

The Relationship of L1 Reading Ability with L2 EGP and ESP Reading Ability, and the Awareness and Use of Reading Strategies

Dr. Seyed Hassan Talebi (University of Mazandaran, Iran) & Samansa Azadegan (MA in TEFL, Goftehan Language Institute, Arak, Iran)

Abstract

TEFL courses in Iranian ESP contexts are reading-based. This study intends to find out the relationship of L1 (Persian) general reading ability with EGP and ESP awareness and use of reading strategies, and reading ability. To this end 45 tertiary level students who were freshmen and sophomores at the University of Mazandaran and their major areas of study were Economics part in this study. They were divided into two groups of high and low reading ability based on the L1 reading test scores. Then they were given a test of reading in EGP and ESP and immediately following the reading tasks they were given the reading strategies questionnaire as a retrospective measure of their reading behavior. The obtained results indicated that there was no significant relationship between L1 reading ability (reading comprehension test score) and the strategic behavior in EGP and ESP. There was also no significant difference in ESP reading ability for high and low groups, but in EGP reading there was a significant difference in reading ability for high and low groups of L1 reading ability. Cook (2007) maintains that the cognitive processing of information is slower and less efficient in a foreign language. However, the stronger the foundation in L1, the more students will advance in L2. Therefore, it is recommended to get tertiary students more familiar with the L2 code so that they become independent in text processing of different general and specific genres.

Key words: L1 and L2 Reading; Reading Ability; Reading Strategies Awareness and Use; EGP; ESP

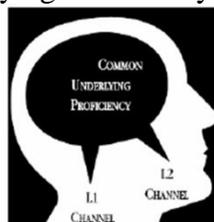
1. Introduction

Reading is a complex cognitive process of decoding symbols to construct or derive meaning. It is probably the most important skill learners will need to succeed in their studies (Yorkey, 1970). Since reading is a problem-solving activity, the idea of strategic reading has become the matter of investigation in recent years. Urquhart & Weir (1998, p. 95) define strategies as “ways of getting around difficulties encountered while reading”. As Grabe (1991) mentions, fluent reading is flexible, that is, in order to read efficiently the reader, employs a range of strategies including skimming ahead, considering titles, headings, pictures and text information, anticipating information to come, and so on.

Reading in a second language is not a monolingual event and readers have access to their first language while reading in L2. There has been debates among theorists and researchers regarding the relationship between L1 reading, L2 reading and L2 proficiency. To Alderson (1984) there are two factors that might cause difficulties in L2 reading ability, namely L1 reading ability and L2 linguistic proficiency. This idea led to two hypotheses, namely, a) Clark’s (1979) ‘Linguistic Threshold Hypothesis’ (LTH), also known as “short-circuit hypothesis”, and b) Cummins’ (2000, 2003) ‘Linguistic Interdependence Hypothesis’ (LIH). The LIH argues that certain L1 knowledge can be positively transferred to L2 during the process of L2 acquisition. This hypothesis, represented as a “dual-iceberg,” posits that every language contains surface features; however, underlying those surface manifestations of language are proficiencies that are common across languages. The dimension of language used in more cognitively demanding tasks that involve more complex language is CALP, which is transferable across languages. LTH maintains that L2 learners must first gain a certain amount of linguistic control over L2 so that they can apply their L1 reading skills to

L2 reading. Clark (1979) and Cummins (1979) call this certain amount a “language ceiling”, and a “threshold level of linguistic competence” respectively. Below this level of linguistic competence, it is unlikely that L1 reading strategies can transfer to L2 reading tasks. LIH is rooted in Cummins’ (2000) Common Underlying Proficiency (CUP) hypothesis explaining the relationship between L1 and L2. (See figure 1)

Figure 1: the Common Underlying Proficiency Model of Bilingual proficiency



CUP supports second-language learning by transferring skills from the first language to the second. That is, knowledge of L1 and how language works transfers to L2 and enhances its acquisition. CUP claims interdependency between L1 and L2. Therefore, the stronger the foundation in L1, the more students will advance in L2, both in academics and the language itself. As an example, of two students who immigrate, the student with a strong academic background excels in English, while the student with little formal schooling struggles to learn English. In brief, LTH states that a certain threshold of L2 linguistic ability is necessary before L1 reading ability can be transferred to L2, whereas the LIH allows for transfer of any L1 reading ability from L1 to L2 regardless of L2 linguistic proficiency.

Related to the CUP is Cummins’ idea of two types of language. The first is everyday Basic Interpersonal Communication skills (BICs). BICS are language skills needed in social situations. It is the day-to-day language needed to interact socially with other people. English language learners employ BIC skills when on the playground, in the lunch room, on the school bus, at a party, playing sports or talking, the telephone, etc. Social interactions are usually context embedded. They occur in a meaningful social context. They are not very demanding cognitively and the language required is not specialized language. The second type is cognitive/academic language proficiency (CALP). CALP refers to formal academic learning of listening, speaking, reading, and writing about subject area content material. Learners need time and support to become proficient in academic areas. If a child has no prior schooling or has no support in native language development, it may take seven to ten years for ELLs to catch up to their native peers .

Cummins (1989) offers an “iceberg” shaped model to illustrate BICS and CALP. The part of the linguistic iceberg above the horizontal line is BISC or the surface structure of language. This includes the audible conversational language spoken and heard in everyday situations, and includes mastery of sounds, grammar, and vocabulary. The part of the “iceberg” below the horizontal line is CALP, the academic language associated with books and school, with higher order thinking skills, and with literature, math, history, and science, not apparent in normal everyday social situations. The linguistic processes in CALP are more complex and abstract than those going on in BICS. CALP occurs only in a cognitively stimulating and academically oriented environment. However, Cook (2007) maintains that the cognitive processing of information is slower and less efficient in a foreign language. This cognitive processing deficit which is not caused by lack of language ability but by difficulties with processing information in L2, hinders immediate retention of information. Thomas and Collier (1997) confirmed that first language (L1) schooling determines how long it may take to improve reading in L2. Students who arrived in the US between ages 8

and 11, and had received at least 2-5 years of schooling in L1 in their home country, were the lucky ones who took only 5-7 years to master CALP. Those who arrived before age 8 and had had little or no schooling in their native language required 7-10 years or more to improve reading in L2. Therefore, the strongest predictor of L2 achievement is the amount of formal L1 schooling.

With regard to L2 reading comprehension ability, research design follows one of two approaches, namely product-view and process-view. In product-oriented studies reading comprehension tests are given. They are by nature quantitative in design in which scores on L1 and L2 reading comprehension tests and proficiency level might be correlated. Such studies show low to moderate correlations (Bernhardt & Kamil, 1995; Brisbois, 1995; Lee & Shallert, 1997). However, some studies have shown that knowledge of the structure and function of L1 is an advantage for readers in comprehending L2 (See Clarke, 1979; Ailing 2006). Clarke (1979) found that good Spanish readers performed better on English reading tasks than the poor ones in reading in English. In process-oriented studies, frequencies of corresponding L1 and L2 reading strategies are correlated. Contrary to findings in product-oriented studies, Zwaan and Brown (1996) and Yamashita (1999) found moderate to high correlations in the process of reading between languages. However, they have shown that readers with high L1 reading ability can transfer their L1 ability and facilitate their L2 reading comprehension at least to a certain extent.

Taking a process and product view, this study hopes to explore the relationship of L1 reading ability with EGP and ESP reading ability and strategic reading behavior. Therefore, this study attempts to answer the following questions:

- 1- Do students of high and low level in L1 reading ability differ in EGP and ESP reading strategy use?
- 2- Do students of high and low level in L1 reading ability differ in EGP and ESP reading ability?

2. Method

2.1. Participants

Thirty nine tertiary level students who were predominantly freshmen and sophomores at the University of Mazandaran participated in this study. Their major areas of study were Economics. The participants were divided into two groups based on reading in L1 (Persian). In other words, a reading comprehension test in L1 was employed to classify the participants into low and high reading ability groups. Those who scored below the mean score were considered low group and those who scored above the mean score were considered high group. Table 1 presents the number of subjects in each category. Before getting admitted to the University of Mazandaran they had already passed Persian language and literature course, general English as well as science courses through L1 medium of Instruction at high school with the passing score of 10 out of 20.

Table 1
Descriptive statistics: Mean and standard deviation of Reading in L1

Index		M	SD	N
Persian Reading	High	22.26	1.95	21
	Low	17.50	1.59	24
	Total	20.30	2.97	39

2.2. Instruments

The following instruments were employed in this study:

A: Reading strategies questionnaire

Questionnaires are the most popular tool to establish what the students are like at the start of their language course (Robinson 1991). In this study, the strategic approach was measured by means of a five-point Likert scale reading strategies questionnaire (Never/Seldom/Sometimes/ Usually/ and Always true of me) offering an immediate retrospective picture of the reading behavior. The strategies questionnaire was in Persian so that students felt more comfortable with the questionnaire while answering. They were informed that it was not a test to have effects on their final marks, and that there were no right or wrong answers. All the 33 strategy items (cognitive and metacognitive) in this study were adapted from different related questionnaires in research-validated studies (Oxford, Cho, Leung & Kim, 2004; Sheorey & Mokhtari, 2001; Taillefer & Pugh, 1998). The questionnaire was finally shown to two experts in the field for getting their opinion about strategy items to see if they suited the purpose of the study. They were also asked about the translated version of the strategies. Cognitive reading strategies are about knowing what strategy to use and how to use it; metacognitive strategies are about understanding the rationale for applying a particular strategy in a particular context, and evaluating its usefulness in terms of appropriacy and effectiveness for that context. There are two reasons why students were tested about their knowledge of cognitive and metacognitive strategies (See Fogarty, 1994). First, through cognition, good readers construct their knowledge and through metacognition they identify when they no longer understand and what they can do about it. Therefore, constructing understanding requires both cognitive and metacognitive elements. Second, teaching for metacognitive strategies assures that students will be able to successfully use and transfer these strategies well cross-linguistically (from L1 to L2) and cross-curricularly (from general areas to specific areas of knowledge) as the ultimate goal of strategy instruction is transfer. As Auerbach & Paxton (1997) state, strategic reading can only become efficient when metacognitive strategies are actively used. The internal consistency reliability coefficient of the instrument at the piloting stage was calculated to be 0.83 as it was piloted against 18 students taking part in the study .

B: Test of Reading Comprehension in Persian language

The reading comprehension test in Persian had two passages, each containing fifteen items (30 items in total) each carrying one point. The nature of the items for the two passages in terms of recognizing main ideas, vocabulary knowledge, and inferencing was the same. The two passages of the test were selected from the book 'BaharvaAdab-e-Farsi' (1971). After administering this test to a similar group of fifteen students, the reliability of the scores of this test according to the KR-21 formula at the piloting stage was calculated to be 0.75. Item characteristics were also taken care of at the piloting stage. This test was also shown to some experts in Persian language and literature teaching in order to have their comments on the suitability of the text as well as on the nature of the test items for the students. To construct L1 reading comprehension test the following features were borne in mind:

- a) Length of texts: The length of text influences the strategies that candidates use. Too short a text is not suitable for expeditious reading. The number of words in expeditious reading is around 2000 words. The two texts were nearly of the same length.
- b) Content: Among many passages, those whose content was generally understandable to all students were chosen. In other words, the effects of background knowledge on understanding the text before reading it was controlled.
- c) Difficulty level: Since, to date, there has been no standard test of reading comprehension made in Persian language, and by implication, there exists no objective index for determining

the difficulty level of Persian texts of reading, the researcher relied on the experience of Persian language teachers as collogues, and his own experience in order to select suitable texts for the purpose of this study. In texts, the number of words was tried to be to some extent the same. In the piloting phase, in order to be sure of the clarity and appropriateness of the test those items that were ambiguous or unclear to the students were revised or discarded.

d) Interest of students: the piloting phase showed that the texts were interesting to students.

e) Form of the test items: A multiple-choice format was used to construct the items.

f) Time: The time allotted for the reading test in Persian was 30 minutes. This time limit was determined at the piloting stage. Too much time allowed changes rapid expeditious reading into slow careful reading. Therefore the time factor was carefully controlled .

C: Test of Reading Comprehension in English (for general purposes)

In developing the test of reading comprehension in English five passages were selected from the reading section of books two and three of New Interchange series (Richards, 1997). The number of words in the selected five passages ranges from 257 to 295 words. Six items were developed for each passage and in all there were thirty items for all the five passages. Each item carried one point. The nature of the items in terms of recognizing main ideas, vocabulary knowledge, and inferring was the same for all the passages. These texts were selected for the following reasons:

a) having a general content; b) being of interest to students; c) having pictures and several paragraphs to be suitable for strategy instruction as specified in the strategy questionnaire; d) being nearly of the same length; and, e) being nearly of the same difficulty in terms of structure, unknown words and cognitive processing based the experience of the researcher. Readability of the reading text is an objective, but not necessarily very valid, measure of the difficulty of a text. Readability formulae look at texts only as products. As Rigg (1986, p. 75) puts it, “the basic assumption underlying any readability formula is that meaning is in the print, in the text. There is no recognition that meaning is created by each reader as the reader engages with the text.” Even leaving aside issues of social context and individual motivation, and looking at texts as products, the criteria used by readability formulae are doubtful. Factors other than word and sentence length are not accounted for. For example, reduced clauses, which tend to shorten sentences, can create greater difficulty for the reader than longer sentences which are easier to ‘unpack’. Where this is not used, intuition may be relied on. If materials are perceived as boring or as too easy or too difficult, learners will be unmotivated to do the task (Scarcella & Oxford, 1990). On the one hand, a text that is too easy to comprehend furnishes few opportunities for strategy use and in this case students will probably fail to grasp the value of strategy use. On the other hand, a text that is too difficult to understand may not be comprehensible even with the employment of a variety of strategies. “Metacognitive capabilities become operative only in reading task perceived as hard but attainable. Tasks that offer minimal challenge will not be incentive enough for readers to make extra efforts to manipulate their cognitive resources” (Koda, 2005, p. 211). The reliability of the test of reading in English was also taken care of at the piloting stage through the K-R21 formula which turned out to be .76. The time allowed was 30 minutes as determined at the piloting stage .

D: Test of Reading Comprehension in English (for specific purposes)

In developing the test of ESP reading comprehension in English two passages were selected. The first passage titled ‘What is information processing?’ from the reading section of ‘English for Students of Computer’, by Haghani (2001) and the second passage titled ‘The Need for Accounting’ from ‘English for the Students of Accounting’ by Aghvami (1996).

Each passage contained 10 items. The number of words in the selected two passages ranged from 610 to 560 words. These texts were selected for the following reasons:

a) having a specific content; b) being of interest to students; c) having pictures and several paragraphs to be suitable for strategy instruction as specified in the strategy questionnaire; d) being nearly of the same length; e) being related to students content schemata; and finally, e) being nearly of the same difficulty in terms of structure, unknown words and cognitive processing as it was approved by two experts in the field. The reliability of the test of reading in English was also taken care of at the piloting stage through the K-R21 formula which turned out to be 0.79. The time allowed was 30 minutes as determined at the piloting stage .

2.3. Procedure

Students were homogenized based on their reading ability in L1. They were given L1 reading comprehension test from the very beginning of the course and during the regular class time. Students were divided into two groups (low and high) based on their scores below and above the mean. After a brief explanation of the purpose of the study, participants were given instructions on how to answer the reading strategies questionnaires and reading test batteries in EGP and ESP reading tasks. In fact, immediately after taking reading test in EGP and ESP, the participants were given the strategies questionnaire as a retrospective measure of their strategic reading. The students were also advised there was time limitation for the reading tests but not for the reading strategies questionnaire. There was a two-week interval for taking the EGP and ESP reading tests. The questionnaire was delivered in Persian as it was thought to would yield a more accurate picture of their reading strategies awareness and use. However, if students needed explanations about some items in the questionnaire the researcher would explain the item to the whole class.

3. Results and Discussions

What follows attempts to answer the following two research questions:

- 1- Do students of high level L1 reading ability differ from those of low level L1 reading ability in EGP and ESP reading strategy use?

Analysis using multivariate analysis of variance (Wilks' Lambda) for unrelated measures revealed a non-significant main effect of the L1 reading ability at an alpha of .05, Wilks' Lambda = .08, $F(2, 36) = 1.44$, $p = .250$. This means that both EGP and ESP reading strategies awareness and use is the same in both high and low level of reading ability in L1. A measure of effect size, $\eta^2 = .074$, indicated a relatively low effect (tables 1 & 2).

Table1

Mean and standard deviation of EGP and ESP reading strategy use with respect to L1 reading ability groups

Source	Dependent V	Index	M	SD	N
Reading ability groups	EGPQ	High	172.52	26.53	21
		Low	168.68	22.38	24
	ESPQ	High	116	23.25	21
		Low	23.28	20.80	24

Table 2

Multivariate test of reading ability groups (high or low) on EGP and ESP reading strategy awareness and use

Effect		value	F	Hypothesis df	Error df	Sig.	Eta
Reading ability	Wilks' Lambda	0.08	1.44	2	43	0.250	0.074

- 2- Do students of high level L1 reading ability differ from those of low level L1 reading ability in EGP and ESP reading ability?

Analysis using multivariate analysis of variance (Wilks' Lambda) for unrelated measures revealed a significant main effect of the L1 reading ability at an alpha of .05, Wilks' Lambda = 0.80, $F(2, 43) = 4.47$, $p = .018$. The means that the high group showed a higher EGP and ESP reading ability in contrast to low group. A measure of effect size, $\eta^2 = .19$, indicated a relatively average effect. (Table 3)

Table 3

Multivariate test of L1 reading ability groups (high or low) on EGP and ESP reading ability

Effect		value	F	Hypothesis df	Error df	sig	Eta
Reading ability	Wilks' Lambda	0.80	4.47	2	43	.018	.19

To find out which of the variables differed, test of between subject effects was used. This test indicated that only in EGP reading there is a significant difference in reading ability for L1 high and low groups and in ESP reading there was no significant difference in reading ability for high and low groups. (Table, 4)

Table 4

Between subjects test of reading ability groups (high or low) on EGP and ESP reading ability

Source	Dependent variable	DF	SS	MS	F-ratio	sig	Eta
Model	EGP	1	86.935	86.935	8.675	0.006	.190
	ESP	1	5.659	5.659	.55	0.461	0.015
Error	EGP	44	370.655	10.018			
	ESP	44	377.264	10.196			
Total	EGP	45	4438.000				
	ESP	45	2737.00				

With respect to means differences, EGP reading ability is more for the high group in contrast to the low group. (Table 5)

Table5

Mean and standard deviation of EGP and ESP reading ability with respect to L1 reading ability groups

Source	Dependent V	Index	M	SD	N
Reading ability group	EGPR	High	11.34	3.24	21
		Low	8.31	3.04	24
	ESPR	High	8.08	2.59	21
		Low	7.31	3.91	24

4. Conclusions and Implications

There are various factors effective for L2 reading including L1 reading ability and L2 linguistic ability (see Bernhardt & Kamil, 1995), higher-level conceptual abilities, background knowledge, and process strategies (Coady, 1979), linguistic variables, literacy variables, and knowledge variables (Bernhardt, 1991). Because of the effects of these factors we should consider both the product and the process aspects of reading in reading tasks and integrate findings about the relationships of these variables in reading. Therefore, we should see the entire (or at least a much wider scope of) mental activities involved in L1 and L2 reading. Results of this study indicated that:

- 1- a: Reported reading strategies awareness and use both in EGP and ESP is the same for both high and low groups of L1 reading ability. Actually, there is no significant relationship between L1 reading product (reading comprehension test score) and L2 process (reading strategies awareness and use);

b: there was no significant difference in ESP reading ability for high and low groups.

As mentioned earlier in this paper, Cummins (1989) offers an “iceberg” shaped model to illustrate BICS and CALP. To Cummins the linguistic processes in CALP are more complex and abstract than those going on in BICS, as CALP occurs only in a cognitively stimulating and academically oriented environment. However, Cook (2007) maintains that the cognitive processing of information is slower and less efficient in a foreign language. This cognitive deficit which is not caused by lack of language ability but by difficulties with processing information in L2 hinders immediate retention of information.

- 2- In EGP reading there is a significant difference in reading ability for high and low groups of L1 reading ability.

This Finding is in line with LIH and CUP which support transfer of skills from the first language to the second and interdependency between L1 and L2. Therefore, the stronger the foundation in L1, the more students will advance in L2. LIH, as mentioned earlier in this chapter, allows for transfer of any L1 reading ability to L2. In addition, according to Cummins’ (1989) “iceberg” shaped model, the linguistic processes in BICS are easier than those going on in CALP. Some studies have shown that knowledge of the structure and function of L1 is an advantage for readers in comprehending L2 (See Clarke, 1979; Ailing 2006). Clarke (1979) found that good Spanish readers performed better on English reading tasks than the poor ones in reading in English. Thomas and Collier (1997) confirmed that first language (L1) schooling determines how long it may take to improve reading in L2. Students who arrived in the US between ages 8 and 11, and had received at least 2-5 years of schooling in L1 in their home country, were the lucky ones who took only 5-7 years to master CALP. Those who arrived before age 8 and had had little or no schooling in their native language required 7-10 years or more to improve reading in L2. Therefore, the strongest predictor of L2 achievement is the amount of formal L1 schooling.

From the findings of this study it is concluded that reading teachers at tertiary levels should get students more in contact with L2 reading tasks to ensure that L2 reading performance, both in terms of product and process, can benefit L1 reading ability. It seems as students

move to ESP reading there is a somewhat different cognitive processing needed as the expectations in ESP reading tasks are different from EGP reading and students need to activate both their formal schemata and content schemata. Therefore, it is advised that students become more familiar with ESP materials so that they can carry over their L1 reading ability to L2, and in particular to ESP reading tasks. It is also advised ESP courses be offered to students earlier in the educational program so that they can come up with the tasks of reading for specific purposes and finally get responsible for their own learning.

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