An investigation on strategies of reading in first and second languages

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Abstract: This study aims to examine the relationship between L1 and L2 reading. It attempts to explore the nature of reading strategies used by Turkish EFL learners in their L1 and L2. Think aloud protocols and retrospective interviews indicate that L2 proficiency predicts L2 readers’ performance. However, the observation of frequent top down strategies in L2 as well as in L1 reading calls for more research to investigate the multifaceted nature of reading process.

Key words: L2 reading, strategies in L1 and L2 reading, Turkish EFL learners

1. Introduction
Reading is a complex cognitive process of constructing meaning that involves the reader, the text, and the interaction between the reader and the text (Rumelhart, 1977). The reader attempts to interpret the text through use of linguistic knowledge, comprehension strategies, and knowledge of the world. Barnett (1989) sheds light on the process of reading and proposes three types of reading comprehension. The first type of reading comprehension is bottom-up model. In this type, the reader comprehends the text in a linear fashion where he decodes the letters first, then words, phrases and sentences. The second type is top-down model where the reader uses his background knowledge, i.e. schemata, to comprehend the text. The third type is interactive in nature because the reader interacts with the text where he simultaneously decodes and gets samples of information from the text. However, we should note that differing combinations and varying emphases on these cognitive processes and knowledge resources are used when we read for different purposes (Carrell & Grabe, 2002). Studies have also shown that readers use a variety of reading strategies to facilitate the process of constructing meaning while reading for different purposes.

It is apparent that reading is a complex process and there is considerable research to understand the nature of reading in first language (L1). It is not hard to imagine that the development of efficient reading skills in a second language (L2) is even more complex and challenging. Even though research on L1 reading provides insights into L2 reading process, models of first language reading cannot be applied directly to second language reading (Omaggio Hadley, 1993). Studies on L2 reading point to the fact that although reading in first language is considered to share some basic elements with reading in a second/foreign language, important differences are also observed between the two processes (Singhal, 1998).

It is possible to observe certain similarities and differences as highlighted by a number of studies. However, it seems that the research on this area does not provide very clear and conclusive evidence on the nature of these differences and similarities. The aim of this paper is to investigate the nature of the second language reading process and compare it to the process of first language reading.

2. Reading in a Second Language
The reading process in a second language involves a complex cognitive ability because L2 readers usually do not have the same language resources, cultural and social
background knowledge that L1 readers typically have to construct the meaning out of a text (Carrell & Grabe, 2002). In L2 reading, the following factors are observed to affect the process and strategy use:

- proficiency level in the L2 (Bernhardt & Kamil, 1995)
- reader’s background knowledge of the content (Anderson & Pearson, 1984; Carrell & Wise, 1988; Lee, 1986)
- cultural schemata, i.e. cultural familiarity with the issues in text (Pritchard, 1990)
- reading purpose (Anderson, 1991; Grabe, 1991)
- reading ability in the L1 (Carrell, 1991)

Ramirez (1995) provides an overview of major findings on L2 reading and states that reading comprehension has been shown to be affected by numerous factors, including reading abilities in the native language, reader’s cultural experiences, the type of text or genre, reader’s knowledge about the topic, and the linguistic complexity of the text. The research on L2 reading has also established that different types of comprehension strategies are used with particular types of text by efficient readers. Moreover, these strategies can be taught successfully to L2 readers in the classroom through strategy training (Kern, 1989; Raymond, 1993; Salataci & Akyel, 2002). Examining research on the differences between L1 and L2 reading will be beneficial to our understanding of the L2 reading process.

3. Research on First and Second Language Reading

A great deal of research focused on the characteristics of good readers. It has been shown that successful readers are more aware of the strategies they use and observed to use more and various reading strategies that involve both bottom up and top down processes. They are also able to summarize what is read and anticipate information based on the clues in the text (Garner, 1980). As described by Grabe & Stoller (2001, p. 188), good readers read rapidly for comprehension, recognize words rapidly and automatically, integrate text information with their own knowledge, and shift purpose to read strategically. Carrell & Grabe (2002) categorize the differences between L1 and L2 reading under three major headings: Linguistic and processing differences, other individual and experiential differences and socio-cultural and institutional differences. Among these differences, they mention about differing amounts of lexical, grammatical and discourse knowledge at the beginning stages of L1 and L2 reading, varying linguistic differences between two languages, varying L2 proficiencies, differing levels of L1 reading abilities among L2 readers, differing motivations and language learning resources, differing socio-cultural backgrounds of L2 readers, and differing expectations of educational institutions in L1 and L2 settings.

The crucial connection about the relationship between L1 and L2 reading has been highlighted by Alderson (1984) with this question: “Reading in a foreign language: a reading problem or a language problem?” There are two opposing hypotheses about the nature of the relationship between L1 and L2 reading, which may form a response to Alderson’s question:

3.1 Linguistic Threshold Hypothesis (short-circuit hypothesis):

Clark (1980) proposed that efficient L1 readers with a low proficiency in L2 experience a short circuit of effective strategies when confronted with an L2 text. In other words, the top-down processing of their L1 reading changes to bottom-up processing in their L2 because of the inadequate level of proficiency in L2. According to this hypothesis,
certain threshold proficiency in the second language is necessary for good L1 readers to transfer their L1 reading strategies to reading in L2.

3.2 Linguistic Interdependence Hypothesis:
Lee (1991) states that good L1 readers with low proficiency in the L2 can simultaneously combine both bottom-up and top-down knowledge. They are bi-oriented because they are oriented neither from the bottom-up nor from the top-down. According to this hypothesis, linguistic proficiency in L2 is not a powerful influence on the L2 reading process. Good L1 readers can transfer their effective L1 reading strategies to reading in the L2; thus, reading in L2 is very similar to L1 reading.

A number of studies have been conducted to test these two hypotheses: Carrell’s (1991) study does not provide conclusive and full support to one of the hypotheses and shows that both L1 reading ability and L2 proficiency are important predictors of success in L2 reading. For one of the groups she investigated, L1 reading ability was an important predictor, whereas for the other group L2 proficiency was more important predictor. Davis and Bistodeau (1993) investigated whether L1 and L2 reading differ and tested the two competing hypotheses. Their study provided evidence for the short circuit hypothesis and pointed to the fact that limited L2 proficiency changed the participants’ reading strategies. In other words, low L2 proficiency led L2 readers to use more bottom-up strategies. However, it has also been shown that top down components influenced the strategies of these learners. Another study to test the two hypotheses was conducted by Bernhardt and Kamil (1995). They found out that L2 proficiency was a more important predictor of success in L2 reading than L1 reading ability. Similarly, Lee and Schallert (1997) provided evidence for the stronger effects of L2 proficiency rather than L1 reading ability after an investigation of a large sample of EFL students. Tang’s (1996) study, on the other hand, supports both hypotheses and indicates that we still need to explore and understand better the comprehension processes taking place in L1 and L2 reading.

Therefore, this study aims to examine the relationship between L1 and L2 reading in order to contribute to our understanding of the comprehension processes. In doing so, it attempts to explore the strategies used in L1 and L2 reading.

4. The Present Study
The purpose of the present study is to explore the reading strategies that Turkish EFL learners use in their first language, i.e. Turkish, and in their second language, i.e. English. The research questions addressed in the study are:
1. What reading strategies do Turkish learners of English use while reading in their first language, i.e. Turkish?
2. What reading strategies do Turkish learners of English use while reading in their second language, i.e. English?
3. To what extent are the strategies used in L1 reading similar to and different from the strategies in L2 reading?

5. Method
5.1 Participants
The participants for this study consisted of fifteen Turkish learners of English as a foreign language. All participants were native speakers of Turkish who were exposed to English through formal instruction only. They were adult learners at the intermediate level in English based on the results of an EFL exam administered at the national level. A homogeneous group of participants was thought to be appropriate for this study in
order to avoid any effects derived from the factors that influence strategy use. A group of learners who had similar characteristics was invited to participate in the study. Ten participants were female and five were male. The average age of the participants was 38.

5.2 Data Collection Procedure
The data for this study was collected through think-aloud protocols and retrospective interviews. Since the think-aloud protocol is considered to be among the most effective techniques to obtain a comprehensive picture of the process that readers go through at the moment of reading; it is widely used to learn about the strategies the participants used in L1 and L2 reading (Cohen, 1987; Salataci & Akyel, 2002; Tang, 1996; Upton & Lee-Thompson, 2001). The participants wrote a recall protocol to ensure that they were reading for a definite purpose, i.e. to write what they remember about the text they just read. Retrospective interviews were conducted immediately after the participants finished reading the texts and writing the recall protocols. The interview guided the participants to reflect on what they did during reading and to clarify the strategies they used with the help of guiding questions directed by the researcher. Each learner individually participated in the reading sessions. The major steps followed in data collection were indicated below:

1. The researcher explained the purpose of the study and the procedure they were supposed to go through.
2. The researcher demonstrated the think-aloud protocol for the participant to show how it would be done. After the researcher made sure that the participant had a clear understanding of the procedure, the reading text in English was given.
3. The participant read the text while thinking aloud.
4. The participant wrote the recall protocol.
5. The retrospective interview was conducted right after the participant finished reading.

The same procedure was followed for the text in Turkish. There was no time limit for both think-aloud protocols and the interviews. The participants took as much time as they needed to read the texts and think aloud. The reading sessions of each participant were audio-taped separately for subsequent transcription and analysis.

5.3 Data Analysis
The recorded think-aloud protocols and interviews were transcribed and then divided into idea units as belonging to a strategy category (Davis & Bistodeau, 1993).

6. Results and Discussion
The strategies were identified and categorized under two groups. The first group of strategies included both bottom-up and top-down strategies used in L2 reading. The second group focused on L1 reading consisting of bottom-up and top-down strategies. The results are presented and discussed in terms of the research questions asked in this investigation:

6.1 Strategies used in L1 reading
• Research question 1: What reading strategies do Turkish learners of English use while reading in their first language, i.e. Turkish?
The strategies used in L1 reading are stated below. The analysis of data revealed the effects of bottom-up strategies in L1 reading; however, it was observed that the number and variety of bottom-up strategies differed from bottom-up strategies used in L2 reading.

I. Bottom-up strategies:
- Re-reading or restatement: the participant re-reads a phrase or whole sentence; he sometimes restates the phrase or sentence in L1.
- Focusing on the relation between sentences: the participant tries to understand the sentence through connecting to previous sentences.

II. Top-down strategies:
- Prediction: the participant predicts the information in the following sections of the text.
- Inferences: the participant draws conclusions about the content.
- Evaluative comments: the participant makes comments about the content of the text.
- Associations with prior knowledge: the participant uses his word knowledge to understand the text.
- Associations with previous information: the participant refers to information given previously in the text.
- Elaboration on information: the participant elaborates the information given in the text and adds his knowledge on the content.

6.2 Strategies used in L2 reading
- Research question 2: What reading strategies do Turkish learners of English use while reading in their second language, i.e. English?

I. Bottom-up strategies:
- Focusing on individual words: the participant states that he does not know the meaning of the word, or he tries to guess the meaning by focusing on the root and affixes.
- Focusing on the relation between sentences: the participant tries to understand the sentence through connecting to previous sentences.
- Translating a word, phrase or a sentence: the participant translates English utterances into Turkish.
- Re-reading or restatement: the participant rereads a phrase or whole sentence; he sometimes restates the phrase or sentence in L1.
- Dividing the sentence into smaller parts: the participant divides the sentence into smaller units and tries to understand each one by one to construct the meaning in the complex sentence.
- Using previous knowledge to guess unknown words: the participant activates his background knowledge and connects it to the information in the text to understand the meaning of a word.

II. Top-down strategies:
- Prediction: the participant predicts the information in the following sections of the text
- Confirmation or rejection of the prediction: the participant controls whether his prediction was correct or not in the following sentences.
- Inferences: the participant draws conclusions about the content.
- Evaluative comments: the participant makes comments about the content of the text.
- Asking questions: the participant asks questions about the information given in the text.
- Associations with prior knowledge: the participant uses his word knowledge to understand the text.
- Associations with previous information: the participant refers to information given previously in the text.
- Summarizing: the participant summarizes a sentence focusing on the main idea given.
Elaboration on information: the participant elaborates the information given in the text and adds his knowledge on the content.

6.3 Similarities and differences between L1 and L2 reading

- Research question 3: To what extent are the strategies used in L1 reading similar to and different from the strategies in L2 reading?

The data reveal that the participants used both bottom-up and top-down strategies while reading the L2 text. However, it was observed that more top-down strategies were employed in both L1 and L2. Bottom-up strategies were less in number and variety. Considering the level of the L2 readers in the target language, it was hypothesized that they had effective comprehension skills because they tried to construct the meaning in the L2 text through top-down strategies despite the language difficulties they might have at intermediate proficiency level. Use of more top-down strategies in L2 reading appears to be supported by the studies of Hudson (1982) and Hammadou (1991). These studies assert that L2 readers may try to avoid the negative effects of limited L2 proficiency through the use of more top-down knowledge sources such as background knowledge about the topic or predictions/inferences.

A similar pattern was observed when the participants read in their L1. When they read in their L1, they used more top-down strategies than bottom-up strategies. This result, which is consistent with the results of Davis and Bistodeau’s (1991) study, is obviously expected because of the native proficiency in the first language. L1 readers did not face linguistic barriers to comprehend the L1 text so they relied on top-down sources rather than bottom-up ones. However, limited use of bottom-up strategies was observed in L1 reading. L1 readers sometimes felt the need to reread or restate a phrase or a whole sentence to ensure the construction of meaning stated in the text. Other times, they focused on the relation between sentences and tried to connect the information given earlier to the following sentence.

Contrary to the limited use of bottom-up strategies in L1 reading, the participants reported using more bottom-up strategies in their L2. For example, examination of the data indicated that the participants focused on individual words more when they read in their L2 than when they read in L1. Translation of the phrases or sentences into L1 was another commonly used bottom-up strategy in L2 reading. It was observed that the participants tried to translate almost all the sentences in the L2 text. When they could not translate the longer or more complex sentences, they reread and divided the sentences into smaller units they could handle. This type of division was not observed in L1 reading at all. In L1 reading, the participants were able to grasp the meaning of a sentence at once. This fact probably explains why re-reading was observed in L2 reading more than in L1 reading.

In L1 reading, the participants frequently commented on the information given in the text throughout the reading process. For example, the text mentioned about certain disadvantages of watching television for children. The participants indicated their agreement with the information or sometimes added their own ideas related with a given disadvantage in the text. However, in L2 reading, the participants did not make evaluative comments very easily. The reason behind the limited evaluative comments in L2 reading was probably the participants’ efforts to understand the information given in the L2 text. They seemed to be so busy trying to construct the meaning that they could not concentrate on making evaluative comments on the information. Another reason might be that they were not confident about the meaning they inferred from the text. Thus, we observed infrequent and limited evaluative comments in L2 reading.
The most observable difference between L1 and L2 reading was that reading in L2 took more time than reading in L1. The average time for L2 reading was 20 minutes, whereas reading in L1 took approximately 8 minutes. The previous studies on L1 and L2 reading mentioned above have not compared the reading processes in terms of time. This factor was thought to be crucial to observe the differences in information processing taken during two types of reading. It is obvious that L2 readers needed more time to process the information provided in the L2 text with the help of top down and bottom up reading strategies.

The findings of the present study indicate that there are considerable differences between L1 and L2 reading in terms of the strategies and time used to process the information in the texts. The results appear to support Clarke’s linguistic threshold hypothesis, which claims that L2 proficiency level is a strong factor in L2 reading. However, use of more top down strategies in both L1 and L2 reading suggest that Lee’s linguistic interdependence may predict, to some extent, the behaviors of L2 readers. In other words, L1 readers transferred some of their top down strategies into L2 reading despite the linguistic difficulties they experienced. In this case, we need to reconsider the nature of reading process: The reader interprets a text through use of linguistic knowledge, comprehension strategies, and knowledge of the world. Three important factors are obvious: Linguistic knowledge, comprehension / reading strategies, and knowledge of the world. Perhaps, this fact may explain why these hypotheses on their own cannot account for all the activities taking place during L1 and L2 reading since both of them emphasize one of the factors: the linguistic knowledge. Reading is a multifaceted process and must be investigated from different perspectives. It may be too simplistic to consider L2 reading as a language problem, although it is a very strong predictor of the performance in L2 reading.

7. Conclusion
The present study investigated the strategies used in L1 and L2 reading by Turkish EFL learners. The results of “think aloud” procedure and retrospective interviews revealed that Clarke’s linguistic threshold hypothesis predicted some important differences between L1 and L2 reading. However, use of more top down strategies in both L1 and L2 reading implies that L2 readers may be bi-oriented as claimed by Lee’s linguistic interdependence hypothesis. The present study is limited in terms of the number of participants, the research questions asked and the materials used. Further research may focus on participants who are good and bad readers in their L1. In addition, observing the strategies used by L1 and L2 readers over time may provide a deeper understanding of the processes. Other strategies such as effective and social strategies should also be observed through specifically designed tasks. More research is needed to examine the multifaceted reading processes in L1 and L2.

References


**Appendix A: Recall Protocol**

1. Write what you remember about the text in English.
2. Write what you remember about the text in Turkish.
Appendix B: Retrospective Interview
1. Is reading a text in English different from reading in Turkish?
2. If yes, what differences did you experience?
3. What do you think about the think-aloud procedure?
4. Which of the following strategies did you use while reading the English text and while reading the Turkish text?
   - Focusing on individual words
   - Understanding the connection between sentences
   - Restating
   - Predicting
   - Confirming the prediction
   - Making inferences
   - Using background knowledge and experiences to understand the text
   - Understanding the organization of the text
   - Asking questions to myself
   - Translating
   - Understanding the relations within a sentence
   - Visualizing the information given
   - Summarizing
   - Making evaluative comments
   - Rereading