

# **The Interdependence between the Process and the Product of Reading in English and Persian**

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## **Abstract**

The aim of the present research was twofold. First, to investigate whether Persian reading skills contribute differentially to English reading performance depending upon amount of exposure to the second language. And second, to investigate the extent to which Persian readers use similar comprehension strategies when reading in L1 and L2 at the three proficiency levels. To answer the questions, 240 Iranian EFL undergraduate students at the Islamic Azad University in Ghaemshahr were randomly selected. First, the TOEFL was administered in order to assign the participants into the three proficiency levels. For measuring L2 reading ability, three English reading cloze tests and for measuring L1 reading ability three Persian cloze tests were used at the three levels. Three English and three Persian reading strategy questionnaires were administered to the subjects immediately after each cloze test. As for the first question, correlational analysis showed that the contribution of first language reading ability to second language reading ability changes significantly depending on the amount of second language exposure. As

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for the second question, one-way ANOVA showed a significant difference in the employment of English reading strategies across the three proficiency levels.

**Keywords:** Threshold and Interdependence Hypothesis, Reading Strategy Use, Iranian EFL Learners, Language Proficiency Levels.

## **Introduction**

While the fact that reading in a second language is difficult for most second language learners had been well established in the literature, it was unclear whether this difficulty stemmed from problems in learning the language or problems in reading:

"Reading in a foreign language: a reading problem or a language problem?" (Alderson, 1984). The question implies that its answer lies in an examination of second language linguistic/grammatical knowledge apart from an examination of first language reading skill and that either facet — L2 knowledge or L1 reading — would be the better predictor of second language reading performance.

The research into the relationship between L1 and L2 reading is divided into two types: the product-oriented and process-oriented studies. Product-oriented studies are "test-based quantitative research". The relationships among the three major variables (L2 reading ability, L1 reading ability,

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and L2 linguistic proficiency) have been mainly examined by correlation and/or multiple regression analysis. Process-oriented studies, on the other hand, are qualitative in nature. These studies use "reading strategies" inferred from verbal protocols obtained by the "think-aloud" method". Another method used in process-oriented research is giving readers a questionnaire and asking readers whether they did things listed in the questionnaire while reading.

### **Statement of the Problem**

We still do not know whether L2 readers process a text similarly or differently in L1 and L2. What is needed is empirical research to explore the nature of L1 and L2 reading comprehension processes. Information about how the same readers cope with reading tasks in L1 and L2 is needed. Evidence can only be obtained from empirical experiments on comprehension processes in L1 and L2 with the same individual readers. The discussion argues that until the question is resolved and its resolution taken into account in future L2 reading studies, the field risks measuring first language knowledge and mistakenly calling it second language knowledge.

### **Research Questions**

Based on the previous discussion in which the problems of mixing L1 reading and L2 reading were pointed out, the following questions are formulated:

*1. Product-oriented research question:*

Do L1 reading skills contribute differentially to L2 reading performance depending upon amount of exposure to the second language?

*2. Process-oriented research question:*

To what extent did Persian readers use similar comprehension strategies when reading in L1 and L2 at the three proficiency levels?

### **Research Hypotheses**

*1. Process-oriented hypothesis:*

There is no significant difference between the amount of variance in L2 (English) reading ability explained by L1 (Persian) reading ability and the amount of variance explained by L2 language ability at the three proficiency levels at 0.01 level of significance.

*2. Product-oriented hypothesis:*

There is no significant difference between the number/types of the reading strategies used by Persian readers at the three proficiency levels when reading texts in L1 and L2 at 0.01 level of significance.

### **State of the Art**

The two hypotheses most commonly associated with second language reading' the Linguistic Threshold Hypothesis (LTH) and the Linguistic Interdependence Hypothesis (LIH)

are used as rhetorical devices in this study. The first hypothesis is that poor reading in the second language is caused by poor reading in the first language. The second hypothesis is that poor reading in the second language is caused by inadequate knowledge of second language, both oral and syntactic i.e. poor reading in the second language occurs when readers have not crossed a threshold of second language ability, beyond which reading strategies from the first language can be applied to second language reading. Alderson (2001) integrated the two hypotheses mentioned above into a question: "Reading in a foreign language: a reading problem or a language problem?" Here "language problem" refers to a weakness in the knowledge and skills required for processing L2 linguistic properties, i.e. orthographic, phonological, lexical, syntactic, and discursal knowledge specific to L2, while "reading problem" refers to a weakness in what is called higher level mental operations such as predicting, analyzing, synthesizing, inferencing, and retrieving relevant background knowledge, which are assumed to operate universally across languages.

### **The Study**

This study revisits the "language problem/reading problem" question by returning to the fundamental research issue as originally posed: the relationship between second language linguistic/grammatical knowledge and first language reading. The purposes of the present research are:

1. First, to examine the theories that the field has at hand;
2. Second, to re-examine previously published data that have contributed explicitly towards a resolution of the question;
3. To provide an additional data set that addresses the question.

## **Method**

### ***Subjects***

In order to provide answers to the research questions above, 240 undergraduate students male and female, majoring in English were randomly selected to take part in the study. While sex and age were not used in the selection procedures, the ratio of male to female and among the various age groups was representative of our enrollment at each of our three levels. The experiment was conducted in Islamic Azad University, Ghaemshahr Branch.

### ***Instrumentation***

Since the present study aims at investigating the common variance between L2 reading ability and L1 reading ability, on one hand, and the common variance between L2 reading ability and L2 language ability, on the other hand; three different measures were used to estimate each trait in isolation.

For measuring L2 reading ability, three English reading cloze tests were used for the three levels. The researcher identified the textbooks students usually studied in their reading courses at the three levels. Ten different passages were randomly selected from each level and their readability levels were calculated using Fry's readability formula. The next step was to select passages with the same readability index. To do this several passages were examined and three passages with appropriate difficulty were selected and turned into cloze tests. A pilot study was conducted to determine the reliability of the English cloze passages. Thirty students took part in the pilot study. The analysis of the data indicated that the tests had acceptable degrees of reliability.

For measuring L1 reading ability also three cloze tests were used. Since text type is a confounding factor and it could potentially influence the results, the Persian texts were decided to be a translation of the English texts. The Persian translations were edited by two professors of Persian language and literature who hold Ph.D. in Persian literature. Fotos (1991) referred to cloze procedure as a good measure of language skills from basic to advanced levels, as it correlates highly with reading comprehension, dictation, and composition. A pilot study was also conducted to determine the reliability of the Persian cloze tests. Subsequent research by Oller, Bowen, Dien, and Mason (1972) extended the technique to tests across languages and provided evidence that the method could be

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used to develop "roughly equivalent tests in different languages by a simple translation procedure."

The Reading Strategy Questionnaires were administered at the three proficiency levels immediately after they answered the English cloze tests. The questionnaires consisted of 24 questions including bottom-up, top-down, and metacognitive strategies in the form of verbal protocols obtained by the "think aloud method" (concurrent verbalization of mental activities as representations of mental operations that readers use during reading.)

### *Procedures*

The different phases of the study are outlined as follows:

First, a test of language proficiency as a foreign language (TOEFL) was administered. According to the scores that the students received, they were assigned to three different proficiency levels. There is a wide discrepancy in the general definitions of these levels, and the reader should be familiar with the criteria we use in assigning students to particular levels. We use standardized test scores as follows (Paulston and Bruner, 1976):

<u>Level</u>	<u>TOEFL examination</u>	<u>Michigan</u>
Beginning	250-350	0-60
Intermediate	350-450	60-75
Advanced	450- 75-	

Second, one week after the administration of the TOEFL, the English cloze tests were administered at the three instructional levels. They were given 30 minutes to answer the English cloze test. The English cloze test was scored using the exact word method.

Third, the English reading strategy questionnaire was administered at the three proficiency levels immediately after they answered the English cloze test.

Fourth, two weeks after the administration of the English cloze test, the Persian cloze test was carried out at the three proficiency levels. They were given 20 minutes to fill in the blanks. The Persian cloze test was also scored using the exact word method.

Fifth, the Persian reading strategy questionnaire was administered at the three proficiency levels immediately after they answered the Persian cloze tests.

Finally, having collected all the data needed from the three proficiency levels, several statistical procedures were used by the researcher to provide answers to the research questions.

## Results

As far as the "product-oriented questions" were concerned, the researcher calculated two correlation coefficients for each proficiency level to determine the degree of relationship between second language reading ability and first language reading ability, on one hand; and the degree of relationship between second language reading ability and

second proficiency, on the other hand. In other words, correlational analysis was used to determine how much of the variability observed in second language reading ability could be explained by first language reading ability and how much of it could be explained by second language proficiency. The results of the correlation coefficients are reported in table 1:

**Table 1** Coefficients of Correlation for the Three Proficiency Levels

Level	$r_{L2RA \& L1RA}$	$r_{L2RA \& L2LA}$
High	0.78	0.86
Mid	0.43	0.81
Low	0.12	0.72

L2RA: Second Language Reading Ability

L1RA: First Language Reading Ability

L2LA: Second Language Language Ability

As is evident from the coefficients of correlation, L2RA and L1RA are highly correlated at the high level ( $r = 0.78$ ), moderately correlated at the mid level ( $r = 0.43$ ), and weakly correlated at the low level ( $r = 0.12$ ), indicating the fact that the amount of first language reading ability influence on second language reading ability varies depending upon the amount of exposure to second language.

## **Discussion and Interpretation**

The linguistic threshold hypothesis and the linguistic interdependence hypothesis both contribute to explaining the relationship between L1 and L2 reading. Although the linguistic threshold hypothesis should still be given priority because of the strong influence of L2 linguistic proficiency on the transfer of L1 reading ability to L2 reading, we can not fully explain the relationship of reading in two languages without integrating the linguistic interdependence hypothesis.

A major finding that emerges is that the participants processed the texts similarly in both languages. They used similar strategies and the occurrences of these strategies in the two languages were comparable. Despite the obvious differences in phonology, syntax and lexicon between L1 and L2, there exists a common conceptual resource that determines an individual's performance in cognitive or academic tasks such as reading (Cummins, 1991, 1984). Beyond decoding or word recognition, comprehending is a more cognitively demanding process involving the coordination of attention, memory, the perceptual, and comprehension processes in which a reader constructs meaning from a written text. In this process, language is no doubt a prime determinant in reading comprehension. However, at the level of constructing meaning of written material, cognitive strategies such as problem-solving strategies used by the readers in this study seem to take

more responsibility. Cognitive strategies appear to underlie comprehension processes in both L1 and L2.

First of all, the findings suggest that the participants in this study used similar strategies to construct meaning of expository texts in L1 and L2. Twenty-four strategies were derived from both participants' comprehension processes in Persian and in English. Second, these readers used the identified strategies and strategy categories with similar frequencies. To reach the primary goal of reading – to understand the text – requires of the readers not just proficiency in the language, but most important, requires them to bring all their cognitive and metacognitive strategies into play. These strategies include problem-solving, predicting, logical analysis, summarizing, and monitoring.

### **Implication and Conclusion**

First, there is an implication for the L2 reading model construction. This has assumed a two-component model of L2 reading: L2 reading ability comprises the sum of L1 reading ability and L2 linguistic ability.

The second implication is for strategy instruction. Teachers should be aware that L2 readers draw on their L1 reading strategies. Although the effectiveness of reading strategy instruction has been fully understood and somewhat conflicting results have been reported (e.g. Barnnet, 1988a, 1988b; Carrel 1985; Kern 1989; Kimara et al., 1993), the closeness of L1 reading processes to L2 reading suggests

that reading strategy instruction might be effective if it is devised so that L2 reading can benefit from their strategies developed in L1. How we can devise such programs and how (or whether) such programs are helpful are questions for future studies.

If indeed second language reading is constrained more strongly by second language proficiency than by first language reading ability, literary teachers should strive to increase their students' language proficiency especially through the acquisition of vocabulary. This is most important at lower levels of reading ability. It is possible that, until students reach a threshold of reading proficiency, reading strategy instruction will not be helpful. Linguistically modified texts that use restricted vocabulary, however, could be employed to help beginning learners read despite their inadequate language proficiency.

The results of this study support the Common Underlying Proficiency Hypothesis and the Universal Hypothesis and provide L2 researchers and L2 instructors with revealing insights into the reading comprehension processes of already-literate L2 reading in two languages.

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