Role of metalinguistic awareness intraining for reading: a quasi-experimental study with Saudi EFL learners [version 1; peer review: 1 approved, 1 approved with reservations]

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Abstract
Background
Metalinguistic awareness plays an important role in developing foreign learners' repertoire in the underlying system of the target language. Therefore, this study addresses the research gap in the Saudi context regarding the role of metalinguistic awareness in teaching reading comprehension. Moreover, it also verifies the level of application of metalinguistic strategies in the English as a first language (EFL) classroom.

Methods
The study employs a quasi-experimental research design with 70 EFL Saudi learners at Hail University as the participants. The duration of the experiment was twelve weeks and results are compared between control and experimental groups who were tested for homogeneity by administering the TOEFL reading comprehension test. The impact of metalinguistic awareness in developing Saudi learners' reading comprehension skills was verified by administering a questionnaire to the participants.

Results
The findings of the study show that the reading abilities of both groups of learners developed, but the development in the experimental group was significant. Planning was not enhanced in either the experimental or control group, monitoring and assessment were enhanced only in the experimental group.

Conclusions
Consequent to the findings the study recommends that EFL instructors directly train their students on metacognitive strategies to improve their reading comprehension.
Keywords
Language Learning, Metalinguistic Awareness, Saudi EFL Learners, Reading Comprehension, Training

This article is included in the IIARP Publications gateway.

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Introduction

Reading ability is the capacity to comprehend and make sense of a written piece or text. It provides a link between the passive and active readers, as well as a critical relationship between them and successful reading, which is vital for a fulfilling academic, professional, and personal life. It is the process of obtaining and constructing meaning from written language via interaction and participation with the text (Pourhosein Gilakjani & Sabouri, 2016). Because knowledge is provided in text form across the globe, learners must be able to read fluently in order to succeed in institutionalized education. In addition to providing photographs for visual reference, print media such as websites and books as well as magazines and newspapers are used to communicate information to the reader (Cimmiyotti, 2013). Reading ability is a complicated cognitive task, and different components of metalinguistic awareness are beneficial for successful reading in different situations.

Many previous studies have presented evidence that metalinguistic awareness and reading fluency may be used to predict reading comprehension in a variety of situations (Akbulut, 2019; Dong et al., 2020; Li & Wu, 2015). Metalinguistic awareness is defined as the understanding that a person has necessary to transform language in a variety of ways. In other words, it is a person’s ability to control language. As described by the Oxford Dictionary, metalinguistic awareness is the ability to separate oneself from the content of communication to reflect on and modify the structure of language. According to Altman et al. (2018), metalinguistic awareness, which demands the speaker to pay attention to the structure and form of the language, emerges in the later stages of language acquisition, around the age of 5–6 years, and builds on linguistic information acquired earlier in life.

Having a strong sense of metalinguistic awareness is essential for multilingual competency, and it distinguishes speakers of numerous languages from those who only know one or two languages. Language awareness refers to a speaker’s ability to approach and see language in abstract terms, as well as to analyze and comprehend language as a system or object that can be worked with and controlled (Al-Ahdal, 2020; Alfallaj, 2020; Hofer & Jessner, 2019; Kitishat et al., 2020). According to the author’s knowledge, however, though there are many studies that focused on metalinguistic awareness and reading comprehension, none have examined the use impact of metalinguistic awareness (Akbulut, 2019; Dalona & Dalona, 2019; Dong et al., 2020; Li & Wu, 2015), in developing EFL Saudi learners’ reading comprehension (Al-Ahdal, 2020; Amin, 2019) in addition to the enhancement in the sub-skills of planning, monitoring and assessment in quasi-experimental study design. This study is inspired by Habibian (2015) who checked whether explicit teaching of metacognitive strategies urges learners to use them in text comprehension in a Malaysian context. The current study verifies the use of these strategies in a Saudi context and also checks which ones of the three sub-elements are developed and which one is enhanced as a result of the intervention.

Literature review

According to Sinar (2018), metalinguistic awareness can be compared to a large, benevolent giant. It entails a greater awareness of competence achievement at phonology level in rhymes, syllables and phonemes, in addition to acquiring meaning bearing components whether morphological, words leading to syntax-like phrases, and sentences and semantics as denotation, or connotation, ambiguities and at the level of figurative language as metaphor, idioms and the like. All of these factors contribute to ensuring understanding during reading and give the reader alternatives for repairing comprehension or forming predictions and inferences when comprehension fails or is not completely realized. Similarly, Zhang et al. (2017) believed that the acquisition of reading skills is basically metalinguistic in nature. Considering print as a representation of the spoken language, the capacity to reflect on and control diverse linguistic components, referred to as metalinguistic awareness, is essential in the process of learning to read. Moreover, the findings of Yang et al. (2019) are particularly significant because they provide further evidence that, even though metalinguistic skills such as phonological awareness and orthographic knowledge are still in the early stages of development in early childhood, they play bridging roles in reading among beginning readers. Tighe et al. (2019) in the findings of their recent study on children has demonstrated that metalinguistic abilities have a direct and/or indirect influence (by word reading and/or vocabulary skills) on reading comprehension across various grades and across a range of diverse language backgrounds. As stated by Dong et al. (2020), when it comes to cognitive characteristics that predict reading comprehension ability through decoding and word recognition on the single-word or single-character cognition process, metalinguistic awareness has been identified as a major component. Zhang et al. (2017) conducted a longitudinal study to investigate the morphological and phonological awareness of young Singapore learners in reading bilingual words. Findings showed that all elements of metalinguistic awareness were boosted significantly and considered as predictors of word reading concurrently in the two languages.

Research purpose

Generally, this study assesses the role of metalinguistic awareness in training for reading through an experimental study with EFL students. Specifically, it aims to answer the following queries:
1. Is there any significant difference in the students’ reading comprehension test achievement attributable to the intervention between the control and the experimental groups?

2. Is there any significant difference between the two groups in terms of the use of metacognitive strategies at the end of the intervention?

**Methods**

This study verifies the efficacy of the metacognitive approach in reading comprehension using a quasi-experimental design with a pre- and post-test. It was inspired by Habibian’s (2015) study in verifying the role of metacognitive strategies in developing EFL learners’ reading comprehension. It used both a TOEFL reading test as well as a questionnaire to check the participants’ attitudes at the end of the intervention on the impact of metalinguistic awareness in developing Saudi EFL learners’ reading comprehension. It specially tries to identify which one of the four elements of metalinguistic awareness was applied more according to the participants’ attitudes. Ethical procedures were highly taken into the researcher’s consideration. Initially, the researcher got permission to conduct the research at hand from the ethical committee affiliated to the deanship of higher studies from Hail University, and consent letter was submitted to the department of English where the study took place. Moreover, the researcher explained the purpose of the study to the students who also agreed to take role in the study by appearing in the pre- and post-TOEFL exams. Furthermore, students were assured that all their information will remain confidential and just be used for the purpose of the study at hand, and if they want to know about the findings of the study, the researcher will support them with the study outcome as soon as she finishes.

**Participants**

The number of participants in this study is 70, with 35 each constituting the experimental and control groups. All participants are enrolled at the English department, Hail University. This is a purposefully chosen sample, i.e. the sample was chosen with the specific research objective in mind (Creswell, 2014). Purposeful sampling may be implemented in a variety of ways. In this study, criterion-based sampling was applied to ensure the quality of the results. Accordingly, the first-level students at the English Department were chosen as subjects for this study. Students at this level are assumed to be unfamiliar with metacognitive techniques. Using criterion-based sampling was deemed the most suitable to conduct this inquiry.

**Procedures**

Initially, both experimental and control group were administered a TOEFL test of reading comprehension skills to check their homogeneity. Only the experimental group received instruction in metacognitive methods, while the control group was taught the reading course traditionally. The former received instructions on how to read in order to encourage active engagement of students. Both the teacher and participants considered the pragmatic aspects of the situation in order to provide reliable results. Metacognitive strategies were taught three times a week, for an hour each time, to the experimental group. Students were given three categories of information: declarative knowledge (learning what strategies are), situational knowledge (learning where strategies might be used), and procedural knowledge (learning how to apply strategies). The data were collected after a 12-week period of metacognitive instruction through a questionnaire.

**Instrument**

The following is a short description of the instruments employed in this study: A TOEFL test extracted from the book “Building Skills for the TOEFL iBT, Beginning Reading” by Edmunds et al. (2009). It was clearly cited in the list of references. All the questions used for the pre-test were multiple choice type and the aim was to ascertain whether or not the students’ reading abilities were similar. The same TOEFL test was also used in the post-test to check the enhancement, if any, in the students’ reading comprehension skills. Each test contained 10 questions and no modifications were made in the original test. The test checks some reading strategies in the students’ comprehension including the meaning of certain vocabulary, the topic of a paragraph, detailed information, referent of a pronoun, comprehending the inference of a paragraph, the synonyms of a word, summary of a paragraph, inclusion of a sentence inside a paragraph, and summarizing the whole text in a few sentences. All the participants had to take reading exams at the beginning of the term. The assessments were designed to test students’ reading comprehension and ensure that the two groups were taught at the same level of understanding. Moreover, Beyer’s (1987) metacognitive strategy questionnaire was employed in this study to assess metacognitive methods by employing the four-point Likert Scale (Never, Rarely, Often, and Always numerically converted to 1, 2, 3, 4 to quantify the results) for responses. The questionnaire is designed to obtain data on how students plan, monitor, and analyze their own progress while they learn a new language. As part of the pilot study, the questionnaire was administered to 12 students who shared demographics with the sample but were not included in the final survey. The reliability of the questionnaire used to assess metacognitive strategy was determined to be 0.85%. The questionnaire responses were interpreted using the proposed guide to determine their awareness of metacognitive.
Results and discussion
As stated earlier, all the participants took a TOEFL reading comprehension test before the program started to make sure they shared reading comprehension level. Both the experimental and control groups had almost the same mean scores. The categorization of the two groups is appropriate since both groups had the same reading comprehension level. Table 1 shows that the experimental group scored an average of 10.28 in the pretest while the control group scored marginally lower at 10.12. However, the difference is not significance, since the Sig. value is 0.34 which is greater than 0.05.

Prior to and during the course, participants were tested on their reading comprehension. Table 2 shows no significant difference between the two tests at the significance level of .001 according to the t-test.

Experimental and control group use of metacognitive strategies
For the experimental group, Table 3 shows that participants’ mean score of planning strategy use before and after training did not increase. As a result, the total mean score of monitoring (5.45, 11.35) and assessment (2.65, 7.01) may be interpreted to mean that the reading strategy use increased due to metacognitive strategy instruction. Monitoring and assessment strategies included the following: keeping the goal in mind, finding errors and determining when a sub-goal is met, identifying how to become free from errors, keeping one’s space in sequence, choosing the next appropriate operations, and determining when to proceed. There are no significant changes in the control group when it comes to planning, monitoring, and assessment. Preparation strategies included the following steps: defining the goal, selecting an

Table 1. Pretest result of the two groups.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>T-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>35</td>
<td>10.28</td>
<td>3.28</td>
<td>0.34</td>
</tr>
<tr>
<td>Control group</td>
<td>35</td>
<td>10.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Scores of both groups in pre-test and post-tests.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>T-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>35</td>
<td>10.28</td>
<td>11.43</td>
<td>0.000</td>
</tr>
<tr>
<td>Control group</td>
<td>35</td>
<td>10.12</td>
<td>3.45</td>
<td>0.030</td>
</tr>
</tbody>
</table>

Table 3. The experimental and control group's use of metacognitive strategies in pre- and post-tests.

<table>
<thead>
<tr>
<th>Metacognitive strategies</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Experimental group (Planning)</td>
<td>6.33</td>
<td>1.23</td>
</tr>
<tr>
<td>Control group (Planning)</td>
<td>5.56</td>
<td>1.32</td>
</tr>
<tr>
<td>Experimental group (Monitoring)</td>
<td>5.45</td>
<td>1.43</td>
</tr>
<tr>
<td>Control group (Monitoring)</td>
<td>5.65</td>
<td>1.56</td>
</tr>
<tr>
<td>Experimental group (Assessment)</td>
<td>2.56</td>
<td>1.65</td>
</tr>
<tr>
<td>Control group (Assessment)</td>
<td>4.76</td>
<td>1.78</td>
</tr>
</tbody>
</table>
operation, predicting desirable results, identifying likely mistakes, and planning how to recover from errors. Metacognitive approaches were studied before and after the test to see whether explicit instruction had an effect.

Students’ performance in the experimental group improved when they are closely observed and evaluated, according to Table 4. Consequent to the training, the participants also utilize a larger variety of strategies. Monitoring and assessment are shown in Table 4 to have a significant impact on performance in the experimental group when compared to the control group. After training sessions, the former employs more strategies than they previously did. According to Table 4, there is no significant difference between the experimental group and control groups for planning in the pre- and post-tests: the Sig. values are (0.286, & 0.194), i.e., Sig. values >0.05. For the second element of metalinguistic awareness, i.e., monitoring, Table 4 shows that the difference is significant between the levels of application of this strategy only in the experimental groups. Sig. values are (0.000). Finally, for assessment the Sig values are (0.000 & 0.147). It is only significant in the experimental group.

Teaching metacognitive strategies proved effective in promoting the use of these tactics, according to the findings. Explicit instruction in these strategies is likely to enhance students’ comprehension scores on reading comprehension tests, based on the results of this study. As is reflected in the data, following training, the experimental group outperformed the control group and employed more monitoring and assessment processes than the control group. This finding is confirmed by Habibian’s (2015) who found that Singapore young learners began to use monitoring and assessment as a result of explicit training in metacognitive awareness. A person’s metacognitive talents allow him or her to choose and employ acceptable methods. Metacognitive training seems to have enhanced students’ reading comprehension. According to the findings of this study, metacognitive strategies may help students become more self-aware and better comprehend the language world around them. Using these approaches more often shows their value and usefulness once they are taught as in the present case scenario. Providing students with regular teaching on this method may help them build a habit of using these strategies when reading. Metacognitive awareness shows that students who are familiar with these approaches expect them to be effective in the classroom. As a consequence, it is impossible to exaggerate the significance of a positive reading attitude in the classroom.

As stated by Amin (2019), it is reasonable to regard reading as the ultimate collaborative skill to be employed in school and throughout life. To seek information, acquire knowledge, and read books, English is required and is frequently employed as the medium of teaching in higher education. Reading is a critical life skill that contributes to a child’s success.

| Table 4. Test of difference between experimental and control group in pre-test and post-test. |
|---------------------------------|-------|-------|-------|------|------|
| **Experimental group (Planning)** | N     | Mean  | Std. Deviation | T-value | Sig. |
| Pre-test                        | 24    | 6.30  | 1.236           | 0.286   |      |
| Post-test                       |       | 6.02  | 1.186           |         |      |
| **Control group (Planning)**    |       |       |                 |         |      |
| Pre-test                        | 24    | 5.97  | 1.159           | 0.194   |      |
| Post-test                       |       | 5.80  | 1.128           |         |      |
| **Experimental group (Monitoring)** |       |       |                 |         |      |
| Pre-test                        | 24    | 5.23  | 1.775           | 0.000   |      |
| Post-test                       |       | 13.80 | 2.524           |         |      |
| **Control group (Monitoring)**  |       |       |                 |         |      |
| Pre-test                        | 24    | 5.65  | 1.112           | 0.999   |      |
| Post-test                       |       | 5.76  | 1.214           |         |      |
| **Experimental group (Assessment)** |       |       |                 |         |      |
| Pre-test                        | 24    | 2.67  | 1.398           | 0.000   |      |
| Post-test                       |       | 7.00  | 1.640           |         |      |
| **Control group (Assessment)**  |       |       |                 |         |      |
| Pre-test                        | 24    | 4.86  | 1.102           | 0.147   |      |
| Post-test                       |       | 5.08  | 1.118           |         |      |
in school and later in life. In elementary sections, children must develop a variety of reading skills. According to Good et al. (2019), the major problem facing general education instructors and students in grades one through three is the learning of fundamental reading abilities. Nothing in education is more widely used as a measure to judge the effectiveness of schooling than literacy, which is founded on a solid foundation of fundamental reading abilities. Cirino et al. (2019) confirmed that for reading comprehension to be successful, a significant amount of time and effort must be put in, particularly when the text content or the words themselves are challenging. Students are expected to read more independently and to utilize reading to grasp topics in content courses beyond the early elementary grades, which is frequently the case during the first few years of school.

Izadi and Yarahmadzehi (2018) found that Baluch respondents in English detected and corrected a larger proportion of grammatical mistakes than Persian respondents in a study on metalinguistic awareness of students studying English. Furthermore, Baluch participants fixed errors in a more grammar-focused manner than Persian participants, who repaired errors in a more content-oriented manner. Although the differences were not statistically significant in this example, Baluch participants supplied a plentynumber of errors explanations and a more grammar-centredmethodology than Iranian participants in terms of error explanation. These differences were discovered on factors that were both comparable and different across the three languages. Dalona and Dalona (2019) investigated the metalinguistic awareness of multilingual first graders, and the findings showed that the children’s metalinguistic awareness is average. Grade 1 multilingual learners still need to improve their linguistic skill in English and Filipino, particularly in identifying syntactic errors, because they will be using these languages in their future academic pursuits. The study also asserts that early school-age children’s Cebuano metalinguistic knowledge helps them complete their linguistic tasks in Filipino and English. Similarly, Woll (2019) investigated how French people perceive their mother tongue. In the meta-semantic half of the exam, greater than one third of participants achieved the toplevel of metalinguistic analysis, compared to only 5% in the meta-grammatical half. This tendency may be associated with the fact that direct reference to grammatical elements was necessary to get maximum scores in the meta-grammatical segment, but not in the meta-semantic section, according to a study of coding processes.

The purpose of the study of Akbulut (2019) was to determine the effect of morphological therapy on the morphological awareness and reading comprehension skills of students enrolled in a foreign language class. The study employed an experimental approach and comprised 74 freshmen at the Translation & Interpreting Department. The experimental group outperformed the control group in MCT and RCT, as determined by the findings. In other words, the experimental group’s morphological awareness improved significantly; also, their reading comprehension abilities improved significantly. Additionally, it can be stated that the participants profited efficiently and consciously from the explicit morphological awareness training session, which aided in their metalinguistic capacity development. The strength of using video-based in training students on reading comprehensionstrategiesand metalinguistic awareness in learning a target language was investigated by Núñez-Vázquez and Crismán-Pérez (2017) in a non-parametric research. The test was completed by 30 pupils. The cloze test is part of the TAEIS test (Test for the Assessment of the English Language in the School). The results showed that there are statistical differences between school 2 (single videos) and school 3 (many videos or video-based). This presupposes that pupils have more reading practice, that words become more familiar, and that their orthographic vocabulary expands. As a result, pupils learn to play with language, which has an impact on metalinguistic awareness. The goal of the study of Hung and Loh (2020) was to see how cognitive flexibility affects metalinguistic abilities and reading comprehension in elementary school. The cognitive flexibility, metalinguistic skills such as syntactic awareness (word order knowledge), morphosyntactic competence, and discourse awareness (sentence order knowledge), and reading comprehension tests were completed by 49 third-grade primary school students. Reading comprehension is substantially predicted by syntactic awareness, morphosyntactic competence, discourse awareness, and cognitive flexibility, according to the results of hierarchical regression analysis.

Conclusion
This study addressed the research gap in the Saudi context regarding the role of metalinguistic awareness in teaching reading. The study confirmed and validated previous finding of Habibian (2015) in whose study the experimental group outperformed their counterparts in reading comprehension. However, this study found both the control and experimental groups got enhancement in the reading comprehension skills. The difference between the mean score of the control and experimental groups was statistically significant. The study, through the application of a questionnaire found that both monitoring and assessment procedures of the experimental group improved as a result of metacognitive strategy training that they were exposed to. However, the improvement in planning was not significant. In the control group, students got enhancement in the monitoring procedures while improvement was not significant in planning and assessment. This finding matched with Habibian’s (2015). Accordingly, as the experimental group showed enhanced ability in two of the three strategies tested, it can be claimed that this metalinguistic awareness is beneficial, and training learners on these strategies may lead to better reading comprehension, to put it in other words, the findings from this study indicate that
teaching metacognitive strategies explicitly may help students improve their reading comprehension, and we have data to back up this claim.

As a result of this study, the EFL classroom stands to benefit in several ways. It is essential for students to understand and practice metacognitive procedures, as well as be conscious of their own thoughts and behaviors while implementing them. Teachers can assist their students achieve higher success through training them on metacognitive strategies. The outcomes of this and other previous research (e.g., Akbulut, 2019; Dalona & Dalona, 2019; Núñez-Vázquez & Crismán-Pérez, 2017) may help teachers to achieve their objectives of encouraging students to use these methods to their utmost extent. Students may be taught metacognitive skills to help them become better readers and speakers of their target language. It is hoped that students would be able to take care of their education and grow into self-directed, resourceful learners when they gain these abilities. Practitioners’ ability to learn may be improved by providing teachers with the training, mentoring, and instruction they require to upgrade their skills in this direction. Educators who want to use metacognitive approaches must be aware of the factors that might influence their lesson preparations.

Even with its pronounced success, the study had certain limitations in its conclusions, as well as in its methodology. Due to the fact that only Saudi EFL students were studied, the findings cannot be applied to ESL or other EFL situations. Furthermore, the improvement in students’ final score was modest but not drastic (10.28 into 14.35). Statistically, though, it was significant. It may be argued that the improvement was not exclusively due to the use of metacognitive skills. These may be attributed to the different instructors and other uncontrolled variables. Future studies in this filed need to rule out these obstacles to make the findings more widely usable.

**Data availability**

**Underlying data**

Figshare: Underlying data for ‘Role of metalinguistic awareness intraining for reading: a quasi-experimental study with Saudi EFL learners’

Assessment Questionnaire: [https://doi.org/10.6084/m9.figshare.18925811.v1](https://doi.org/10.6084/m9.figshare.18925811.v1)

Descriptive Analysis: [https://doi.org/10.6084/m9.figshare.18925223.v1](https://doi.org/10.6084/m9.figshare.18925223.v1)

Three Way ANOVA Test: [https://doi.org/10.6084/m9.figshare.18923801.v1](https://doi.org/10.6084/m9.figshare.18923801.v1)

Data are available under the terms of the [Creative Commons Attribution 4.0 International license (CC-BY 4.0)](https://creativecommons.org/licenses/by/4.0/).

**Ethical approval**

The study has been reviewed and approved by the Research Ethics committee (REC) at University of Hail (Letter no. H2021-248, Dated 03/01/2022). This study is inspired by Habibian (2015) who checked whether explicit teaching of metacognitive strategies urges learners to use them in text comprehension in a Malaysian context. The current study verifies the use of these strategies in a Saudi context and also checks which ones of the three sub-elements are developed and which one is enhanced as a result of the intervention.

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Hung CO, Loh EK: Examining the contribution of cognitive flexibility to metalinguistic skills and reading comprehension. Educ. Psychol. 2020; 41: 712–729. [Publisher Full Text]


Open Peer Review

Current Peer Review Status: ?  

Version 1

Reviewer Report 18 May 2022

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Jamal Kaid Mohammed Ali
Department of English, College of Arts, University of Bisha, Bisha, Saudi Arabia

The topic is well-chosen as it deals with an issue that is not over-researched in Applied Linguistics. It is of pedagogic orientation. It addresses "reading" which is considered one of the four English language skills that any learner of English adheres to acquire the language successfully. This type of topic is required as it helps the syllabus makers/designers make the required amendments suggested/recommended for the English language acquisition. However, there seems to be a typo in "Intraining." It should be written as "in Training."

The manuscript is well-presented and well-organized as it follows the standard style of a research paper. The author's clear grasp of academic research is shown throughout the manuscript. Moreover, the study to be conducted followed a quasi-experiment. This research design can be perfect for determining what is best for the population. It gave the researcher power over the variables by being able to control them. The way used by the researcher in writing the introduction is perfect and precise. The introduction seems gradual, smooth, and coherent in employing the main concepts and keywords of the title. It shows the significance of such study to the Saudi context.

The literature review covers the topic appropriately. It demonstrates the most important recent previous studies related to the topic. There is a need, however, for citing more recent studies.

The research questions are clearly stated and fully answered by the instruments employed and the statistical results reached. The methodology section is well-built and framed. It demonstrates all the steps required, such as determining the instrument, participants, and procedures applied in the study. The number of participants in this study being 70 is considered to be a small number for such a study. The references are varied, well-organized and up to date.

In the "results and discussion" section, the manuscript displays the results and findings reached at supported with tables containing all the statistical data. Yet, the problem is with the placement of the tables. It is better to place Table 1 just after the introductory sentence related. Demonstrating the previous studies in this section is perfect as they aim to justify the findings.
The conclusion is well-stated as it restates the purpose of the study and how it is achieved. The conclusion reports the findings of the study. Moreover, it compares and contrasts with Habibian's (2015) study that this research was inspired by. The conclusions drawn are adequately supported by the results.

One last point here. For the paper to be more valuable and inspiring, the author needs to add a section on “Limitations” so that future researchers can work on the gaps pointed out by the author and try to bridge them.

In conclusion, the paper appears to be interesting and flows well. The topic researched is great and would certainly be relevant to many researchers interested in teaching in general and teaching reading in particular.

Is the work clearly and accurately presented and does it cite the current literature?
Yes

Is the study design appropriate and is the work technically sound?
Yes

Are sufficient details of methods and analysis provided to allow replication by others?
Yes

If applicable, is the statistical analysis and its interpretation appropriate?
Yes

Are all the source data underlying the results available to ensure full reproducibility?
Yes

Are the conclusions drawn adequately supported by the results?
Yes

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** Applied Linguistics · Second Language Acquisition · Language Learning Strategies

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Reviewer Report 19 April 2022

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The manuscript is well-written and organized. Both the abstract and the introduction contain the main required moves and gaps. On the other hand, the literature review needs more development by including the studies added to the discussion section. The methodology is good and clear and the conclusion reported the main findings. A few problems need fixing for the improvement of the paper. I will mention them below.

Is the work clearly and accurately presented and does it cite the current literature?

The paper seems interesting and shows good and smooth flow in its parts. The abstract is well-written; it includes all the necessary moves. There are, however, simple points that need to be fixed. Initially, the two words in training have been clubbed in the title; these need to be separated. The introduction is well-presented; it showed the research gap in the Saudi context very satisfactorily.

A few mistakes need to be fixed, though: the definition of “Metalinguistic awareness”: “the understanding that a person has necessary to transform language in a variety of ways”, it seems to me that the word necessary is out of context. Still in the introduction, “According to the author’s knowledge, however, though “, I think the use of two subordinate conjunctions at the same time violates the rule of grammar. One of them should be deleted.

To go back to the above question, the paper cited some of the up-to date literature. Yet, the second sentence in the literature review is very long. It needs division to free the ambiguity. “It entails a greater awareness of competence achievement at phonology level in rhymes, syllables and phonemes, in addition to acquiring meaning bearing components whether morphological, words leading to syntax-like phrases, and sentences and semantics as denotation, or connotation, ambiguities and at the level of figurative language as metaphor, idioms and the like”.

Is the study design appropriate and does the work have academic merit?

The study would be of significance to scholars interested in metalinguistic studies. The design is also clear, but there seems to be a problem in the instruments “four-point Likert Scale” has been written in place of frequency Scale. A small paragraph on the analysis of data and the type of analysis used needs to be added.

Are all the source data underlying the results available to ensure full reproducibility?

In the discussion, previous studies used to justify the findings should preferably be brought from the literature review. What is noticed is that some studies appeared in the discussion for the first time for example Dalona and Dalona (2019); Woll (2019) and others. Furthermore, the mentioning of previous studies in the discussion should be in brief, not in details. The elaborate explanations are required in the literature not in the discussion. But that is not a big deal. It could go this way, too. Another point could be added to the limitations section: the the sampling mechanism used it was not random.

Are the conclusions drawn adequately supported by the results?
Yes, the conclusion reported the findings of the study. It also compares and contrasts with the study of Habibian’s (2015), another great feather in the author’s cap.

**Is the work clearly and accurately presented and does it cite the current literature?**
Partly

**Is the study design appropriate and is the work technically sound?**
No

**Are sufficient details of methods and analysis provided to allow replication by others?**
Yes

**If applicable, is the statistical analysis and its interpretation appropriate?**
Partly

**Are all the source data underlying the results available to ensure full reproducibility?**
Partly

**Are the conclusions drawn adequately supported by the results?**
Yes

*Competing Interests:* No competing interests were disclosed.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

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