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Assessing the Impact of Synthetic Phonics Teaching on Promoting Omani EFL Third Graders' Accuracy and Fluency of Reading Connected Texts

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Abstract

The cumulative influence of English-speaking countries and syllabus designers on choosing phonics as the literacy teaching method has resulted in phonics becoming attractive tools for literacy instruction in non-native contexts worldwide. Responding to recent educational trends in 2014, the Ministry of Education (MOE) in Oman decided to introduce synthetic phonics instruction, specifically Jolly Phonics (JP), to build a strong foundation in literacy skills for cycle one students (i.e., from grades one to four) nationwide. The purpose of this study was to assess its contribution to Omani third graders' accuracy and fluency of reading connected texts through comparing students' performance in these skills with the programme's intended objectives, as set by the Ministry of Education (MOE). The study sample consisted of 117 third graders and employed a quantitative descriptive research design, in which data was collected using DIBLES Oral Reading Fluency (ORF) Test. The findings revealed that the Omani third graders on average have not achieved the JP's objectives and performed poorly against the grade level expectations for accuracy and fluency of reading connected texts. The study concluded with a set of recommendations in order to develop the delivery of synthetic phonics teaching as a literacy-enhancing approach within the Omani context.

Keywords: Jolly Phonics, literacy, oral reading accuracy, oral reading fluency, synthetic phonics

INTRODUCTION

One of the most complex tasks for novice readers is the process of learning how to read. In order to facilitate accurate and fluent reading, numerous intellectual processes must be synchronised. For beginners, an important part of these processes is the recognition of letter-sound relationships and spelling structures, together with developing an awareness of how this knowledge is applied when reading. Systematic phonics instruction is viewed as an effective way of teaching reading and writing that emphasises the acquisition of letter-sound knowledge to be implemented when reading words (Harris & Hodges, 1995). This type of phonics instruction is intended specifically for learners in their early years, as well as beginners with reading difficulties.

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There is a clear and consistent relationship between early and advanced literacy skills, including the ability to decode, read fluently and comprehend. As the National Early Literacy Panel (Lonigan et al., 2011) observed, certain skills are precursors of the learner's ability to read and comprehend a text. These skills include a student's awareness of letter-sound patterns; of the manipulation of sounds within words; recognition of words, together with the ability to divide words into smaller elements; an awareness of letter-sound relationships; and the acquisition of spoken language and vocabulary.

Previous research indicated that when young learners start grade three of school as struggling readers, they tend to fall behind their age-related peers and continue to struggle throughout higher grades (Snow et al., 2005). The work of Snow et al. (2005) indicated that learners become fluent readers if foundational literacy skills are emphasised adequately. These foundational skills involve knowledge of alphabet, phonemic awareness, knowledge of phonics, and concepts of print, vocabulary, and comprehension.

Defining fluency

Previous studies signposted that fluent reading primarily involves the creation of associations between graphemes and phonemes (Ehri, 2002). When reading, a learner activates grapheme-phoneme connections that help them to recognise words rapidly, and thus in retrieving the pronunciation and meaning of these words (Ehri, 2005). Moreover, research in this field demonstrated that when learners start with poor reading skills, they suffer from reading deficiency throughout higher school grades (Adams, 1990; Stanovich, 2009).

The National Research Council (1998) considered phonological awareness and oral reading fluency to be central skills for reading proficiency. A lack of this fluency may impede learners from understanding what they read, and it is therefore viewed as a significant element of successful reading. Reading fluency denotes to the reader's ability "to read orally with speed, accuracy, and proper expression" (NRP, 2000, p. 8). Expanding on this definition, Nichols et al. (2008) claimed that "speed" is the same as "automaticity of word recognition", and described expressive reading as "reading orally with appropriate prosodic features such as expression, stress, pitch, and suitable phrasing" (p. 27). Meanwhile, Rasinski et al. (2011) described reading fluency as "a characteristic of reading that occurs when readers' cognitive and linguistic systems are developed to the extent that they can read with sufficient accuracy and rate to allow for understanding of texts and reflecting its prosodic features" (p. 3). The most important aspect of these definitions is the partial dependence of fluency on the ability to recognise and read words quickly and correctly. Since students read to comprehend, they must read the text to achieve a good level of comprehension, and for students to read correctly, they must possess the ability to process and recognise words smoothly and automatically. When children encounter an unknown word, they either recognise the word immediately or use letter-sound correspondences to analyse the word (Henry, 1993).

Fluency development

In order to create a solid foundation for their word attacking skills, learners must receive explicit instruction on decoding and word recognition skills in their early years of schooling. This explicit instruction trains students to implement phonic and word analysis skills that are consistent with their grade level, to help them to decode words smoothly and accurately. Teachers should therefore be trained in how to instruct students effectively to connect letters to sound, in order to decode words, which will prevent early readers from struggling with their reading.

Since it can be assumed that reading commences with reading words appropriately, which is followed by reading them with speed, fluency can be seen as a developmental process, because it starts with reading letters, proceeds to reading words, and then phrases, sentences, or passages (Carnine et al., 2004). Fluency functions to overcome the disparity between decoding and comprehension (Carnine et al., 2004). When compared with other measures of reading comprehension, including enquiring and restating, ORF is able to predict comprehension (Fuchs et al., 2001), and previous research suggested that students experience continuous academic challenges when they still struggle to read towards the end of grade one of school (McIntosh et al., 2006).

The attainment of reading fluency is regarded as an extremely complicated process, because the learner must assimilate various abilities, such as perceptual skills that involve the automatic translation of letter-sound relations, lexical skills that include the formation of recognisable words from these sound components, and processing skills that entail the identification of significant connections between sentences, connections between given information and previous knowledge, and the elicitation of interpretations to overcome any disparities within the text (Fuchs et al., 2001). ORF evolves throughout the early to middle school years, when children primarily attain knowledge of the alphabetic principle and appropriate decoding skills for familiar words. From the end of grade one to grade three, fluency increases rapidly, providing an important foundation for manipulating increasingly challenging texts (Chall, 1996; Kuhn & Stahl, 2003), which implies that the first building block of fluency is an understanding of automatic letter-sound relationships, hence this knowledge must be consolidated via grade one and two students' reading lessons, in order to establish a robust foundation for their reading fluency. However, it is questionable whether the limited number of reading lessons in grade one and two of the JP scheme provide sufficient opportunities for improving learners' fluency.

Relationship between fluency and foundational literacy skills

The significance of decoding skills involving letter and word knowledge for reading growth was highlighted in the extant literature, because these skills constitute the foundation of automatic word processing. In their study, Georgiou et al. (2008) examined the indicators of decoding and fluency in languages that diverge in their orthographic steadiness and concluded that the ability to handle words phonologically and orthographically enhances reading skills, especially fluency. Meanwhile, Leppänen et al. (2008) argued that "the best predictor of reading comprehension and reading fluency at

the end of grade four [is] letter knowledge at the beginning of kindergarten" (p. 14), which highlighted the significant role that letter knowledge plays as an emergent skill for boosting fluent reading.

The importance of comprehending what is being read towards the end of grade three was extensively explored in the previous literature (Mullis et al., 2007), which identified ORF as a major element of reading proficiency, together with its criticality for reading comprehension (Burgess, 2006). When children lack the skill of reading words correctly and automatically, they must consciously analyse words, and it is doubtful that such children comprehend what they read, because a large amount of their processing capacity is used to operate discrete words (Hudson et al., 2005). This notion concerning the relationship between comprehension and fluency proceeds from the automaticity theory of reading proposed by LaBerge and Samuels (1974), which supports the belief that non-fluent readers must decode words consciously, which detracts their attention from the central aim of extracting meaning from the text. Accordingly, inefficient reading fluency tends to be interrelated with inefficient reading comprehension. In their study, Fuchs et al. (2001) observed that deficient readers' reliance on the conscious-attention mechanism to assist them when reading words revealed little space was reserved for the consolidative comprehension processes, unlike proficient readers who integrate recent knowledge into their existing knowledge structures.

Young learners' exposure to text has a significant influence on both reading fluency and comprehension, and it is widely believed that practicing reading texts is essential for the development of fluency (Chall, 1996; Stanovich, 2009). Furthermore, independent reading is vital, as it exposes learners to various skills that are crucial for comprehension. At a school level, there are considerable variations regarding the extent to which learners are exposed to texts, according to their reading skills (Stanovich, 2009), or the school's socioeconomic level, and the opportunities provided by the teachers (Duke, 2000). Previous studies addressed the matter of text exposure in the early years of school in various ways, such as completing reading diaries, which entailed indicating the amount of time spent reading daily (Anderson et al., 1988), using self-reporting questionnaires (Wang & Guthrie, 2004), and employing title- or writer-acknowledgment reports (Cipielewski & Stanovich, 1992). Although independent reading exposes learners to a variety of texts, the matter is not widely considered in cycle one English For Me (EFM) textbooks, apart from a one-page reading record provided for learners to indicate the story's title, date, and whether they liked or disliked the story. Moreover, many teachers omit this task, as they believe it is time consuming and is not required by the original scheme of work.

The extant literature concerning guided oral reading, and its contribution to fluency, using approaches including repeated reading and paired reading, was explored by the NRP (2000). The findings indicated that repeated reading was constructive for regular readers until grade four, and for struggling readers all the way through higher grades. The findings also indicated that sustained silent reading did not contribute to enhancing fluency. The significance of practice, particularly paired, repeated reading, and assisted reading, for fostering reading fluency was highlighted by Nichols et al. (2008), and

Rasinski et al. (2009). According to the former, accomplished readers might benefit from practise in the form of re-reading, however, the majority of younger readers do better with assistance from a teacher.

A number of literacy skills therefore constitute the foundation of reading fluency. Figure 1 illustrates the relationships between fluency and these foundational literacy skills, which include phonemic awareness, and understanding of the alphabetic principle, including letter recognition, letter-sound correspondence knowledge and blending, and decoding or 'sounding out' words. Other important factors include exposure to books, and the concept of print (Rasinski et al., 2011), with the latter entailing the ability to detect the front and back cover of a book, using pictures to understand the text, and learning about directionality.

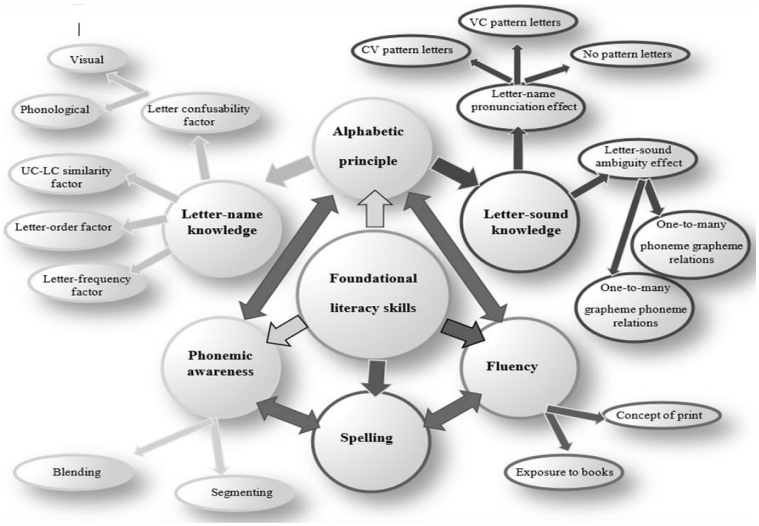

Figure 1. The Relationships Between Fluency and Foundational Literacy Skills

The statement of problem

JP is a synthetic phonics programme piloted in Oman in 2013-2014, and then rolled out to all government schools from 2014-2015. Since the implementation of the JP programme, there have been no systematic efforts to evaluate its impact on students' literacy skills in the form of reliable quantitative data. Such knowledge could be used to enhance the implementation and overcome associated challenges. Moreover, the researcher conducted a small-scale study on 21st of March during the second semester of 2018/2019 to determine whether these gaps represented a genuine problem. Sixty-one first graders, comprising two intact classes from two cycle one schools in Al-Dhahira Governorate, were selected as a research sample. The students were tested on word reading and spelling skills. Data obtained from conducting the test was analysed and the findings showed poor performance (the mean score was 3.82 out of 15, $t = 13.36$, $P< .001$), which indicated that first graders faced a serious problem in spelling and word reading. Moreover, investigating the effectiveness of JP has received minimal attention within the Omani context. There has been just one quasi-experimental study having examined the effectiveness of JP integration on phonemic awareness, phonics identification and word reading among 50 Omani first graders (Al-Mamary, 2012).

Besides, an unpublished Master's thesis examined cycle one teachers' beliefs, practices and the contextual challenges they face when implementing the JP programme using a qualitative design, involving four EFL language teachers from two cycle one schools in Muscat Governorate (Al-Khaldi, 2019). Therefore, in order to address the lack of Omani studies in this area while taking into consideration the findings from the above-discussed previous Omani studies, this in-depth study advanced previous research by examining the effectiveness of the JP synthetic phonics approach on improving accuracy and fluency of reading connected texts of third graders.

Aims of the study

This study aimed to analyse and evaluate the effectiveness of a synthetic approach to phonics, i.e., "Jolly Phonics", emphasising how the programme contributes to the attainment of accuracy and fluency skills of reading connected texts for Omani third graders. Considering there is a lack of Omani studies in this area, the study is expected to provide insights into the extent to which third graders successfully meet the criteria set out in the programme's objectives after completing the two-year programme in terms of accuracy and fluency of reading connected texts.

Significance of the study

Theoretical significance. This study will supply programme developers with supplementary data to enable them to modify or adopt certain literacy practices within the programme, by identifying gaps in the students' accuracy and fluency reading skills, which in turn will help them maximise their chances of success by proposing possible ways to address them.

Applied significance. This study will serve as a guideline to assist Omani EFL teachers when determining which activities to focus and build upon as it will increase their consciousness of the significance of accuracy and fluency as a significant constituent of successful reading.

Research questions

This study has been designed to answer the following question:

To what extent does the synthetic approach to phonics, JP, impact Omani third graders' accuracy and fluency of reading connected texts when compared to the programme's objectives?

METHOD

Research design

This study applied a quantitative descriptive research design. The rationale for the choice of design is various. First, the study sought to describe quantitatively the impact of JP on Omani third graders' accuracy and fluency of reading connected texts. This design is ideal for systematically investigating phenomena by collecting data quantifiably, and subsequently analysing that collected data using statistical techniques, which can be presented numerically (Aliaga & Gunderson, 2002; Nassaji, 2015). Additionally, within

quantitative research, generalisation has been broadly accredited with being a quality standard, since it implies the need to derive inferences based on observations (Polit and Beck, 2010). Among the different types of generalisation, statistical generalisation supports inferences from the sample to the wider population, primarily when the sample is representative of the population (Lowhorn, 2007). In quantitative designs of a descriptive nature, the variables under investigation are typically not controlled or manipulated, rather they are mainly observed and measured, as they emerge within a naturalistic setting (McCombes, 2020). Due to the features of this design, it is usually the best option when there is insufficient knowledge about the topic being researched, as the results attained then assist in determining the corresponding decisions.

Sample / Participants

The population of this study consisted of all male and female third graders studying EFM textbooks, who had previously covered the JP two-year programme in Omani Basic Government Schools for the academic year 2019-2020. Four third grade classes from two cycle one schools in Al-Dhahira Governorate participated in this study, which included a total of 117 male and female third graders. Both schools are located in the centre of Ibri Wilayat and include grades one to four. There were 62 male and female third graders in the two classes from the first school, and 55 male and female third graders in the two classes from the second. There were 54 female (46.2%) and 63 male (53.8%) participants in the study, ranging in age from seven years and 10 months to eight years and seven months, with a mean age of 8.01 years and a standard deviation of .45 years. No students were excluded from the study, based on language or special education status.

In the governorate in which the study was conducted, the majority of pre-schoolers join private preschool centres prior to enrolling in government schools. Although teachers in both schools declared that nearly all learners attended private schools prior to entering cycle one schools, there were a lack of records in both schools verifying this. Private schools in the targeted area, typically teach JP sounds in addition to simple words in English. Despite whether learners attended private preschool centres or started their schooling in grade one, newly registered first graders are expected to know the majority of JP sounds, including how to blend them to form simple words. The rationale for selecting third graders was that they had already covered the two-year programme plan, and so were the best grade-level to evaluate the impact of the programme on reading fluency and accuracy.

Instruments

Description of DIBLES ORF Test

The DIBELS ORF Test is a standardised, individually administered test that measures a child's accuracy and fluency when reading connected texts (Roehrig et al, 2008), and it was used to answer this study's research question. Generally, ORF constitutes one of the most highly established measures of competent reading, ensuring comprehension for learners from grade one up to grade six (Kaminski et al., 2002). The test consisted of two sheets as follows: a grade-level passage involving 201 words maximum, where the

student was required to read the given passage aloud for one minute (Appendix A) and an examiner's recording sheet for recording the student's answers (Appendix B). The number of words read correctly per minute from the passage constituted the fluency rate of the student. The accuracy percentage was calculated using the following formula: ((total words correct/total words read) *100) for each student. For the ORF benchmark, passage three was utilised, including only the phonological and orthographical representations that Omani third graders had already acquired as a result of completing the two-year JP programme.

Validity of the Test

The DIBELS ORF benchmark tests were established by The Early Childhood Research Institute for Measuring Growth and Development (ECRI-MGD) at the University of Oregon. Their literature stated that research has, "validated its ability to predict outcomes, and tested its reliability using data from thousands of young children in many regions of the country" (Good & Kaminski, 2002, p. 26). The researchers ultimately determined that a one-minute administration of ORF was, "just as reliable, valid, and indicative of student skill as information obtained in multi-minute samples" (Good & Kaminski, 2002, p. 27). They also found that administering three passages to a learner, rather than merely one, increased the reliability of the ORF results (Good & Kaminski, 2002). Although this test was designed principally for native speakers, it could also be used for non-native speakers, provided that all the sounds used in the passage had already been covered in the two-year JP programme. Therefore, it is considered a decodable text as it incorporated words consistent with the letters and corresponding phonemes as taught to Omani third graders in grades one and two.

Reliability of the test

Generally, various studies have verified that ORF reading passages are technically adequate. In the case of primary aged learners, test-retest reliabilities varied from .92 to .97, whereas alternate-form reliabilities of diverse reading passages derived from a similar level varied from .89 to .94 (Good & Kaminski, 2002). For the purposes of this study, the reliability of the ORF Test was examined using 20 third graders from the first school. The students were selected randomly from third graders attending the same school; but not from the two intact classes that participated in the study originally. The pilot sample was tested, and then re-tested after 12 days where the test was conducted and marked by the researcher. The Pearson correlation coefficient between the test and retest scores was then computed, and found to be high (201 items; r= .835).

To establish the inter-rater reliability of the test, an English cycle one senior teacher with suitable JP teaching experience was recruited, and her competency considered. The rater was trained and familiarised with using the test and the researcher helped clarify any uncertainties. Then, a random sample of 10 third graders attending the second school was selected to participate in a pilot study to determine the inter-rater reliability of this test. The researcher, along with the other rater, administered and scored the test for this pilot sample. Each rater had a separate recording sheet for each student, upon which they recorded and scored each student's responses during the test's administration to ensure

the consistency of the scoring procedures. It should be noted that these procedures are set out in the test's administration, and presented in section 3.4.2 After collecting data from the 10 participants, the scores calculated for each rater's recording sheets were computed into SPSS, after which the inter-rater reliability for ORF Test was calculated and found to be high (r=.983).

Data collection procedures

Participating Schools and Sample's Selection Phase

After checking the reliability of the research instruments, the participating schools were chosen, and equivalence of the study sample evaluated. The participant selection method was conducted purposively based on the total number of students in each school, the number of years studying JP, and the students' demographic characteristics. Therefore, the first step was to contact the planning department at the General Directorate of Education in Al-Dhahira Governorate to gather information about the total number of students attending each school, as well as the order of cycle one schools regarding the number of students. Based on the data provided by the planning department, the two participating schools were equivalent in terms of total student numbers (i.e. there were 638 students at each school). Regarding the number of years studying JP, the third graders had studied the two-year JP programme at both schools over the same period of time; i.e. in grades one and two. With regard to demographics; both schools are located in the centre of Ibri Willayat and the distance between the two schools is approximately half a kilometre. Most of the students attending both schools came from similar backgrounds in terms of socioeconomic status and parents' level of education.

The next step, after selecting the participating schools, was to choose two classes from each school to participate in the current study. In order to ensure the equivalence of the selected sample, four grade three classes were selected based on their grade two end-of-year scores. Following class selection, an independent sample t-test was performed to determine the equivalence between the two selected classes at each school with regard to the students' English language skills. Table 1 provides a summary of the Means and Standard Deviations for the grade two end-of-year scores for the two selected classes at each school. According to Table 1, there were no statistically significant differences between the two classes from a single school regarding their grade two end-of-year results.

Table 1. Means and standard deviations of grade two end-of-year scores by class

School	Class	n	M	SD
A	Class 1	31	86.93	12.73
	Class 2	31	85.22	14.99
B	Class 3	27	85.34	10.99
	Class 4	28	87.46	11.46

*p < .001.

After establishing the equivalence of the two classes in each school, a one-way analysis of variance was conducted to examine the differences in English language skills across the four classes. Table 2 presents the means and standard deviations for the four classes according to their grade two end-of-year scores.

Table 2. Means and standard deviations for the four classes based on their grade two end-of-year scores

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Class 1	31	86.93	12.73
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Class 3	27	85.34	10.99
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*p < .001.

According to Table 2, there were no statistically significant differences between the four classes; F (3, 110) = .226, p=. 878. This means all four classes were equal regarding their English skills, thereby establishing equivalence.

Test's Administration and Scoring Phase

Prior to the tests' administration and scoring phase, the researcher contacted the senior teachers at both schools to discuss arranging a quiet hall for the test's administration as well as preparing the necessary materials including a clipboard, a stopwatch and a scoring pencil.

Once the student was invited to enter the testing hall, they were asked to sit face-to-face with the examiner at a small table, so the examiner could see the student while reading the test and hear clearly what the student was saying. Additionally, the examiner held the clipboard in such a way that the student could not see what the examiner was writing. The ORF Test was administered by the researcher. The test included two sets of materials; a recording sheet on which the examiner recorded each student's responses, and a probe paper that included a grade-level passage containing a total of 201 words. This test was administered individually, and took three minutes for each student; two minutes to explain the test and write the student's details and one minute for the test itself. The probe paper was placed in front of the student and the test began by giving clear instructions in Arabic to each student about the test. The researcher indicated with examples that the student should start reading the text and continue to do so for one minute until s/he was asked to stop reading. The student was also asked to skip any words they could not read and continue reading as quickly and as accurately as possible. After the examiner pointed to the first word in the text, the stopwatch was started once the student began reading the first word of the passage, and not the title. The examiner followed along as the student read and left unmarked any words read correctly and put a slash (/) through mispronounced words. At the end of one minute, the examiner put a bracket after the last word the student had read and told the student to stop and removed the passage. Words omitted, substituted and hesitations of more than three seconds were scored as errors. Words self-corrected within three seconds were scored as accurate. If the student did not read any words correctly in the first row of the first passage, the

examiner discontinued the test and recorded a score of zero (0). If the student did not read a word within three seconds, the examiner said the word and marked it as wrong.

Data analysis

Finally, the statistical software programme, SPSS was used to analyse the data obtained from the ORF test. A one-sample t-test was used to compare the third graders' performance in each of the literacy skills targeted in the research question, with the minimum required level for each skill. Moreover, descriptive statistics were also obtained to specifically analyse and evaluate the effectiveness of JP on Omani third graders' accuracy and fluency of reading connected texts.

RESULTS AND DISCUSSION

This study asked, "to what extent does the synthetic approach to phonics, JP, impact Omani third graders' literacy skills when compared to the programme's objectives in terms of accuracy and fluency of reading connected texts?" This question intended to evaluate third graders' skill when reading connected texts accurately and fluently by administering the DIBLES ORF Test to collect data regarding the total number of words read, the total words read correctly and the total number of errors. The data was analysed using a one-sample t-test to compare the performance of the third graders in the study sample with the benchmark goal for the ORF Test.

According to the DIBLES summary of benchmark goals and cut points for risk (Dynamic Measurement Group, 2019), 86 is the benchmark goal for ORF fluency and 68 is the cut point for risk, and therefore scores below the benchmark goal, and at or above the cut point for risk (68-85) are identified as below the benchmark. Additionally, scores above 105 are considered to be above the benchmark goal. Hence, the test value of the one-sample t-test was set at 86 which implies that the required pass mark for fluency is 86 or above.

In terms of ORF accuracy, 96% is the benchmark goal, 92% is the cut point for risk, and this means that accuracy percentages below the benchmark goal, and at or above the cut point for risk (92-95) are identified as below the benchmark. Additionally, accuracy percentages above 99% are considered to be above the benchmark goal. Hence, the test value of the one-sample t-test was set at 96 which implies that the required passing percentage for accuracy is 96% or above.

Table 3 presents the results for the one-sample t-test for the ORF Test. According to Table 3, the mean score for students' performance in fluency was 17.87, which was lower than the benchmark goal, equalling 86. This difference was deemed statistically significant (p=.000). Similarly, the mean score for the students' performance regarding accuracy was 54.11, which was below the required benchmark goal of 96%; however, this difference was not statistically significant. Therefore, the results of the one-sample t-test indicated that the third graders in the study did not achieve the programme's objectives on average, either in terms of accuracy or fluency, when reading connected text.

Table 3. One-sample t- test results for the differences between ORF rate and the accuracy mean Scores for Omani third graders and DIBLES ORF benchmark goals

Tested skill	N	Df	M	SD	T	P-value
Fluency (total words correct)	117	116	Ma 17.87	12.92	-57.055	.000
Accuracy	117	116	Mb 54.11	21.79	-20.795	.043

Ma Minimum required mark= 86 (according to Dynamic Measurement Group, 2019)

Mb Minimum required mark= 96 (according to Dynamic Measurement Group, 2019)

Descriptive statistics were used to analyse the specific impact of JP on accuracy and fluency when reading connected texts. The students scored between 0 and 79 in terms of total words read, with a mean score of 28.79 and a standard deviation of 14.803. 25% of the students read a total of 20 words per minute or fewer, while 50% of students read 27 words per minute or fewer, and 75% of students read 34 words per minute or more.

In relation to the ORF rate, the students scored between 0 and 67, with a mean score of 17.87 and a standard deviation of 12.916. In total, 25% of the students correctly read approximately nine words or less per minute, and 50% of students correctly read 16 words or fewer per minute, and 75% of students correctly read 24 words or above per minute. In relation to reading accuracy, the students scored between 0 and 87, with a mean score of 54.11 and a standard deviation of 21.79. One quarter (25%) of students scored 43% for accuracy, and half the students scored 58% and the final quarter approximately 70%.

These findings can be interpreted in light of the "parallel distributed processing model" proposed by Adams (1990) which explains how the mind of skilled readers functions interactively to facilitate instant whole word recognition. This model illustrates that exposure to a print-rich environment facilitates the building up of networks between patterns of letters and relationships among words, which accelerates the word recognition process when bringing about more efficient comprehension. This indicates an influence from the limited exposure to reading texts within the JP programme, which affected learners' ability to process words instantly, also representing insufficient letter-sound awareness. According to the JP's programme, one decodable text is introduced weekly starting from grade one semester two, making a total of 10 reading texts where the primary focus is on consonants. Additionally, there are four reading texts in grade two semester one where the main focus is on diphthongs; and eight reading texts in grade two semester two where the main focus is on alternative spellings. This supports what Lloyd (2000) suggested regarding the significance of levelled decodable books for directing learners' attention to a word's structure, besides learning to decipher similarly structured words in which readers' attention is captivated by the position of the letters, whether at the beginning, middle or towards the end. However, the lack of availability of graded reading books within the JP pack provided by the Omani MOE for cycle one schools, combined with infrequent exposure to a print-rich environment, might have adversely influenced learners' performance in this test.

In addition, it is expected that students in grades one and two would have received three shared reading (SR) lessons per unit. However, it has been observed through the researcher's supervisory visits and in discussion with teachers, that most cycle one teachers omit these lessons as they consider them time-consuming. This reflects Al-Badi's (2016) conclusion that around half of teachers either conducted one interactive SR session per semester, or never included them as part of their teaching. This means reading opportunities are somewhat limited. This supports the findings of some studies stressing the significant role of practice, particularly in the case of paired repeated reading and assisted reading, for fostering reading fluency for regular readers until grade four, and for struggling readers through to the higher grades (Nichols et al., 2008; Rasinski et al., 2009), as well as the importance of the concept of print, and exposure to books for developing fluency (Rasinski et al., 2011).

These findings can also be discussed based on the view of reading fluency as a developmental and complex process for beginners. The view of fluency as a developmental process begins with reading letters, then reading words and finally reading phrases, sentences or passages (Carnine et al., 2004). Therefore, students' weaknesses in fluency can be viewed as a consequence of their weak performance in letter knowledge, both with regard to letter recognition and letter-sound correspondences, as well as their weaknesses in reading words. Regarding the view of fluency as a complex process, the reader must automatically decipher letters, organising them into comprehensible representations of sound and combining them to form recognisable words, and detect meaningful associations within and between sentences (Fuchs et al., 2001).

Hence, this resulted in their inability to read fluently, as all these skills combine to constitute the basis of fluent reading. This is consistent with findings by Georgiou et al. (2008) emphasising the importance of alphabetical knowledge, phonological awareness and immediate automated letter identification when subsequently developing literacy skills, including decoding and ORF. These findings might also suggest the third graders in this study were unlikely to comprehend what they read successfully (which definitely requires further investigation), as reading fluency is typically immediately intertwined with inefficient reading comprehension (Fuchs et al., 2001). This is anticipated to arise because an excessive degree of their processing capacity was used to operate discrete words, and little space was reserved for consolidative comprehension processes. This corresponds with the findings of Hudson et al. (2005), which stated that when children lack the skill to read words correctly and automatically, they must consciously analyse those words with great attention.

In conclusion, the results indicated that on average none of the third graders in the sample have achieved the JP programme's objectives in terms of accuracy and fluency when reading connected text. In fact, they experienced difficulties reading connected texts and scored below the cut point for risk in both fluency and accuracy, indicating a need for extra instructional support.

CONCLUSION

Recommendations and future studies

The current study has highlighted many areas in which it is necessary to enhance the effectiveness of the JP programme, to ensure its effectiveness at enhancing Omani cycle one learners' accuracy and fluency when reading connected text, so that it can be considered a valuable learning experience for these learners. Some of the recommendations that are directed towards the MOE include revising the current JP scheme of work to include daily minilessons along with the EFM syllabus, i.e., EFM textbooks and SR. Besides, these minilessons should include opportunities for regular reading practice. The findings also provide evidence that supports research highlighted with respect to factors contributing to weaknesses in reading fluency and accuracy which the curriculum designers and policy makers at the MOE should take into consideration to maximise students' learning chances and enhance their reading fluency and accuracy skills by considering these factors. Additionally, preparing a screening criterion and simultaneously adapting an RTI model would help to identify at-risk students and help prevent them from falling below grade-level expectations. Moreover, the MOE need to reconsider the length and intensity of the JP programme's implementation to provide students with more practice on challenging areas involving complex letter-sound relations and to include reading levelled decodable books within the JP pack. Other recommendations are directed to English teachers include revising all the previously introduced letter-sound correspondences to help students recognise them easily and automatically. Teachers need to familiarise students with different types of relevant letter-sound relations, due to the complexity of English orthography and to provide frequent, regular and equal chances for all learners to practise their phonics skills in reading, and hence increase their fluency. Besides, they need to evaluate and assess their students' reading fluency and accuracy occasionally, so that they can identify at-risk readers, and act accordingly.

Further research can be conducted to investigate the impact of JP on developing other literacy skills, such as reading comprehension, letter formation skills and vocabulary. Besides, this study provided an evidence that Omani third graders lack rapid and efficient lower-level processes which are critical to the operation of higher-level comprehension processes. Hence, future studies can explore the impact of students' weakness in reading fluency and accuracy skills investigated in the current study on reading comprehension. Additionally, future studies could adapt a quasi-experimental design, to explore the effects of integrating intensive reading sessions besides JP levelled reading books on students' reading fluency and accuracy, as compared to the regular Omani cycle one syllabus.

Limits of the study

This study has some limitations, which might adversely influence the generalisability of its findings. First, it is a small-scale study, limited to four grade three classes only. Second, it took place in a specific context, i.e. two cycle one schools in Al-Dhahira Governorate. Third, some variables which could have affected students' performance were not

controlled for in the research design, including parental involvement, preschool education and frequency of programme delivery. Finally, the study has not considered acquisition of word meaning or comprehension skills, as it concentrated only on accuracy and fluency when reading connected texts.

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Appendix A. ORF Third Grade-Level Passage

Trees

A tree is a tall plant that is made of wood. Trees can live for many, many years. A tree has roots, a trunk, branches, and leaves. The roots are underground, but sometimes you can see them sticking out of the dirt. The roots help to keep the tree in place and they also get the food that the tree needs from the soil in the ground. The roots send the food to the trunk. The trunk is like a water pipe. It carries the food to the branches for the leaves. Some trees never lose their leaves and their leaves always stay green. These trees are called evergreen. The leaves on most other trees change colors when the seasons change. In the autumn, you will see red, yellow and orange leaves. In the winter, you will see a lot of trees without any leaves at all. Leaves change colors because the tree does not get a lot of light from the sun. Trees need to save some food to live when there is not much sun and so they cannot give it all to the leaves. The leaves cannot live without the food and that is why they fall off.

Appendix B. ORF Test's Recording Sheet

Date: School: Student name:

ID: Gender: M/F Grade:

Total words read --------- Total errors --------- Total words correct --------

Examiner instructions	Reminders
Please read this (point to passage) out loud. If you get stuck, I will tell you the word, so you can keep reading. You have one minute to read as much as you can, so do your best reading and stop when I tell you to do so. Start here (point to first word of first paragraph of passage). Ready? Begin.	Start timer: When student says first word. Prompts: Student hesitates, wait three seconds; give correct word; mark the missed word as incorrect. Discontinue: Student does not get any words correct within the first line: discontinue ORF.

Trees

A tree is a tall plant that is made of wood. Trees can live for (15)
many, many years. A tree has roots, a trunk, branches, and leaves. (27)
The roots are underground, but sometimes you can see them (37)
sticking out of the dirt. The roots help to keep the tree in place and (52)
they also get the food that the tree needs from the soil in the (66)
ground. The roots send the food to the trunk. The trunk is like a (80)
water pipe. It carries the food to the branches for the leaves. (92)
Some trees never lose their leaves and their leaves always (102)
stay green. These trees are called evergreen. The leaves on most (113)
other trees change colors when the seasons change. In the autumn (124)
you will see red, yellow and orange leaves. In the winter, you will (137)
see a lot of trees without any leaves at all. (147)
Leaves change colors because the tree does not get a lot of (159)
light from the sun. Trees need to save some food to live when there (173)
is not much sun and so they cannot give it all to the leaves. The (188)
leaves cannot live without the food and that is why they fall off. (201)