

The effect of “Short-Circuit” L1 use of pre-reading activities on L2 reading comprehension and focus-on-vocabulary learning

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Abstract

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This study explores the effect of categorically different pre-reading activities in learners' L1 on reading comprehension and learning of focus-on-vocabulary. The participants were sixty Turkish EFL learners attending a state high school, and the data was gathered from their achievement test scores. We analyzed the data through one-way multivariate analysis of variance (MANOVA) and implemented t-test statistical procedures. The findings revealed that the treatment group, who were exposed to pre-reading activities in L1, obtained better results both in reading comprehension and focus-on-vocabulary activities than the control group. The positive effect of implementing the 'short-circuit' L1 use in pre-reading activities for reading comprehension and focus-on-vocabulary exercises was observed. It was also seen that categorically different pre-reading activities enhanced EFL learners' reading comprehension and vocabulary learning.

1. Introduction

Reading is a challenging language skill with its complex nature, which requires cognitive demands for language learners. (Bernhardt, 2004; Afflerbach et al., 2008; Bernhardt, 2011; Ghafar & Dehqan, 2012; Kilpatrick et al., 2019). In a reading class, the fundamental aim is to comprehend the intended message by interacting with it and extracting meaning (Lestrud, 2013). However, reading texts may include unfamiliar concepts and vocabulary which may impede comprehension (Taglieber et al., 1988). Hence, readers must adopt distinct strategies to overcome these boundaries while reading. Common to all, they try to build connections with their existing prior knowledge and with what is new to them (Aron, 1986). This existing knowledge, referred to as background knowledge, comprises all experiences of the reader, including language.

Melendez & Pritchard (1985) developed cultural schemata theory based on the notion of readers' cultural background. Their theory suggests that previous knowledge is organized into units of home and target culture within formal and informal structures. Research also identified formal and content schemas within a narrow and broad sense. Formal schema, which includes various structural usages of language (poetry, academic articles, stories, and scientific texts), refers to the background knowledge that is related to rhetorical structures (Carrel, 1987); on the other hand, content schema refers to more general concepts related to the readers' background knowledge about the world, the universe, people, and culture (Carrel & Eisterhold, 1983). This knowledge of the schema has also been investigated in language teaching and learning contexts. Finding relevant texts to activate language learners' background knowledge has been a challenging task for teachers (Cook, 1997). Research has evidenced that the top-down and bottom-up processes are utilized in activating learners' backgrounds in a broader sense

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knowledge. The top-down process refers to a holistic way in which the primary aim is to activate learners' background knowledge to predict and understand the given text. On the other hand, the bottom-up process refers to the decoding of individual words and sentences to predict and understand the given text (Gass & Davey, 1981).

Considering the language proficiency of L2 learners, an interplay between the top-down and bottom-up processes is considered an effective way of improving second language reading comprehension (Verhoeven, 1990; Lee & Schallert, 1997; Lee, 2009). Hence, providing different activities by combining and conforming to the content of the text with the background knowledge of the learners is a beneficial way to activate learners' background schemata (Lee, 2009). According to Barnhardt (2011), pre-reading activities with this respect are key strategies for activating language learners' background knowledge and assisting them in understanding the gist of the text. Further to that, these activities assist them in aligning the structures and vocabulary with the main idea in the text (Bilokcuoğlu, 2011).

Pre-reading activities are defined as a set of pedagogical techniques that are used to prepare language learners for the while-reading process or the whole text. These activities are designed to assist language learners to process the reading text in a more concrete way (Tudor, 1990). Tudor (1989) identified seven distinct categories of pre-reading activities based on a corpus analysis of 23 ELT coursebooks. He aimed to provide a framework for language teachers with a wide range of options to develop pre-reading materials. Table 1 depicts this categorization of pre-reading activities and their formats.

Table 1. Categories of pre-reading activities.

Categories	Formats
1. Vocabulary priming	a. Word list without definitions b. Word list with definitions c. Vocabulary-based prediction
2. Purpose setting questions	a. Purpose questions b. Comprehension questions
3. Text-based prediction	a. Selective text processing b. Skim read c. Information focus
4. Content organizers	a. Background information provision (Text source, Text topic, Topic relevant information) b. Text summary
5. Pre-questions	a. Factual elicitation b. Personal response c. Aided personal response
6. Metalinguistic focus	a. The written word II b. Discovering discourse c. Discourse in action
7. Integrated reading preparation	a. Complex pre-reading b. Thematic units

Adapted from/Source: Tudor (1989, p. 327)

Vocabulary learning and reading skills are interrelated. According to Erten (2018), this interrelatedness is unidirectional which contributes one to another. Wesche & Paribakht (2002) argue that reading comprehension tasks yield tangible benefits for learners in learning different features of the words with the aim of enhancing vocabulary knowledge in those reading tasks. On the other hand, Tierney et al. (1985) claim that when keywords are introduced beforehand to the learners, it is likely that they construct the meaning from the reading text in a productive way.

Pre-reading activities not only engage the learner's background knowledge of the given text but also establish a link between the keywords of the text and their existing vocabulary knowledge. For Pittelman and Johnson (1984), the major objective of curriculum designers in pre-reading activities is to activate the learner's existing conceptual framework by offering new connections to develop a relationship between the familiar and the unknown. Nunan (2015) also claims that focusing on essential vocabulary in pre-reading activities assists learners in preparing for an unfamiliar reading text.

Previous research has found evidence of the priming effects of pre-reading activities on language learners' reading comprehension and vocabulary growth (Rasouli et al., 2019; Bilokcuoğlu, 2011; Alessi, & Dwyer, 2008; Ajideh, 2006; Tudor, 1989; Hudson, 1982). Most of these studies were based on activating the background knowledge of language learners using a variety of different techniques or strategies. Although researchers suggest

that using pre-reading activities facilitate reading comprehension and vocabulary development, the use of L2 in the pre-reading activities may fail to activate the relevant schemata in the EFL learners' minds. The use of L1 is a pre-eminent concern in foreign language teaching and learning contexts (Swain & Lapkin, 2000; Turnbull, 2001; Storch & Wigglesworth, 2003; Seng & Hashim, 2006; Greggio & Gil, 2007) and the reawakening of L1 use after strong opposition to traditional methods has aroused much interest among researchers.

Recent trends in second and foreign language teaching; particularly, translanguaging (Vogel & García, 2017; Wei, 2018; Wei & García, 2022), trans-foreign-languaging (Nijhawan, 2022) or multilanguaging (Sauer, 2020) reconceptualized and rationalize the use of L1 viewing its use as a transcendent area where learners switch between and among their linguistic repertoires without linguistic boundaries (Otheguy, García & Reid, 2015). However, in many EFL contexts, the use of L1 is still excluded from their teaching practices since it is considered to provoke L1 interference (Liu et al., 2004). Our study, therefore, focuses on uncovering whether the 'short-circuit' L1 use of EFL learners in pre-reading activities will make a difference in L2 reading comprehension and vocabulary learning.

2. Literature review

There is a plethora of research on pre-reading activities and their effects on learners' reading comprehension and vocabulary learning (Hudson, 1982; Tudor, 1990; Taglieber et al, 1988; Ajideh, 2006; Alemi & Ebadi, 2010; Mihara, 2011; Bilokcuoğlu, 2011; Sousa, 2012; Azizifar et al., 2015; Hashemi et al., 2016); Rasouli et, al., 2019). These activities induce learners' background knowledge related to the reading content. According to Melendez and Pritchard (1985), pre-reading activities help learners prepare cognitively for while-reading activities and activate their proper schemata. In what follows, we classified the literature first on the studies on categorically different types of pre-reading activities and vocabulary knowledge in reading comprehension.

2.1. Categorically different types of pre-reading activities

The effect of categorically different pre-reading activities on learners' reading comprehension was investigated in ESL and EFL contexts within experimental research designs. Hudson (1982), in his study, compared the pre-reading activities of pre-reading (PRE), vocabulary (VOC), and read test (RT) within a repeated measures design. Each pre-reading activity was implemented consecutively, and a test was administered to the learners. Compared to the other two pre-reading activities: vocabulary and read test, he found that ESL learners attending an intensive language institute at the beginning, middle, and advanced levels displayed progress in their reading comprehension with pre-reading exercises. Tudor (1990) investigated the effect of four different content-schema-oriented pre-reading activities: summary, pre-questions, topic, and vocabulary, on the reading comprehension proficiency levels of (low, middle, and high) EFL French university students. Within two experiments, he used a text summary and a set of pre-questions in the first experiment and a topic prediction and a vocabulary-based task in the second experiment to gauge the level of learners' activation of their background knowledge regarding the reading texts. He reported that all the pre-reading activities had an effect on activating learners' background knowledge; however, they differed in terms of the interaction between the activity and learners' proficiency levels.

In another study, Mihara (2011) compared the effectiveness of vocabulary pre-teaching and pre-questioning activities in three Japanese intermediate EFL classes. She also aimed to reveal whether there was a link between pre-reading activities and learners' perceptions within a survey design. Each group took the two-pre-reading activity respectively and reflected their views regarding the activities. The statistical results indicated that pre-questioning reading pre-activities were more efficient than vocabulary pre-teaching. While vocabulary pre-teaching was less effective as a pre-reading activity, learners preferred this pre-reading category according to the results of the questionnaire.

Taglieber et al. (1988) investigated the effects of pictorial context, vocabulary pre-teaching, and pre-questioning pre-reading activities on Brazilian EFL learners' reading comprehension within an experimental research design. For the measurement process they used open-ended and multiple-choice test. They found that all pre-reading activities had a positive effect on learners' reading comprehension as compared to control group; however, vocabulary pre-teaching activities were not as effective as the other two types of pre-reading activities. Alemi and Ebadi (2010) aimed to reveal the effect of different pre-reading activities on the reading performance of 40 EFL university students. They administered five reading comprehension sessions. Learners in treatment groups were given pictorial context, vocabulary pre-teaching and pre-questioning activities. However, learners in the control group were not exposed to any treatment. A post-test was used to measure reading comprehension between the groups,

and their study revealed that the learners in the treatment group outperformed the learners in the control group in reading performance.

In an Iranian EFL context with the participation of 40 pre-intermediate level learners, vocabulary pre-teaching was used as the pre-reading activity to investigate whether this treatment had an effect on learners' reading comprehension (Rasouli et al., 2019). Within the pre and post-test design, their study revealed that the treatment group who received 10 sessions of pre-reading activities obtained better results as compared to the control group. Based on one control and three experimental research design, Hashemi et al., (2016) implemented three different pre-reading activities (the brainstorming, the KWL, and the pre-questioning techniques) in the experimental groups with the participation of 125 EFL high school learners. They compared them to the control group in which no pre-reading activities were used. Their study showed that the KWL activity (what I know, want to know, learned) significantly improved learners' reading comprehension more than the other pre-reading activities. On the other hand, all the experimental groups obtained better results as compared to the control group.

2.2. *The effect of vocabulary knowledge on teaching reading comprehension*

Research has evidenced that vocabulary knowledge and reading comprehension are interrelated. The use of vocabulary activities in pre-reading activities positively affected learners in the preparation process for the post reading (Koda, 1989; Alessi and Dwyer, 2008; Djuarsa, 2017; Boyer, 2017; Al-Khasawneh, 2019). Koda (1989) used language proficiency and reading comprehension measures, speed word recognition, speed letter identification task and a questionnaire to investigate the effects of transferred vocabulary knowledge in the development of second language reading comprehension performance of 24 EFL Japanese college students. Her correlational study revealed that the vocabulary knowledge of learners in their L1 had an effect on the L2 reading proficiency. Additionally, this transferred knowledge facilitated the acquisition of linguistic knowledge and verbal processing. In a similar vein, Al-Khasawneh (2019) investigated the role of vocabulary size in reading comprehension of EFL Saudi learners attending to department of English Language at King Khalid University. Within a correlational research design using vocabulary size and reading comprehension tests, his study revealed a high correlation between the vocabulary knowledge and reading comprehension of learners.

Alessi and Dwyer (2008) investigated the effect of whether the inclusion of pre-reading vocabulary teaching and while-reading vocabulary teaching on reading comprehension ability of 76 EFL Spanish university students. Within randomly assigned groups and a crossed between subjects experimental design, their study revealed that vocabulary teaching as a pre-reading activity accelerated the speed of language learners' reading skills. Djuarsa (2017) investigated the effect of vocabulary size on reading comprehension of EFL high school learners at a private school in Surabaya context. Based on a correlational research design, a high correlation was found between vocabulary size of learners and their reading comprehension achievement. In a similar vein, to gauge effect of direct vocabulary teaching as in pre-reading activities, Boyer (2017) implemented an experimental research design to reveal whether direct vocabulary teaching has an effect on the third grade EFL learners within a quasi-experimental research design. According to the results of her study, learners who took explicit and direct vocabulary teaching outperformed in reading comprehension as compared to the learners who did not take the intervention.

The hypothesis of the present study is that implementing pre-reading activities in L1 will have a positive effect than pre-reading activities implemented in L2 on of EFL learners' reading comprehension and focus-on-vocabulary scores. Hence, this study attempts to explore the effect of pre-reading activities prepared in L1 on reading comprehension and learning of focus-on-vocabulary in the reading texts. We also investigated whether some categories of pre-reading activities are more effective in L1 and L2 pre-reading activities, we addressed the following research questions;

1. Is there a statistically significant difference in the reading comprehension scores of the groups after the intervention process?
2. Is there a statistically significant difference in the focus-on-vocabulary scores of treatment and control groups ?
3. What is the effect of pre-reading activities in learners' achievement test results?

3. Method

All responsibility belongs to the researchers. All parties were involved in the research of their own free will. Because the data for this study were collected from 60 tenth grade EFL students attending a high school in Turkey

in the 2019-2020 academic year and ethics committee approval was not required then as "TR DİZİN Journal Evaluation Criteria were updated for 2020".

This study was undertaken since previous literature evidenced that the use of different pre-reading activities in ESL and EFL contexts had positive effects on learners' reading comprehension and vocabulary learning. However, no previous study has investigated the effects of L1 use in categorically different pre-reading activities based on the 'short-circuit' hypothesis of Clarke (1988). This hypothesis holds the view that once a learner reaches a certain degree of proficiency in a foreign language, his first language reading abilities can only be transferred to that language respectively (Alderson & Banerjee, 2002). Hence, we hypothesize that learners' reading comprehension level, and vocabulary learning would be higher when categorically different pre-reading activities were implemented in the 'short-circuit' L1 use of EFL learners.

3.1. Participants

The participants in the current study were 60 tenth grade EFL learners attending a high school in Türkiye during the 2019-2020 teaching year. English is an obligatory course with four teaching-hours per week and the learners participated this study as a part of their regular scheduled English classes. One class was assigned as a treatment group (henceforward TG) and the other was used as a control group (henceforward CG) in a non-random fashion. The number of participants were equal (TG= 18 girls and 12 boys: CG=18 girls and 12 boys) in each group. The ages of the participants ranged from 14 to 16 and their proficiency level was the same since the enrolment process of high school students in public high schools is carried out via a national examination based on a predetermined set of achievement percentages. This examination is held at the end of each academic year, and it assesses secondary school learners' reading comprehension and vocabulary knowledge in English as well as other subjects. Therefore, the participants' English proficiency levels were considered to be equal based on the results of this examination.

3.2. Instruments and procedure

Even in nature a quasi-experimental research design, we administered an achievement test (AT) that was taken from national learning management system known as EBA in Turkey to determine the proficiency level of the groups in reading comprehension. The pre and post-test consisted of multiple-choice reading comprehension and multiple-choice focus-on-vocabulary questions. AT questions were distributed as 15 reading comprehension and 10 focus-on-vocabulary questions. Sample AT questions were illustrated in the given table (Table 2).

Table 2. Sample AT questions.

Multiple-choice reading comprehension	Multiple-choice focus-on-vocabulary question
Everybody has a different plan for the future. Mine is being a teacher. Everybody wants to know why I want it. I know I won't earn a lot of money and become famous. But it is a very rewarding job. I will have the chance to teach my students to distinguish right from wrong. I will change them, and they will change the world. Do you understand why I want to be a teacher now?	Everybody has a different plan for the future. Mine is being a teacher. Everybody wants to know why I want it. I know I won't earn a lot of money and become famous. But it is a very rewarding job. I will have the chance to teach my students to distinguish right from wrong. I will change them, and they will change the world. Do you understand why I want to be a teacher now?
6. The writer wants to - - - .	7. "rewarding" means - - - .
A) be famous	A) satisfying
B) earn a lot of money	B) boring
C) shape the future	C) tiring
D) become a well-known person	D) exhausting
E) win a lot of prizes	E) terrifying

This AT provided a baseline to enable the researchers to test their supposition that both groups shared a common language proficiency prior to the treatments.

With the recent developments and amendments in the curriculum design of EFL teaching in 2019, the Ministry of National Education put into action a program for teaching four skills with integrating them into topic themes. The implementation process of this study and the testing procedure were in line with this recent design for the 10th grades. The tenth grade EFL syllabus consists of 10 topic themes, including reading passages for enhancing learners' reading skills, which follow the order of pre-, while, and post-reading activities accordingly. The initial four topic themes from the main course book were selected for the implementation process of this study.

The total implementation process took 32 teaching hours over 8 weeks. Four reading texts that range in length from 200 to 300 words were read by EFL Turkish learners. Later on, they successively took reading comprehension questions and focus-on-vocabulary exercises in the post-reading activities. This process was ordered in the same way for both groups. Pre-reading activities were administered in L1 in the TG and L2 in the CG. The translation and organization of the pre-reading activities were also checked by two EFL teachers at the same school. Four different formats of pre-reading activities from Tudor's (1989) categorization were selected since these formats were also in line with our pre-reading activities in the initial four reading texts of the themes of the learners' EFL coursebooks). The content of the first and second reading texts were not culture-specific texts; however, the content of the third and fourth reading texts were taken from learner's own culture (Table 3).

Table 3. Categories of pre-reading activities and post reading activities

Themes	Reading Texts	Categories	Formats
Theme 1	Education in England	Vocabulary priming	Word list with definition
Theme 2	Time Management	Purpose setting questions	Purpose questions
Theme 3	Seyit Ali	Vocabulary priming	Vocabulary-based prediction
Theme 4	Ahi Evran	Purpose setting questions	Comprehension questions

Following the each pre-, while and post-reading activity of each theme, an achievement test (AT) gauging learners' reading comprehension (15 questions) and the learning of focus-on-vocabulary (10 questions) was administered for measuring process. These 25 questions for each theme were also pilot tested with other 10th grade learners at the same school. The directions and questions were tested and revised after this piloting. All these ATs were administered during the class periods as a part of formal instruction of reading skill and the results were also used to calculate the learners' performance grades for the first semester. The results of pre, post and ATs were analyzed through the statistical software program SPSS 22.0.

3.3. Data analysis

We analysed the data through descriptive and inferential statistical analysis technique by using SPSS software. T-tests were conducted to see the effects of pre-reading activities in the between and within differences of the groups, and a multivariate analysis of variance (MANOVA) was used to examine the effects of variables (four different pre-reading activities in L1 and L2) on reading comprehension and vocabulary learning scores of learners.

4. Results

We firstly hypothesized that learners in TG would attain higher reading comprehension scores, secondly, TG would also attain higher focus-on-vocabulary learning scores than learners in CG, and lastly, both groups would attain higher reading comprehension and focus-on-vocabulary learning scores in their post-tests as compared to their pre-tests after the intervention process. Our measures for reading comprehension and focus-on-vocabulary scores were multiple-choice questions. Initially, we implemented a pre-test to see whether both groups had equal reading comprehension and focus-on-vocabulary levels.

Table 4. Pre-test results of TG and CG.

Groups	The mean values of Pre-test				95% Confidence Interval of the difference				
	n	m	SD	Sig.	t	df	Sig. (2-tailed)	Lower	Upper
TG	30	51.20	19.3237	.453	-.135	58	.893	-10.5507	9.2174
CG	30	51.86	18.9222		-.135	57.97	.893	-10.5508	9.2175

An independent-sample t-test was conducted to compare the levels of the groups before the intervention process. Table 3 shows that there was not a significant difference between the scores of TG (M=51.20, SD=19.3237) and the CG (M=51.86, SD=18.9222); $t(58) = -.135$; $p > .893$ in the pre-tests. The magnitude of the differences in the means was very small (eta squared= 0.2).

1- Is there a statistically significant difference in the reading comprehension scores of treatment and control groups?

A one-way multivariate analysis of variance (MANOVA) was used to investigate the effect of different pre-reading activities in learners' L1 and L2 on reading comprehension and focus-on-vocabulary learning. Four different formats of pre-reading activities were used as the dependent variables: *word list with definition (Theme 1)*,

purpose questions (Theme 2), vocabulary-based prediction (Theme 3), comprehension questions (Theme 4). The independent variables were the groups in which learners' L1 in TG and L2 in CG on reading comprehension and vocabulary learning were implemented.

Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted.

Table 5. Box's test of equality of covariance matrices^a.

Box's M	6,433
F	.595
df1	10
df2	16082.869
Sig.	.819

According to Box Test of Equality of Covariance Matrices (Table 5), our dependent variables did not violate the assumption of homogeneity of variance-co-variance matrices (Field, 2009; Tabachnick & Fidell, 2007). This enabled us to use MANOVA for our dependent variables in reading comprehension and focus-on-vocabulary.

The effects of the four different formatted pre-reading activities in L1 and L2 with reading comprehension and focus-on-vocabulary scores are illustrated separately in the following tables.

Table 6. MANOVA for reading comprehension scores in ATs.

Source	<i>V</i>	<i>F</i>	<i>H. df</i>	<i>E. df</i>	<i>Sig</i>	<i>PES</i>
Multivariate Tests						
Groups	.318	29.496	4.00	55.00	.00	.682

According to the results of multivariate tests of MANOVA in Table 7, there was a statistically significant difference in reading comprehension scores of the groups, $F(4,55) = 29.496$; $p < .00$; Wilk's Lambda = .318; partial eta squared = .69.

Table 7. MANOVA for the effect of different pre-reading activities on reading comprehension ATs scores.

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig</i>	<i>PES</i>
Word list with definition	2968.067	1	2968.067	36.201	.000	.384
Purpose questions	38.400	1	38.400	.269	.606	.005
Vocabulary-based prediction	2666.667	1	2666.667	14.437	.000	.199
Comprehension questions	10349.067	1	10349.067	83.491	.000	.590

When pre-reading activities were considered separately, the second format (purpose questions) in Time Management reading text did not show a statistically significant difference in the scores of the groups. An inspection of the mean scores in the descriptive statistics indicated that although TG had slightly higher scores in this format ($M = 43,0667$, $SD = 11,20016$) than CG ($M = 41,4667$, $SD = 12,67017$), the result did not reach a statistically significant difference $F(29,4) = 29.496$, $p > .606$, partial eta squared = .68.

2-Is there a statistically significant difference in the focus-on-vocabulary scores of treatment and control groups?

Table 8. MANOVA for focus-on-vocabulary scores in ATs.

Source	<i>V</i>	<i>F</i>	<i>H. df</i>	<i>E. df</i>	<i>Sig</i>	<i>PES</i>
Multivariate Tests						
Groups	.404	20.26	4.00	55.00	.00	.596

For the results of focus-on-vocabulary scores in ATs of the groups in Table 8, there was a statistically significant difference between the groups, $F(4,55) = 20.26$; $p < .000$; Wilk's Lambda = .404; partial eta squared = .60.

Table 9. MANOVA for the effect of different pre-reading activities on focus-on-vocabulary ATs scores.

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig</i>	<i>PES</i>
Word list with definition	1859.267	1	1859.267	47.129	.00	.448
Purpose questions	112.067	1	112.067	1.217	.274	.021
Vocabulary-based prediction	448.267	1	448.267	7.164	.01	.11
Comprehension questions	1126.667	1	1126.667	26.822	.00	.316

The second format (purpose questions) in focus-on-vocabulary activities for Time Management text did not show a statistically significant difference in the scores of the groups. An inspection of the mean scores in the descriptive statistics indicated that although TG had slightly higher scores in this format ($M=26,40$, $SD=10,84563$) than CG ($M=23,6667$, $SD=8,15511$), the result did not reach a statistically significant difference $F(20.4) = 41.98$, $p > .274$, partial eta squared = .60.

3- What is the effect of pre-reading activities in learners' achievement test results?

We accepted our last hypothesis that learners in both groups attained higher scores after the intervention process.

Table 10. Paired samples test of TG and CG.

		The mean values of pre-test				95% Confidence Interval of the Difference				
		n	m	SD	Sig.	t	df	Sig. (2-tailed)	Lower	Upper
TG	Pre_Post	30	34.66	15.899	.00	-11.943	29	.00	-40.603	-28.729
CG	Pre_Post	30	6.80	16.219	.005	-2.296	29	.029	-12.856	-.734

The results of paired-samples t-test indicated that there was a statistically significant difference in the scores of the groups in their reading comprehension and focus-on-vocabulary scores. The scores of TG after the intervention process was ($M=34.6$, $SD=15,899$), $t(29)=11.9$, $p<.00$. and the eta squared statistic (1.0) indicated a large effect size. On the other hand, the scores of CG were ($M=6.8$, $SD=16.219$), $t(29)=2.296$, $p<.005$. The eta squared statistic (.30) also showed a large effect size.

5. Discussion

This study aimed to investigate the effect of L1 use in four different pre-reading activities on EFL learners' reading comprehension and learning focus-on-vocabulary scores. Additionally, we aimed to investigate whether these pre-reading activities would affect learners' achievement scores. Our results suggest that in order to answer the first research question, we found that L1 use in pre-reading activities affected positively as compared to L2 use in pre-reading activities. When the second research question was considered, we found that learners who took pre-reading questions in their L1 obtained higher scores in the focus-on-vocabulary questions than the learners who took pre-reading questions in their L2. Finally, in relation to our last research question, different pre-reading activities implemented in both groups had positive effects in reading comprehension and focus-on-vocabulary scores at the end of the intervention process.

We interpret these findings as indicators that pre-reading activities are significant contributors in reinforcing and improving EFL learners' reading skills and vocabulary learning simultaneously.

1-Is there a statistically significant difference in the reading comprehension scores of the groups after the intervention process?

Initially, to answer our first question, we explored whether the use of learners' L1 would affect their reading comprehension scores as compared to those of L2. This suggests that the use of L1 in pre-reading activities is more effective than in L2 in activating learners' background schemata in reading comprehension skills. This finding was consistent with that of Zhang' (2008) study who argued that L1 use in reading comprehension strategies would develop L2 reading skills both cognitively and conceptually. Due to the internal and external factors such as the preparation process of secondary school students for the high school entrance examination, EFL teachers commonly pursue Grammar Translation Methodology. This situation might also serve as a moderator factor in triggering and transferring of their previous L1 reading strategies into their L2 reading comprehension (Hock & Hashim, 2006). However, in purpose questions of the reading text in the second theme, the results did not show a significant difference between the groups. It might be argued that preparing learners for reading text that contain the schema of a general topic allowed learners to comprehend the text more easily not only in their L1 but also in L2 (Golombek & Stott, 2004).

2- Is there a statistically significant difference in the scores of focus-on-vocabulary questions of TG and CG ?

Our second research question focused on whether there were differences in the scores of focus-on-vocabulary questions of the groups. From the key findings of focus-on-vocabulary questions, L1 use in pre-reading activities had a positive effect on learning these words. Two of the pre-reading activities (word list with definition and vocabulary-based prediction) used in this study were based on teaching vocabulary for reading comprehension and focus-on-vocabulary skills of learners. Hence, teaching key vocabulary; especially prior to actual reading comprehension activities is regarded as strong predictors of and facilitators for successful reading comprehension and learning key vocabulary respectively (Alderson, 2005; Joshi, 2005; Manyak & Bauer, 2009; Ricketts et al,

2007). In a similar study, Proctor et al. (2006) revealed that L1 (Spanish) vocabulary knowledge and use in L2 (English) reading activities resulted in fluency and fast reading for the learners. In Koda's study (1989), which also supports the findings of the current study, showed that L1 vocabulary knowledge increased language learners' reading comprehension significantly. However, as was in reading comprehension questions, in purpose questions of the reading text in the second theme, the results did not show a significant difference in focus-on-vocabulary questions between the groups.

3-What is the effect of pre-reading activities in learners' achievement test results?

Our third question concerned that whether pre-reading activities in learner's L1 and L2 would influence positively both their reading comprehension and focus-on-vocabulary learning at the end of the intervention process. According to the results of paired-samples tests, learners' who took pre-reading activities in their L1 outperformed in both reading comprehension and focus-on-vocabulary questions; however, learners who took pre-reading activities in their L2 also obtained significant progress both in their reading comprehension and focus-on-vocabulary questions as compared to their initial success. Although Golombek and Stott (2004) argue that reading texts that are culture specific and familiar to learners do not ensure to be better understood by learners, we hypothesize that the effect of culture specific (Nunan, 1985; Koh, 1985) and familiar reading prompted them positively in achieving high scores after the intervention process.

6. Conclusion

Studies on reading skill and vocabulary learning in EFL/ESL contexts proved that implementing various pre-reading activities does have a positive effect on ESL/EFL learners reading comprehension and vocabulary learning (Hudson, 1982; Tudor, 1990; Mihara, 2011; Taglieber et al., 1988; Alemi & Ebadi, 2010; Bilokcuoğlu, 2011; Rasouli et al., 2019; Sousa, 2012; Hashemi et al., 2016; Koda, 1989; Alessi & Dwyer, 2008; Djuarsa, 2017; Al-Khasawneh, 2019; Boyer, 2017) by activating their background knowledge (Carrel & Eisterhold, 1983; Carrel, 1987; Taglieber et al., 1988). Considering this research paradigm, this study compared the effect of L1 and L2 use in four different formatted pre-reading activities. The results showed that the '*short-circuit*' L1 use in pre-reading activities was clearly more effective in improving reading comprehension and focus-on-vocabulary scores than L2 use in these activities.

Although this study provided insights about L1 use in different pre-reading formats and its effect on learners' reading comprehension and focus-on-vocabulary learning, it has limitations. First, as previously mentioned the EFL learners getting prepared for high school entrance examination have experienced the use of L1 in their classes. Future investigations of pre-reading activities might be designed to address this limitation in EFL contexts. Second, each learner has a different motivation and intelligence type which might influence their preferred reading comprehension and vocabulary learning strategy. Hence, as a limitation of this study, the participants were assumed as having the same motivational instincts and intelligence type. As previously mentioned, the integration of four skills into topic themes and teaching grammar within a GTM perspective, pre-reading activities are commonly neglected due to the restricted time and scope within Turkish EFL contexts.

6.1. Implications

We are of the opinion that this study may shed light for EFL pre- and in-service teachers for arousing concern and interest in using various pre-reading activities to assist their learners in reading skill. Therefore, future research might include the use of GTM as a variable in EFL contexts. Lastly, while the reading texts used in this study were typical and limited to the selection from the textbooks designed for 10th grades. Keeping the intervention process for the whole teaching year with different oriented reading texts and implementing a delayed post-test to investigate whether the use L1 in pre-reading activities will have an effect on both EFL learners' reading comprehension and focus-on-vocabulary scores in their genuine examinations at their schools.

The results of this study suggest that conducting pre-reading activities in L1 might be an advantageous and alternative strategy for EFL teachers to enhance their students' reading comprehension. This case also might be a useful technique especially for open-ended questions which EFL teachers hesitate to use in their examinations since they are both time-consuming and difficult to evaluate in a limited time (Omari, 2018). Additionally, the '*short-circuit*' L1 use in pre-reading activities may reduce the anxiety of EFL learners who have difficulty in dealing with reading comprehension questions (Wu 2011; Petrus et al., 2020; Chen et al., 2022). Hence, the findings of this study can be helpful within an optimal way for curriculum designers in EFL contexts.

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Author contribution statements

The authors contributed equally to the research design and implementation, analysis, and the manuscript's writing.

Disclosure statement

The authors reported no potential competing interest.

Ethics committee approval

All responsibility belongs to the researchers. All parties were involved in the research of their own free will. Because the data for this study were collected from 60 tenth grade EFL students attending a high school in Turkey in the 2019-2020 academic year and ethics committee approval was not required then as "TR DİZİN Journal Evaluation Criteria were updated for 2020".

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