



Effects of Reading Strategy Instruction on Attitude toward Strategies and Performance in Reading Texts of Different Difficulty Levels

Hossein Zabihi Shorkaee

University of Mazandaran

Seyed Hassan Talebi

University of Mazandaran

ABSTRACT

This study investigated the effects of Reading Strategy Instruction (RSI) on reading performance and attitude toward reading strategies while reading texts of different difficulty levels. Fifty-five university students studying Political and Basic Sciences took part in this study. After homogenizing the participants, 24 students were in the experimental group and 24 students in the control group. An appropriate text and a higher difficulty level text as well as a questionnaire about attitude toward reading strategies were employed as pre-tests and post-tests. The experimental group received RSI through CALLA model, but the control group was taught reading focusing on vocabulary and grammar. Results revealed the experimental group outperformed the control group in reading performance and attitude toward reading strategies in both reading tests. However, RSI was considerably more effective in improving both reading performance and attitude toward reading strategies when students read the test at an appropriate difficulty level. It is recommended for cognitive and affective improvements that texts which are more appropriate to students' reading proficiency level, and not much beyond that, be selected and taught.

Keywords: reading performance; reading strategies; attitude; text difficulty level

INTRODUCTION

Reading is one of the most significant skills to learn a foreign language and to be successful in academic tasks (Anderson, 2003). According to Carrell (2003) efficient reading is essential for long-term learning objectives and critical for students to pursue their academic goals. Reading ability, according to Grabe and Stoller (2002, p. 9) is the efficiency of the reader "to draw meaning from the printed page and interpret this information appropriately." Lau (2006) states it is important to find out problems that readers face while reading. As Anderson (2003) mentioned, effective reading is the interaction of four factors, including the reader, the text, reading fluency, and reading strategies. Urquhart and Weir (1998, p. 95) define reading

strategies as “ways of getting around difficulties encountered while reading.” According to Blachowicz and Ogle (2001) successful reading comprehension is achieved when the reader knows which strategy to use and how to apply it to comprehend the text. This reading behavior is referred to as ‘strategic reading’ (Koda, 2005, p. 204). Su (2006) gave reading strategy instruction to 160 first-year English, Japanese, and German major students and found improvements in reading ability in all three majors. In an attempt to explore the lexical inferencing strategies used by Iranian EFL learners and the characteristics that would distinguish readers who were successful or less successful at inferencing, Anvari and Farvardin (2016) found that the successful and less successful inference makers differed in the quality of use of each strategy type though they did not show any significant difference in frequency of reported strategy use.

Attitude as an Affective Factor in Reading

Affect can be formed by attitudes and emotions (Efklides, 2011). Studies show that affective factors influence language learning. Attitudes are feelings and emotions that readers have toward reading (Pang, 2008). Smith (1990, p. 215, in Yamashita, 2007) defines reading attitude as “a state of mind, accompanied by feelings and emotions that make reading more or less probable.” Attitude is a complex term and is composed of multiple components (Edwards, 1994). The L2 reading attitude model proposed by Day and Bamford (1998, in Yamashita, 2007, pp. 84-85) entails four factors: “(a) L1 reading attitudes, (b) previous experiences with learning to read L2s other than English (if any), (c) attitudes toward the L2, culture, and people, and (d) the L2 classroom environment.”

One’s attitude shows their thoughts and beliefs about language, culture, people, and their behavior (Edwards, 1994) and helps predict their success in language learning. Language learning attitude falls in the affective domain of language learning and should be valued as significant as the aptitude in target language learning (Noels, Pelletier, & Vallerand, 2000). Various studies have shown a strong relationship between reading attitude, reading strategy use, and reading success. Sadighi and Zarafshan (2006) found that Iranian EFL learners with a higher positive attitude reported more use of language learning strategies than those with a negative attitude. Yamashita (2007) studied the transferability of reading attitudes from L1 to L2 among 291 Japanese university students within the age range of 19 and 23. Data collected through a five-point Likert scale questionnaire showed that reading attitude transferred from L1 to L2. It is concluded from the findings of this study that “what the EFL learners have acquired in their L1 reading becomes an important basis on which L2 literacy develops” (p. 101). Lasagabaster (2005) investigated attitudes of students towards Basque, Spanish, and English using a questionnaire study. This study aimed at finding out if there is any ‘single, holistic language system’ for multiple languages in one mind. He found that the same way that “bi/multilinguals’ languages are inter-related and united as a single, holistic language system” (p. 28) their language attitudes should be considered as one system which is a holistic description of attitudes. Yousefvand and Lotfi (2011) studied the effect of reading strategy instruction on Iranian EFL learners’ reading comprehension and attitudes toward reading strategies instruction. Forty university students were divided into two groups of control and experimental and were taught

reading strategies in 50-minute weekly class sessions for one semester. Analysis of data showed that after the treatment, most students' reading comprehension and their attitude toward reading strategy instruction improved significantly.

Claiming a surprising paucity of research into the affective domain of reading, Yamashita (2013) attempted to examine the effect of extensive reading on attitude toward reading in L2 among 61 Japanese EFL university students. Using a 22-item questionnaire to measure attitudinal variables on a Likert scale, Yamashita found an increase in Comfort and Intellectual Value and a decrease in Anxiety, with no effect on Practical Value.

Attempting to find out the relationship between levels of reading strategy use and attitude toward reading among 1316 students, Kirmizi (2011) found that reading attitude is a significant predictor of the level of reading comprehension strategies used by students.

Text Difficulty as a Predictor of Strategic Reading

Reading involves the reader and the text and it is the interaction between the reader and the text that results in reading comprehension (Grabe & Stoller, 2002). Successful reading comprehension depends on different cognitive, affective, and linguistic processes. According to Keiffer et al. (2016), reading comprehension as a multi-faceted domain can be predicted by multiple components of language comprehension. Studies show that linguistic skills contribute to reading comprehension (e.g., Kieffer & Box, 2013; Silverman, Proctor, Harring, Hartranft, Doyle, & Zelinke, 2015; Swanson, Rosston, Gerber, & Solari, 2008, in Keiffer, et al. 2016). The appropriate difficulty level of text affects language learners' successful reading comprehension. Richards, Platt, and Platt (1992, p. 306), define text difficulty as synonymous with readability and regard it as the ease with which written materials can be read and understood. Different factors are involved in determining text difficulty level. According to Richards et al. (1992), factors including average length of sentences, number of new words, and grammatical complexity determine level of text difficulty. Several studies investigated the effect of text difficulty on reading comprehension. Hiebert (2005) found that textual features made a difference on the application of reading techniques. Jafarigohar and Khanjani (2014) investigated the effect of text difficulty on use of metacognitive reading strategies in English. Sixty Iranian EFL learners who were at intermediate level of general English proficiency were distributed pre-intermediate, intermediate and upper intermediate texts followed by a questionnaire as a retrospective measure of metacognitive reading strategy use. They found that use of metacognitive strategies, specifically problem solving strategies, was significantly different across the three texts of different difficulty levels. Lin, Zabucky, and Moore (2002) investigated the effect of text difficulty on metamemory and found that metamemory was more exact for texts with a moderate difficulty than simple texts, as texts with a moderate difficulty demand more metacognitive skills than simple texts. They further added that metamemory exactness reduces whenever a text is excessively difficult to understand. In a study attempting to investigate the relationship between text difficulty, reading comprehension, and reading motivation, Halladay (2008) found that frustration-level texts caused more difficulty while reading, though these texts

did not change readers' perceptions or beliefs about the value of reading and that students' perceptions of text difficulty did not affect their enjoyment of texts significantly.

The Current Study

As Afflerbach, Pearson, and Paris (2008, cited in Javed, Eng & Mohamed, 2015) mentioned, although many efforts have been made to boost students' comprehension of texts, they still need to be more proficient in reading comprehending. What is lacking in the available literature, especially in an EFL context at the university level, is the effect of RSI on reading comprehension while reading texts of different difficulty levels. The secondary but more important purpose of the study is to find out if students' attitude toward reading strategies would improve as a result of RSI in English, while reading texts of different difficulty levels. To probe these issues the following questions are put forward:

RQ1: Does RSI have any effects on reading performance of students while reading texts of different difficulty levels in L2?

RQ2: At which level of text difficulty does reading performance improve most as a result of RSI in L2?

RQ3: Does RSI have any effects on attitude toward the reading strategies of students while reading texts of different difficulty levels in L2?

RQ4: At which level of the text difficulty does attitude toward reading strategies improve most as a result of RSI in L2?

For each of the above questions a null hypothesis is proposed.

METHODOLOGY

Participants

The participants of this study were 57 male and female university students majoring in political sciences and basic sciences courses. They volunteered to take part in the current study after the researchers explained the purpose and nature of the research to them. Most of them were second semester students and some (17%) from higher semesters. However, their reading proficiency level was controlled. After homogenizing the participants (see the procedure section), 24 students were selected to be in the experimental group and 24 students were selected to be in the control group.

Instruments

For the purpose of this study the following instruments were employed:

Test of Reading Comprehension at Appropriate Difficulty Level (mean difficulty: 81): Henceforth, this test is called Appropriate Difficulty Test (ADT). The test consisted of four passages each with seven items. Difficulty level of the passages was measured using the Flesch readability formula, which is discussed in details in the procedures section. It was also shown to

two experts in applied linguistics to comment and confirm its appropriateness both at the linguistic and cognitive levels. Day and Park (2005) proposed a taxonomy of the types of comprehension questions held to help students comprehend the text better with the aim of becoming interactive readers. They introduced six types (i.e., Literal comprehension, Reorganization, Inference, Prediction, Evaluation, Personal Response) of questions to be utilized by teachers and material developers. Nevertheless, the first three types of comprehension questions served the aim of this study seeing that they were more objective for scoring purposes. Literal comprehension concerns an understanding of the direct and explicit meaning of the text. Reorganization centers on the literal understanding of the text. Nonetheless, it is more complex than literal comprehension questions, as students should move to a more holistic, global view rather than a sentence-by-sentence understanding of the text. Readers must piece together information collected from various parts of the text for more comprehension. To reply to an inferential question, students need to use a combination of the literal comprehension of the text with their knowledge and intuitions, as the answer to this type of question is not explicitly stated in the text. Finally, the researchers decided to put vocabulary knowledge into the respective category as without knowing a word and its structure, finding its meaning is to a great extent difficult. This test consisted of 28 items; 8 items measured literal comprehension, 4 items inferential comprehension, 4 items reorganization, and 12 items vocabulary knowledge. The reliability of the test was taken care of at the piloting stage through the K-R21 formula which turned out to be 0.79. The time allowed was 40 minutes as determined at the piloting stage.

Test of Reading Comprehension at Higher Difficulty Level (mean difficulty: 70): Henceforth, this test is called Higher Difficulty Test (HDT). In developing this test four passages were selected from the Internet. Difficulty level of the passages was measured using the Flesch readability formula. It was also administered to some experts to comment and confirm its appropriateness both at the linguistic and cognitive levels. Each passage consisted of seven items for a total of 28: eight items measured literal comprehension, four items inferential comprehension, four reorganization, and 12 items vocabulary knowledge. The reliability of the test was taken care of at the piloting stage through the K-R21 formula, which turned out to be 0.77.

After the participants took the two tests at the piloting stage they were asked if the topics and content of the texts were interesting to them. Therefore, from the feedback it was revealed that the texts were interesting to the participants. The two tests were also nearly of the same length (Appropriate Difficulty Test contained 1600 words, and Higher Difficulty Test contained 1700 words). For the two reading tests, texts with reasonable linguistic and cognitive difficulty were chosen since according to Koda (2005) “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” (p. 211).

In order to assess the readability of the texts, the Flesch Reading Ease Readability Formula (1948) was employed. Rudolph Flesch attempted to predict reading difficulty on a scale from 1 to 100, with 30 being “very difficult” and 90 being “very easy.” (see Table 1).

Table 1. Flesch Reading Difficulty Scale

Very confusing	Difficult	Fairly Difficult	Standard	Fairly Easy	Easy	Very Easy
0-29	30-49	50-59	60-69	70-79	80-89	90-100

The specific mathematical formula is: $RE = 206.835 - (1.015 \times ASL) - (84.6 \times ASW)$ where, RE = Readability Ease; ASL = Average Sentence Length (i.e., the number of words divided by the number of sentences); ASW = Average number of syllables per word (i.e., the number of syllables divided by the number of words).

However, the word ‘easy’ in the above table should not be misinterpreted as easiness or below proficiency level for comprehension. It is just a definition for the structural complexity of the text. To ensure the Appropriate Difficulty Test is appropriate in terms of text difficulty level for the participants, first from their textbook (i.e., *Active Skills for Reading, Second Edition*), some passages were randomly selected, the readability formula was run and the mean index turned out to be within the range of 80-89. However, as Fulcher (1997) stated readability formulae developed from the late 1940s up to the 1970s only assessed facets of the text such as length of the sentences and vocabulary to measure text difficulty and do not consider reader factors like attitude, background knowledge, and previous reading experience, which influence the reading process. In the present study, in order to take reader factors into account, a mental effort self-rating scale was employed. It was used to assess how difficult each test was in each reader’s idea. Based on Paas and van Merriënboer’s (1994) model, cognitive load can be evaluated by assessing mental load, mental effort, and performance. It is assumed that readers can examine and analyze their cognitive processes and give a numerical indication of the amount of mental burden. At the piloting stage, this measure of cognitive load was addressed by a seven-point Likert scale question ranging from 1 (very easy) to 7 (very difficult).

As for the Appropriate Difficulty Test, 77% of respondents chose “standard,” 17% chose “fairly easy,” and 6% selected “fairly difficult.” The remaining options were not selected. However, as for the Higher Difficulty Test, 72% chose “fairly difficult,” 12% “difficult,” and 6% “standard.” The remaining options were not chosen. These statistics imply that the chosen texts were approximately relative to participants’ reading proficiency level, both cognitively and linguistically. The tests were finally shown to some experts in the field of English Language Teaching. They were asked to comment on the perceived level of difficulty of the texts and their suitability for students.

Questionnaire about attitude toward reading strategies: In order to probe into the participants’ attitude toward reading strategies taught to them, the researchers needed to refer to a reading strategy questionnaire, adopt it, and adapt it for the purpose of the study. Therefore, the participants would answer if they would perceive the strategy items to be useful or not. Therefore, an adapted version of Mokhtari and Sheorey’s questionnaire (2002), which is a survey

of reading strategies (SORS), was used for the purpose of collecting information about students' attitude toward reading strategies. This survey contains 30 statements grouped into three categories or subscales: Global Reading Strategies focus on how students monitor their reading and set the stage for their reading act such as previewing and setting a purpose. Problem Solving Strategies are techniques that learners use to solve problems they face in the text, during reading the text, including rereading to improve comprehension and guessing the meaning of unknown words. Support Reading Strategies include the support mechanisms or tools that can help readers to comprehend the text like using a dictionary and taking notes. The 30 items of the instrument were translated into the participants' L1 in order to enable them to more easily understand and answer the questionnaire items. The reliability coefficient alpha of the adapted version was calculated to be 0.84. It must be noted, although, the SORS was originally designed to measure students' awareness and use of reading strategies, for the aim of the current study, which was to measure students' attitude toward reading strategies, participants were asked to answer the items in terms of their attitude toward usefulness of each strategy item in their effective reading. It was based on a Likert scale ranging from 1 (very useful) to 5 (very useless). Participants were reminded that there was no right or wrong answer.

Procedures

During the second semester of 2015, there were 10 general English courses offered at the university, out of which two different groups were randomly selected. At the beginning of the study, the total number of the participants was 57. As they were already assigned to two different classes and the researchers could not control their random assignment to two groups of control and experimental, placement of students was accepted as it was and the researcher had to refer to quasi-experimental design for furthering the purpose of the research. The researcher explained the purposes of the research to the participants and they volunteered to take part in the study by signing a letter of consent.

The study began with students taking the Appropriate Difficulty Test. This test had double purposes. First, it was used to homogenize participants so that those scoring within ± 1 SD (12-20; SD: 3.93, M: 16.29) could be included in the study. There were 48 students in both groups who scored within this range. These scores were considered as their pre-test scores, too. Immediately after giving the Appropriate Difficulty Test, the questionnaire about attitude toward reading strategies was administered as a retrospective pre-test measure of participants' attitude toward reading strategies. As Cohen (1998) asserts answering to a strategy-related questionnaire without performing an L2 task might end in results that are not close enough to the actual behavior. In the next session, the Higher Difficulty Test was administered as the second reading pre-test. This test was also followed by the attitude pre-test questionnaire to determine students' attitude toward reading strategies, while reading the Higher Difficulty reading test. After the pre-tests, the experimental group received reading strategy instruction as a treatment along with their regular classroom materials, but the control group was taught only their routine classroom materials, which did not focus on reading strategies and just focused on reading comprehension through learning vocabulary for a good and faster translation from English into L1.

For the purpose of this study, the instruction of reading strategies to the experimental group was through O'Malley and Chamet's (1987) CALLA (Cognitive Academic Language Learning Approach) model where new strategies are presented and known ones are practiced. Each CALLA lesson is divided into five phases of *Preparation*, *Presentation*, *Practice*, *Evaluation* and Expansion Activities.

The thirty strategies were instructed in ten sessions (approximately three strategies each session). The instruction was mainly in L1 to ensure participants would understand the instruction. Gradually as students showed more independency and ability in the application of the strategies, teacher modeling and feedback were reduced and learners were encouraged towards autonomous use of strategies.

As a final step, the two reading tests along with the attitude questionnaire were administered as post-tests to measure changes in the participants' reading performance and attitude toward reading strategies as a result of strategy instruction.

RESULTS

Regarding the first research question, descriptive characteristics (mean and standard deviation) of variables in question 1 are shown in table 2.

Table 2. Mean and Standard Deviation for Appropriate Difficulty Test and Higher Difficulty Test

Group		Pre-test	Post-test	Pre-test HDT	Post-test
Exp.	N	24	24	24	24
	Mean	15.8750	19.3750	11.9167	14.2917
	SD	2.32776	2.16318	2.37591	2.47561
Cont.	N	24	24	24	24
	Mean	18.3333	18.3750	13.5833	13.6667
	SD	2.05715	2.37400	1.71735	2.27781

To address the current hypothesis, as more than one dependent variable is under investigation, considering the correlation between the dependent variables (dependent variables correlated from about .3 to about .7 are eligible) that was calculated to be .53, MANCOVA was employed. However, in the light of high correlation between the two confounding variables (.92), one of them was removed to solve the problem of colinearity. In the light of the small number of participants (48) in this study, the Shapiro-Wilk test was used. The results verified normal distribution of variables in the experimental and control groups. Satisfying the Level and

Measurement of the Variables and normality assumptions, MANCOVA was run. Table 3 shows the results.

Table 3. Analysis of Covariance on the Effect of Reading Strategy Instruction on Reading Performance in Appropriate Difficulty Test and Higher Difficulty Test

Source	Dependent Variable	Type III Sum	df	Mean Square	F	Sig.	Partial
Corrected Model	Post-test of ADT	163.086	2	81.543	42.587	.000	.654
	Post-test of HDT	516.94	1	16.946	8.850	.000	.164
	Post-test of ADT	611.02	1	11.028	2.722	.105	.057
Group	Post-test of ADT	82.942	1	82.942	43.317	.000	.490
	Post-test of ADT	239.20	1	39.203	9.675	.000	.177
Pre-test	Post-test	151.0	1	151.0	78.90	.000	.637
ADT	Post-test of ADT	8677.95	1	77.957	19.24	.000	.299
Error	Post-test of HDT	786.16	4	1.915		.000	
	Post-test of ADT	4182.3	5	4.052			
Total	Post-test of HDT	3517350.0	5				
	Post-test of ADT	8009645.0	8				
Corrected Total	Post-test of HDT	800249.2	8				
	Post-test of ADT	50264.9	7				
Total							

Analysis of the dependent t-test yielded a significant difference between the mean gain scores of the Appropriate Difficulty Test and Higher Difficulty Test; $t(23) = 3.45, p = .002$. In view of a larger mean gain score (3.5) for the Appropriate Difficulty Test compared to the Higher Difficulty Test (2.37), it can be inferred, RSI is more effective when students read a text at an appropriate level. The magnitude of this effect size can also be inferred from the column of Partial Eta Squared, where 49% of the change in Appropriate Difficulty Test scores ($n^2 = .490$), and 17.7 % of the change in Higher Difficulty Test scores ($n^2 = .177$) were attributable to the effect of RSI, respectively. Therefore, the null hypothesis stating “at no level of text difficulty reading performance is more improved as a result of RSI” was rejected.

Regarding question three, descriptive characteristics (mean and standard deviation) of the attitude questionnaire scores for the Appropriate Difficulty Test and the Higher Difficulty Test are shown in Table 6.

Table 6. Mean of Attitude Questionnaire Scores Regarding Appropriate Difficulty Test and Higher Difficulty Test for Experimental and Control Groups

Group		Pre-test ADT	Post-test ADT	Pre-test HDT	Post-test HDT
Exp.	N	24	24	24	24
	Mean	58.2917	97.7083	63.5417	94.2917
	SD.	3.11349	4.18568	3.68285	4.51547
Cont.	N	24	24	24	24
	Mean	49.8750	50.7917	50.3750	53.4583
	SD.	3.09716	3.55062	3.75109	4.07515

Given the high correlation between the dependent variables (dependent variables correlated from about .3 to about .7 are eligible) that was calculated to be .97, univariate analysis of covariance was alternatively employed. ANCOVA also assumes normal distribution, homogeneity of variance, and homogeneity of regression slopes. Due to space considerations, suffice it to say that the three assumptions were satisfied. Tables 7 and 8 show the results of ANCOVA for Appropriate Difficulty Test and Higher Difficulty Test, respectively:

Table 7. Analysis of Covariance on the Effect of RSI on Attitude toward Reading Strategies Regarding Appropriate Difficulty Test

Source	Type III	df	Mean	F	Sig	Partial
	Sum of		Square		.	Eta
Corrected	26448.9	2	13224.4	904.38	.00	.676
Intercept	527.678	1	527.678	36.086	.00	.445
Group	8168.56	1	8168.56	558.62	.00	.625
Pre-test	34.897	1	34.897	2.386	.12	.050
Error	658.020	45	14.623			
Total	291734.	48				
Corrected	27107.0	47				

* Dependent Variable: Post-test Appropriate Difficulty Test

The ANCOVA depicted in Table 7 shows that the attitude questionnaire scores for the Appropriate Difficulty Test after treatment were not dependent on the initial attitude questionnaire scores for this test before treatment ($F(1, 45) = 2.38, p = .12$; partial $\eta^2 = .05$). As noted in the table, the main effect for the group was statistically significant after partialling out the differences in the initial attitude questionnaire scores ($F(1, 45) = 558, p = .000$; partial $\eta^2 = .62$). Therefore, the null hypothesis stating “RSI has no effects on attitude toward reading strategies of Iranian EFL students while reading texts of different difficulty levels in L2” is rejected for Appropriate Difficulty Test. Table 8 shows the results for Higher Difficulty Test.

Table 8. Analysis of Covariance on The Effect of Reading Strategy Instruction on Attitude Toward Reading Strategies for Higher Difficulty Test

Source	Type III	df	Mean	F	Sig.	Partial Eta
	Sum of		Square			Squared
Corrected	20142.56	2	10071.280	632.363	.00	.493
Model	1				0	
Intercept	443.936	1	443.936	27.874	.00	.382
Group	3397.509	1	3397.50	213.32	.00	.461
Pre-test	134.227	1	134.227	8.428	.00	.158
Error	716.689	45	15.926			

Total	282820.0	48
Corrected	20859.25	47
Total	0	

* Dependent Variable: Post-test Higher Difficulty Test.

The ANCOVA depicted in Table 8 shows that the attitude questionnaire scores for the Higher Difficulty Test after treatment were dependent on the initial attitude questionnaire scores before treatment ($F(1, 45) = 8.42, p = .006$; partial $\eta^2 = .15$). As noted in the table, the main effect for group was statistically significant after partialling out the differences in the initial attitude questionnaire scores ($F(1, 45) = 213, p = .000$; partial $\eta^2 = .46$). Therefore, the null hypothesis that RSI has no effects on attitude toward reading strategies for Higher Difficulty Test is rejected.

Regarding question four, descriptive characteristics (mean and standard deviation) of variables in question 4 are shown in Table 9.

Table 9. Mean and Standard Deviation of Gain Scores in Appropriate Difficulty Test and Higher Difficulty Test

	Gain Score for ADT	Gain Score for HDT
N	24	24
Mean	39.41	30.75
SD.	4.8	3.6

As Table 9 illustrates, the mean and standard deviation of gain scores of attitude questionnaires for the two Tests in the experimental group are 39.41 and 4.8, and 30.75 and 3.6, respectively. Table 10 shows the results of dependent sample t-test to answer the fourth research question.

Table 10. Results of T-Test on the Comparison of the Gain Scores of Attitude Questionnaires for Appropriate Difficulty Test and Higher Difficulty Test

	N	Mean	SD	Partial Eta	t	df	sig
Gain Score of attitude	24	39.41	4.8	.625			
Gain Score of attitude	24	30.75	3.6	.461	7.678	23	.000

The analysis of the dependent t-test yielded a significant difference between the mean gain scores of the attitude questionnaires for the Appropriate Difficulty Test and Higher Difficulty Tests: $t(23) = 7.67, p = .000$. In view of a larger mean gain score (39.41) of the attitude questionnaire for the Appropriate Difficulty Test compared to the attitude questionnaire for the Higher Difficulty Test (30.75), it can be inferred, RSI exerts a higher influence on students' attitude toward reading strategies when they read a text appropriate to their reading proficiency level. The magnitude of this effect size can also be inferred from the column of Partial Eta Squared, where 62.5 % of the change for the Appropriate Difficulty Test ($\eta^2 = .625$), and 46.1 % of the change for the Higher Difficulty Test ($\eta^2 = .461$) were attributable to the effect of RSI. Therefore, the null hypothesis stating "at no level of the text difficulty attitude toward reading strategies is more improved as a result of RSI in L2" was rejected

DISCUSSION AND CONCLUSIONS

This study had some main findings.

- A) The experimental group outperformed the control group in reading performance in the two reading tests with different difficulty levels as a result of RSI in English;
- B) The experimental group outperformed the control group in attitude toward reading strategies in the two reading tests with different difficulty levels as a result of RSI in English.
- C) As a result of RSI in English in the experimental group, a significant difference was observed in the gain score from pre-test to post-test in the two reading tests; Higher gain score was seen in Appropriate Difficulty Test than in Higher Difficulty Test.
- D) As a result of RSI in English in the experimental group, a significant difference was observed in the gain score from pre-test to post-test in attitude toward reading strategies. A higher gain score was seen in the Appropriate Difficulty Test than in the Higher Difficulty Test.

There are many studies indicating that reading strategy instruction facilitates reading performance (e.g., Jafarigohar & Khanjani, 2014; Roohani, 2015). However, these studies did not address the differences in the effect size of RSI on reading comprehension performance and attitude toward reading strategies when the text difficulty level changes. This study filled this gap as it revealed reading strategy instruction improves students' performance even when they read a more difficult text, yet the effect size is considerably larger when students read a text relative to their reading ability level.

Various studies have shown a strong relationship between reading attitude, reading strategies and reading success. (e.g., Yamashita, 2013; Yousefvand & Lotfi, 2011). The findings of this research also revealed RSI can turn students' attitudes toward reading strategies into more positive and favorable ones. However, previous studies did not consider the effect of RSI on attitude toward reading strategies considering the intervening effect of text difficulty level. The

findings of this study do not support Halladay's finding mentioned earlier above. In the current study, the participants took an Appropriate Difficulty Level reading test and another test one level higher in difficulty level. Although in both tests they showed improvements in reading performance and attitude toward reading strategies, with an increase in difficulty level both their reading performance and their positive attitude toward reading strategies decreased significantly. This study was unique in that it probed into the effects of RSI on attitude toward reading strategies in texts with varying difficulty levels. It can be implied that attitude toward reading strategies improves differently for texts of different difficulty levels as a result of RSI. This would signify that students find reading strategies as helpful tools in the process of text decoding. Yet, when the inherent difficulty of the text is above students' reading ability level, students experience a harder time for comprehending the text, and their favorable attitude toward reading strategies diminishes.

To find out if there is any single and holistic system for multiple languages in one mind, Lasagabaster (2005) investigated attitudes of students towards Basque, Spanish, and English and found that "bi/multilinguals' languages are inter-related and united as a single, holistic language system" (p. 28) and that language attitudes should be considered as one system, which is a holistic description of attitudes. It is concluded from the findings of the study that through reading strategy instruction in L2, students can improve their reading performance and attitude toward reading strategies both when the text is at an appropriate level and when it is a level more difficult than their reading ability level. However, reading strategy instruction in L2 can be considerably more effective in terms of both attitude toward reading strategies and reading performance when students read the appropriate text. This is well reflected in the Cognitive Load Theory (CLT) model as higher cognitive load slows down students' processing and complicates comprehension to a certain extent.

Studying at university level is a huge task. Students are given assignments or term projects that require them to read more in English. It is important to lead students to read materials that are at an appropriate difficulty level and not much beyond that as this might cause at least lack of understanding, misunderstanding, or a negative attitude toward reading strategies. Based on the results of this study, material developers should design textbooks with a view to optimizing the difficulty level of the text. As might be expected, the higher the inherent difficulty of the text, the higher the cognitive load and consequently the lower reading performance and attitude to reading strategies will be. As Cubukcu (2008) reported instruction of metacognitive reading strategies enhanced reading comprehension among advanced EFL learners and made them more effective, autonomous, and strategic readers. Sadighi and Zarafshan (2006) found that Iranian EFL learners with a higher positive attitude reported more use of language learning strategies than those with a negative attitude. However, holding negative attitudes toward reading strategies as a result of the heavy cognitive load of the reading text might have consequential adverse effects on other affective factors such as motivation and autonomy in reading.

Hossein Zabihi Shorkaee is currently a Ph.D. student in TEFL. He completed his M.A. in TEFL and graduated from the University of Mazandaran, Iran. His main research interest is in issues in print and online reading, instructed second language acquisition, and cognitive and affective factors in learning.

Seyed Hassan Talebi is an assistant professor teaching and research at the University of Mazandaran, Iran. His main areas of research interest are cross-linguistic influence, issues in L1 and L2 reading, instructed second language acquisition and bilingualism.

E-mail: talebielt@gmail.com

REFERENCES

- Anderson, N. J. (2003). Teaching reading. In D. Nunan (Ed.). *Practical English Language Teaching* (pp. 67-86). New York: McGraw Hill Publishers.
- Anvari, S. & Farvardin, M. T. (2016). Revisiting lexical inferencing strategies in L2 reading: A comparison of successful and less successful EFL inferencers. *The Reading Matrix: An International Online Journal*, 16(1).
- Blachowicz, C., & Ogle, D. (2001). *Reading comprehension: strategies for independent learners*. New York: The Guilford Press.
- Carrell, P. (2003). Content and formal schemata in ESL reading. *TESOL Quarterly*, 21, 461-481.
- Cubukcu, F. (2008). Enhancing vocabulary development and reading comprehension through metacognitive strategies. *Issues in Educational Research*, 18(1), 1-11.
- Day, R., & Bamford, J. (1998). *Extensive reading in the second language classroom*. Cambridge: Cambridge University Press.
- Day, R. & Park, J. S. (2005). Developing reading comprehension questions. *Reading in a Foreign Language*, 17, 60-73.
- Edwards, J. (1994). *Multilingualism*. London and New York: Rutledge.
- Efklides, A. (2011). Interactions of metacognition with motivation and affect in self-regulated learning: The MASRL model. *Educational Psychologist*, 46, 6-25.
- Gardner, R. C. (1985). *Social psychology and second language learning: the role of attitudes and motivation*. Maryland: Edward Arnold.
- Grabe, W. & Stoller, F. (2002). *Teaching and researching reading*. Applied Linguistics in Action Series, Pearson Education.
- Halladay, J. (2008). *Difficult texts and the students who choose them: the role of text difficulty in second graders' text choices and independent reading experiences*. (Doctoral dissertation). Retrieved from ProQuest. (1685138491)

- Jafarigozar, M., & Khanjani, A. (2014). Text difficulty effect on metacognitive reading strategy use among EFL learners. *GEMA Online® Journal of Language Studies*, 14(2), 47-59.
- Javed, M., Eng, L. S., & Mohamed, A. R. (2015). Developing reading comprehension modules to facilitate reading comprehension among Malaysian secondary school ESL students. *International Journal of Instruction*, 8(2), 139-154. DOI: 10.12973/iji.2015.8211a
- Kieffer, M. J., & Box, C. D. (2013). Derivational morphological awareness, academic vocabulary, and reading comprehension in Spanish-speaking language minority learners and their classmates. *Learning and Individual Differences*, 24, 168–175. doi:10.1016/j.lindif.2012.12.017
- Fatma S. K. (2011) The relationship between reading comprehension strategies and reading attitudes. Education 3-13. *International Journal of Primary, Elementary and Early Years Education*, 39(3), 289-303, DOI: 10.1080/03004270903514320
- Koda, K. (2005). *Insights into second language reading*. Cambridge: Cambridge University Press.
- Lasagabaster, D. (2005). Bearing multilingual parameters in mind when designing a questionnaire on attitudes: Does this affect results? *International Journal of Multilingualism*, 2(1), 26-50.
- Lau, K.L. (2006). Reading strategy use between Chinese good and poor readers: a think aloud study. *Journal of Research in Reading*, 29, 383-399.
- Lin, L., Zabrocky, K. M., & Moore, D. (2002). Effects of text difficulty and adults' age on relative calibration of comprehension. *American Journal of Psychology*, 115(2), 187- 98.
- Kieffer, M. J., Petscher, Y, Proctor, C. P. & Silverman, R. D. (2016). Is the whole greater than the sum of its parts? Modeling the contributions of language comprehension skills to reading comprehension in the upper elementary grades. *Scientific Studies of Reading*, 20(6), 436-454, DOI: 10.1080/10888438.2016.1214591
- Mokhtari K, & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education*, 25(3), 2–10.
- Noels, K. A., Pelletier, L. G., & Vallerand, R. J. (2000). Why are you learning a second language? Motivational orientation and self-determination theory. *Language Learning*, 50, 57-85.
- O'Malley, J. M., & Chamot, A. U. (1987). The cognitive academic language learning approach: A bridge to the mainstream. *TESOL Quarterly*, 21, 227-249.
- Pang, J. (2008). Research on good and poor reader characteristics: Implications for L2 reading research in China. *Reading in a Foreign Language*, 20(1), 1-18.
- Paas, F., & van Merriënboer, J. J. G. (1994). Instructional control of cognitive load in the training of complex cognitive tasks. *Educational Psychology Review*, 6, 51–71.

- Richards J.C., Platt, J., & Platt, H. (1992). *Longman dictionary of language teaching and applied linguistics*. London: Longman.
- Roohani, A., & Asiabani, S. (2015). Effects of self-regulated strategy development on EFL learners' reading comprehension and metacognition. *GEMA Online ® Journal of Language Studies*, 15(3), 31-49.
- Silverman, R. D., Proctor, C. P., Harring, J. R., Hartranft, A. M., Doyle, B., & Zelinke, S. B. (2015). Language skills and reading comprehension in English monolingual and Spanish-English bilingual children in grades 2-5. *Reading and Writing*, 28(9), 1381-1405. doi:10.1007/s11145-015-9575-y
- Smith, M. C. (1990). A longitudinal investigation of reading attitude development from childhood to adulthood. *The Journal of Educational Research*, 83, 215-219.
- Su, C. (2006). Evaluation of reading skills applied in the first-year college English reading course. *Tenth International Symposium on English Teaching Proceedings* (pp. 579-587) Taipei: Crane Publishing.
- Swanson, H. L., Rosston, K., Gerber, M., & Solari, E. (2008). Influence of oral language and phonological awareness on children's bilingual reading. *Journal of School Psychology*, 46, 413-429. doi:10.1016/j.jsp.2007.07.002
- Urquhart, S. & Weir, C. (Eds.) (1998). *Reading in a foreign language: process, product and practice*, Harlow: Longman.
- Yamashita, J. (2007). The relationship of reading attitudes between L1 and L2: An investigation of adult EFL learners in Japan. *TESOL Quarterly*, 41(1), 81-105.
- Yamashita, J. (2013). Effects of extensive reading on reading attitudes in a foreign language. *Reading in a Foreign Language*, 25(2). 248-263.
- Yousefvand, Z., & Lotfi, A. (2011). The effect of strategy-based reading instruction on Iranian EFL graduate students' reading comprehension and their attitudes toward reading strategies instruction. *Journal of Academic and Applied Studies*, 1, 39-55.