

A CROSS-LINGUISTICS ANALYSIS OF THE ROLES OF LINGUISTIC KNOWLEDGE ON READING COMPREHENSION PERFORMANCE

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Abstract

The purpose of the current study was to find out the roles of linguistic knowledge on reading comprehension performances in Malay as a native language (L1) and in English as a foreign language (EFL). The study involved ten 10th Grade students at a public school in Malaysia. The roles of linguistic knowledge were examined by analyzing the difference in participants' reading comprehension performances in two conditions: Timed and Untimed reading of texts and completing the reading comprehension tasks. Two reading comprehension texts were used in the study: A text in the participants' native language (L1) and a text in the EFL. The reading procedures and the administration of comprehension tasks for both texts were similar for the Timed and Untimed conditions. The Timed condition duration was determined using Leslie & Caldwell's (2004, 2006) coding for grade-level fluency rate. A set of reading comprehension items for each reading text was constructed based on the selected texts and validated by two experts in both languages respectively. A scoring system was constructed in scoring the comprehension items for both texts. The comprehension scores for each participant obtained in both conditions were compared. The findings show that the participants' reading comprehension scores in the Untimed and Timed conditions for the L1 text are significantly better than their scores in the Timed and Untimed conditions for the L2 text. Based on the findings, it is inferred that the linguistic knowledge in the language of the text has its share in determining one's reading comprehension performance. The findings in this study have implications in curriculum design and procedure on the importance to include instructional elements that help enhance students' linguistic knowledge.

Keywords: Reading comprehension, linguistic knowledge, comprehension performance, cross-linguistics

1 INTRODUCTION

Comprehension occurs as a result of a successful interaction between the reader and the text. During a reading process, students depend on their linguistic knowledge and background to construct the meaning intended by the author in the text. Therefore, possessing appropriate linguistic knowledge is a significant prerequisite for being a competent reader as the success of a reading activity largely depends on the reader's background knowledge and understanding of the words in the language. The knowledge on word meanings and the ability to understand information contained in reading materials efficiently are essential characteristics for successful reading comprehension. Moghadam, Zainal and Ghaderpour (2012) indicated that readers who encounter a lot of unknown words in their reading process would hinder the extraction of vital and relevant information and this contributes to reading comprehension breakdowns. Read (2004) also mentioned that second language readers in particular are conscious of their limitation on word knowledge as they are aware this deficit would lead to comprehension glitches in the reading process.

Linguistic knowledge as explained by Wren, et. al (2000) is supported by three basic elements, which are phonology, syntax and semantics. In terms of phonology, a reader needs to understand by being able to hear, distinguish and categorise the sounds in speech. Syntax requires one to be implicitly familiar with the words make phrases and sentences and semantics means one must be able to understand the meaning of individual words and sentences and the meaningful relations between them. From another view, van

Gelderen et. al (2003) defined linguistic knowledge as being the knowledge of vocabulary and grammar. Koda (2007) and Singhal (1998) reiterate that reading necessitates linguistic knowledge and reading ability enhances linguistic knowledge expansion, thus making these two components interdependent. Based on the brief descriptions above, linguistic knowledge is knowledge in relation to the understanding of words and its role in understanding a reading passage and thus linguistic knowledge is deemed fundamental for successful and meaningful reading comprehension.

In the Malaysian context, it was found that Malaysian secondary school students who are often proficient readers in their L1 and not necessarily efficient readers in English which is their L2 (Maarof & Yaacob, 2011). From a different view, Goh and Hashim (2003) investigate the extent of first language (L1) use while processing second language (L2) texts in a collaborative situation among tertiary ESL learners. The findings of the study demonstrate that students applied L1 while reading L2 texts particularly in group reading. In addition, the use of L1 has assisted students in reducing affective barriers and they gained more confidence in handling the L2 texts. Mohamad Ali (2013) analysed ESL students' reasoning processing strategies in taking critical reading-thinking tests in their first and second language.

Due to the scarcity of studies on linguistic knowledge and its role in reading comprehension in the Malaysian context, this study is aimed to investigate the role of linguistic knowledge on reading comprehension performances in their L1 and L2 among students in a Malaysian secondary school. Since this study examined reading comprehension in L1 and L2, the findings of this study may have implications on L2 reading instruction, not only in the Malaysian setting, but also in other relevant L2 settings.

2 METHODOLOGY

The purpose of the current study was to find out the role of linguistic knowledge in reading comprehension for timed and untimed reading conditions between two languages; the native language (L1) and English as a foreign language (EFL). In doing so, a comparison was made between the participants' reading comprehension performances when reading in L1 and L2 with regards to their performances on the vocabulary in context tests for the same reading texts. This study was guided by the following research questions:

1. How does linguistic knowledge affect the overall reading comprehension performance for the timed and untimed reading condition when reading in L1 texts?
2. How does linguistic knowledge affect the overall reading comprehension performance for the timed and untimed reading condition when reading in the EFL texts?

2.1 Samples

Ten EFL upper secondary school students of mixed gender were purposely sampled. The participants were of mixed levels of EFL proficiency. Malay is their native language or L1 while English a foreign language taught in the Malaysian school beginning from the 1st grade in elementary school.

2.2 Instrument

Two reading comprehension passages in L1 and EFL respectively were selected purposely as the reading text instruments of the study. The selection was also based on several criteria; authenticity, grade-level appropriateness and level of linguistic complexity. The grade-level coding was based on Leslie and Caldwell (2004, 2006). The length of each text was between 460-490 words which is equivalent to a 10th grade-level text according to Leslie and Caldwell's coding on grade-level reading passage. A set of general reading comprehension questions was constructed for each reading comprehension text. The reading comprehension questions were primarily on identifying main ideas, identifying details and making inference. The questions were assessed by an EFL expert in terms of construct validity with an index of 0.85.

2.3 Data Collection

The reading of each text and reading comprehension tasks were administered to each participant on individual basis. Each participant has to undergo four sessions in reading each text in two different conditions as presented in Table 1.

Table 1: The Matrix of Text Reading and Administration of Comprehension Tasks

Text	Condition 1	Timed Performance	Condition 2	Untimed Performance
L1 (Malay text)	Timed Reading	Comprehension Task	Untimed Reading	Comprehension Task
EFL (English text)	Timed Reading	Comprehension Task	Untimed Reading	Comprehension Task

For the timed reading, the task administrator stopped each participant after 10 minutes and he/she was given 10 minutes. For the timed reading session, the reading text was collected immediately after the time was up. For the untimed reading session, the participants were allowed to read both reading texts and do the comprehension tests for an unlimited time. In the untimed condition, the participants were allowed to refer to the text when carrying out the comprehension tests task.

2.4 Data Analysis

Each comprehension test item carries 1 mark for every full correct answer. For a partially correct answer for each item, a half mark was awarded. No mark was awarded for wrong answers or if the participant did not provide any answer for any of the comprehension test items. The total scores of the comprehension tasks for both L1 and EFL were compared to infer the roles of linguistic knowledge on reading comprehension performance on different languages of the texts.

3 FINDINGS

The findings are presented according to the research questions.

RQ1: How does linguistic knowledge affect the overall reading comprehension performance for the timed and untimed reading condition when reading in L1 texts?

To answer the first research question, Tables 2 and 3 were generated.

Table 2: Overall Reading Comprehension Scores in Timed Reading Condition for L1 Text

Participants	Marks	Percentage (%)
1	4.5	56
2	4	50
3	1	13
4	4	50
5	4	50
6	5	63
7	4	50
8	4	50
9	4	50
10	6	75

Table 2 exhibits the findings for 4 comprehension questions in L1 text during Timed Reading Condition. The total score for the L1 reading comprehension questions is 8 and the findings demonstrate that majority of the participants (6 out of 10) scored 50% from the total score. Participant 3 received the lowest score (13%) and participant 10 scored the highest with 75%. Since only 10 minutes was given to read the text and another 10 minutes to attempt the questions, participants probably felt that there was not enough time to process some of the difficult words encountered.

Table 3: Overall Reading Comprehension Scores in Untimed Reading Condition for L1 Text

Participants	Marks	Percentage (%)
1	4	50
2	4.5	56
3	5	63
4	6	75
5	5	63

6	6	75
7	5	63
8	5	63
9	5	53
10	4.5	56

Table 3 displays the score for the same set of reading comprehension questions as in Table 2 but these findings were generated from the Untimed Reading Condition. All 10 participants managed to score 50% and higher during this session compared to the previous session in Table 2. This might indicate that the participants were more comfortable and confident answering the same set of questions in the Untimed Reading Condition as more time was given to process the meaning of difficult words and to better understand the text given.

RQ2: How does linguistic knowledge affect the overall reading comprehension performance for the timed and untimed reading condition when reading the EFL texts?

Tables 4 and 5 were generated to answer the second research question.

Table 4: Overall Reading Comprehension Scores in Timed Reading Condition for the EFL Text

Participants	Marks	Percentage (%)
1	2	15
2	4	31
3	4	31
4	5	38
5	5	38
6	4	31
7	4	31
8	5	38
9	1	8
10	3	23

Table 4 exhibits the participants' scores in reading comprehension for the EFL text during the Timed Reading Condition. The total score for the EFL text is 13 and only 3 participants secured 5 marks (38%). The lowest score was by participant 9 whereby only 8% (1m) was obtained. In comparison with the L1 text in the same session, the slight decrease in the score for EFL text might indicate that the participants were having more difficulties in processing the EFL text. This also shows that the participants' might have weak linguistic knowledge in EFL as they could not obtain an equivalent score with the L1 text in a similar session.

Table 5: Overall Reading Comprehension Scores in Untimed Reading Condition for the EFL Text

Participants	Marks	Percentage (%)
1	5	38
2	5	38
3	4	31
4	7	54
5	5	38
6	5	38
7	6	46
8	5	38
9	2.5	19
10	4	31

Table 5 demonstrates the findings in the Untimed Reading Condition for EFL text and the scores suggest that the participants managed to obtain a slightly higher score compared to the previous findings as depicted in Table 4. 2 participants secured 6 marks (46%) and 7 marks (54%) respectively. This was probably due to

the fact that when more time is permitted to process reading comprehension text, participants could perform higher in understanding the difficult words in the EFL text.

4 DISCUSSION

The findings in this study suggest that linguistic knowledge does have its share in affecting reading comprehension performance. As mentioned in the introduction, linguistic knowledge comprises of various elements in language and one of the definitions of linguistic knowledge is vocabulary and grammar. Gunning (2005) mentioned that a deficit in vocabulary knowledge is one of the major contributing factors for reading comprehension breakdown. Some researches also expound that linguistic knowledge and reading comprehension are closely related and has strong correlation (Baker, 1995; Nagy & Herman, 1987; Nelson-Herber, 1986). This could be one of the underlying reasons why some of the participants could obtain a high score for the L1 text but were not able to score the same for the EFL text.

With close reference to Tables 2 and 3, which answers the first research question, the findings clearly indicate that the participants could process the reading text when they have more time to use their linguistic knowledge. For example, participant 3 in both Tables 2 and 3 only managed to secure 1 mark in the Timed Reading Condition but her score escalated to 5 marks in the Untimed Reading Condition. The large increase in score means that the participant could activate his or her linguistic knowledge in order to understand the L1 text.

With regards to the participants' performance in the EFL text, which answers Research Question 2, all 10 participants were unsuccessful to secure 50% or half of the total score. In the Timed Reading Condition only 3 participants obtained 5 marks (38%) and majority scored below than 35% and Participant 9 scored the lowest with 1 mark. In comparison to the scores in the Untimed Reading Condition, the participants scored slightly higher where there are 5 participants scoring 38%, 1 participant scoring 6 marks (46%) and 1 scored 7 marks (54%). Again the increase in score between the two sessions might indicate that when extra time is given to process the EFL text, the participants could apply their linguistic knowledge and background to understand the passage and answer the comprehension questions.

Linguistic knowledge such as knowledge in vocabulary and grammar are essential for successful reading comprehension (e.g., van Gelderen et al. 2003; Sidek, 2013). In both sessions, participants have to apply their linguistic knowledge in processing both the L1 and EFL texts. Since there are two different sessions, Timed and Untimed, a discrete performance could be observed in terms of how the participants scored in both sessions and texts when time is permitted. It is however important to note that all examinations in Malaysia is timed so students must be equipped with a sound linguistic knowledge to process reading comprehension, which is has a major weightage in all examinations. The findings in Maarof and Yaacob's (2011) study in which students who are good readers in L1 do not necessarily be good L2 or EFL readers are also in accordance with this study as the results do show a slight variant in the participants' scores in both L1 and EFL texts.

5 CONCLUSION

The findings in this study signify that linguistic knowledge plays a major role in processing and understanding reading comprehension texts in L1 and EFL. As argued by Gunning (2006) one of the determining factors in successful reading comprehension is linguistic knowledge and thus possessing a sound linguistic knowledge would be an additional criterion. Since reading comprehension is considered one of the important skills tested in the examination, it is imperative that students possess a comprehensive linguistic knowledge in order to perform well in reading comprehension tests. Also mentioned by Droop and Verhoeven (1998), vocabulary and linguistic knowledge showed facilitating effect on reading comprehension and students with a good understanding of words in a language would perform better as they can construct meaning from the reading passages. The discoveries in this study could also lend support to other researches in which linguistic knowledge and reading comprehension are interrelated.

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