## Research article: The Role of the Knowledge of Vocabulary and Structure in EFL Reading Comprehension among Iranian Graduate Students: Evaluation of Two Causal Models

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## Abstract

Inability to read in one's language is now too difficult to get along with as there is an increasing hidden inclination by the human beings toward the written language. Every day that we get out of the house we are sieged by the multitudes of notes, billboards and text messages the simple misunderstanding of which might have irreparable consequences. The significance of reading is incomparably higher in the academia as it is through reading that almost every single piece of knowledge is distributed. We do rarely refer to personal communications even with well-known figures of a field as that figure do definitely have written articles and textbooks to which we can refer. Neither do we highly cite from conference presentations as the presented topic, if is of value, should have appeared in a published text format. One might simply imply that the world of academia does not recognize oral knowledge as legitimate unless it is transformed into written form.

Reading academic texts is a more serious concern for non-native speakers of English who need to handle this in a language they are still learning and in which they are not competent. Many of these L2 academic readers have long been focusing on improving their vocabulary and grammar knowledge with the hope that they will help them in reading and even writing. In this article we will investigate this issue to see if, how and to what extent the knowledge of vocabulary and grammar contribute to reading comprehension ability of Iranian graduate students. More specifically, this study intends to answer the following questions:

1. Is there any relationship between vocabulary and grammar knowledge, and reading comprehension ability? If yes, which of the grammar and vocabulary knowledge are better predictors of reading comprehension?

2. Do our data confirm the fitness of the proposed causal models of the relationships between vocabulary, grammar and reading comprehension (and their different sub-abilities)?

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To answer these research questions, a total of 2961 Iranian MA students or graduates and PhD candidate took part in this study. 1107 of the participants were females and 1824 were males. They were all preparing themselves to take part in different English proficiency tests whose score is a necessary condition for admission to PhD programs in Iran. The test they took in this research project was similar in content and length to most of those tests. The test used to collect data in this study comprised of 100 multiple choice items of which 30 were on vocabulary, 40 on grammar and 30 on reading comprehension. The items of the vocabulary section included filing the blank, find the synonym and cloze types; the items of the grammar section included error recognition, fill in the blank and cloze types. Cronbach's alpha index of reliability for the grammar, vocabulary and reading sections as well as the total test were computed and found to be 0.77, 0.77, 0.66, and 0.78 respectively. Participants' answers to the test items were fed into SPSS. Descriptive statistics, correlation and reliability analysis were first used to screen the data. To answer the first research question, multiple regression was employed. The second research question which investigated the fitness of the proposed models was answered using path analysis.

Primary analysis of the data showed that vocabulary, grammar and reading comprehension were significantly correlated not only as three independent variables but also as a number of sub-variables (item types of grammar and vocabulary). Multiple regression revealed that vocabulary, compared to grammar, is a better predictor of reading comprehension. Further analysis also showed that of the item types of vocabulary and grammar, vocabulary cloze, vocabulary synonym, grammar error recognition, vocabulary blank and grammar blank question types were, in order, significant predictors of reading comprehension.

Answering the second research question entailed proposing two causal models. The first one was the simple model which assumed that vocabulary and grammar are causes of reading comprehension ability while vocabulary is also the cause of grammar knowledge. The second model was the more complex one in which we assumed that vocabulary synonym and grammar blank item types as less contextualized measures of these two types of knowledge are causes of more contextualized forms of knowledge which are measured through vocabulary and grammar cloze items which are in turn causes of reading comprehension which is the most context-demanding variable in our study. The two proposed models were evaluated through path analysis using AMOS. Results indicated that both models enjoy good fitness indices and are thus acceptable. Our finding has implications for teaching and assessing reading in academic settings.

Keywords: Reading Comprehension, Vocabulary, Grammar, Structural Model, EFL