# The effect of answering questions in L1 (Turkish) in an L2 (English) reading test

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## Abstract

Sufficiently developed skills in L1 are considered a precondition for success in the achievement of bilingualism. Moreover, it is reported that language learners whose native language skills are better mastered obtain superior second language proficiency and exhibit higher levels of language competence and accomplishment in L2. This chapter aims at investigating the effect of using test-takers' mother tongue (Turkish as L1) and foreign language (English as L2) in reading comprehension questions in the language classroom. Two groups of adult participants preparing for the Language Exam for Higher Education Institutions (YÖKDİL) were tested under two different conditions. The control group was exposed to the reading test with multiple-choice questions and options in English, while the experimental group was provided with questions and options in their L1. The results indicated that the experimental group participants scored significantly higher than the control group participants, leading to several implications for the use of L1 in language assessment.

## Keywords

English, Turkish, L1, L2, assessment, reading, comprehension

# 1. Introduction

Research on the effect of L1 on success or ability in L2 has revealed that L1 users activate their L1 knowledge in order to simplify the process of foreign language learning (Karim 2003). The already developed skills in L1 are considered necessary for achieving bilingualism (Cummins 1979), and it is also indicated that learners whose native language skills are better mastered gain superior second language proficiency and exhibit higher levels of second language competence and second language classroom accomplishment (Sparks et al. 2008; Artieda 2017).

In addition to the effects of L1 skills on L2, first language use in language classrooms has been debated for many decades and various issues have been voiced on using or not using learners' L1 in the classroom around the world (Cook, Singleton 2014; Lee 2018). The debates include arguments for the negative and positive roles of L1 in L2 learning contexts (Du 2016; Macaro et al. 2018). These debates are often on whether to avoid explanations or translations in L1 in specifically grammatical and oral tasks (Jin, Cortazzi 2018), and on what roles the use of L1 might have in language classrooms (Krajka 2004; Salı 2014) and in tests when investigating cross-cultural perspectives such as L1 use in different contexts and tasks such as translation (Krajka 2019). It is reported that language learners who better master their native language skills obtain superior second language proficiency and exhibit higher levels of language competence and accomplishment in L2 (Sparks et al. 2008; Artieda 2017).

Although there are various differences regarding linguistic knowledge at the initial stages (Table 1), L2 learners are believed to transfer their reading skills in L1 to L2. Therefore, learners with limited literacy abilities in their L1 are not expected to use or transfer strategies or abilities such as problem-solving abilities to L2 reading processes (van Gelderen et al. 2004). This is supported by the developmental interdependence hypothesis, stating that L2 reading development is greatly supported by L1 literacy (Cummins 1991).

L2 learners are then at an advantage as they can benefit from pre-existing and tested reading skills in L1, although their linguistic knowledge in L2 may not be developed and readily available. The question to ask is, then, whether L1 use in language assessment, specifically in reading comprehension tests, can also benefit language learners.

**Table 1.** *Linguistic knowledge at initial stages of L1 and L2 reading based on Grabe and Jiang (2018).*

| L1 reading | L2 reading |
|---|---|
| • Learn to read after speaking | • Reading and speaking at the same time |
| • Master speaking before reading | • Master reading before speaking |
| • Grammatical structures as implicit knowledge | • Grammatical structures as explicit knowledge |
| • Already learned structures / developed linguistic knowledge | • Linguistic knowledge not developed yet but pre-existing reading skills in L1 |

## 2. Literature review

Research conducted on L1 use as the question language in reading assessment has investigated this issue in various perspectives. Previous research has shown that L1 strategies were used by L2 learners in different contexts with various advantages. For example, Nevo (1989) compared the strategy use of forty-two tenth-grade students of French in a reading comprehension test with questions in a multiple-choice format with four alternative answers, where the question language was French and Hebrew. One of the findings indicated that, when the participants had high linguistic knowledge and proficiency in their L1, they were more likely to benefit from the strategies that would help them find the correct answer. Another study, conducted by Seng and Hashim (2006), investigated the use of L1 reading strategies utilized and the possible reasons for using them in L2 reading classes. The participants included randomly selected four female freshmen in an Education course at Universiti Pendididkan Sultan Idris, who were asked to think aloud while reading L2 texts in a group. Based on the analysis of the protocols, it was determined that L1 strategies were used by all participants due to word- and idea-related difficulties they encountered in L2.

The few existing studies investigating the effect of question language on test scores have primarily focused on students at the beginning levels of language learning (Hock, Poh 1979; Shohamy 1984; Godev et al. 2002) largely ignoring advanced-level readers (except Cox et al. 2019) for whom the effect of the question language may be less significant. Furthermore, the research that has

been conducted has focused on commonly-taught L2s such as English, French, and Spanish.

Hock and Poh (1979) investigated the effects of presenting passages in the pre- and post-tests where passages were provided in English and the delayed post-test where the multiple-choice questions were in Bahasa Malaysian. The participants were 39 students in a one-month intensive English course. The findings indicated that when the questions were presented in the participants' L1, their performance improved significantly, which might be attributed to the fact that the participants could understand the questions and options when provided in L1; the participants with weaker abilities in English might have benefited from that. Similarly, investigating the effect of the testing method, Shohamy (1984) studied multiple-choice (MC) and open-ended (OE) questions presented in L1 (Hebrew) and L2 (English) texts. The study included control and experimental phases and was conducted twice with different participants from the population. In the first experiment, the control part included eight short texts with 8 MC English questions, while participants, in the experimental part, were exposed to 'Books' test with 8 MC English, 8 MC Hebrew, 8 OE English, and 8 OE Hebrew questions. The second experiment included the same procedure, but a longer text in the experimental part, the 'Jerusalem' text. The findings indicated that MC questions were found easier than the OE procedure in two different texts and that providing questions in learners' L1 reduced the difficulty level of the reading comprehension.

Godev et al. (2002), on the other hand, analyzed the effects of using learners' L1 and L2 in open-ended questions for reading comprehension. The participants included college-level learners of Spanish and were exposed to different conditions including the combinations of L1 and L2 use in a reading test with seven open-ended questions. The results indicated that the learners' performance increased when they were presented questions in L1.

A very recent study conducted by Cox et al. (2019) aimed at investigating the effects of question language (in L1 and L2) on advanced learners of Russian and their attitudes. The participants included 64 advanced-level readers enrolled in a third-year Russian class with experience in Russian-speaking countries. The participants responded to a test of two ten-question parts with 20 MC questions in total in their native language, English, and their second language, Russian. The results revealed that the participants scored higher on the test whose question language was their native language. The results also

indicated that the participants who answered questions in their native language, English, had a low anxiety level and a higher level of confidence.

The studies reviewed above indicate several positive effects of using L1 as the question language in reading comprehension questions in limited item formats and that mainly learners with limited proficiency in L2 benefit from this. However, the findings are inconclusive considering that there are few studies conducted on the issue of question language and almost all fail to consider learners' views and suggestions on this. The present study aims to fill these gaps by investigating the effects of question language on intermediate learners of English preparing for a language proficiency test in Turkey. This chapter, therefore, aims at investigating the effect of using the test-takers' mother tongue (Turkish as L1) and foreign language (English as L2) in the test questions for reading in the language classroom and also consider the participants' views and suggestions.

# 3. Methodology

In line with this aim of the study, the following research questions were proposed to investigate the effect of question language on the participants' scores:

1. Is there a statistically significant difference in the reading comprehension scores of control and experimental group participants who were exposed to questions in English and in Turkish?

2. What are the views of the learners of English towards answering the questions in their L1 (Turkish)?

## 3.1. Research design

The study benefited from a mixed-method research design including instruments to collect quantitative and qualitative data. The quantitative data were used to determine any significant difference between the control and experimental groups. The qualitative data, on the other hand, were collected to find out the views of the participants regarding answering the questions in L1.

## 3.2. Participants

The participants of the study were general practitioners (n=29) who were preparing for the Language Exams for Higher Education Institutions (YÖKDİL), which was required to qualify for specialization examination and education in Turkey (Turan, Üner 2015). All the participants had had at least eight years of English instruction throughout their education, and their ages ranged from 27 to 38. Based on the proficiency test given by the private language institution which the participants attended, their level of English was determined to be intermediate. Moreover, all the participants shared Turkish as their L1.

## 3.3. Data collection and procedure

Two groups of adult participants (n=29) preparing for Language Exam for Higher Education Institutions (YÖKDİL / YDS) were tested under two different conditions. The control group included 14 general practitioners and was exposed to the reading test which included multiple-choice questions in English, while the experimental group included 15 general practitioners and was provided with questions and options in their L1. The reading test included four texts, each of which included five multiple-choice questions with five options, and the exam duration was 35 minutes (See the appendix for an example test).

During the second week of the training, the participants were contacted through the institution and were informed briefly regarding the study without going into details. Upon their consent, the participants were divided into two groups by the private language institution based on the proficiency test at the very beginning of their training. Therefore, there was no need for a pre-test to indicate that the participants had the same proficiency level and no specific treatment or instruction by the researcher, as the institution followed the curriculum based on the language exam that the participants were required to take. At the end of the third week, the participants were asked to answer twenty reading comprehension questions in four medical texts. The questions were of multiple-choice format and included five options. The control group was exposed to all the questions and options in English, while the experimental group participants were exposed to the same four texts, but the questions and options were presented in their L1, Turkish. One week after the treatment, semi-structured interviews were held with the participants in the experimental group regarding their views on the use of L1 as the question language.

## 3.4. Data analysis

In order to determine whether there would be statistically significant differences between the two groups, the post-test data based on the responses to the reading questions were analyzed using the nonparametric Independent Samples Mann-Whitney U test. An independent Samples t-test was not used, as the population distribution was not normal and was heavily skewed. The responses obtained through semi-structured interviews were subject to content analysis. The transcriptions of the interviews were analyzed for emerging themes and codes by the researcher and another expert in English language teaching.

# 4. Findings and discussion

*Research Question 1: Is there a statistically significant difference in the reading comprehension scores of control and experimental group participants who were exposed to questions in English and in Turkish?*

In order to find an answer to the first research question, an Independent Samples Mann-Whitney U test was calculated. The results indicated that the experimental group participants scored higher than the control group participants, leading to several implications regarding the use of L1 in language assessment (Table 2).

**Table 2.** *The statistical analysis conducted on the posttest.*

| Group | Mean | Std. Deviation | Median |
|---|---|---|---|
| *Control* | 11.57 | 1.505 | 12.00 |
| *Experimental* | 14.53 | 2.167 | 15.00 |
| *Total* | 13.10 | 2.381 | 13.00 |

Table 2 indicates that the experimental group participants had a mean score of 14.53, which is higher than the control group participants with a mean score of 11.57.

The test results also revealed a statistically significant difference in the scores of the experimental group participants (*Md* = 15, n = 15) and of the control group participants (*Md* = 12, n = 14), *U* = 182, *z* = 3.429, *p* = .001, r = .6 (Tables 3 and 4).

***Table 3.*** *Rank results.*

|  | Group | N | Mean Rank | Sum of Ranks |
|---|---|---|---|---|
| Post-test | Control | 14 | 9.46 | 132.50 |
|  | Experimental | 15 | 20.17 | 302.50 |
|  | Total | 29 |  |  |

Table 4 below provides a quick summary of the results of the test. In the analysis, the Sig. value is .001. This is less than .05 and therefore, the difference between these two groups is significant and favors the participants in the experimental group, who were exposed to Turkish as the question language in the reading comprehension test. Moreover, Cohen's (1988) statistical power analysis was also conducted in order to determine the effect size statistic for the Mann-Whitney U test and it was determined as .6, which proved to be a large effect.

***Table 4.*** *Independent-samples Mann-Whitney U test results.*

| Statistic | Result |
|---|---|
| Total N | 29 |
| Mann-Whitney U | 182.500 |
| Wilcoxon W | 302.500 |
| Test Statistic | 182.500 |
| Standard Error | 22.603 |
| Standardized Test Statistic | 3.429 |
| Asymptotic Sig. (2-sided test) | 0.001 |
| Exact Sig. (2-sided test) | 0.000 |

This finding is consistent with that of the studies conducted by Hock, Poh (1979), Shohamy (1984), and Godev et al. (2002) in that the use of L1 as the question language resulted in a significant increase in the scores of the participants. It is also necessary to note that these studies included participants with limited proficiency in L2. However, the participants of the current study were intermediate learners of English and in the same vein, their scores increased. Therefore, based on this finding, it can be stated that the positive effect of using L1 as the question language cannot be limited to the participants at low levels or with limited proficiency.

*Research Question 2: What are the views of the learners of English towards answering the questions in their L1 (Turkish)?*

The analysis of these responses has led to the themes with categories and corresponding codes as indicated in Table 5. In order to determine the views of the participants regarding the use of L1 (Turkish) as the question language, the most representative quotes were selected. Considering all the responses, it can be stated that the participants had an overall positive experience with answering questions in L1 and the majority indicated preference for L1 questions. The responses resulted in two themes, four categories, and seven codes, which have been briefly discussed below.

**Table 5.** *The theme, categories, and corresponding codes.*

| Theme | Categories | Codes |
|---|---|---|
| | *Question difficulty* | Language structures |
| Benefits of L1 as the question language | | Wording |
| | *Psychological effects* | Positive attitudes |
| | | Low anxiety |
| Suggestions on the question language | *Combining L1 and L2* | Use of both languages |
| | *Different item formats* | Open-ended questions |
| | | Short answer |

Regarding the benefits of using L1 as the question language, the majority of the participants (n=25) stated two major merits: question difficulty and psychological effects. According to the participants, as the questions and the options in the multiple-choice questions were provided in their L1, it was easy to understand what was requested due to their familiarity with the language structures. In other words, the participants stated that in L2, which was English in this study, it could be difficult for them to understand what was said or implied in the options although they stressed that they understood the whole passage. When the questions in the previous exams were checked, it was noticed that the options in the multiple-choice questions included either synonyms and/or antonyms of the words used in the reading passage. This was most probably done to avoid revealing the answer by using different words and/or structures so that learners could not find the same words in the reading test. In other words, in order not to use same words and therefore not to lead the test takers to the correct option, either different structures (passive voice instead of active voice) or a synonym or a different conjunction with the same purpose (use of 'due to' rather than 'because of' for example) were used. In such cases, learners may not understand the questions due to unknown vocabulary in the questions and options and the complex structures, resulting in a failure in selecting the correct option, although they might have comprehended the text. This finding is consistent with that of the study by Seng and Hashim (2006), which indicated that the participants benefited from L1 strategies mainly due to wording in L2. This was clearly stressed by one of the participants as follows:

> I can say that I have understood every single line of the text. I can summarize or even talk about the details. However, when it comes to the questions, it is rather difficult. The questions include different structures and words rather than the ones in the text and this makes answering the questions difficult although you could understand what was communicated in the text.

The participants also voiced positive attitudes and low anxiety, which were categorized under 'psychological effects'. Most of the participants (n=22) expressed an opinion that answering questions in their L1 was perceived positively and added that this increased their self-confidence. In addition, a great majority of the participants stated that they had lower anxiety than when answering questions in English, which corroborates the finding of the study by

Cox et al. (2019), which reported a low anxiety level among the participants. This might be attributed to the fact that the participants, as they had to deal with short texts, felt less anxious as the questions and options were provided in L1. This is clearly stated in the following quotation:

> I really liked answering questions in L1. I think there are two reasons for this. One is that, as I knew that questions would be in Turkish, I thought that I could answer the questions easily without suffering from anxiety. I was really anxious about reading comprehension questions, but the questions in Turkish decreased my negative feelings towards the questions.

The participants were also asked to share any suggestions regarding the question language in reading comprehension tests. Several participants (n=15) voiced the need to combine L1 and L2 in the tests and suggested using both languages in the questions. In other words, it was suggested that some questions should be provided in L1 and some in L2. They stated that they were not completely against using L2 questions, as it was also important to be exposed to those questions. One participant underscored this as follows:

> I think there must be questions in learners' L1 and L2. By asking questions in L1, learners can be encouraged to benefit from their L1. However, I do not think that questions should be completely in Turkish. They must be in English, too. We must also be asked questions in English and be exposed to it.

As for the other category, different item formats, they included open-ended questions and short-answers. Several participants (n=17) stated that L1 could also be used in open-ended questions and short answers and added that reading texts could be accompanied by questions in L1 and L2 and learners could be asked to provide their answers in these languages. One of the participants expressed her views as follows:

> We should also try using Turkish in other question types in addition to multiple-choice questions. I mean we can be asked open-ended questions in L1 and/or L2 and we can answer these questions in our language or English. It would be interesting to do it.

Considering all the responses of the participants, it can be stated that the use of L1 is appreciated by the participants as it seems to have decreased their anxiety level but increased their self-confidence. Moreover, as the participants clearly expressed, although they had preference for L1 use in the questions, L2 must also be used as the question language.

# 5. Pedagogical implications

Based on the findings obtained in the study, the following implications can be put forward as for the use of L1 and L2 as the question language in the reading comprehension tests:

- The aim of a reading comprehension test is to test learners' ability to understand L2 texts. Therefore, learners can be provided with questions in L1 or they can be allowed to respond in L1 to determine whether they can also prove that they have understood the text.

- Certain learners, depending on their own needs, may benefit significantly from reading in L2 and responding in L1 or vice versa. For example, people working in the field of medicine need reading ability and bilingual fluency more than those from other fields as they need to be updated with the new developments and improvements in the field.

- L2 as the question language cannot be avoided as learners must also be exposed to the target language as much as possible. However, learners' L1 can also be used in the questions or in the answers.

- L1 and L2 can be used in different item formats such as open-ended and short-answer questions. Moreover, the task of summarizing in L1 and L2 can also be utilized.

# 6. Conclusions

The current study aimed to investigate the effect of using L1, Turkish as the question language in the L2, English reading short texts and to determine the participants' views and suggestions. The participants included 29 general practitioners preparing for language proficiency tests in Turkey. The findings

indicated that the experimental group participants scored higher in the reading comprehension questions in Turkish than those in the control group, suggesting various implications. Using L1 as the question language seems to have a positive impact on learners' number of correct answers, anxiety and confidence levels. The participants prefer L1 questions, but are not against L2 questions; however, using L1 as the question language seems to have allowed the participants to show their ability to understand text through L1, as they were not overburdened by the change in the language structures or use of synonyms in the questions and options.

# 7. Limitations and further research directions

The study suffers from various limitations. The study recruited a limited number of participants for the study due to several reasons. Moreover, it was not possible to control variables such as the effects of practice or training outside the classroom. Regarding methodology, several improvements can also be made. The study included a relatively short treatment period with only one post-test and short texts of reading with multiple-choice questions. Therefore, further research can conduct studies with longer treatment periods together with post-tests and delayed post-tests to investigate the effect of retention as well. Finally, further research can also utilize different tasks while investigating the effects of using L1 as the question language, such as open-ended questions and summarizing.

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