research carried out on the actual metacognitive use of reading strategies among students with learning disabilities. In the Arab World, only two published studies were found that investigated the impact of reading comprehension strategies on UAE students who are deaf/hard of hearing (e.g., Al-Hilawani, 2003; Sartawi, Al-Hilawani, and Easterbrooks, 1998). At present, there are no published studies that have investigated the reading strategies use by students with learning disabilities in the United Arab Emirates, despite the use of reading strategies has been identified as a major variable for improving reading comprehension among students with disabilities (e.g., Antoniou & Souvignier, 2007; Camahlan, 2006; Kim, Vaughn, Wanzek, & Wei, 2004; Stetter & Hughes, 2010; Vandenberg, et al., 2008). Therefore, a careful study of strategies use of students with learning disabilities while reading easy and difficult passages will help to better understand how UAE students with learning disabilities read easy and difficult texts.

Reading skill deficits which are prevalent among children with learning disabilities, negatively affects academic success and performance of daily living tasks. Many intervention procedures have been designed to help teachers understand the reading problems of less proficient readers and to develop strategies for reading instruction to enhance reading ability. The think-aloud technique has been frequently used both as an instructional and assessment tool for reading performance. For instance, Schellings, Aarnoutse, and Van Leeuwe (2006) used the think-aloud in examining the strategic reading among young readers, while reading expository texts. Indeed, the use of think-aloud as an assessment tool allows students to verbalize their thoughts as they read the text by asking questions and making comments.

This study, therefore, used think-aloud protocol to examine reading strategies of UAE students with learning disabilities while reading expository texts. The major objective of this study was to investigate the reading strategies use by United Arab Emirates 6-10th grade students with learning disabilities while reading easy and difficult texts. The study seeks to explore the following questions:

1. What strategies do UAE 6-10th grade students with learning disabilities report using when they read?
2. Are there any significant differences in the reading strategies that UAE 6-10th grade students with learning disabilities report using when they read?
3. What specific reading strategies do UAE 6-10th grade students with learning disabilities actually use when they read easy and difficult texts?
4. In what ways does the use of reading strategies vary across the easy and difficult texts?

Method

Participants

The sample included 150 UAE 6-10th grade students from the UAE public schools and public and private centres for students with special needs (52.7% were 6th graders, 18.7% were 7th graders, 7.3% were 8th graders, 8.7% were 9th graders, and 12.7% were 10th graders). The sample consists of 21 males (14%) and 129 females in the UAE (86%). In term of the educational zones, the numbers of students per educational zone taking part in this study were 49 (32%) from Al-Ain Educational Zone, 50 (34%) from Abu Dhabi Educational Zone, 20 (13.3%) from Dubai Educational Zone, 26 (17.3) from Ajman Educational Zone, 2 (1.3%) from Ras Al Khaima Educational Zone, 2 (.7%) from Sharjah Educational Zone, and 1 (.7%) from Fujairah Educational Zone. The selection of the participants was based on two criteria: (a) the students were identified by their teachers as having learning disabilities and (b) ability and willingness to think aloud while reading.

To investigate the level of awareness of reading strategies among UAE students in an academic setting, metacognitive awareness of reading strategies was assessed using a Survey Of Reading Strategies (Mokhtari & Sheorey, 2002). All participants were asked to complete a Survey of Reading Strategies (SORS). A sub sample of 10 participants was selected randomly from the 49 participants in Al-Ain Educational Zone to participate in the second part of the study. Those 10 participants participated in a think aloud while reading easy and difficult passages. The think-aloud protocol was used as a means of gathering data about the students' thinking while reading. The resulting think-aloud protocols were tape recorded to ensure completeness and accuracy in data transcription and analysis. The second part of the study involved a more in-depth investigation of the strategies UAE students actually use when reading the texts. The instruments consisted of a background questionnaire about the participants including age, gender, and school educational zone; Survey of Reading Strategies, and think a loud protocol. These materials are briefly described below. Survey of Reading Strategies (SORS): All participants completed the SORS (Mokhtari & Sheorey, 2002).

The original Survey of Reading Strategies consists of 30 items. According to the authors, the SORS instrument “measures three broad categories of strategies as follows: (1) The Global Reading Strategies (GLOB), which can be thought of as generalized or global reading strategies aimed at setting the stage for the reading act, (2) The Problem Solving Reading Strategies (PROB) which are localized, focused problem-solving or repair strategies used when problems develop in understanding textual information, and (3) Support Reading Strategies (SUP) which provide the support mechanisms or tools aimed at sustaining responsiveness to reading” (Mokhtari & Sheorey, 2002, p.21). The psychometric properties of the SORS instrument, including validity and reliability data (Alpha = .93) are well established (Mokhtari & Reichard, 2002). Reading Passages: Two expository reading texts were used in the study. Teachers were asked to select two texts varying in difficulty levels (easy/difficult).

The texts are typical of reading materials for 6-10th grade students. Think-Aloud Assessment: To extract the specific reading strategies that UAE 6-10th grade students with learning disabilities actually use while reading, the think-aloud protocol was used. Participants were asked to read texts and to verbally report their thinking while reading. Because of the inherent challenges of thinking aloud while engaged in complex cognitive tasks such as reading, researchers recommend exposing the participants to the procedures and providing ample practices in verbalizing their thoughts while reading silently. Prior to conducting the think-alouds, the participants were briefed about the nature of the study and trained to think aloud while reading. During this briefing, the researchers explained the procedure, provided an example of how thoughts can be verbalized while reading, and they give them opportunities to practice thinking aloud using practice texts similar to the ones that were used in the actual study.

The data collection sessions were individually scheduled and were conducted within 1-2 days immediately following the training sessions so that participants would remember how to perform think aloud protocols. The students who agreed to participate in this study derived from various public schools and public and private centers for individuals with disabilities across the UAE. After contacting the students, the researchers told the participants about the purpose of the study and indicated for them that the participation in this study was voluntary. The think aloud was conducted exclusively with purposefully selected participants because think aloud is a hidden process and needs a lot of training and modeling.

The tape-recorded data were transcribed for analysis using a transcription system. In order to identify the strategies used while reading, a group of judges were hired to work with the researchers in identifying the reading strategies used and categorizing them in a meaningful way. Following strategy identification, the findings were examined and discussed by a group of judges in terms of strategy type, number, and use. Throughout this process, disagreements were scrutinized and discussed until consensus is reached. The strategies generated from the think-aloud protocols were categorized into three types of strategies, following the classification scheme used in the SORS. Because the data of this study was originated from a variety of sources (i.e., background questionnaire, think-aloud assessment, and SORS), a combination of qualitative and quantitative approaches were used to find answers to the main questions posed in the study.

RESULTS & ANALYSIS

The results of the study will be discussed in accordance to the research questions posed.

Research Question#1: What strategies that UAE 6-10th students with learning disabilities report using when they read? To answer this question all participants were asked to complete the SORS survey. Then the students' responses were analyzed for the individual reading strategy as well as for the three categories of the survey instrument. As Table 1 shows, the means of individual reading strategy reported showed that the participants have a fairly moderate level of awareness of reading strategies when reading. The mean strategy use ranged from a high of 3.71 to a low of 2.91.

Table 1: Descriptive Statistics

Strategy Type	N	Std. Deviation	Mean	Maximum	Minimum
GLOB1	150	1.39480	3.5067	5.00	1.00
SUP6	150	1.44211	2.9133	5.00	1.00
GLOB2	150	1.21925	3.5000	5.00	1.00
GLOB3	150	1.35813	3.5667	5.00	1.00
SUP 2	150	1.39831	3.4667	5.00	1.00
GLOB4	150	1.35151	3.2600	5.00	1.00
PROB1	150	1.34462	3.4733	5.00	1.00
GLOB5	150	1.34187	3.1267	5.00	1.00
PROB2	150	1.38325	3.7067	5.00	1.00
SUP3	150	1.43999	3.5600	5.00	1.00
PROB3	150	1.28672	3.4267	5.00	1.00
GLOB6	150	1.34007	3.3867	5.00	1.00
SUP8	150	1.47407	3.2400	5.00	1.00
PROB4	150	1.33561	3.3933	5.00	1.00
GLOB7	150	1.38106	3.5933	5.00	1.00
PROB5	150	1.25504	3.4267	5.00	1.00
GLOB8	150	1.34382	3.1533	5.00	1.00
SUP5	150	1.20255	3.5133	5.00	1.00
PROB6	150	1.36346	3.3267	5.00	1.00
GLOB9	150	1.43020	3.1867	5.00	1.00
GLOB10	150	1.35971	3.1133	5.00	1.00
SUP9	150	1.38998	3.1867	5.00	1.00
GLOB11	150	1.31765	3.4267	5.00	1.00
GLOB12	150	1.33947	3.2667	5.00	1.00
PROB7	150	1.32977	3.5033	5.00	1.00
SUP7	150	1.34322	3.2667	5.00	1.00
GLOB13	150	1.30913	3.2400	5.00	1.00
PROB8	150	1.28542	3.4067	5.00	1.00
SUP4	150	1.54653	2.7467	5.00	1.00
SUP1	150	1.55404	2.8800	5.00	1.00

GLOB = Global Reading Strategy; SUP = Support Reading Strategy; PROB = Problem Reading Strategy.

The researchers further analyzed the data according to the three categories. The averages for these categories revealed a moderate to high reading strategy usage. United Arab Emirates 6-10th grade students with learning disabilities reported that they most often used the Problem Solving Reading Strategies (PROB) ($m = 3.45$), followed by Global Reading Strategies (GLOB) ($m = 3.30$), and Support Reading Strategies (SUP) ($m = 3.15$).

The five strategies reported used the most were: “Previewing Text before Reading”, “Using Text Features (e.g., tables)”, “Trying to Stay Focus on Reading”, “Underlying Information in the Text”, and “Paraphrasing for Better Understanding”. On the other hand, the least five reported used strategies were: “Using Reference Materials”, “Taking Notes while Reading”, “Finding Relationship among Text Ideas”, “Noting Text Characteristics”, and “Analyzing and Evaluating the Text” (see Table 2).

Table 2: Reported Reading Strategies Used Most and Least by UAE Students with Learning Disabilities When Reading

Name	Strategy
PROB2	Trying to stay focused on reading
GLOB7	Using text features (e.g., tables)
GLOB3	Previewing text before reading
SUP3	Underlying information in the text
SUP5	Paraphrasing for better understanding
GLOB1	Setting purpose for reading
PROB7	Re-reading for better understanding
GLOB2	Using of prior knowledge
PROB1	Reading slowly and carefully
SUP2	Reading aloud for better understanding
PROB3	Adjusting reading rate
PROB5	Pausing and thinking about reading
GLOB11	Checking understanding
PROB8	Guessing meaning of unknown words
PROB4	Paying close attention to reading
PROB6	Visualizing information read
GLOB6	Determining what to read closely
GLOB12	Predicting or guessing text meaning
SUP7	Asking oneself questions
GLOB4	Checking how text content fits purpose
GLOB13	Confirming predictions
SUP8	Translating from English to Arabic or Vice Versa
GLOB9	Using typographical aids (e.g. italics)
SUP9	Thinking in both languages when reading
GLOB8	Using context clues
GLOB5	Noting text characteristics
GLOB10	Analyzing and evaluating the text
SUP6	Finding relationship among text ideas
SUP1	Taking notes while reading
SUP4	Using reference materials

Research Question #2: Are there any significant differences in the reading strategies that UAE 6-10th grade students with learning disabilities report using when they read? Analysis of variance was performed to examine the difference between the reported use of strategies among UAE school age children according to the students’ grade level. The difference between the use of reading strategies among UAE 6-10th grade students according to their grade level was statistically significant in two reading strategies, including “Confirming Predictions” ($F = 2.90$) and “Using Reference Materials” ($F = 5.33$).

A scheffe’s post hoc test determined the significance between the treatment (grade level) group mean scores on the following reading strategies: “Confirming Predictions” and “Using Reference Materials”. For the “Confirming Prediction” strategy statistically significant differences were found between the mean scores of grade 10 ($m = 3.89$) and grade 9 (2.38).

Additionally, for the “Using Reference Materials” strategy statistically significant differences were found between the mean scores of 6 ($m = 3.20$), 7 ($m = 3.64$), and 10th ($m = 1.89$) grades. The post hoc results suggested that 10th grade students used more often “Confirming Prediction” strategy than the 9th grade students. Additionally, 6 and 7th grade students reported that they use more often “Using Reference Materials” strategy than the 10th grade students.

Research Question #3: What specific reading strategies do UAE 6-10th grade students with learning disabilities actually use when they read the two texts? Table 3 lists the strategies that were actually used by the ten participants who participated in the second phase of the study when they read the easy and difficult texts. These strategies were extracted from the participants’ think-alouds while reading. The strategies that were actually used are marked by a (+) sign while the ones not used are marked by a (-) sign.

Research Question # 4: In what ways does the use of reading strategies vary across the two texts (easy/difficult)? In this part of the study, data was collected from the ten randomly selected participants who agreed to participate in the follow-up study. The data was collected through a think-aloud protocol. These data allowed us to find out what strategies the participants actually used when reading. For purposes of analysis, the 30 reading strategies identified in the SORS instrument were used as a general guide for determining what strategies the ten participants actually used when they read the easy/difficult text. The strategies that were actually used were compared to the ones reported as being used. These strategies were identified from the think-aloud transcripts using constant comparative procedures proposed by Glaser and Strauss (1967). As a general rule, a strategy was counted if it occurred four or more times in the think-aloud transcripts. Following a classification scheme used by Mokhtari and Sheorey (2002), the strategies generated from the think-aloud protocols were categorized into three types of strategies including “Global Reading Strategies”, “Problem-Solving Strategies”, and “Support Reading Strategies”. The following section provides a discussion of strategies actually used by the participants when they read the two texts (see Table 3).

Strategies Actually Used When Reading Easy Text

An examination of the data presented in Table 3 shows that the participants used some of the strategies and didn’t use others. Collectively, the participants used a total of 8 strategies when reading easy text. Of these 8 strategies, there were one Global Reading Strategies, 6 Problem-Solving Strategies, and 1 Support Reading Strategies.

Strategies Actually Used When Reading Difficult Text

An examination of the data presented in Table 3 shows that the participants used some of the strategies and did not use others. Collectively, the participants used a total of 10 strategies when reading difficult text. Of these 10 strategies, there were 2 Global Reading Strategies, 7 Problem-Solving Strategies, and 1 Support Reading Strategies.

The think-aloud data showed that the ten participants actually used two more strategies when they read the difficult text including “Checking How Text Content Fits Purpose”, and “Pausing and Thinking about Reading”. Qualitative data shows there was no major variation in actual strategy use by the participants according to the text difficulty level. Only two more strategies were used in reading the difficult text. Qualitative data confirmed the quantitative data that the participants use the most the Problem Solving Strategies, followed by the Global Reading Strategy and the Support Reading Strategies. On the other hand, there was a variation in the qualitative and quantitative data with regard to the participants’ level of awareness of the reading strategies. Although the quantitative data (self report questionnaire) demonstrated that UAE 6-10th grade students are aware of a variety of reading strategies, the results of think aloud protocol demonstrated that participants do not use several reading strategies in the actual use of reading strategies analysis. Indeed, the participants did not use 19 out of 30 strategies in the actual use of reading strategies (see Table 3).

Table 3: Reading Strategies Actually Used when Reading the Easy/Difficult Text

Strategy	Easy	Difficult
GLOB1 Setting purpose for reading	-	-
GLOB2 Using of prior knowledge	+	+
GLOB3 Previewing text before reading	-	-
GLOB4 Checking how text content fits purpose	-	+
GLOB5 Noting text characteristics	-	-
GLOB6 Determining what to read closely	-	-
GLOB7 Using text features (e.g., tables)	-	-
GLOB8 Using context clues	-	-
GLOB9 Using typographical aids (e.g. italics)	-	-
GLOB10 Analyzing and evaluating the text	-	-
GLOB11 Checking understanding	-	-
GLOB12 Predicting or guessing text meaning	-	-
GLOB13 Confirming predictions	-	-
PROB1 Reading slowly and carefully	+	+
PROB2 Trying to stay focused on reading	+	+
PROB3 Adjusting reading rate	+	+
PROB4 Paying close attention to reading	+	+
PROB5 Pausing and thinking about reading	-	+
PROB6 Visualizing information read	-	-
PROB7 Re-reading for better understanding	+	+
PROB8 Guessing meaning of unknown words	+	+
SUP1 Taking notes while reading	-	-
SUP2 Reading aloud for better understanding	+	+
SUP3 Underlying information in the text	-	-
SUP4 Using reference materials for better understanding	-	-
SUP5 Paraphrasing	-	-
SUP6 Finding relationship among text ideas	-	-
SUP7 Asking oneself questions	-	-
SUP8 Translating from English to Arabic or Vice Versa	-	-
SUP9 Thinking in both languages when reading	-	-

(+)Indicates use of the strategy (-) Indicates absence of strategy use

Discussion

This study explored the metacognitive awareness and use of reading strategies by UAE 6-10th grade students with learning disabilities while reading easy and difficult texts. This study intended to examine the following specific questions: 1)What strategies that UAE school age children with learning disabilities report using when they read?, 2) Are there any significant differences in the reading strategies that UAE 6-10th grade students with learning disabilities report using when they read?, 3) What specific reading strategies do UAE 6-10th grade students with learning disabilities actually use when they read easy and difficult texts?, and 4) In what ways does the use of reading strategies vary across the two texts (easy/difficult)? To find answers to the four research questions, both quantitative and qualitative methodologies were employed in this study.

The means of individual reading strategy reported show that the participants have a fairly moderate level of awareness of reading strategies when reading. Although all participants report that they are aware of a variety of reading strategies (mean strategy use ranged from a high 3.71 to a low of 2.91), the results of think aloud protocol demonstrated that participants do not use several reading strategies in the actual use of reading strategies analysis. Indeed, the participants did not use 19 out of 30 strategies in the actual use of reading strategies (see Table 3). The fact that the participants did not use several strategies in the actual use of reading strategies which was measured by the think-aloud protocol is consistent with previous research. For instance, this finding corroborates the findings of prior research which suggested that children with reading comprehension disabilities present less adequate metacognitive control process while reading (Cornoldi, 1990; Trainin and Swanson, 2005).

Additionally, this findings was supported by Lau (2006) who used the think-aloud method to compare reading comprehension of good and poor native Chinese readers in secondary schools. The author found that good readers who utilized the think-aloud procedures in combination with other effective reading strategies, are more motivated to read. In contrast, poor readers tend to have limited reading skills, are less motivated and gave up easily when they encountered problems on reading tasks. It is not atypical for students with learning disabilities to be unaware of what strategies they use while reading. Moreover, participants reported that they most often used the Problem Solving Strategies, followed by Global Reading Strategies, and Support Reading Strategies. This result is inconsistent with previous research by Block (1992) who found that unsuccessful readers have limited resources for solving problems. This inconsistency may be due to a number of factors including the types of students used, their reading abilities, the difficulty levels of the passages and possibly other factors including language differences.

Analysis of variance was performed to examine the difference between the reports using of reading strategies among UAE school age children according to the students' grade level. The difference between the use of reading strategies among UAE 6-10th grade students according to their grade level was statistically significant in only two reading strategies {e.g., "Confirming Predictions" and "Using Reference Materials"}. The post hoc results suggested that 10th grade students use more often "Confirming Prediction" strategy than the 9th grade students. Additionally, 6 and 7th grade students reported that they use more often "Using Reference Materials" strategy than the 10th grade students. The pattern of strategy use in the ten participants think aloud reports suggested that there were no significant variations in the usage of strategies while reading easy and difficult texts. This finding is surprising in light of the fact that difficult texts are more linguistically and cognitively demanding than easy texts. However, it is not too surprising in light of the fact that all participants are students with learning disabilities. In fact, this result obtained provide additional research support to the findings of several previous researchers who indicated that good readers tend to invoke strategies more flexibly, adjust strategy use to text type and purpose for reading (e.g., Alsheikh, 2009; Mokhtari, 2008) and that good readers are more aware of strategies they use than poor readers (Feng & Mokhtari, 1998).

UAE 6-10th grade students with learning disabilities were found to use two more strategies when reading difficult text to compensate their comprehension problems that arise when they read the difficult text. Additionally, the use of more strategies when reading the difficult text including "Checking how Text Content Fits Purpose" and "Pausing and Thinking about Reading" may very well be due to the unfamiliarity with the difficult text. The fact that the ten participants who participated in the second phase of this study used only two more strategies when reading the difficult text is not surprising. Students with learning disabilities are not aware of the importance of using several strategies in reading the difficult text. This result is consistent with Feng and Mokhtari's study (1998) who found that efficient readers use strategies while reading difficult texts, whereas poor readers are not conscious of how and when to use strategies. Therefore, UAE 6-10th grade students need to become strategic learners and to be aware of what strategies might be useful and to be capable of using those strategies effectively.

The five strategies reported used the most were: "Previewing Text before Reading", "Using Text Features (e.g., tables)", "Trying to Stay Focus on Reading", "Underlying Information in the Text", and "Paraphrasing for Better Understanding." On the other hand, the least five reported used strategies were: "Using Reference Materials", "Taking Notes while Reading", "Finding Relationship Among Text Ideas", "Noting Text characteristics", and "Analyzing and Evaluating the Text" (see Table 2). Interestingly, all participants reported that they use mostly the "Using Text Features", "Previewing Text before Reading", "Underlying Information in the Text" and "Paraphrasing for Better Understanding" reading strategies. However, in actual reading they didn't use these strategies at all. This finding suggested that UAE students with learning disabilities are unaware of the strategies that they actually use while reading. UAE students with disabilities need to be aware of what strategies they are using or not using.

The findings of this study have some implications for teaching, assessment and research. From an instructional perspective, this study revealed the five strategies reported using the most and the reading strategies that reported using and actually used by UAE 6-10th grade students with learning disabilities when they read. Teachers, therefore, may need to be flexible in their teaching to meet the different reading strategies of UAE students with learning disabilities. For instance, 10th grade students were found to use more often "Confirming Prediction" strategy than 9th grade students and 6th and 7th grade students were found to use more often "Using Reference Materials" strategy than 10th graders.

Additionally, both quantitative and qualitative data suggested that UAE 6-10th grade students with learning disabilities tend to use more often the Problem Solving Strategies. Therefore, teachers may need to incorporate the role of all of these strategies in their teaching when they teach 6-10th grade students with learning disabilities. On the other hand, the Support Reading Strategies were the least reported and actually used strategies in reading both easy and difficult text. Therefore, teachers must find ways to incorporate methods and ways to teach these strategies directly to UAE 6-10th grade students with learning disabilities because these strategies are vital to the comprehension of the text. Learning strategy instruction appeared to hold great educational potential, especially for students who have reading disabilities (Camahlan, 2006, Ellis, Deshler, Lenz, Schumaker, & Clark, 1991, & Kim et al., 2006). Indeed, students with learning disabilities need to become strategic learners, not just haphazardly using whatever learning strategies or techniques they have developed on their own.

The findings also have implication for assessing students' reading strategies. There are several ways by which these strategies can be assessed. For example, one can use think-aloud techniques to see what strategies the students use and what strategies they do not use. However, teachers need to know that think-alouds require knowledge about how to do them and time to do that. Finally, teachers can use instruments such as the SORS instrument (Mokhtari & Sheoery, 2002), which is designed to examine the strategies usage among students. These findings have implications for research. Researchers must consider the difference in the use of reading strategies among students with and without disabilities in the United Arab Emirates. There were few shortcomings in this study. First only one text was used for each difficulty level (easy/difficult) when the participants completed the think aloud. It is entirely possible that different texts would have produced different results. Second, the use of expository texts in this study is another limitation. Variations in the type of texts may affect strategy use while reading.

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