Transfer processes in word identification: The case of Arabic ESL learners

AlJuhani, Eman
Department of Applied Linguistics, YUC, Royal Commission of Yanbu, Saudi Arabia
https://doi.org/10.36505/ExLing-2021/12/0005/000478

Abstract

The current study aimed to investigate Arabic ESL students' consonant and vowel recognition in reading English words. The study also examined any dissimilarity in processing lax and tense vowels. A group of 35 Arabic ESL students did two same-different matching judgment tests in order to investigate their accuracy in recognizing vowels (lax and tense). The first same-different matching judgement test showed that Arabic ESL students were more accurate to deleted consonants than to deleted vowels indicating that they are less sensitive to vowels. On the other hand, the second same-different matching judgment test showed that students are less sensitive to vowels in general with no significant difference between lax and tense vowels.
Keywords: Arabic, vowels, identification, ESL learners, language transfer

Introduction

The study is fully supported by a number of scholarly publications. Saigh, Schmitt, (2012) explains that vocabulary acquisition marks the first step for L2 learners. However, most L2 learners ignore word form and focus their attention to word meaning. Bensoussan and Laufer (1984) and Laufer's (1988) findings showed that some resemblances were predominantly unclear for L2 learners, particularly the words that resembled each other, except for suffixes that distinguish words like understand and understandable, and for vowels in words like *adapt* and *adopt*.

Kaushanskaya and Marian (2007) also discussed the role of low-level processing in language transfer process. They argued that word recognition depends on the cognitive and phonetic skills gained from the salient knowledge of L1 orthographic elements (Kaushanskaya, Marian 2007).

Ehri's (2005) reading research findings show that fluency in reading entails direct eye fixations on most words in the text, specifically, the semantic content words. Therefore, he concluded that "the major recurrent process in fluent reading entails word identification" (Ehri 2005). Ehri and Snowling (2004) also undertook a study to examine the development process of word identification.

Methodology

Research design: This study made use of a repeated measures design, also known as a within-subjects design. According to Minke (1997), the repeated

measures design uses the same participants with every condition of the test, and allows the researcher to carry out these tests at different times. The participants of this study were exposed to the same test, where their scores in both tests were recorded and conclusions drawn.

Data Source: The study regards primary data as crucial because it allows the research to record actual happenings as they take place and uses those findings to make deductions. Using DMDX software, I recorded Arabic ESL students' scores and reaction time in detecting missing vowels and consonants in English words in the first test

Sampling: The participants for this study were identified through criterion sampling. Criterion sampling allows for the selection of participants comprising specific characteristics that provide a certain type of information needed to address given research questions (Fraenkel, Wallen, 2009, p.99). The target population of this study included all Arabic ESL students who were enrolled in the Interlink Language Center at Indiana State University in Terre Haute, Indiana. The sampling design of this population was criterion wherein the researcher develops an inclusion criterion and identifies people who fit into the criterion. First, the participants for this study were selected from the population of Arabic students learning English as a second language.

Instrumentation: The same-different matching judgment test is the instrument that was used in this study. The instrument was adopted from Hayes-Harb (2006). The instrument was used on the same subjects twice with a different stimulus condition. Hayes-Harb (2006) used an in-house program at the University of South Carolina to which she no longer had access. Therefore, Hayes-Harb granted me permission to use the instrument and recommended a recent experiment program like DMDX, SuperLab, or E-Prime to collect the data. This study used DMDX to collect data.

Results

The first test included three target conditions: identical, vowel deleted, and consonant deleted. The three target conditions were the independent variables and the independent variables were the accuracy and reaction time. The test was designed in order to answer the following research question: Is there any dissimilarity in the recognition of consonants and vowels of English words in terms of duration and accuracy by Arabic ESL learners?

Reaction time was up to 4000 ms for each answer. Any answer that took longer was calculated as a wrong answer. In test 1, reaction time was longest for the Identical condition (M=2643.04, SD=606.37). The Vowel Deleted condition had a shorter mean reaction time (M=2294.67, SD=678.05), while Consonant Deleted had the fastest reaction times (M=1716.18, SD=420.14). In the same test, as expected, accuracy was best for the Identical condition (M=4.17, SD=.89). However, accuracy for consonant deleted was nearly the same (M=4.14, SD=.912). Accuracy for the Vowel Deleted was much lower

than both the other conditions (M=2.54, SD=1.25), more than 1.6 points lower (see Table 4).

Table 1. Descriptive Statistics for Test 1.

	Reaction Time*		Accuracy**	
	M	*SD*	*M*	*SD*
Identical	2643.04	606.37	4.17	0.89
Consonant Deleted	1716.18	420.14	4.14	0.91
Vowel Deleted	2294.67	678.05	2.54	1.25

Table 2. Descriptive Statistics for Test 2.

	Reaction Time*		Accuracy**	
	M	*SD*	*M*	*SD*
Identical	2810.79	444.97	3.71	1.05
Tense-Vowel Deleted	2600.26	456.65	2.03	1.34
Lax-Vowel Deleted	2696.36	424.57	1.26	1.17

The first test included three target conditions: identical, lax-vowel deleted, and tense-vowel deleted. The three target conditions were the independent variables and the dependent variables were the accuracy and reaction time. The test was designed in order to answer the following research question: Is there any dissimilarity in the recognition of lax and tense vowels of English words in terms of duration and accuracy by Arabic ESL learners?

In Test 2 the identical condition again had a longer response time (M=2810.79, SD=444.97) than the tense-vowel deleted condition (M=2600.26, SD=456.65) and the lax-vowel deleted condition (M=2696.36, SD=424.57), but the deletion conditions were very similar in response time. As expected the deletion conditions resulted in lower performance, with both the tense-vowel deleted condition (M=2.03, SD=1.34) and lax-vowel deleted condition (M=1.26, SD=1.17) much lower than the identical condition (M=3.71, SD=1.05).

Discussion and conclusions

In this study, the focus was on attention given to consonants as well as vowels in identifying English words. Arabic ESL students showed insensitivity towards vowels in reading and trying to identify English words. The study also aimed to

find out if this insensitivity to vowels yielded any dissimilarities between lax and tense vowels. Although vowels remained challenging for ESL students, the differences between the lax and tense vowels was statistically insignificant.

The reason behind the comparision between the lax and tense vowels is that lax vowels are not written in Arabic. Future studies will help further examine the difference in sensitivity to lax and tense vowels in identifying English words. Saigh and Schmitt (2012) concluded that lax vowels tend to be more challenging for Arabic ESL students in spelling. Although this study identified Arabic ESL students' insensitivity to vowels, future studies to show if the insensitivity to vowels yields any dissimilarity between lax and tense vowels using a large sample of Arabic ESL students may further support the findings of this study.

The difference between Arabic ESL students' sensitivity to consonants and vowels and then between lax vowels and tense vowels in reading words impacts their accuracy in identifying English words. One of the important reasons for the study was to understand the gap created between L1 and L2 especially for Arabic ESL students. The outcomes of this study may assist in deriving ways to help the students to understand English as quickly and efficiently as individually possible by identifying specific factors constituting the inaccuracy in reading and identifying English words. This study provided further evidence that the inaccuracy in identifying English words is likely due to the difference between the roles of consonants and vowels in L1 and L2. The students were more accurate in detecting the consonants as they rely on consonants in their L1 to identify words. The results of this study also echo Cummins's (2000) assertion that ESL students apply (L1) processing sequences to the second language they are learning (L2).

References

Abbott, M. 2006. ESL reading strategies: Differences in Arabic and Mandarin speaker test performance. Language Learning, 56(4), 633-663.

Bensoussan, M., Laufer, B. 1984. Lexical guessing in context in English as a foreign language reading comprehension. Journal of Research in Reading, 7(1), 15-32.

Ehri, L. 200). Learning to read words: Theory, findings, and issues. Scientific Studies of Reading, 9(1), 167-188.

Ehri, L., Snowling, M. 2004. Developmental variation in word recognition. In C. Stone, E. Silliman, B. Ehren, K. Apel (Eds.), Handbook of language and literacy (pp. 433–460). New York, NY: Guilford Press.

Kaushanskaya, M., Marian. V. 2007. Bilingual language processing and interference in bilinguals: Evidence from eye tracking and picture naming. Language Learning, 57(1), 119-163.

Laufer, B. 1988. The concept of 'synforms' (similar lexical forms) in vocabulary acquisition. Language and Education, 2(2), 113-132.

Saigh, K., Schmitt, N. 2012. Difficulties with vocabulary word form: The case of Arabic ESL learners. System, 40(1), 24-36.