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Patterns of Reading Errors among Emirati Second Grade Students

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Abstract.

The aim of this study was to examine reading errors among second-grade Emeriti students. The study sample included 168 Emirati second grade students (87 males and 81 females). One hundred forty-four words were randomly selected from the Arabic reading curriculum. Those words were classified into lexical categories as nouns (45%), verbs (34%), adjectives and adverbs (10%), and functional words (i.e., prepositions and conjunctions; 11%). They were also classified into three levels of linguistic difficulty (i.e., easy, difficult, and very difficult) according to their morphological complexity. The results revealed that reading *difficulties may be* the result of a threefold interrelated paradigm: the difficulty level of the words (i.e., morphological complexity), the lexical category (i.e., nouns, verbs, adjective and adverbs, and prepositions and conjunctions), and the pattern of the reading error (e.g., omission of a letter or a syllable and reading the geminated letter as ingeminate*d).*

Keywords: Curriculum; Morphology; Phonology; Reading errors.

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أنماط الأخطاء في القراءة لدى طلبة الصف الثاني الأساسي الاماراتيين

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مستخلص البحث :

الهدف من الدراسة الحالية هو دراسة الأخطاء التي يرتكبها طلبة الصف الثاني الابتدائي الإماراتيين في القراءة. وتكوّنت عيّنة الدراسة من 168 طالباً وطالبة إماراتيين من طلبة الصّف الثّاني الأساسي (87 طالباً و 81 طالبة). وتمّ اختيار 144 كلمة من منهاج اللغة العربية للصّف الثّاني الأساسي بشكل عشوائي. تألّفت هذه الكلمات من الأسماء (45%)، والأفعال (34%)، والصّفات والظّروف (10%) والكلمات الوظيفية مثل حروف الجر وأدوات العطف (11%). وتم تصنيف هذه الكلمات إلى ثلاث فئات من الصعوبة اللغوية (الكلمات السّهلة، والكلمات متوسّطة الصّعوبة، والكلمات الصّعبة جدّاً) تبعاً لصعوبتها الصّرفية. أشارت نتائج الدراسة إلى صعوبة القراءة لدى الطّلبة تندرج تحت ثلاثة أسباب: الأول هو التعقيد الصرفي للكلمات (كلمات صعبة، ومتوسّطة الصّعوبة وكبيرة الصّعوبة). السّبب الثّاني هو مستوى صعوبة الكلمات، والثالث هو أنماط الأخطاء (حذف حرف أو مقطع من الكلمة، وقراءة الحروف غير المضعّفة (الشدّة) كحروف مضعّفة وغيرها).

الكلمات المفتاحية: المناهج ؛ النظام الصرفي ؛ النظام الصوتي ؛ أخطاء القراءة.

Introduction

Reading is one of the most significant components that determine the level of a child's successfulness in academic achievement (Chickering & Gamson, 1987; Wilson, 1985). Lyon (1998, p.2) stated that "in contrast to oral language development, reading does not emerge naturally from interactions with parents and other adults, even in print-rich environments. For most children, reading requires systematic and explicit instruction". Added to this level of complexity is the diglossic nature of the Arabic language in much of the contemporary Arab world. As a diglossic language, Arabic is split into two variations: one that is used for daily interactions and another that is used for formal occasions. This diglossic quality of the language contributes to the difficulty that elementary students encounter when reading Arabic (Abu-Rabia, 2000).

Researchers in the field of reading and literacy emphasize that "reading is a complex process involving multiple linguistic and cognitive challenges" (Hasbrouck & Tidal, 2006, p. 642). Buly (2005, p.31) argues that:

"…a collective body of research over the past 20 years suggests that phonological awareness (especially phonemic awareness), word identification, rate appropriate to purpose when reading (fluency), understanding word meaning (meaning vocabulary), and text comprehension are all basic skills necessary to proficient reading."

Of these skills, phonological awareness in particular has been the focus of research of reading difficulties (Siegel, 2008). Snow, Burns and Griffin (1998, p. 111) defined phonological awareness as the "ability to attend explicitly to the phonological structure of spoken words, rather than to their meanings and syntactic roles". For decades, phonological awareness has been the focus of reading studies, while morphological awareness was given a subordinate attention. Scholars have recently pointed to the impact of morphological awareness on activities, such as decoding, reading comprehension, and orthography. Morphological awareness comprises an array of linguistic knowledge, including "phonological, semantic, and syntactic knowledge" (Carlisle, 1995, p. 190). Thus, morphological awareness reflects a comprehensive picture concerning the metalinguistic capability than the sole consideration of any one of the formerly mentioned phonological, semantic, or syntactic types of knowledge (Carlisle, 1995). In the field of linguistics, morphology is generally understood as the study of words and how these words are formed (Kirby & Bowers, 2017). One reason

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why morphological awareness has been underrepresented in reading studies is that it is seen as an advanced skill for early learners, and introduced to students in their mid-elementary years (Carlisle, 1995). As such, explicit morphological instructions are almost missing from the curriculum of younger students (Kirby & Bowers, 2017). Though morphological awareness holds a stronger link to the skills of reading and spelling than phonological awareness does for students with reading difficulties, it is not commonly acknowledged in academic setting ad reading studies (Bowers, Kirby & Deacon, 2010; Siegel, 2008).

In a longitudinal study conducted by Carlisle (1995), a significant correlation was found between morphological awareness of kindergarten children and their reading achievements when they reach their second grade at school. McCutchen, Green and Abbott's (2008) investigation also supported that morphological awareness contributed to children's reading in addition to skills relevant to phonological awareness. Nagy, Berninger, Abbott, Vaughan and Vermeulen (2003) examined the reading abilities of second graders and found that morphological awareness influenced participants' word reading as well as spelling. Subsequent to this study in 2006, the authors studied the effect of morphological awareness on the reading skills of students in their fourth till their ninth grade in the United States of America (USA). Again, they found that morphological awareness had an impact on the decoding skills of students in their fourth and fifth grade (Nagy, Berninger & Abbott, 2006).

Kuo and Anderson (2006) emphasized the mutual relationship between morphological awareness and the reading skills, where such a relationship develops overtime, and becomes markedly evident at the age of elementary school. Moreover, morphological awareness was found to impact the reading skills of college students. Authors compared the utilization of morphological awareness skills between college-aged students with and students without dyslexia, which revealed that students who had dyslexia were reliant on utilizing morphological awareness as a way to compensate for a lack of phonological awareness whilst reading. In another study, Ghaemi (2009) posited that improving students' reading skills is possible with morphological training. He also indicated that the impact of phonological awareness and morphological awareness is interactive on reading ability.

Arabic is a morphological language as it is heavily reliant on morphology (Abu-Rabia, 2007). To begin with, the Arabic alphabet consists of 28 letters. As for the number of vowels, there is a bit of controversy. Some

scholars contended that three vowels exist, while others believe that there are six, which are composed of the three vowels divided into long and short variations. Fareh, Hamdan, Amayreh and Anani (2000) stated that the Arabic language has six vowels (i.e., i, ɛ, ɑ, A, o, ʊ).

Arabic morphology is constructed from two types of structures: derivational and inflectional (Abu-Rabia, 2007). Researchers have indicated that a line between derivational and inflectional morphology in Arabic is indefinite. It is generally understood that derivation in Arabic morphology occurs through a combination of a consonantal root, which contains the core meaning of words, and a word pattern that contains derivational and/or inflectional morphemes (Abu-Rabia, 2007; Mahfoudhi, Elbeheri, Al-Rashidi & Everatt, 2010; Saiegh-Haddad, 2013). On the other hand, inflectional morphology in Arabic is constructed by means of suffixation (Abu-Rabia, 2007). To highlight the sheer number of affixations imposed in Arabic words, here are some descriptors of Arabic morphology. First, Arabic morphology is gendered as masculine or feminine (e.g. /t̪ɑ:liba/ female student; /t̪ɑ:lib/ male student). Second, Arabic defines the number of pronouns based on whether they are singular, dual, or plural (e.g. /maktaba/ library; /maktabta:n/ two libraries; /maktaba:t/ libraries). Third, for nouns, they can be nominative, accusative, or genitive (e.g. /alkita:bu/ the book; /kita:ban/ a book; /kita:bin/ a book). Inflectional morphology also determines whether a word (namely, nouns) is definite or indefinite (e.g. /ʃadʒara/ tree; /ʔaʃʃadʒara/ the tree). In the case of verbs, affixation also describes a verb as indicative, subjunctive, or jussive (e.g. /jaʃrɑbu/, he drinks; /lam jaʃrɑb/, he did not drink; / la taʃrɑb/, do not drink, respectively) (Al-Shalabi & Kanaan, 2004). Additionally, in Arabic morphology, there are three pronominal forms, including independent subject pronouns (e.g. /ʔana/, I) and pronouns attached to nouns and verbs which can be bound-possessive (e.g. /bajti/, my house and object pronouns (e.g. /ʔamskahu/, he grabbed him) (Watson, 2002, p. 4). All of these morphological inflections stand as evidence of the morphological richness of Arabic words, and how these, in return, make reading in Arabic a complex task.

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Aims and Objectives of The Study

A previous study was conducted by Natour, Darawsheh, Saratawi, Marie and Efthymiou (2016) to explore the patterns of morphological reading errors among Emirati first-grade students. The current study focused on second grade students and its aim was also directed to explore the patterns of reading errors in the second-grade school children. The effects of factors of age, level of difficulty, and lexical category on the patterns of reading errors were investigated. Thus, this study had the same aim of the previous one; however, it differed in the target population which was the Emeriti second-grade students.

The significance of the study is that it can reveal the reading *difficulties that may* result from morphological complexity, the lexical category, and/or reading error patterns. This in return would assist in devising intervention programs and *appropriate remedial teaching strategies*.

Method and Procedures

One hundred and sixty-eight second grade students comprised the total number of the sample. Participants were 2nd grade students who were enrolled in two governmental schools, in the city of Al Ain, United Arab Emirates (UAE). The sample included 81 females and 87 males. These schools were within the jurisdiction of the Abu Dhabi Educational Council (ADEC). The adopted Arabic reading curriculum in the UAE was developed by ADEC as part of its educational reform, which was started in 2005.

A careful review of the second grade Arabic reading curriculum was carried out. The review was comprehensive, and it revealed that 1,454 words were taught in the second-grade reading curriculum. The majority of words fell under the 'nouns' lexical category (45%), followed by 'verbs' (34%), then the 'adverbs and adjectives' category (11%), while the least number of words were related to the lexical category of 'prepositions and conjunctions' (10%). Following that process, words were classified according to three levels of linguistic difficulty. The difficulty levels were assigned according to the following criteria: Easy-to-read words which contained letters that were simple in their orthographic nature in the sense that the letters' shape is the same when it is isolated or appears in the associated words (e.g.,

cause/sabab/سَبَبْ), constituted one morpheme (e.g., stubbornness/ʔind/عِنْدَ), were common words (e.g., fish/samak/سَمَكْ), or were composed of one syllable, and were vowelized (e.g., class/fɑs̲l/فَصْلْ). Difficult-to-read words consisted of connected letters (e.g., [my] shoulder /katifi/كَتِفِي), consisted of up to five letter (e.g. farm/mazrɑʔɑ(h)/مَزْرَعَةُ), were less common words (e.g., surgery/dʒirɑ:ħɑ(h)/جِراحَة), or were at least bisyllabic words (e.g., nation/ʔum.ma(h)/أُمَّةْ) and have at least two morphemes. Very-difficult-to-read words consisted of separated and connected letters (e.g., the lessons/ʔadduru:s/الدُّروسْ), consisted of more than five letters (e.g., [we] outraced [you]/sabaqn:akuma:/سَبَقْناكُما), were less frequent words (e.g., swallowed [it]/ʔibtalaʔahu/ابْتَلَعَهُ), were at least trisyllabic words (e.g., contest/mu.sa:.ba.qɑ(h)/مُسَابَقَةْ), and were more than two morphemes long.

The list of words was arranged in tables, according to the three aforementioned lexical categories and difficulty levels. Then, a representative sample of 20% (144 words) of the second-grade words was chosen where the resulting words were, again, assigned to each of the four lexical categories and the three difficulty levels. The words were then rearranged according to lexical categories, namely nouns (21 easy, 21 difficult, and 20 very difficult), verbs (19 easy, 15 difficult, and 15 very difficult), adjectives and adverbs (3 easy, 3 difficult, and 4 very difficult), and prepositions and conjunctions (4 easy, 4 difficult, and 4 very difficult).

Each student was presented with a list consisting of the words to read individually, and criteria of scoring of participants' responses were established prior to initiation of data collection. Grade points were assigned according to the seriousness of the reading error (the more severe the committed error, the less grade the student obtained, with the exception of reading the word correctly, where no grade was used to nullify this result from statistical analysis of error patterns).This grading system was consistent with Natour et al. (2016) and conformed to the default practice of teachers (i.e. assigning less grades to more serious errors).

Classroom teachers assisted in data gathering. They were trained on applying the criteria of scoring illustrated above. They were instructed to document the responses in written form (correct or incorrect response) and to write the incorrect response, if found, as per child pronunciation. Teachers then had to write the type of reading error for each student and grade it. Data

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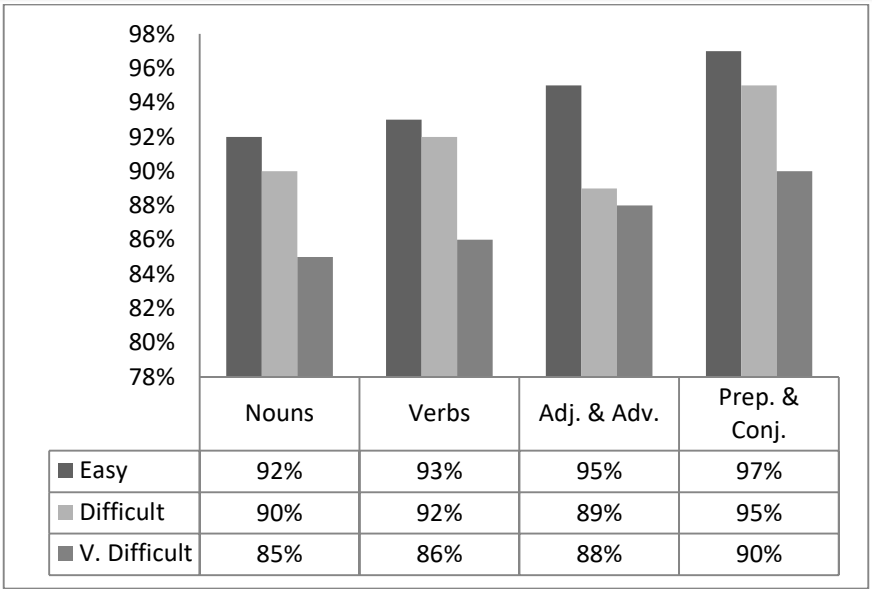
was documented by the teachers orthographically and then the scores were assigned. Grade points were assigned exclusively to error patterns as follows: read the word correctly (no grade point was assigned), inability to read the word (one point), omission of a letter or a syllable (two points), substitution of a letter or a syllable (three points), addition of a letter or a syllable (four points), not disguising between the /h/ (al-ha') and the /t/ (at-ta' al-marbouta) at the end of words (five points), not disguising between the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya) or vice versa (six points), not reading the glottal stop /ʔ/ (hamza) (seven points), reading the geminated letter as ingeminated (eight points), and non-discrimination between hamzat al-wasl and hamzat al-qat' (nine points). For example, when a student was presented with the word (contest /mu.sa:.ba.qɑ/مُسَابَقَةْ) and was unable to read it, he was given one point. Another student who omitted a letter or a syllable (e.g., read as /mu.sa:.ba.ø (h)/) was given two points. A third student who read the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya) in the word the bicycle /ʔaddara:dʒah/ الدَّراجَة as /ʔaldra:dʒah/ was given six points.

To analyze the gathered data, descriptive statistics were run through the use of SPSS Version 22.0 (2016, IBM Corporation New York). The percentages of errors and the correct responses were quantified. Mann-Whiteny U test was used to examine if there were any differences in the performances between male and female participants.

Results

Descriptive analysis revealed that the majority of participants (90% of the males and 90% of the females) read almost all presented words correctly. A closer look at Figure 1, percentages of correct responses were congruent with the level of difficulty, i.e. most of correct reading responses lied in the easy level across the four lexical categories, followed by the difficult and the very-difficult levels, respectively.



	Nouns	Verbs	Adj. & Adv.	Prep. & Conj.
Easy	92%	93%	95%	97%
Difficult	90%	92%	89%	95%
V. Difficult	85%	86%	88%	90%

Figure 1. Percentages of correct responses in each lexical category as arranged by difficulty level.

One female student (1%) was unable to read any of the listed words at all, posing a case of an outlier in the analysis. While this percentage is reasonable, it is by no means satisfactory. Rather, it behooves further investigation as to why this lone student was unable to produce any of the words presented to her. It also poses a motivation for further examination of the early intervention means to develop Emirati students' reading abilities in their diglossic first language, i.e. Arabic.

Errors According to Difficulty Levels

Figure 2 shows the percentages of errors across lexical categories and difficulty levels. Generally, the 'adjectives and adverbs' category was of the highest percentages of errors, and nouns were read with slightly more serious errors than verbs.

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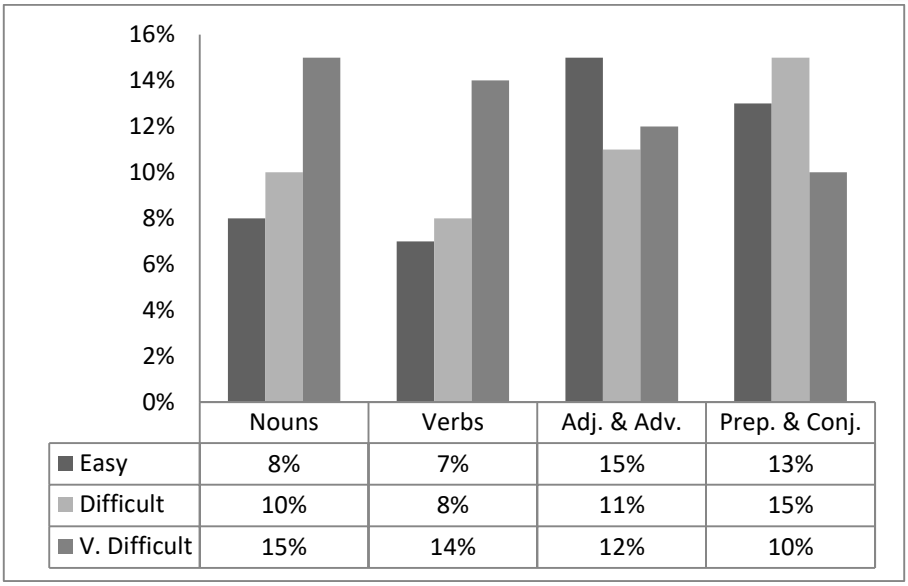

	Nouns	Verbs	Adj. & Adv.	Prep. & Conj.
Easy	8%	7%	15%	13%
Difficult	10%	8%	11%	15%
V. Difficult	15%	14%	12%	10%

Figure 2. Percentages of errors in each lexical category arranged by difficulty level.

Patterns of Error

Results concerning patters of errors are displayed per lexical category as shown below:

Nouns. The three difficulty categories (easy, difficult, and very difficult) of the sampled nouns met with similar patterns of reading errors, which were the inability to read the word ,omission of a letter or a syllable in the sampled word, the substitution of a letter or a syllable with another presented in the word, adding of a letter or a syllable to the word, non-discrimination between the /h/ (al-ha') and the /t/ (at-ta' al-marbouta) at the end of words, and reading the geminated letter as ingeminated or vice versa. There were no exceptions found in the easy group of the nouns' lexical category for those error patterns. However, for the nouns in the difficult category, exceptions were the words: [البِئر ، the well /ʔalbiʔr/], [الأُسْرَةْ ، the family /ʔalʔusara(h)/], [الصَّفْ ، the class /ʔssɑf/], [أُمّةْ ، nation /ʔumma(h)/], [الغابَةْthe forest /ʔalʁɑ:bɑ(h)/], and [السُّحُب ، the clouds /ʔassuħub/]. Students' errors were :non-discrimination between the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya), and failure to enunciate the glottal stop /ʔ/ (hamza).

As for the nouns in the very difficult category, the exceptions in the patterns of reading errors for the common reading error patterns found in the nouns' category were the same as the exceptions found in the nouns difficult category. These were: non-discrimination between the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya), and not reading the glottal stop /ʔ/ (hamza). These exceptional errors were evident in the following words: [الدُّروسْ the lessons /ʔadduru:s/], [إفريقيّة ، African /ʔifri:qja(h)/], [الإخْوَةْ/ʔalʔiχwa(h)/ the brothers], [أَعْضائُها ، its leafs /ʔaʁs̲ɑ:nuha:/], [، البَحْرِيّة the marine /ʔalbaħrijja(h)/], [المَزْرَعَةْ ، the farm /ʔalmazrɑʔɑ(h)/], [الشَّبَكَة /ʔaʃʃabaka(h)/ the net], [البَاعةْ ، /ʔalba:ʔa(h)/ the sales persons], [الأَثْوابْ ، the dresses /ʔalʔaθwa:b/], and [مُطَرَّزَةْ، ornamented /mut̲ɑrɑz̲ɑ(h)/].

Verbs. Similar patterns of errors that were dominant in nouns were found in the verbs' category. The three-difficulty-levels of verbs shared in the representation the following patterns of errors: failure to read the presented word, the omission of a letter or a syllable whilst reading, the substitution of a letter or a syllable, the addition of a letter or a syllable to the presented word, and reading the geminated letter as ingeminated. For the easy and difficult levels of verbs lexical categories, there were no additional patterns of reading errors specific to them. On the other hand, in the very difficult category an addition reading error pattern had emerged which was non-discrimination between hamzat al-wasl and hamzat al-qat', and which was evident on the following words: [اتَّفَقوا (they) agreed /ʔittafaqu:/], and [أوْصَلَهُم ، lead (them) /ʔaws̲ɑlɑhum/].

Adjectives and adverbs. The same patterns of reading errors that had emerged in the 'verbs' and 'nouns' lexical categories were also evident in the 'adjective and adverbs' lexical category cross all difficulty levels. Thos were: inability to read the word, omission of a letter or a syllable in the sampled word, the substitution of a letter or a syllable with another presented in the word, adding of a letter or a syllable to the word, and reading the geminated letter as ingeminated or vice versa.

In the very difficult category, two additional patterns of reading errors had emerged which were: inability to differentiate between between /h/ (al-

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ha') and the /t/ (at-ta' al-marbouta) attached at the end of these words, in ability to discriminate between the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya).Those patterns of reading errors were evident in the following words: [البَعيدةْ the faraway /ʔalbaʕi:da(h)/], [مُرْتاحة، comfortable /murta:ħa (h)/], and [البَيْضاء the white /ʔalbajdaʔ/].

Prepositions and conjunctions. The same common and aforementioned patterns of reading errors that had emerged in the 'verbs', 'nouns', and 'adjective and adverbs' lexical categories were also evident in the 'prepositions and conjunctions' lexical category cross all difficulty levels.

Gender Comparisons

The Mann-Whiteny U non-parametric test revealed significant differences between male and female students in reading the cited target words in table 1. The table summarized the means and standard deviations of participants' scores as arranged by gender. In general, Females' mean scores were less (i.e., committed more serious reading errors, thus were rewarded with worse grades) than male students, except for 9 out of the 19 words listed in table 1. Those words were distributed as follows: one noun was from the easy category, another noun was from the very difficult category, 5 adjectives and adverbs from the very difficult category, and 2 prepositions and conjunctions from the very difficult category (all denoted by the + sign in table 1).Males generally did better than females in reading words that fell under the verbs category as they could read 5 verbs, 2 from the easy and 3 from the very difficult categories respectively, with less serious errors than females. Also, males did less serious errors in reading nouns that fell under the easy and the difficult categories, 2 and 2 in number respectively. Males only read one words related to the very difficult category of adjectives and adverbs.

Table 1

Means and Standard Deviations of Scores of Words that Resembled Significant Differences between Gender Subgroups

Word	Sex	Mean	SD	Lex. Cat. & Diff. level	*p*
crawled /ħaba:/ حبا	M	1.73	0.46	Verb-easy	0.010*
	F	1.00	0.00		
+state /ħa:l/ حالْ	M	2.58	1.17	Noun-easy	0.027*
	F	2.60	2.91		
pain /ʔalam/ أَلَمْ	M	2.54	1.13	Noun-easy	0.018*
	F	1.00	0.00		
season /fɑs̲lu/ فَصْلُ	M	3.50	0.55	Noun-easy	0.018*
	F	1.50	1.00		
Adnan /ʔadna:n/ عَدْنَانْ	M	1.86	0.95	Noun-difficult	0.018*
	F	1.17	0.58		
the horizon /ʔalʔufuq/ الأُفُقْ	M	2.21	1.13	Noun-difficult	0.008*
	F	1.00	0.00		
+ the farm /ʔalmazraʕa/ المَزْرَعَةْ	M	1.22	0.44	Noun-v. difficult	0.015*
	F	3.13	1.81		
(he) hurried /ʔasraʕa/ أَسْرَعَ	M	2.17	0.98	Verb-easy	0.034*
	F	1.00	0.00		
to medicate /juda:wi:/ يُداوِي	M	1.80	0.79	Verb-v. difficult	0.002*
	F	1.00	0.00		
(we) outran you /sabɑqna:kuma:/	M	1.65	0.86	Verb-v. difficult	0.010*
	F	1.10	0.54		
(she) got used to /ʔiʔta:dat/ اعْتادَتْ	M	1.67	0.90	Verb-v. difficult	0.003*
	F	1.00	0.00		
red /ħamrɑ:ʔ/ حَمْراءْ	M	1.90	0.57	Adj. & adv.-difficult	0.006*
	F	1.00	0.00		
+ The faraway /ʔalbaʕi:da(h)/ البَعيدةْ	M	0.91	0.29	Adj. & adv.-v. difficult	0.000**
	F	2.64	1.96		
+ afraid /χaʔifu:nʔ/ خائِفونْ	M	0.93	0.26	Adj. & adv.-v. difficult	0.002*
	F	1.57	0.98		
+ ornamented /mu‿tɑrr‿zɑ(h)/ مُطَرَّزَةْ	M	1.81	1.05	Adj. & adv.-v. difficult	0.027*
	F	3.15	2.69		
+ comfortable /murta:ħa(h)/ مُرْتاحة	M	0.89	0.32	Adj. & adv.-v. difficult	0.000**
	F	2.69	1.92		

+ the white /ʔalbajd̲ɑ:ʔ/ البَيْضاءَ	M	0.95	0.21	Adj. & adv. – v. difficult	0.000**
	F	2.10	1.60		
+ but /lakin/ لكِنْ	M	0.91	0.29	Prep.& conj. – v. difficult	0.000**
	F	1.73	0.47		
+ but (she) /lakinnaha/ لكنَّها	M	0.93	0.26	Prep.& conj. – v. difficult	0.001**
	F	1.67	0.49		

Note. SD= Standard Deviation, *p* =Significance, *Significant on the 0.05 Level, **Significant on the 0.001 Level, v. difficult=Very Difficult, (+) words where females (F) did better than males (M), Lex. Cat. & Diff. level = Lexical Category & Difficulty Level

Discussion

The finding that the majority of participants read almost all presented words correctly reflected that students had acquired solid reading skills that were age appropriate prior the conduction of the study. Words were selected from multiple reading passages in a way where there were variations in the word category and levels of difficulty. Such a finding may indicate the appropriateness of the readability of the texts presented in their curriculum. This finding concurred with the finding of the previous study conducted with first graders (Natour et al., 2016) where the participating students were able to read most of the randomly selected words. The authors of the current study agree with the previous interpretation offered by Natour et al. (2016) in that such a result can be attributed to the suitability of the designed Arabic curriculum to the targeted level of reading proficiency of students.

The percentages of correct responses were congruent with the level of difficulty. This result was expected since the words were distributed across three difficulty levels after careful examination of the relevant linguistic factors. However, it was not expected to find the percentages of correctly read words across the three difficulty levels to be the lowest in the 'nouns' lexical category, followed by 'verbs', 'adjectives, and adverbs', then 'prepositions and conjunctions'. Nouns were read with slightly more serious errors than verbs. It had been established that children acquire nouns before verbs, adjectives, adverbs, conjunctions, and prepositions in their mother tongue language (O'Grady, Archibald, Aronoff & Rees-Miller, 2001; Owens, Metz, & Hass, 2011). In addition, the curricula introduce the learning of nouns before verbs (Gentner, 1978). Reading skills begin at a later stage (at age six or seven years) where the learner becomes aware of the relationship between

sounds and letters (sound-symbol correspondence) and begins applying the knowledge to text (Morris, 2008). Although those milestones in oral language and reading development were documented in the literature, findings of the current study showed that nouns in the very difficult category had slightly more errors than verbs. It was thus unclear why the participants made more errors in decoding nouns than verbs. It could be due to several reasons, such as the presence of differences in instructions given to participants, variations in the procedure whereby the test was administered, and the scores were recorded, or that in comparison to verbs, the nouns were unknown to students. This finding posed more questions than it did answers. It therefore made further testing imperative.

Generally, the 'adjectives and adverbs' category was of the highest percentages of errors. This could be due to the dynamic nature of words of this category, where adjectives describe nouns and adverbs describe time or place. The slightly more errors in reading prepositions and conjunctions were probably due to the structural complexity of this lexical category. A word, such as **(**but she /lakinnaha/لكنَّها) carried the issue of gemination in addition to its orthographic nature (connected letters). Another example was the word **(**on top of it /ʕalajhi/عَليهِ), which carries the issue of non-discrimination between the /h/ (al-ha') and the /t/ (at-ta' al-marbouta) at the end of words, in addition to its orthographical nature (connected letters). As such, exploring the patterns of error in the four lexical categories was warranted to shed some light on the nature of reading errors prevailing in the current sample of investigated students.

Similar patterns of reading errors were committed by participants of the current study to these that were committed by first graders in the study conducted by Natour et al. (2016). The results showed that the common patterns of reading errors across all four lexical categories were: inability to read the word, omission of a letter or a syllable in the sampled word, the substitution of a letter or a syllable with another presented in the word, adding of a letter or a syllable to the word, and reading the geminated letter as ingeminated or vice versa. Those results could be explained by some circumstantial causes such as students, when encountering a novel word, may had been discouraged to read it. Students might be negatively affected as a result of their reading being examined. Time constraint under which the study took place might have added to the discomfort of students and exerted pressure on them and might have constrained the students from taking their time to process the presented words. Upon reflection, one thing that could be

done in future studies is to videotape participants and then interview them about the processes they went through whilst reading the presented words to grapple with the rationale behind the errors they had made in reading. Another thing to be suggested to be carried out in future studies is to involve only the researchers in the process of data collection without involving the teachers to guarantee consistency in the process of data collection and scoring.

Some of the emergent patterns of reading errors were specific to some lexical categories such as the pattern of 'non-discrimination between hamzat al-wasl and hamzat al-qat' was a pattern of error that emerged in the verbs (very difficult) category. 'Not reading the glottal stop /ʔ/ (hamza)' was evident in the Nouns (difficult and very difficult) categories. 'Non-discrimination between the /h/ (al-ha') and the /t/ (at-ta' al-marbouta) at the end of words' was also evident in the nouns' category across all levels of difficulty, and the adjectives and adverbs (very difficult) category. While the error pattern of 'non-discrimination between the regular /l/ (al-qamariyya) and the silent /l/ (ash-shamsiyya)' was evident in the Nouns (difficult and very difficult) categories, and the Adjectives and adverbs (very difficult) category.

In agreement with Natour et al. (2016), there was better ability of students to read verbs than nouns. Again, this was an unexpected result because students' repertoire of nouns is expected to increase where their verb repertoire lags behind. Some researchers have attributed this difference in acquisition to the underlying concepts of nouns and verbs, where nouns infer concepts of objects (nouns) are perceptually and conceptually more acquired, than concepts of actions (verbs) (Waxman, Fu, Arunachalam, Leddon, Geraghty, & Song , 2013). A possible explanation may be that teachers may tend to over emphasize teaching verbs because of their misconception that children are more able to utilize nouns than verbs; as such teaching verbs may be more important at this stage. Another speculation is that growing interest of second graders in action concepts (verbs) may stem from their need to move around and conduct action, thus better write words that express concepts of action than concepts.

There was a general trend in which females scored less (i.e., committed more serious reading errors) than male students which reflected a better performance for males at this set of words sited. This was incongruent with what was found in Natour et al. (2016) where females' performance was better as demonstrated by less reading errors. Also, this result disagrees with what was found in the study conducted by Quinn and Wagner (2013), who

found that the Reading errors are less frequent in females. Perhaps this trend stemmed from the small sample size. This result warrants increasing student sample size as well as the reading sample size especially for higher grades to reach a conclusive result.

Conclusion

The overarching finding that was reached was that the participating students when presented with words of various lexical categories and across three distinct difficulty levels, they were able to read most of these words correctly. There were specific patterns of reading to some lexical categories. However, the most common reading error patterns across all lexical categories and difficulty levels were inability to read the word, omission of a letter or a syllable in the sampled word, the substitution of a letter or a syllable with another presented in the word, adding of a letter or a syllable to the word, and reading the geminated letter as ingeminated or vice versa. Such patterns of reading errors reflected the difficulties the Arab Emirati developing readers had in relation to reading. The participating students met difficulties that emanated from a connected threefold paradigm: difficulty levels of reading words (i.e., morphological complexity), lexical category (nouns, verbs, adjectives and adverbs, prepositions and conjunctions), and the nature of error patterns. The ability to spot these errors in young readers could be the starting point to construct appropriate strategies for reading.

Recommendations for Future Research

In future research, further studies are needed to follow-up student-participants of this research in later grades and to explore whether patterns of reading errors found in this study persist, develop, or resolve. There was a controversial finding concerning the effect of gender on patterns of reading errors which also requires further investigation. Further research is needed to compare different grades reading performance, e.g. first and second graders, and draw conclusions regarding the mutual reading difficulties, which would assist in developing teaching strategies to develop reading skills in both grades.

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