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Reading aloud to first grade students: A case study of Saudi Arabia

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\textbf{Abstract:} The purpose of this study was two-fold: To understand how reading aloud can help improve the cognitive learning processes of first grade students in Saudi Arabia; and to analyze different reading aloud techniques and their effects on the students' learning attitudes and motivation in the classroom. The applied research required two first grade classes in which two different reading aloud techniques were conducted twice a week over a six-week period. More specifically, one group received a traditional reading experience, while the other received an interactive one. According to the results, although both groups showed improvements in all areas, the group that received the interactive reading experience had higher vocabulary retention and better lexical analysis and listening skills than the traditional reading group. The implication of the findings is that interactive reading is better suited to the characteristics of Saudi Arabian students than traditional reading.

\textbf{Subjects:} Lexicology; Morphology; Phonetics & Phonology; Syntax; Language & Communication; Language & Education; Language Teaching & Learning

\textbf{Keywords:} Cognitive learning processes; Interactive reading; Saudi Arabia; first grade students; learning motivation

\textbf{ABOUT THE AUTHORS}

Hiba K Eltilib is an international educator interested in the reasons behind the difficulty for language acquisition and the effect that early childhood education has on language learning. This led to a collaboration on the importance of reading to children at a young age and how different forms of reading can improve language acquisition. "What is your favorite book?" was a question asked to Hiba and Mehvesh's students which sparked the realization there was a lack of reading aloud to children in Saudi schools, and a lack of reading to children in Arabic culture. As a result they set out to understand different ways to make reading more prevalent in Saudi classrooms.

Mehvesh Islam is an educator, researcher and observant in childhood behavior who hopes to improve education practice to children through reading aloud research. Together they intend to conduct wider research which can lead to an education system that implements these successful practices.

\textbf{PUBLIC INTEREST STATEMENT}

Although reading aloud is a common practice in many elementary schools around the world, it is yet to be implemented in the Saudi school system. This missing element of language acquisition is something that has not been well researched or examined. To fill this gap, this study presents the findings from a group of elementary school students who were exposed to both traditional and interactive reading styles over a series of 6 weeks, in both English and in Arabic, their native language. The results show (1) that both styles of reading and a positive effect on students in terms of lexical analysis and increased listening skills, and (2) the interactive reading style had higher lexical analysis and vocabulary retention than traditional reading. This study calls for a more expanded investigation into different school systems and how these reading styles can influence their cognitive development.
1. Introduction and literature review

Reading is considered worldwide as one of the most effective tools for importing knowledge, improving cognitive development, and fostering learning advancement. Moreover, exposure to reading aloud is crucial for developing lexical analysis, improving listening and critical thinking skills, and enhancing phonological awareness and comprehension. Previous research has also shown that one of the most important activities for “building the knowledge required for eventual success in reading is reading aloud to children” (Anderson et al., 1985, p. 23). However, there is a noticeable gap in the literature regarding the techniques used to improve the reading skills of young Saudi Arabian students, despite the overwhelming contention that reading is one of the most important educational tools in the classroom. Thus, the purpose of this study is two-fold: To understand how reading aloud can help improve the cognitive learning processes of first grade students in Saudi Arabia; and to analyze different reading aloud techniques and their effects on the students’ learning attitudes and motivation in the classroom.

Previous studies have noted that Saudi Arabian students rarely read for pleasure. According to O’Sullivan (2010), there are many reasons, including reading standards, background knowledge (resulting from a lack of reading), and learning motivation, which have contributed to the relatively low reading culture. Research has also shown that as a result of test-driven instruction, English and reading for pleasure has simply become a part of schoolwork and nothing more (Wurr, 2003). Moreover, according to a 2015 survey of 330 students at university foundation programs in Saudi Arabia, 70% stated that they have never read an Arabic story/book from beginning to end, 90% mentioned that they have never read an entire English story/book, 40% reported that they have purchased a book in the past three years, and 60% stated that they intend to read a story/book in the future (Rajab & Al-Sadi, 2015).

In this regard, the researchers of the present study investigate the ways that reading can be better incorporated in the Saudi Arabian public school system, which consists of elementary (grades 1–6), intermediate (grades 7–9), and secondary (grades 10–12) levels. Within this context, the reading habits of students in the first grade are the subjects of focus. Moreover, the researchers examine which reading strategies are more effective and how reading aloud can affect academic progression.

1.1. The effects of reading aloud to children

The resurgence of reading aloud, as a key pedagogical method for early literacy, was brought into focus in the publication Becoming a Nation of Readers (Anderson et al., 1985). It has also been called “the single most important activity for building the knowledge required for eventual success in reading” (Cohen, 1968; Lane & Wright, 2007). Moreover, Cohen (1968) utilized a pre- and post-standardized test and found that reading aloud to children has significant effects on their vocabulary, word knowledge, and comprehension.

There has also been a surge in the research regarding the effects of reading aloud. Although the results were initially mixed, the empirical evidence showed that reading aloud has a positive impact on vocabulary (Beck et al., 2002; Brabham & Lynch-Brown, 2002; Lane & Wright, 2007; De Temple & Snow, 2003), phonological awareness (Glushko, 2017), comprehension and listening skills (Morrow & Gambrell, 2002; Teale, 1986), syntactic development (Chomsky, 1972), and word recognition (Kuhn & Stahl, 2003). In addition, by reading aloud, children are able to develop the necessary skills for decoding and drawing meaning from complex texts (Damber, 2015). Trelease (2006) was also a major contributor to this school of thought and added insights into how reading aloud impacts the development of early literacy skills. For instance, he found that this strategy entertains children, thereby stimulating their curiosity and sustaining their overall concentration.

Finally, developing a love of reading is the key to building a sound foundation for sustained interest in literacy. Moreover, frequent exposure to reading aloud activities enables children to connect reading with pleasure, which inspires them to read in the future. Thus, reading aloud not only transfers an important skill set, but it also develops the skills and behaviors necessary for lifelong learning.
1.2. Reading aloud to children in the Arabic culture
With language learning, there is a natural influence of the linguistic culture on the way that the language is taught. According to Palmer et al. (2007), Arabic is a phonetic language and thus, early literacy teaching places a strong emphasis on phonics. As for the usage patterns in Arabic, children learn “spoken Arabic” as their mother tongue, after which they acquire “literary Arabic” through formal instruction in reading and writing.

In this regard, Emery (2005) pointed out that such activities can enable them to read formerly unseen words, which is not possible when reading English. Similarly, Hyland and Malmath (2010) conducted research on the vocabulary acquisition of young Arabic children and found that reading aloud with explanations of words had a more profound effect on literacy development than reading aloud without such explanations.

1.3. Traditional reading and interactive reading
Contrary to the verbal language development process, reading does not naturally develop through the interactions of adults. Even in a print-rich environment, reading requires explicit and systematic instruction for most children, since it is a multi-layered process that involves comprehension, fluency, and motivation.

According to Gormley and Ruhl (2005), traditional reading involves the exact reading of a text and verbal interactions between a child and an adult. As for interactive reading, the educator assumes the role of a listener, raises questions, adds information, and encourages a child to increase the sophistication of his/her description of the textual materials. Moreover, Asher (1977) developed the Total Physical Response (TPR) method in order to observe how young children listen and physically respond when learning, while Richards and Rodgers (2014) proposed that teaching through activities increases cognition and memory, since it utilizes both parts of the brain.

Related research has shown that such interactions provide the basis for phonological awareness (Duursma et al., 2008), memory and lexical access, and inductive meaning-making. Furthermore, Lonigan et al. (2013) found that children who receive phonological awareness, letter-knowledge interventions, and interactive reading tend to experience more growth than those who receive traditional reading instruction. This also indicates that interactive learning, which combines systematic and structured delivery with pure enjoyment and social interactions (Vygotsky, 1962), has the greatest impact on life-long learning.

2. Methodology

2.1. Research approach—questions and aims
The following research questions were raised once it was determined that reading aloud to young students were an imperative part of their cognitive development: firstly, does reading aloud improve cognitive development in listening skills, phonological awareness, and lexical analysis, and if so, how? Following from this, what reading aloud strategies can be used to enhance students’ learning processes? Lastly, how do young Saudi Arabian students react to different reading aloud activities and why?

2.2. Research objectives
The research objectives were multiple, starting with focusing on understanding how reading aloud can develop students’ cognitive learning processes in terms of their listening skills, lexical access, and phonological awareness. In addition, analyzing different reading aloud techniques and how they affect students’ cognitive learning processes, as well as determining better reading aloud techniques in the classroom by analyzing two different reading styles. Finally, understanding the impact of reading aloud on Saudi Arabian students’ learning attitudes and motivation.
2.3. Research significance

As stated earlier, access to books and exposure to reading aloud are crucial for developing young students’ lexical analysis, listening and critical thinking skills, phonological awareness, and comprehension. Although their implementation may vary, the majority of teachers believe that parents’ “failure to read to their child is a reason for the child’s failure to learn to read” (Van Kleeck & Stahl, p. vii). In addition, reading aloud to children is believed to be one of the most important activities for “building the knowledge required for eventual success in reading” (Anderson et al., 1985, p. 23, Van Kleeck, Stahl, vii).

For the present study, a quasi-mixed method approach was applied to ensure that the information on critical indicators was effectively collected. This research also measured the correlations between the program activities and the engagement, skills, and knowledge of the students. In this regard, it first assessed the relationship between interactive reading and the students’ attitudes toward reading. This was measured by conducting a perception assessment, which was repeated in order to gather quantitative data on the students’ shifting perceptions. Next, it measured the level of engagement and interactions of the students based on the implementation of the reading activities. In other words, it determined whether such implementation had an influence on how frequently the students were engaged in the reading materials and sessions. Finally, this study conducted quantitative assessments and observations to assess whether there were improvements in phonological awareness and lexical access, as indicators of improved knowledge and language skills.

2.4. Justification of the triangulation and quasi-mixed method approaches

There are important considerations regarding when quantitative and qualitative approaches can be used in research, which data is strictly and objectively verifiable, and where perspectives may be important, rather than sources of bias. The following is an analysis of two key methods that have value in this study: the triangulation and quasi-mixed method approaches.

Chiilisa and Kawulich (2012) not only provided an excellent model and glossary of terms for defining paradigms, but they also presented appropriate methods for research. One of these approaches is triangulation, which has been defined as the “process of combining data from different sources to study an articulated social phenomenon” (Hales, 2010, p. 12). This method of data collection and analytics, which emerged in the 1970s (Denzin, 1978), includes four basic types: data triangulation, investigator triangulation, theoretical triangulation, and methodological triangulation (Hale, 2010). The basis for triangulation is analogous to trigonometric functions in which facts can be derived by gathering data from various viewpoints (Jick, 1979). For the purpose of the present study, the triangulation approach consisted of the following: student surveys; observations of the students’ behaviors, enjoyment, and engagement; and interviews with the teachers.

As for the quasi-mixed method approach, it involves group-based experimental designs in which the groups are not subject to randomized selection. In addition, this approach can provide information on general trends and certain types of causal relationships. Broadly speaking, the quasi-mixed method approach is essentially quantitative, whereas the triangulation method is a combination of quantitative and qualitative approaches. According to Madey (1982), “The integration of qualitative and quantitative methods within a single evaluation has synergistic effects in the three major phases of design, data collection, and analysis.”

Finally, it is important to note that there are some challenges to both methods. For example, triangulation can be time-consuming and it can produce large, complex datasets. In addition, drawing from different theories or methods can make the data difficult to interpret, given the subjectivity of different researchers/practitioners. Meanwhile, the quasi-mixed method approach uses both quantitative and qualitative data in which former is collected through a quasi-experimental design (rather than a pure experimental design), while the latter is simply collected.
through observations. However, the findings of both methods are effectively used to determine whether interactive reading is a better approach for improving students' learning outcomes than traditional reading.

2.5. Data collection methods: the triangulation and quasi-mixed method approaches

2.5.1. Quantitative data—surveys and observations
The surveys measured the differences in the two reading techniques by focusing on certain factors and their potential effects. Based on the need to quantitatively measure changes at different levels, the surveys were divided into two parts; the first part covered the students' basic information, such as their interest in reading outside of school and the number of books at home, since both indicators may be relevant to the findings. It was also important to understand if such information remained consistent over the experimental period. The second part examined the students' reactions and enjoyment of the sessions, any changes in their motivation, any spillover effects into other classroom activities, and any differences in their level of engagement with books and reading.

2.5.2. Qualitative data—observations
Observations were also conducted to contextualize the quantitative outcomes and justify the outliers. The observations, which occurred during the reading sessions, measured the students' listening skills, attentiveness, and enjoyment as well as their body language and expressions. All of these aspects were important, since testing alone can be insufficient for determining if and why the approach is effective. According to Weiss (1997), “The mechanism of change is not the program activities per se, but the response that the activities generate.” In sum, the following collection methods were applied:

(1) Reading activities—student surveys (twice a week).

Teacher interviews (once a week).

Observations—(before, during, and after the reading sessions).

2.6. Population and sampling
This study has focused on improving the educational experience of young Saudi Arabian students by utilizing reading strategies that maximize their cognitive development. In Saudi Arabia, primary through high school education is free for both Saudi Arabian and non-Saudi Arabian citizens. Although the research site chosen for this study was a tuition-based international school with bilingual students, the researchers simply adjusted the paradigms of the experiment, based on the quasi-mixed method's adaptability to in-field situations (Thyer, 2012). Overall, this particular school was chosen for the following reasons: it included bilingual students that were able to respond in both languages, it had access to a library and a list of pre-approved books, it included specific learning times and teacher/school cooperation, and finally, it included small class sizes, which allowed the researchers to better observe the students' behaviors.

The researchers first chose two first grade classes, which were sub-divided into Group A and Group B, with 10 students (five boys and five girls) in each class. The coin toss method, which used a best-out-of-five format, determined that Group A would be the interactive reading group and Group B would be the traditional reading group. The researchers then conducted weekly semi-structured interviews with the homeroom teachers using quantitative surveys. This was an integral part of the study, since the teachers had insights into the students' reading activities and changes in their attitudes. Finally, during the reading sessions, the researchers closely observed the students' reactions to each story and collected the related data through student surveys administered after each session.
2.7. Materials and resources chosen for the study
Overall, there were six books (in both English and Arabic) that were chosen for this study, based on the reading level of the students (see Table 1).

The lexical items selected for the interactive reading activities were based on how many times the items appeared in the story (see Table 2). When the students heard the lexical item that they had been pre-taught, they were asked to respond by using a certain action and sound. This response allowed the observers to measure the students' engagement and listening skills.

2.8. Data analysis techniques
Overall, the data were collected from three sources, which included student surveys, teacher surveys, and observer reports.

Among the student surveys, two-sample or paired t-tests were used to compare the means for the continuous variables, while Pearson's chi-square test was used to compare the categorical responses. Descriptive statistics (i.e., frequencies and proportions) were also calculated for certain variables. Confidence intervals (CIs) of 95% were presented for all of the quantitative estimates, and the results were considered statistically significant at p < 0.05. As for the teacher surveys, they were primarily analyzed using qualitative methods, although descriptive statistics were calculated when possible. Moreover, a review of the data was conducted to identify recurring themes and key ideas, all of which were summarized according to their topic. Regarding the observer reports, they presented an opportunity for both quantitative and qualitative analyses. In this case, descriptive statistics (with 95% CIs) were calculated when possible, while a qualitative review of the data was conducted for the open-ended portions of the reports. Time-series graphs were also used to visualize the trends over the course of a single reading session and over the entire intervention. All of the statistical analyses were conducted using Microsoft Excel and Stata 15.1 software.

| Table 1. Names of the chosen English and Arabic books |
|-------------------------------------------------------|
| **English book names** | **Arabic book names** |
| I Can Do It | من هو |
| The Very Hungry Caterpillar | اللعنة التي كبرت |
| Lola at the Library | نابل وزاهر |
| The Little Engine that Could | لكس سوء |
| The Napping House | ضياع جدائي |
| Ferdinand the Bull | غسان خيَرف ما مواجِلي بنان |

| Table 2. Names of the chosen English and Arabic books (with words from each) |
|---------------------------------------------------------------|
| **Name of the book** | **Words chosen** | **Name of the book** | **Words chosen** |
| I Can Do It | let me, almost, storybook | من هو | البليد، الشريك، جِدَّاً، |
| The Very Hungry Caterpillar | plum, butterfly, cocoaon, tummy ache | اللعنة التي كبرت | لطيفة، ثيرك، أرستيلات، نشر، |
| Lola at the Library | buzz, librarian, tucked in, borrow | نابل وزاهر | طالب، دؤال، عُرستم، |
| Ferdinand the Bull | أغلبك بنان غسان، سلكت، جِدَّاً | غسان خيَرف ما مواجِلي بنان | واجي، أغلب، جيهكي، وْلِمْ |
| The Little Engine that Could | engine, pull, tears, clown | لكس سوء | ضياع جدائي |
| The Napping House | snoring, cozy, scare, wakeful | | جدائي، سلكت، طفلي |
3. Results and analysis

3.1. Data analysis

3.1.1. Analysis of the student surveys

Q1: How do you feel when reading?

A paired t-test was used to compare the overall average scores and the group average scores, and it was determined that ranging from 1 to 4, the higher the value, the greater the positive feeling. In addition, the mean given is an estimated value, while the 95% CI provides the range for the true value. For example, the estimated average score for the first session can be 3.57 (i.e., between happy and excited), but the true value may fall anywhere between 2.84 and 4.00. Furthermore, the larger the sample size, the lower the CI and the greater the certainty of the value. Finally, P-values of less than 0.05 demonstrate that the results are statistically significant. After the first session reduced the sample size to less than 4, a subsequent session was chosen as the baseline. This was performed to maximize the power and lessen the width of the CIs, thus providing a better indication of whether significant differences were present. As shown in Table 3, the mean scores for enjoyment of the reading sessions increased over the course of the intervention for the students as a whole and for each group. Although the results were not significant, the findings suggest that a significant increase in positive feelings toward reading may be found in a larger trial.

Q2: How did you feel during THIS reading activity?

First, the scores of each student were averaged across all of the English and Arabic reading sessions. Then, the average of the mean scores (across all time points) was calculated.

(see Table 4).

| Table 3. The mean scores for enjoyment of the reading sessions in both groups (based on time) |
|---------------------------------|--------------------------------|---------------------------------|
|                                | Mean of the total sample (95% CI) n = 7 | Group A mean (95% CI) n = 6 | Group B mean (95% CI) n = 7 * |
| First (or early) session       | 3.57 (2.84–4.00)                     | 3.50 (2.62–4.00)               | 2.71 (1.44–3.99)               |
| Last (or late) session         | 3.71 (3.26–4.00)                     | 3.67 (3.12–4.00)               | 2.86 (1.87–3.85)               |
| t-score                        | 0.42                                | 0.41                           | 0.24                           |
| P-value                        | 0.69                                | 0.69                           | 0.82                           |

* Sessions 3 and 9 were used to calculate the differences in the mean scores for enjoyment of the reading sessions, due to the small sample sizes in Sessions 1 and 10.

| Table 4. The mean scores for enjoyment of the reading sessions in both groups (based on the language) |
|-----------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
|                                                                                               | Mean (95% CI) n = 19          | Group A mean (95% CI) n = 9   | Group B mean (95% CI) n = 10   |
| English reading session                                                                     | 3.09 (2.67–3.53)              | 3.38 (2.75–4.00)              | 2.90 (2.25–3.54)               |
| Arabic reading session                                                                      | 2.75 (2.33–3.16)              | 3.20 (2.65–3.75)              | 2.42 (1.83–3.00)               |
| t-score                                                                                     | 2.02                           | 1.21                          | 1.70                           |
| P-value                                                                                    | 0.06                           | 0.26                          | 0.12                           |
Overall, the mean scores for enjoyment of the reading sessions were higher for the English reading sessions than the Arabic reading sessions, although the difference was not significant. When considering the students as a whole set, the difference almost reached significance, thus suggesting that in a larger trial, significant differences may be found.

**Q3: Do you enjoy reading in English or Arabic?**

During the last session of the intervention, the following were noted:

Two (10%) students stated that they preferred reading in English.

Two (10%) students stated that they preferred reading in Arabic.

Seven (35%) students stated that they enjoyed both.

Two (10%) students stated that they had no preference.

Seven (35%) students did not respond/were not present.

**Q4: Do you enjoy reading alone?**

It was determined that ranging from 0 to 2, the higher the value, the greater the positive feeling. A paired t-test was used to compare the overall average scores and the group average scores (see Table 5).

The students in Group B showed an insignificant increase in enjoyment toward reading alone, while no change was found in Group A.

**Q5: What is your favorite part of a book?**

A chi-square test was used to determine whether there was a significant difference between the groups, as shown in Table 6:

There was not a significant difference in the students’ favorite parts of the books between both groups. However, Group B included one student who reported “listening” as his/her favorite part, while Group A had none.

**Q6: Did you learn a new word?**

A two-sample t-test was used to compare the mean numbers across both groups, and the overall mean number of sessions in which a new word was learned was 2.05 (1.07–3.03). As shown

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**Table 5. The mean scores for reading alone in both groups (based on time)**

|                      | Mean of the total sample (95% CI) n = 7 | Group A mean (95% CI) n = 5 * | Group B mean (95% CI) n = 6 ** |
|----------------------|----------------------------------------|------------------------------|--------------------------------|
| First (or early) session | 0.57 (0.8-1.07)                         | 1.00 (1.00-1.00) ***         | 0.50 (0.00-1.38)                |
| Last (or late) session   | 1.14 (0.31-1.97)                        | 1.00 (0.12-1.88)             | 1.00 (0.00-2.00)               |
| t-score                 | -1.92                                  | 0.00                         | -1.00                          |
| P-value                 | 0.10                                   | 1.00                         | 0.36                           |

* Session 3 was used as the baseline, due to the small sample size in Session 1. ** Session 4 was used as the baseline, due to the small sample size in Session 1. *** All of the respondents gave the same response (i.e., “sometimes”).
Table 6. The differences in the favorite parts of the books between both groups

|                  | Group A  | Group B  | Total       |
|------------------|----------|----------|-------------|
|                  | n = 7    | n = 6    | n = 13*     |
| Pictures         | 2 (28.6%)| 3 (50.0%)| 5 (38.5%)   |
| Words            | 0 (0%)   | 0 (0%)   | 0 (0%)      |
| Listening        | 0 (0%)   | 1 (16.7%)| 1 (7.7%)    |
| Everything       | 5 (71.4%)| 2 (33.3%)| 7 (53.9%)   |

* $\chi^2 = 2.42; p\text{-value:.39}

Table 7. The mean number of sessions in which a new word was learned in both groups

|                  | Mean number of sessions |
|------------------|-------------------------|
| Group A          |                         |
| n = 10           | 1.88 (0.19–3.58)        |
| Group B          |                         |
| n = 10           | 2.18 (0.78–3.59)        |
| t-score          | − 0.30                  |
| P-value          | 0.76                    |

in Table 7, Group B learned new words in more sessions than Group A, although the difference was not significant.

Moreover, a paired t-test was used to compare the mean number of new words learned during the reading sessions in both languages. As shown in Table 8, the students learned new words more frequently in the Arabic reading sessions than in the English reading sessions, although the increase was not significant.

Q7: Who do you usually read with?

During the last session of the intervention, the following were noted:

One (5%) student reported reading the most with friends.

One (5%) student reported reading the most with a parent.

One (5%) student reported reading the most with a teacher.

Nine (45%) students reported reading with all of the above.

Eight (40%) students did not respond/were not present.

Table 8. The mean number of new words learned during the reading sessions in both languages

|                  | Mean number of sessions |
|------------------|-------------------------|
|                  | n = 20                  |
| English reading session | 0.70 (0.30–1.10)    |
| Arabic reading session    | 1.10 (0.46–1.74)    |
| t-score               | 1.40                    |
| P-value               | 0.18                     |
3.1.2. Analysis of the teacher surveys

Q1: Responses to the reading activities

Q2: Overall mood

When comparing the students’ responses to the reading activities and their overall mood, as reported by the teachers, to the students’ self-reported enjoyment and mood (Q1 and Q2 from the student surveys), the findings were similar approximately half of the time (54%). Overall, similarities were more often found in Group A (58%) than in Group B (44%), although the significance of this difference remains unknown. Moreover, the responses were considered to be similar if positive responses (e.g., excited, energetic, happy or motivated) were given by the teacher and the student or if negative responses (e.g., not interested, sad, angry or bored) were given by both parties.

Q3: The students are motivated by reading

After the reading activity (Q3.4), Group B was reported to be excited at both time points at which the data were collected (Interventions 2 and 6), whereas Group A was reported to be relatively quiet after the reading activity at both time points (Interventions 4 and 9). Despite a difference in proximate (or immediate) motivation for reading between the groups, it did not appear that there were any changes or improvements in distal motivation such as using books more often, looking

| Table 9. Teachers’ feedback on the students’ behaviors during the reading sessions in both groups |
|--------------------------------------------------|------------------|------------------|
|                                                  | Group A          | Group B          | Total            |
| Imitating sounds and actions                     | 2 (14.3%)        | 1 (5.3%)         | 3 (9.1%)         |
| Focused and engaged                              | 2 (14.3%)        | 7 (36.8%)        | 9 (27.3%)        |
| Focused, but can be distracted                   | 9 (64.3%)        | 4 (21.1%)        | 13 (39.4%)       |
| Focused, but easily distracted                   | 0 (0%)           | 3 (15.8%)        | 3 (9.1%)         |
| Moving, but actively listening                   | 1 (7.1%)         | 0 (0%)           | 1 (3.0%)         |
| Not engaged                                      | 0 (0%)           | 4 (21.1%)        | 4 (12.1%)        |
| TOTAL                                            | 14               | 19               | 33               |

| Table 10. Teachers’ feedback on the students’ behaviors after the reading sessions in both groups |
|--------------------------------------------------|------------------|------------------|
|                                                  | Group A          | Group B          | Total            |
| Demonstrating comprehension                      | 5 (62.5%)        | 5 (50.0%)        | 10 (55.6%)       |
| Listening with engagement                        | 0 (0%)           | 1 (10.0%)        | 1 (5.6%)         |
| Listening with limited engagement                | 2 (25.0%)        | 1 (10.0%)        | 3 (16.7%)        |
| Listening, but not engaged                       | 0 (0%)           | 1 (10.0%)        | 1 (5.6%)         |
| Not listening                                    | 1 (12.5%)        | 2 (20.0%)        | 3 (16.7%)        |
| TOTAL                                            | 8                | 10               | 18               |
forward to reading, discussing or drawing elements from the story, etc. Moreover, no changes in these behaviors were reported by the teachers in both groups.

**Q4: The students’ attitudes toward reading**

The students in both groups were reported to resist reading during the intervention (Q4.1), which was noted as a consequence of taking away their playtime. However, the teachers reported that the students in both groups took less time to settle down for the reading activity (Q4.2). This was a change that occurred rather quickly (approximately two to three weeks after the first intervention), and is supported by the increase in the mean enjoyment of reading reported by both groups (Q1 from the student surveys).

There were mixed reports by the teachers regarding whether the students requested additional reading time (Q4.3). However, the teachers reported that the students read on their own, which suggests that the increase in the students’ positive feelings toward reading alone was valid, despite the insignificant p-value (Q4 from the student surveys). Moreover, the students in Group A were reported to be more excited for library time (Q4.4), whereas no change was observed among the students in Group B. Since library time generally refers to solo or traditional reading activities, this explains why the students in the interactive group did not demonstrate an increase in excitement. Finally, in Group A, the boys were reported to be more respectful than the girls (Q4.5), whereas in Group B, the girls were reported to enjoy the reading activities more than the boys, regardless of the story.
Q5: Understanding the vocabulary

While the students did not generally use vocabulary words (Q5.2) or ask about them (Q5.4) outside of the reading time, some students from both groups were reported to make certain sounds and actions outside of the reading time (Q5.1). In addition, the teachers either reported that the students did not remember the words (Q5.3) or that they simply referred the researchers to review the student surveys. Furthermore, Q6 from the student surveys showed that new words were learned in approximately 20% of the sessions (2/10), which is consistent with the findings of the teacher surveys.

Q6: Interest and engagement during the reading activities

The total number of responses across the intervention time points was calculated for each group.

Most of the students were reported to be focused, but easily distracted, followed by focused and engaged. In addition, the proportion of the students reported to be focused and engaged was higher in Group B than in Group A. However, Group B had a lower proportion of students imitating sounds and actions.

Q7: Listening skills

Similar issues with the recording of the responses were noted for this question. The total number of responses across the intervention time points was calculated for each group.

Finally, the majority of the students were reported to demonstrate comprehension during the reading activities, although the proportion of the students in Group A was larger than that of the students in Group B.

Q8: Overall teacher assessment

When asked whether the students engaged more in the interactive reading sessions than in the traditional reading sessions (Q8.1), the teachers provided mixed responses: one (17%) teacher responded that both groups showed a higher level of engagement. Following this, two (33%) teachers stated that the interactive model had a greater effect, and one (17%) teacher stated that the traditional model had a greater effect (Table 9 and 10).

Most of the students also preferred English over Arabic (Q8.2). In fact, Arabic was only noted as the preference among Group B at the final teacher survey point (Intervention 9).

Overall, the teachers reported that the reading interventions had the following effects, either a positive impact on the students' listening skills in both groups (Q8.5), or a limited effect on the students' vocabulary (Q8.4).

Finally, the teachers recommended several ways to improve the interventions for the students (Q8.3), including the following: changing the time of the intervention (n = 2), including more vocabulary words (n = 1), having the students write the words they learn (n = 1), having the students bring a book (n = 1), and providing visual aids (n = 1).

Analysis of the Observer Reports and Triangulation of the Results

4. Student responses to the vocabulary

Overall, the students responded to and engaged with the pre-taught vocabulary words during the reading sessions 70% of the time (range: 28–100%). A higher proportion of students responded
more to the Arabic vocabulary words (72.5%; 95% CI: 61.6–75.9%) than to the English vocabulary words, (68.7%; 95% CI: 57.9–86.9%), although the difference was not statistically significant (p = 0.58). This is consistent with the findings of the student surveys (Q6) in which they learned the Arabic words more often than the English words.

During the sessions, the responses to the first use of a vocabulary word was fairly high, i.e., 66% on average. In addition, the following aspects were found: the responses usually remained around the 60–75% range until the 7th use of the word, at which time the students may have become fatigued, may have assimilated the word or may have become too engaged with the story to remember to respond. As well, the responses to the Arabic words declined faster than the responses to the English words. As shown in Figure 1, the students’ responses to the vocabulary words peaked in Sessions 3 and 4, and gradually declined until Session 9, when another peak was recorded.

Similar patterns were found for the first use of a word during a reading session and for all uses of the word during a reading session. As shown in Figure 2, despite the relatively high level of responses, the student surveys showed that Group B learned new words in only two sessions (2.18; 95% CI: 0.78–3.59) (Q6 from the student surveys), which was higher Group A. This finding suggests that the method of pre-teaching and interacting with vocabulary words can be improved for greater learning outcomes.

5. Motivation/attitude toward the reading activities
The students in both groups were generally excited for the reading sessions, which is consistent with the findings from the student surveys (Q1). Group A was often noted to be more compliant, to settle in more quickly, and to express less unhappiness than Group B. This was also reported in the teacher surveys (Q3). However, Group B often received readings during or after playtime, whereas Group A often received readings during meal/snack time. The impact of these other activities most likely affected the students’ attitudes toward the reading sessions. This may also explain why the student surveys revealed that Group A had a higher mean enjoyment score than Group B (Q1 and Q2). The students in both groups were noted as remembering and expecting the reading activities. One student was reported to have asked about the story time and was looking forward to the next session.

6. Level of engagement during reading
In general, the body language in both groups indicated a high level of engagement throughout the interventions. Moreover, the students were often noted as leaning forward, positioning themselves to hear/see better, etc. This is consistent with the teacher surveys, which indicated that the majority of the students were focused with little or no distractions (Q6). The students in Group B were noted to ask questions throughout the interventions, whereas the students in Group A were quiet in the first few sessions. This was probably due to their initial uncomfortableness with the readers. Although the students in both groups were observed to respond to the stories and characters in empathetic ways (e.g., asking questions about how the characters felt), this was recorded more often among the students in Group B. Furthermore, the students in Group B were more often noted to ask questions related to the plot, to relate something from the story to themselves (e.g., The Very Hungry Caterpillar and their favorite foods), and to discuss or recreate the story after the reading session. Several observations mentioned good listening skills among the students, since they usually responded to the vocabulary words (even if they were only mentioned once). This is consistent with the teacher surveys, which indicated that more than half of the students demonstrated comprehension (Q7). According to one observation, two students were reported to be “disruptive.” However, since they were still talking about the book, they were still somewhat engaged in the reading session.

7. Discussion, conclusion, and future research recommendations

7.1. Discussion
This study found that the students showed marginal, but positive improvements in their cognitive abilities, due to the reading activities. Based on the surveys and observations, Group A, which experienced interactive reading, had higher vocabulary retention and better lexical analysis and
listening skills than the traditional reading group (Group B). Thus, reading aloud in an interactive manner had a slightly higher positive impact on the students’ cognitive development.

As for Group B, they were actively engaged throughout all of the reading sessions and were quicker to settle down than Group A. In fact, they were reported to be calmer after the reading sessions, which indicated that they became more introspective and were processing the information for long-term retention. This was also in line with the students’ behaviors in Group B. Meanwhile, the students in Group A were aware of the pre-teaching of the vocabulary and enjoyed it in both languages, although their engagement with the Arabic words was higher. Moreover, they were more likely to engage with the reader and ask questions about the story.

Overall, the reading sessions were positively received in both groups, with improvements in all of the tested areas. However, Group A showed higher improvements in listening skills and lexical analysis, compared to Group B.

7.2. Conclusion
According to the results, although both groups showed improvements in all areas, the group that received the interactive reading experience had higher vocabulary retention and better lexical analysis and listening skills than the traditional reading group. The implication of the findings is that interactive reading is better suited to the characteristics of Saudi Arabian students than traditional reading. Moreover, since there are few studies pertaining to Saudi Arabia, this research provides a much needed baseline for further investigations into the reading habits of young Saudi Arabian students.

It is important to note that the theoretical implication that Saudi Arabia includes a lower rate of recorded reading practices than the West is a fallacy with many contributing factors. Among them is the lack of cultural consideration in regards to the “storytelling nature” of the region. In addition, this implication does not consider the ongoing political and social shifts (all of which play a role in lowering print production and consumption) as well as the vast amount of literature that can be read online. Although these factors were the impetus for this study, the main focus was to identify ways to improve the reading habits of young Saudi Arabian students within the classroom.

7.3. Future research recommendations
Future research recommendations are to conduct an examination of four government primary schools: two female and two male schools. In addition, to conduct an examination of two classes, with an interactive reading group (in which both English and Arabic books/stories are read to the students twice a week) and a control group (in which books/stories will be available to the students, but are not read to them). In both cases, student surveys, teacher surveys, and observations can be conducted to support the findings.

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All relevant data are included in the appendices.

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## Appendices

### Appendix A–Student Surveys

| Question                                                                 | Option 1 | Option 2 | Option 3 | Option 4 |
|------------------------------------------------------------------------|----------|----------|----------|----------|
| My name is                                                             | ![Girl](image) | ![Boy](image) |          |          |
| How do you feel when reading?                                          | ![Smiley](image) | ![Smiley](image) | ![Sad](image) | ![Sad](image) |
| How did you feel during THIS reading activity?                         | ![Smiley](image) | ![Smiley](image) | ![Sad](image) | ![Sad](image) |
| Do you like reading in English or Arabic?                              | ![English](image) | ![Arabic](image) | ![Both](image) | ![I don't know](image) |
| Do you like reading alone?                                              | ![Yes](image) | ![No](image) | ![Sometimes](image) |          |
| What is your favorite part of a book?                                  | ![Pictures](image) | ![Words](image) | ![Listening](image) | ![Everything](image) |
Appendix B–Teacher Surveys

| Name | Subject Taught | Time spent with the Students Throughout the Day | Additional Comments | Additional Observations |
|------|----------------|-----------------------------------------------|---------------------|------------------------|
|      |                |                                               |                     |                        |

(1) **Response to reading activities.**

Please write the students' names that you notice in Class A or Class B

Over excited
Energetic
Motivated
Focused (able to answer questions)
Not interested
No Change
(1) **Overall mood.**

Please write the students' names that you notice in Class A or Class B

Happy
Sad
Bored
Angry
Confused
No change
The students are motivated by reading. Please write the students' names that you notice in Class A or Class B

Are they using books more often? Less often? Has anyone asked for the same books from the library? No change? Are the students discussing the activity outside of the reading time? Are they excited for the next reading activity? Why or why not? Are they quiet or excited after the reading activity? Do they try to recreate the story? Do they act it out in class or playtime? Are they drawing anything from the story? (1) The students' attitudes toward reading

Please write the students' names that you notice in Class A or Class B

Do they resist the reading? Does it take less time to settle down for the reading activity? When did this occur? Why? Do they request reading outside of the reading time? Do you think they read on their own? Are they more excited for library time? Any changes in the attitudes between the boys and the girls? Do you think this has anything to do with the choice of the story? No Change (1) Vocabulary understanding.

Please write the students' names that you notice in Class A or Class B

Do they make the sounds and actions outside of the reading time? Do you hear the vocabulary outside of the reading time? Can the students remember and write the words? Do the students ask about the vocabulary?

(1) Interest and engagement during the reading activity.

Please write the students' names that you notice in Class A or Class B

Who is focused and engaged? Who does not speak during the reading activity? Are the students focused and do they speak out at least once or twice? Are the students focused, but easily distracted and lose concentration at least once? The students are not engaged and not listening. The students are moving, but are actively listening. The students are imitating the actions and sounds, and responding to the TPR method. (1) Listening skills

Please write the students' names that you notice in Class A or Class B

The students are listening and are interactive with all of the words during the reading sessions. The students are only listening and responding (through physical interactions) to the repeated words. However, they forget the words that show up only once. The students are actively listening for the words, but are only remembering to engage with a few words. The students are listening, but are not responding through physical interactions. The students are disengaged, not listening, and looking away. Additional comments. (1) Overall teacher assessment.

Please write the students' names that you notice in Class A or Class B

The students are more engaged in the interactive reading sessions than in the traditional reading sessions. The students prefer:

English or Arabic

The students would benefit more from? How did the reading sessions affect the students' overall vocabulary? How did the reading sessions affect the students' overall listening skills? Additional comments
Appendix C–Classroom Observation Template

Date: __________ Day: __________ Observer Name: ____________

Group Name: ______ Participant Number: _____

Reader: ____________

Book Name: ____________

Vocabulary words: ____________________________________________

| Word | Student response. 1st | Student response. 2nd | Student response. 3rd | Student response. 4th | Student response. 5th |
|------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|

Initial observations prior to the reading session:

Observations during the reading session:

1.1 / 1.2 / 1.3

2.1

3.1

4.1

5.1 / 5.2

6.1

7.1 / 7.2 / 7.3

Observations after the reading session:
Appendix D–Raw Data from the Student Surveys

| Group     | Group          | Code |
|-----------|----------------|------|
| A (control) |                | 1    |
| B (experimental) |            | 2    |

| Gender | Code |
|--------|------|
| Boy    | 0    |
| Girl   | 1    |

**Q: How do you feel when reading?**

| Enjoy | Response | Code |
|-------|----------|------|
|       | Excited  | 4    |
|       | Happy    | 3    |
|       | Nervous  | 2    |
|       | Bored    | 1    |

**Q: How did you feel during THIS reading activity?**

| Current | Response | Code |
|---------|----------|------|
|         | Excited  | 4    |
|         | Happy    | 3    |
|         | Nervous  | 2    |
|         | Bored    | 1    |

**Q: Do you like reading in English or Arabic?**

| Langpref | Response | Code |
|----------|----------|------|
|          | English  | 1    |
|          | Arabic   | 2    |
|          | Both     | 3    |
|          | Don’t know | 88  |

**Q: Do you like reading alone?**

| Readalone | Response | Code |
|-----------|----------|------|
|           | Yes      | 2    |
|           | No       | 0    |
|           | Sometimes | 1   |
| Group | Group Code |
|-------|------------|

**Q: What is your favorite part of a book?**

| Favepart | Response | Code |
|----------|----------|------|
| Pictures |          | 1    |
| Words    |          | 2    |
| Listening|          | 3    |
| Everything|         | 4    |

**Q: Did you learn a new word?**

| Newword | Response   | Code |
|---------|------------|------|
| Yes     |            | 1    |
| No      |            | 0    |
| Don't remember |        | 88   |

**Q: Who do you usually read with?**

| Readwith | Response | Code |
|----------|----------|------|
| Friends  |          | 1    |
| Mom/Dad  |          | 2    |
| Teacher  |          | 3    |
| All      |          | 4    |

| Lang | Language used | Code |
|------|---------------|------|
| English |              | 1    |
| Arabic   |              | 2    |

| _N | Date | Code |
|----|------|------|
|    | 04-Feb| 1    |
|    | 06-Feb| 2    |
|    | 11-Feb| 3    |
|    | 13-Feb| 4    |
|    | 18-Feb| 5    |
|    | 20-Feb| 6    |
|    | 27-Feb| 7    |
|    | 04-Mar| 8    |
|    | 06-Mar| 9    |
|    | 11-Mar| 10   |

**Q: How do you feel when reading?**

(Continued)
| Group | Code | Group | Code |
|-------|------|-------|------|
| Enjoy |       | Response |       |
|       |       | Excited | 4    |
|       |       | Happy   | 3    |
|       |       | Nervous | 2    |
|       |       | Bored   | 1    |

Q: How did you feel during THIS reading activity?

| Current | Response | Code |
|---------|----------|------|
|         | Excited  | 4    |
|         | Happy    | 3    |
|         | Nervous  | 2    |
|         | Bored    | 1    |

Q: Do you like reading in English or Arabic?

| Langpref | Response | Code |
|----------|----------|------|
|          | English  | 1    |
|          | Arabic   | 2    |
|          | Both     | 3    |
|          | Don't know | 88 |

Q: Do you like reading alone?

| Readalone | Response | Code |
|-----------|----------|------|
|           | Yes      | 2    |
|           | No       | 0    |
|           | Sometimes| 1    |

Q: What is your favorite part of a book?

| Favepart | Response | Code |
|----------|----------|------|
|          | Pictures | 1    |
|          | Words    | 2    |
|          | Listening| 3    |
|          | Everything| 4   |

Q: Did you learn a new word?

| Newword | Response | Code |
|---------|----------|------|
|         | Yes      | 1    |
|         | No       | 0    |
|         | Don't remember | 88 |

Q: Who do you usually read with?

| Readwith | Response | Code |
|----------|----------|------|
|          | Friends  | 1    |
| Group      | Group      | Code |
|------------|------------|------|
| Mom/Dad    |            | 2    |
| Teacher    |            | 3    |
| All        |            | 4    |
| Lang       | Language used | Code |
| English    |            | 1    |
| Arabic     |            | 2    |
| _N         | Date       | N    |
| 04-Feb     |            | 1    |
| 06-Feb     |            | 2    |
| 11-Feb     |            | 3    |
| 13-Feb     |            | 4    |
| 18-Feb     |            | 5    |
| 20-Feb     |            | 6    |
| 27-Feb     |            | 7    |
| 04-Mar     |            | 8    |
| 06-Mar     |            | 9    |
| 11-Mar     |            | 10   |
## Appendix E–Raw Data from the Teacher Surveys

| Group | Code |
|-------|------|
| A (control) | 1 |
| B (experimental) | 2 |

### Q: Response to reading activities (teacher survey)

| Response       | Code |
|----------------|------|
| Over excited   | 5    |
| Energetic      | 4    |
| Motivated      | 3    |
| Focused        | 2    |
| Not interested | 1    |
| No change      | 0    |

### Q: Overall mood (teacher survey)

| Mood          | Response | Code |
|---------------|----------|------|
| Happy         | 1        |
| Sad           | 2        |
| Bored         | 3        |
| Angry         | 4        |
| Confused      | 5        |
| No change     | 0        |

### Q: Interest and engagement during the survey (teacher survey)

| Engage         | Response                                         | Code |
|----------------|--------------------------------------------------|------|
| Imitating      | 6                                                |
| Focused and engaged | 5                                      |
| Focused but speaks out | 4            |
| Listening but easily distracted | 3          |
| Moving but listening | 2         |
| Not engaged    | 1                                                |

### Q: Listening skills (teacher survey)

| Listen                     | Response                                   | Code |
|----------------------------|--------------------------------------------|------|
| Listening with comprehension | 5                                          |
| Listening with engagement  | 4                                          |
| Listening with limited engagement | 3            |
| Listening but not engaged | 2                                          |
| Not listening              | 1                                          |

### Language used

| Lang | Language used | Code |
|------|---------------|------|
| English | 1           |
| Arabic  | 2            |

### Date

| N  | Date       | |
|----|------------|---|
| 04-Feb | 1          |
| 06-Feb | 2          |
| 11-Feb | 3          |
| 13-Feb | 4          |
| 18-Feb | 5          |
| 20-Feb | 6          |
| 27-Feb | 7          |

(Continued)
Appendix F–Raw Data from the Observation Notes

| Group | Group | Code |
|-------|-------|------|
| 04-Mar |       | 8    |
| 06-Mar |       | 9    |
| 11-Mar |       | 10   |

| Session | First use | All uses |
|---------|-----------|----------|
| 1       | 62.5%     | 73.6%    |
| 2       | 45.7%     | 54.2%    |
| 3       | 81.3%     | 81.3%    |
| 4       | 83.3%     | 88.8%    |
| 5       | 74.3%     | 72.4%    |
| 6       |           |          |
| 7       | 57.1%     | 63.6%    |
| 8       | 50.0%     | 53.0%    |
| 9       | 83.3%     | 86.7%    |
