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Cross-Linguistic Influence: The Case of Adjective and Preposition Collocations

Süleyman Alperen ALTUĞ*

Ahmet ÖNAL**

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ABSTRACT

The impact of previously learned knowledge on newly learned knowledge has long been recognized and named interference. Interference in a language is the influence of a previously learned language on any target language. So-called language transfer, this notion may render the learning process harder for the learners and result in fossilization in some cases. Thus, researchers and language teachers should consider this influence and find ways to repair the damages it might cause. In order to provide the field with a study that analyses the effect of cross-linguistic influence in Turkish EFL learners, this study attempts to pinpoint English adjective-preposition collocation that may induce language transfer by utilizing a test that uses a test assesses the type mentioned above of collocation knowledge of 291 Turkish EFL learners. The findings have revealed that some collocations result from language transfer, and a list containing transfer-inducing collocations has been presented.

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Statement of Publication Ethics

The study was conducted based on scientific publication ethics. The ethics committee approval was taken from Süleyman Demirel University Research Ethics Committee, dated 23.07.2020, numbered E-87432956-99-93152.

Authors' Contribution Rate

Both authors worked collaboratively during all stages of the research.

Conflict of Interest

We declare no conflict of interest.

* Research Assistant, ORCID ID: <https://orcid.org/0000-0003-3881-8070>, Mardin Artuklu University, Department of English Translation and Interpreting, alperenaltug@artuklu.edu.tr

** Assistant Professor, ORCID ID: <https://orcid.org/0000-0002-5325-4958>, Süleyman Demirel University, Department of Foreign Language Education, ahmetonal@sdu.edu.tr

Introduction

It has long been recognized that the mother tongue (L1) has tremendous effects on learning another language. These effects were initially named *language transfer* and started to be studied in the late 40s. This long-studied notion is defined as the interference of the past knowledge with the new learning (Gass & Selinker, 1992; Odlin, 1989). Therefore, interference in language is the impact of a previously learned language on any target language. Kellerman (1979, 1983) suggests two ways that actively take part in language transfer; the influence of the learner's perception of the target language and the markedness of L1 on the learner. Thus, a term named *psychotypology* emerges from his works, which he defines as the proximity between the mother tongue and target language sensed by the L2 learners. According to Gass and Selinker (1992), this proximity or distance can exhibit differences from one individual to another. They report that this distance can shrink as the learner becomes more aware of L2. According to Smith and Kellerman (1986), additional languages in multilingual learners can also affect the target language, which is still in the learning process, and this notion can be described as cross-linguistic influence. Furthermore, this notion of cross-linguistic influence encompasses such terms as; *transfer*, *borrowing*, *avoidance*, and *interference* related to the influence of L1 or additional languages on the target language (Odlin, 1989; Gutierrez-Mangado et al., 2019).

According to Odlin (1989), language transfer is the impact caused by the similarities and differences between the target language and any language that has been acquired beforehand. In this vein, language transfer has always been a hot topic for linguists and language teachers. He then adds the questionability of the Contrastive Analysis Hypothesis and suggests that a careful look must be given during the analysis of an error that might result from different notions such as overgeneralization. In addition, Lado (1957) states that language learners are inclined to transfer not only their native language but also their culture to the target language while learning or communicating in that language.

Consequently, the importance of cross-linguistic influence has been well accepted among scholars and teachers; therefore, if probable misunderstandings and possible problems related to cross-linguistic influence between two languages are realized by the teacher, a more efficient and easier learning environment may be created. For instance, a teacher aware of Turkish-based transfer errors might easily solve the problems occurring due to language transfer. This study aims to specify the adjective preposition collocations that are inclined to be transferred from L1 to L2. Doing this will provide a solution to the English language teaching field in Turkey. In the following sections of the study, cross-linguistic influence, its types and causes, and previous research on the subject, methodology adopted within the study; finally, the study's findings will be discussed.

Literature Review

Types of Cross-Linguistic Influence

The most well-known classification of cross-linguistic influence was made by Odlin (1989); thus, in this part, the taxonomy related to language transfer presented by him will be presented. Odlin (1989) suggests that this influence can either be facilitating or inhibiting and

classifies cross-linguistic influence into two main categories, namely, (a) *positive transfer* and (b) *negative transfer*. He then divides negative transfer into four main transfer types (1) *underproduction*, (2) *overproduction*, (3) *production errors*, and (4) *misinterpretation* (see Table 1).

Table 1. Types of Cross-Linguistic Influence (Odlin, 1989)

1. Positive Transfer	2. Negative Transfer
	1. Underproduction
	2. Overproduction
	3. Production Errors
	4. Misinterpretation

1. Positive Transfer

As stated above, Odlin (1989) refers to the influence occurring in two ways, facilitating or inhibiting. Positive transfer, therefore, can be seen as the facilitating influence, which might be interpreted as enhancing and assisting the process of language learning. However, this notion can only be plausible if two languages have common structures (Odlin, 1989, Jichoshvili & Gutierrez-Mangado, 2019). As stated by Odlin (1989), positive transfer can take place in four distinct ways: *a)* vocabulary similarities between native and target languages can shrink the time needed to learn certain vocabulary items and enhance reading comprehension; *b)* vowel system similarities or phonetic resemblances can help to enhance the detection of vowel sounds; *c)* similarities in writing or ordering systems can pave the way for learners to improve themselves in terms of reading and writing; *d)* the resemblances between grammar structures of two languages, such as relative clauses, prepositions, word order can enable learners to grasp target language structures easily and in a more efficient way.

Even though these similarities can be seen as helpful and supportive in language learning, the situation might not be as it seems and can yield opposite results. The similarities can lead learners to make errors, and often these errors can result in fossilization (Selinker & Lakshmanan, 1992). There has been quite a debate on fossilization and its causes; however, it is well acknowledged that transfer may lead to fossilization. To sum up, cross-linguistic influence can affect the learning in two ways facilitating, as stated and described above, and inhibiting, which will be discussed in the next chapter.

2. Negative Transfer

As opposed to positive transfer, negative transfer can inhibit the influence of similarities between native and target languages. Odlin (1989) suggests that negative transfer causes divergences from the rules and norms of the target language; therefore, it should be recognized and prevented beforehand. He classifies negative transfer in 4 main subsections, namely, (a) *underproduction*, (b) *overproduction*, (c) *production errors*, and (d) *misinterpretation*.

a. Underproduction

Known as an omission in the field, this type of negative transfer is described by Odlin (1989) with the help of a notion named *avoidance*. According to him, learners might avoid using specific terms or structures or tend to use them less if their native language does not possess similar structures. An example given in Odlin's (1989) study is that Japanese and

Chinese ESL students tend to use fewer relative clause structures than students whose native language possesses relative clauses or similar structures. In the study analyzing the avoidance in Turkish EFL learners by Akbulut (2018), it is pointed out that Turkish learners tend to use one-word verbs instead of multiple-word verbs even though the case expects them to choose the multiple-word verb. It is also highlighted in the research that as the proficiency levels of the speakers decrease, the usage frequency of one-word verbs increases, leading to the conclusion that language awareness and better vocabulary knowledge result in less frequent avoidance. A possible example can be given as an ESL student who has Turkish as his/her mother tongue, uttering *I studying* instead of *I am studying* since the Turkish language does not possess such auxiliary verbs to produce that particular grammar type.

b. Overproduction

This notion can be defined as the redundant use of words or structures that results from the influence of the native language. According to Odlin (1989), this notion can sometimes be the result of underproduction, and an example given by him is that while students try to avoid certain grammar types, they might overuse other structures to convey their ideas better. This notion can be seen especially in prepositions in that students tend to add unnecessary prepositions to verbs. A study conducted by Gvarishvili (2012) demonstrates the incorrect use of prepositions by Turkish students in which approximately 12% of students' errors result from additive usage of prepositions such as "he plays on the piano; he is going to home; he entered in the room" (p. 1567). In the same vein, since the Turkish language does not use articles as independent words, it is possible to see students using *them* even when it is not needed.

c. Production Errors

Odlin (1989) describes production errors as the transfers that are made during the production process and divides them into three types (1) *substitutions*, (2) *calques*, and (3) *alterations*. Substitutions are defined as the usage of the native language during the target language production. Odlin (1989) gives an example by Ringbom (1986), namely, the use of the Swedish word 'bort' (away) in an English sentence: "Now I live home with my parents. But sometimes I must go bort" (p. 37). Therefore, careful observations should be made during the identification of this error type. Calques, on the other hand, are defined by Odlin (1989) as "the errors reflecting a very close native language structure" (p. 37). In the study by Mede et al. (2014), Turkish EFL students tend to misplace action verbs such as *lie tell* and *slowly speak* due to verb positioning rules in Turkish. Lastly, Odlin (1989) defines hypercorrections as changing the correct use of a structure with an incorrect one out of a desire to be correct. He gives an example from the study made by Ibrahim (1978) in which Arabic students trying to correct their inappropriate b/p substitutions (playing) tended to make hypercorrections and made these corrections in places that were not needed, such as *hapit*. In this regard, Odlin (1989) states that not all errors are caused by L1 rules but also overgeneralizations of L2 rules by criticizing Krashen's statement that transfer is a falling back on some L1 rules (Krashen & Terrell, 1983).

d. Misinterpretation

Native language structures can strongly influence students' ability to interpret target language messages. According to Odlin (1989), this influence can sometimes affect the inferences that learners get from messages, thus, leading to a complete misunderstanding. Differences between the native and target languages' phonology, syntax, and even word order can affect this notion. In the same vein, cultural and sociological assumptions also play a role in the interpretation process of messages.

All in all, the influence of languages on one another is present in the language learning process, and this influence can both help and aggravate the process of language learning. As can be inferred from the cross-linguistic influence types by Odlin (1989) and the examples provided, these influences can occur at any language property level, such as phonetic, morphologic, and syntactic levels. Resulting from perceived similarities between native and target languages, this influence would inhibit the learning process, resulting in fossilization. Therefore, the importance of this notion should be recognized in the second language acquisition/learning process. Furthermore, it can be argued that recognition of this notion in language testing will also increase the validity and reliability of assessment.

The concept of validity in language testing can be defined as “the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of purpose of the assessment” (Gronlund, 1998, p. 226). Brown and Abeywickrama (2010) suggest that one of the most important elements of an effective test is its validity. They maintain that a valid test: (1) measures what it proposes to measure, (2) does not measure irrelevant or ‘contaminating’ variables, (3) relies as much as possible on empirical evidence (performance), (4) involves performance that samples the test’s criterion (objective), (5) offers useful, meaningful information about a test-taker’s ability, (6) is supported by a theoretical rationale or argument (p. 32). Consequently, if a test contains items or questions that might result in interference, the validity of the test might be harmed because it fails to assess what is intended to be assessed. In order to minimize this condition, the general interference causing notions should be specified by the researchers and language teachers.

At this point, the importance of error analysis should be pointed out. Error analysis is described as “the study and analysis of the errors made by second language learners” (Richards & Schmidt, 2010, p. 201). Solely knowing students' errors is not enough for teaching to be more effective; instead, errors should be analyzed and handled. According to Erdoğan (2005), error analysis identifies the strategies that language learners use, seeks the answer to the question 'why do learners make errors?' and determines the common difficulties in learning by helping teachers to develop materials for remedial teaching. Therefore, it has been argued that error analysis is crucial in enhancing language learning classes and feedback. Lastly, teachers need to be aware of the possible errors that may result from the impact of L1 on the language learning process (Paradowski, 2008). As a result, with the help of error analysis, it would be easier to specify the concepts or structures that can cause interference in second/foreign language learning. In the next section, previous studies regarding the concept of interference will be dealt with.

Previous Studies

As mentioned above, interference is important in language learning and teaching. Moreover, researchers and language teachers should be aware of interference and specify the concepts and structures prone to interference. However, the analysis of previous studies conducted demonstrates that the number of studies regarding the influence of the Turkish language on English learning is far from satisfactory compared to other problems in the Turkish context. Studies conducted so far, both in Turkey and abroad, related to the concept of interference have been presented in this section.

When the studies in the Turkish context are considered, it might be seen that, instead of directly focusing on interference, nearly all of the studies emerge as an error analysis at first which consequently evolves into a study that points out the importance of interference in language learning. One example of the type mentioned above is Erkaya's (2012) study, which examines the errors of 17 Turkish EFL learners' essays. The study points out that participants' lack of awareness of the difference between English and Turkish grammar and possible interference of Turkish in participants' English learning led to incomprehensible outputs. Furthermore, it is concluded in the study that participants tended to make mistakes on singular/plural noun agreement, such as omitting the plural marker in their essays which might be a result of the influence of Turkish on their learning. In a similar error analysis study, Elkilic (2012) examines more than a thousand English composition papers written by 68 intermediate and upper-intermediate Turkish tertiary level students. According to the findings of the study, participants omitted the articles in their composition papers which might be correlated with the interference of Turkish. In line with Erkaya (2012), Elkilic (2012) also points out the errors emerging in structures such as subject-verb and quantifier-noun agreement. Lastly, another interesting conclusion made in the study is that upper-intermediate students tended to make fewer mistakes resulting from interference which can be described with the help of Kellerman's (1979, 1983) definition of proximity; as the student got more aware of the target language, the influence of native language decreased.

In addition to the examples mentioned above of interference that happen at the morphologic level, interference of syntactic structures is also apparent. For example, a research conducted by Mede et al. (2014) investigated the effects of native language transfer in comparing Turkish-English word order (verb placement) among 19 EFL adult learners. Since these two languages have different syntactic structures, it was claimed that Turkish learners might have difficulties in verb placement, and consequently, they may end up transferring from L1 and making errors. It was found out that the errors mostly stemmed from negative transfer and it was especially encountered in the use of action verbs such as "lie tell", "slowly speak". Nevertheless, it should not be overlooked that the study participants were at only beginner levels. As mentioned above, as the learners' competencies increase, the possibility of interference will shrink.

When the subject in question is the use of prepositions and collocations, it is possible to see the influence of L1. For instance, the study conducted by Taşçı and Ataç (2018) revealed that in a written context, most of the Turkish adult learners' errors were classified as preposition errors (30.8 %). This problematic error type resulted from overusing, misusing, and omitting prepositions in their essays. As concluded in the study, negative transfer of students' native

language was one of the main reasons for their errors. Another example from the Turkish context can be given with the help of the study by Erarslan and Hol (2014), in which they examined Turkish EFL learners' English production to reveal the effects of their native language. The language areas that the researchers focused on while investigating the L1 transfer were vocabulary, prepositions, and the use of Simple Present Tense. Based on their findings, it was concluded that in the process of English learning, preposition use is identified as the area which is the most problematic. The study also revealed that elementary level students performed more language transfer in preposition use than pre-intermediate and intermediate students.

Out of the Turkish context, several studies deal with the use of prepositions and collocations. One example study is by Bilal et al. (2013), in which they focused on finding out the prepositional errors of Pakistani secondary school students learning English as a second language. In the analysis part of the study, students' written compositions were examined by conducting error analysis, and it was concluded that % 89 of the written compositions included prepositional errors. When it comes to the description of errors, it was found that substitution had the highest percentage (% 61). Thus, it was concluded that students had difficulties and got confused while choosing the proper preposition due to the differences between their native language (Urdu) and the target language. In another study focusing on prepositions by Gvarishvili (2013), L1 interference over the target language (English) in the use of prepositions was investigated. In order to do that, types of errors based on Georgian ESL learners' writings were analyzed by conducting an error analysis. Similar to the studies mentioned above, the highest percentage of error type was substitution error (% 69) owing to L1 negative interference such as "I am interested with it", "It is typical for him" or "He is good/ bad in English". It was also concluded that the difference between L1 and L2 causes mismatching prepositions of both languages, and therefore, learners end up misusing these prepositions.

When it comes to the use of collocations, in the study analyzing the effect of L1 on collocation comprehensions of German and Polish EFL students carried out by Biskup (1992), it was stated that the impact of L1 is evident in the collocation learning processes of students and should be taken into account. The study also provides remarks on possible causes of cross-linguistic transfer; for instance, it was stated that the wider an item's semantic field, the more likely L1 transfers occur. Moreover, if a word has fewer synonyms or synonym-like structures, students are more likely to use L1 equivalents of the words to be used. Furthermore, Fan (2009) analyzed the collocation uses of both non-native and native students. In the study, 60 Hong Kong and 60 British students' essays were analyzed in terms of collocation use, and the researcher concluded that some of the errors could be interpreted as the evidence of students' L1 on the product.

An example of this was given in the study as Chinese students' usage of 'left/right face' instead of using the word 'cheek'. In a similar vein, Phoocharoensil (2013) conducted a study at Bangkok Thammasat University and investigated the role of L1 on students' collocation learning. It was stated that L1 transfer was common among English Thai learners; furthermore, high-proficiency students were found to be using much of their L1 knowledge when they could not find the English equivalents of the words they intended to use in the production of English language collocations.

To summarize, language transfer has been a rather hot topic over the years; however, even though some major studies regarding word order, sentence structure, and vocabulary have been conducted, not much has been done in Turkey to detect specific linguistic structures, concepts or areas in English that are likely to induce language transfer in Turkish EFL learners. Considering the studies conducted in the Turkish context, it is possible to maintain that some mistakes of Turkish EFL learners are generated as a result of language transfer. This study, therefore, has attempted to reveal the adjective-preposition collocations that are likely to be transferred by Turkish EFL learners. Even though every individual shows different learning behaviors (Selinker, 1972), preparing a list that contains the aforementioned structures, concepts or areas would pave the way for teachers, researchers, and stakeholders (coursebook designers, test makers, high-stake test designers, curriculum designers, etc.) to be more efficient and aware in testing processes. Consequently, this study aims to provide answers to the questions below:

- 1- Is there a statistically significant difference between the general mean scores of Neutral Test Takers (NTT) and Transfer Test Takers (TTT)?
- 2- How often have the interference inducing distractors been chosen by the participants?
- 3- Which adjective-preposition collocations cause interference among Turkish learners of English?

Methodology

The study aims to investigate if there is an effect of Turkish students' L1 on their recognition of English adjective-preposition collocations. Since the study attempts to describe a phenomenon by using statistics and tendency measures, it can be stated that the study has a quantitative nature. Furthermore, since the study explains the possible reasons lying behind this phenomenon, it can be put in the explanatory research category. It should also be noted that research ethics have been considered during all stages of the study. Furthermore, before conducting the study, necessary ethics approval was taken from the Süleyman Demirel University Ethics Committee, dated 23.07.2020, numbered E-87432956-99-93152.

Participants

In order to conduct the study, a total of 291 students enrolled in the study. Participants of the study were EFL teacher candidates from the English Language Departments of 2 state universities in Turkey. With a number of 183, the majority of participants consisted of females. Lastly, the participants were randomly divided into two as Neutral Test Takers (NTT) and Transfer Test Takers (TTT).

Table 2. Demographic data of the participants

	NTT	TTT	University A	University B	Total
Female	88 (60%)	96 (66%)	151 (62%)	33 (66%)	184 (63%)
Male	58 (40%)	49 (34%)	90 (38%)	17 (34%)	107 (37%)
Total	146	145	241	50	291

As can be seen in Table 2, females outnumber males in both groups. In fact, in TTT, females are approximately twice the number of males. In addition, the number of participants in University B is one in a fifth of the number seen in University A. Ultimately, the study adopts

convenience sampling (Dörnyei, 2007) since there has not been any randomness included in the selection of the participants.

Instruments

In order to test participants' general knowledge of English adjective-preposition collocations, a test containing 50 multiple-choice questions, each of which has five options, was prepared. During the preparation process of the test questions and items, in order not to be mistaken about the correct adjective-preposition collocations, the researchers made use of the BBI dictionary of English word combinations (Benson et al., 2010), Oxford Collocations Dictionary for students of English (McIntosh et al., 2009), Turkish National Corpus (TNC) and Corpus of Contemporary American English (COCA). All in all, an adjective-preposition collocation test with 50 multiple-choice questions was prepared, and a distractor from each question of this test was altered with a distractor that may induce interference from Turkish; thus, two separate tests containing the same questions but differing in only one distractor were created. These tests were named Neutral Test (NT), which does not include any distractors in the questions that may induce interference, and Transfer Test (TT), which contains a distractor in each question that may induce interference. Although the first versions of the two tests included 50 questions, after the pilot study with ELT students who would not then be involved in the actual study, 20 questions were eliminated because of not causing enough impact on interference. Therefore, the final versions of both NT (see Appendix A) and TT (see Appendix B) include 30 questions. The aforementioned impact of the questions was calculated in terms of question difficulty and item discrimination through the use of a test analysis programme (TAP) designed by Ohio State University. Additionally, the reliability levels of both tests were calculated and found to be more than .8, which is widely accepted to be appropriate to be used (Bland & Altman, 1997; Tavakol & Dennick, 2011).

Data collection procedures

Because of Covid-19, which forced schools to stop face-to-face education and adopt distance education, the study had to be conducted online. Therefore, initially, tests were uploaded to Google Docs. The links to the tests were shared with the participants by their instructors, and only those who volunteered took part in the study. A form asked participants to give information about their demographic data. Then, they were asked to answer 30 questions that tried to assess students' general knowledge of adjective-preposition collocations in English.

Data Analysis

Firstly, in order to assess the initial test with 50 multiple-choice questions in terms of question difficulty and item discrimination, a test analysis programme was utilized. Furthermore, in an attempt to compare the mean scores of the participants gathered through NTT and TTT, independent samples t-test was applied, and the effect size of this result was calculated via Cohen's *d*.

Findings and Discussion

In this section of the study, the results have been presented and discussed.

1st Research Question: Is there a statistically significant difference between the two test taker groups' general mean scores?

The tests utilized in the study aimed to test participants' recognition of adjective-preposition collocations. As has been stated above, in order to understand the difference between two tests, the scores participants obtained in the tests were analysed. In order to render the assessment process more manageable, each question was scored as 5. Therefore, if a student gets all the right answers, his/her mean score will be 5. Nonetheless, the scores based on a 100-point scale are given in Table 3 below.

Table 3. Total Means of Participants

	Neutral-Test Takers	Transfer-Test Takers
Number of Items	30	30
Mean	3,6347	3,1103
Mean (out of 100)	72,6	62,2
Median	3,8333	3,1667
Std. Deviation	,85396	,83547
Minimum	,83	,50
Maximum	5,00	4,67

As can be seen in Table 3, NTT's general mean score has been revealed to be higher with a score of 3,63 and TTT's general mean score is 3,11. Additionally, when the mean scores are examined out of 100 points, it can be stated that there emerges a difference of more than 10 points between two means. In this sense, it can be clearly stated that students achieved better scores in the test not involving interference-inducing distractors. As has been explained above, there is statistical difference between two mean scores; however, in order to prove if this difference is statistically significant, independent samples t-test was implemented and the results of the t-test have been given in Table 4 below.

Table 4. t-Test results of general mean scores of both groups

NTT's mean score	TTT's mean score	<i>p</i> score	Mean Difference
72,6	62,2	,000	10,3872

It can be seen in Table 4 that there is a statistically meaningful difference between the two mean scores ($p < ,001$). Even though the mean scores tell us that the neutral test scores are higher than interference test, this might result from other causes such as the groups involving different members. In order to avoid this problem, we should also look at how often students chose interference inducing distractors. In the next section, findings for the second research question have been presented and discussed.

2nd Research Question: How often have the interference inducing distractors been chosen by the participants?

In order provide an answer for this research question and explain the phenomenon discovered in first research question, the frequencies of interference inducing distractors in the results of the TTT have been analysed. As mentioned before, there were 145 participants in

TTT. Since every participant was expected to answer 30 questions, it can be stated that there were 4350 answers at the end of the test. So as to assess the frequencies, these answers were categorized into three as correct answer, transfer inducing distractor and other distractors. The categories regarding the frequencies of answers can be seen in Table 5 below.

Table 5. Frequencies of answers of TTT

Total answers	Correct answers	Selection of transfer inducing distractor	Selection of other three distractors
4350	2697 (62%)	914 (21%)	739 (17%)

According to Table 5, 62% of 4350 answers are correct. When the other frequencies are analysed, it can be seen that the selection of the transfer inducing distractor makes up more than one in fifth of the total answers. Thus, it would not be unjustified to state that transfer inducing distractors have managed to get selected more frequently than the other three distractors combined. This result, then, can be interpreted as there are some adjective-collocation combinations which have led students to give incorrect answers to the questions. Now that the second research question has been explained, in the final part of findings and discussion section, the third and last research question has been discussed and analysed. Additionally, a more detailed explanation and analysis onto which collocations caused interference has been presented and discussed.

3rd Research Question: Which adjective-preposition collocations cause interference?

In the light of the data given above, it can be stated that the interference inducing distractors of TT did have an impact on students and they tended to select those options. In this part of the findings and discussion section, answers have been sought as to which collocations cause more interference and which produced less effect on students' results. In order to understand the possible reasons for interference, approximate explanations and descriptions of prepositions in Turkish will be given. The table from the study done by Özışık (2014) well explains the prepositions' meanings and usage in Turkish as well as their equivalents in English.

Table 6. Turkish and English cases (Özışık, 2014, p. 62)

Cases	Turkish	English
Genitive	(n)ın, (n)in, (n)un, (n)ün	duvar-ın of the wall
Accusative	(y)ı, (y)i, (y)u, (y)ü	duvar-ı the wall (as an object)
Dative	(y)e, (y)a	duvar-a to the wall
Locative	de, da	duvar-da on the wall
Ablative	den, dan	duvar-dan from the wall
Instrumental	(y)le, (y)la, ile	duvar-la / ile with the wall

Now that the definitions and usages of Turkish prepositions are given, interference inducing distractors and neutral options and how many students tended to pick those will be given and results will be analysed. As can be seen in Table 7, 10 questions which created nearly or more than 25% difference in the frequencies are given. The reason why the remaining 20 questions are not given is that, when analysed through a test analysis programme, they were not proved to possess sufficient question difficulty and item discrimination. Further explanations and comparisons of the results can be seen below.

Table 7. Questions, correct answers, interference inducing distractors and frequencies

Question	Expected correct answer	Interference Inducing Distractor	Correct Answers of TT	Interference Inducing Distractor Frequency	Percentage of Interference Inducing Distractors
1. We didn't think she was married him, it turned out she was.	To	With	82	63	43,4%
8- Cecilia started bungee jumping last summer because she was bored her other hobbies.	With	From	78	50	34,5%
12- After a two-year trial period, the jury found the criminal guilty the murder.	Of	From	75	37	25,6
14- Last summer, Caner was happy saving the right amount of money for his vacation.	About	From	65	50	44,8%
16- As the secretary has been working in this company for only one month, she is not eligible maternity leave.	For	To	89	35	24,1%
21- The revolutions weren't only limited the diplomacy, they were also present in art, science and social life.	To	With	64	38	26,2%
22- You should be patient Carl, because he is trying to make an improvement.	With	To	81	54	37,4%
25- Experts were suspicious the authenticity of the vases found in the catacombs.	Of	From	78	46	31,7%
28- Since his mother's funeral, he has been obsessed death.	With	To	77	49	33,7%
30- The jeweller's wife was surprised his calm reaction to the recent increase in the price of diamonds	At	To	89	35	24,1

As can be seen in Table 7, questions, their interference inducing distractors and percentages of frequencies of interference inducing distractors have been given. Before moving on to analysis section, it should be stated that the errors that are not classified as interference errors can be named intralingual errors and do not pose a threat to the validity of the questions. In the following part of this section, correct answers belonging to each question will be described and preposition which caused interference on students and possible causes will be given and analysed.

The correct answer to the 1st question should be ‘to’ which is a dative preposition. Interference inducing distractors in the two tests were namely; ‘under’ in the NT and ‘with’ in the TT. Moreover, as can be seen in Table 7, the number of participants who gave correct answers to 1st question in TT is 82. Lastly the number of students who chose interference inducing distractors is 63. This result can be assumed as a great impact because nearly the half of the participants chose the preposition ‘with’ to be used with the adjective ‘married’. This situation might result from the fact that the Turkish equivalent of the sentence ‘being married to someone’ is ‘being married with someone’ (-ile evli), and when the ‘with’ instrumental preposition is given as an alternative option in the question, participants tended to choose it more frequently, thus leading us to the belief that ‘married with’ adjective-preposition collocation is a direct translation from Turkish and L1 is of great influence in this specific adjective-preposition collocation. This result coincides with the results in the study of Özışık (2009) in which Turkish students tended to use the preposition ‘with’ the word ‘marry’.

The correct answer for the 8th question is ‘with’, because of the common preposition usage with the adjective ‘bored’. However, Turkish collocation describing the same situation is ‘bored from’ (-den sıkılmak). Looking at Table 7, it can be seen that 78 participants chose the correct option. With a critical number of 50, participants in TT chose the altered option. This result might be an indicator of the possible existence of interference in the collocation of ‘bored with’ since more than a third of participants chose ablative preposition ‘from’; yet, when the interference inducing distractor is eliminated from options, students tended to choose correct option more frequently which may result in a more effective question in terms of validity.

When the 12th question’s results were analysed, it can be seen in Table 7 that 75 participants gave correct answers. Furthermore, 37 participants chose interference inducing distractor. The correct answer for the 12th question is ‘of’ and the altered option is ‘from’. Since the Turkish equivalent usage of the collocation ‘guilty of’ is ‘guilty from’ (-den suçlu), participants were apt to use ‘from’ dative preposition with the adjective ‘guilty’.

The correct answer for the 14th question should be ‘about’. And according to Table 7, it can be inferred that 65 participants chose the correct option. Furthermore, 63 participants chose the interference-inducing distractor. Since the Turkish equivalent of ‘happy about’ collocation is ‘happy from’ (-den mutlu), nearly half of the learners chose the option which may be interpreted as causing interference.

When it comes to the 16th question, it can be said that the correct answer is ‘for’ to be used with the adjective ‘eligible’. And when Table 7 is analyzed, it is seen that 89 participants gave correct answers to the question, and the number of participants who chose interference-inducing distractors is 35. This reason may be caused by the fact that the Turkish equivalent of the collocation is ‘eligible to’ (-e uygun). Because when the interference-inducing distractor ‘to’ was not given as an option to the question, participants tended to choose the altered option less.

The correct collocation of the adjective ‘limited’ should be ‘to’ in the 21st question, and the number of participants who gave correct answers to the question is 88. Turkish equivalent of the collocation is ‘limited with’ (-ile sınırlı). For this reason, when the interference-inducing

distractor is placed, 38 participants chose it. This result might be interpreted as it causes interference in this context, and in order to enhance the question's validity it should be avoided.

The correct answer to the 22nd question should be 'with', and 81 participants chose the correct option. Turkish equivalent of the collocation 'patient with' is 'patient to' (-e sabırlı), therefore, when 'to' is given as an option to the question learners might tend to choose it. As can be seen in Table 7, 38 participants chose the interference inducing distractor.

When 25th question is analysed, it can be inferred that the correct collation to be used with the adjective 'suspicious' is 'of'; nevertheless, the Turkish equivalent of the collocation is 'suspicious from' (-den şüpheli), which then caused interference in the answers of students reached a number of 46 which is nearly the 1/3 of the number of participants in TT.

Correct answer to the 28th and question to be analysed is 'with', and 77 participants gave correct answers to the question. Additionally, when how frequently interference inducing distractor are chosen is analysed, it can be seen in Table 7 that 49 participants selected interference inducing distractor. The reason laying behind this fact might be that Turkish equivalent of 'obsessed with' collocation is 'obsessed to' (-e takıntılı).

Last but not least, the correct answer of the 30th question should be 'at' which is the common collocation used; yet, when the preposition 'to' is given as a distractor in the options, students tended to choose it more frequently, which might be resulted from the fact that Turkish equivalent of the collocation 'surprised at' is 'surprised to' (-e şaşırmaq). All in all, it would be justified to state that the placement of 'to' caused interference in the results. Under the light of the results, Table 8 presents the adjective-preposition collocations that cause interference.

Table 8. Adjective-preposition collocations that cause interference

Adjective	Commonly used preposition	Interference inducing preposition	Type of the interference inducing preposition
Married	to	with	Instrumental
Bored	of	from	Ablative
Guilty	of	from	Ablative
Happy	about	from	Ablative
Eligible	for	to	Dative
Limited	to	with	Instrumental
Patient	with	to	Dative
Suspicious	of	from	Ablative
Obsessed	with	to	Dative
Surprised	at	to	Dative

As can be seen in Table 8, there are various types of collocations that cause interference. However, it would not be incorrect to state that some cases are more frequent than the others. The most frequent case is dative (5), followed by ablative (4). Lastly instrumental (2) cases are also present in the interference inducing prepositions. However, due to the scarcity of more collocation samples, it would not be valid to classify dative cases as the one that is generally more prone to interference.

As mentioned, there are not many studies which focus on the interference of Turkish in English learning. Furthermore, this study can be seen as a pioneer that handles the subject influence of Turkish as L1 on English adjective-preposition collocations. However, some studies attempt to specify certain other concepts and structures that are prone to be transferred from Turkish to English and these can be presented to support the founding of the study. For

instance, a study conducted by Taşçı and Ataç (2018), revealed that most of the Turkish adult learners' errors were preposition errors (30.8 %). In addition, it is stated in the same study that these errors are the result of interference of learners' L1. Therefore, it can be said that this study poses a parallel stance with the one in question. Similarly, the study by Yuvayapan and Yükselir (2021) in which it is argued that learners believed their collocation errors resulted from L1 interference also supports the importance of L1 in the learning of adjective-preposition collocations.

One of the studies dealing with other languages is by Anjayani and Suprpto, in which they found out that nearly 12% of participants' errors result from prepositions and more than 65% of these are caused by the interference of Persian in English learning. Similarly, Bloom (2007) concludes the fact that Swedish learners tend to use incorrect form of prepositions and forms a list of prepositions that are frequently observed as *to, in, at, of, for, about, on, by*. Comparing the findings of two studies, it can be inferred that some errors that Swedish EFL students make are also apparent in Turkish EFL learners. The research also shares some similarities with the study by Tahaineh (2010) in which he thoroughly defines the differences between English and Arabic by providing examples from both languages at once. He states that in cases where the preposition *by* is not needed Arabic learners tend to use it; he then develops over his statement by giving the example of learners using *by* with the adjective *famous*. He explains the reason behind the statements as interference because of the usage of the preposition *by* with the adjective *famous* in Arabic. The same example was in the test implemented to conduct this study and learners did choose the preposition *with* in combination with the adjective *famous*. However, since it did not prove any statistically significant differences it was not included in the study.

Conclusion

As it was mentioned before, it is important to specify notions and structures that may induce interference between two languages for the sake of a more effective teaching and valid assessment to take place. Therefore, the study has attempted to reveal the effect of Turkish students' mother tongue on their recognition of English language adjective-preposition collocations. Consequently, it was found that the impact of Turkish on English adjective-preposition collocation learning exists. In addition, the study tried to create a list that included the collocations that might induce interference. As a result, a list that contains certain collocations that induce interference of Turkish on English has been prepared. This list may have some pedagogical implementations. For instance, it can be referred to while teaching adjective-preposition collocations to Turkish learners with a specific focus on interference inducing ones. In addition, this list might prove useful while designing adjective-preposition collocations test. It should also be noted that in order for a test to be more valid, the test has to assess what it attempts to assess; thus, interference of L1 might damage the validity of an aforementioned type of test. As well as its pros, the study has several limitations. One of these limitations that worth to mention is the sampling, the study expands with a limited number of participants. The list provided in the findings section; therefore, might change and more adjective-preposition collocations might be added.

All in all, it can be concluded that teachers, instructors, stakeholders and researchers should be aware of interference of L1 in foreign language learning and find ways to overcome problems resulting from it. There are several ways to specify the concepts or structures that may induce interference. However, the most important and prominent of these is corpora. With the help of corpora, studies that analyse and pinpoint interference causing structures, concepts or areas might be conducted more frequently, which might, in turn, enhance foreign language learning and assessment. Furthermore, as mentioned before, there is a gap in the subject of Turkish interference in the field. In that, nearly all research on interference stem from error analysis which is too broad to deal with. Consequently, further studies can be done within the scope of other structures, concepts or areas that might induce interference.

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Appendix

Appendix A – Neutral Test

1- We all didn't think she was married him, it turned out she was.

- A. from
- B. in
- C. under
- D. on
- E. to

2- He had been prepared many scenarios, but this was beyond anything imagined.

- A. for
- B. of
- C. in
- D. about
- E. on

3- He seemed careless his own safety.

- A. of
- B. with
- C. on
- D. from
- E. for

4- He was wholeheartedly pleased his results.

- A. on
- B. to
- C. with
- D. for
- E. in

5- I have already admitted being wrong the accident.

- A. of
- B. to
- C. in
- D. about
- E. through

6- I must admit to you that yesterday I got extremely angry you.

- A. for
- B. at
- C. of
- D. from
- E. on

7- I really wonder when you will understand that owning an old car is nothing to be ashamed

- A. for
- B. on
- C. with
- D. of
- E. towards

8- Cecilia started bungee jumping last summer because she was bored her other hobbies.

- A. at
- B. in
- C. with
- D. on
- E. to

9- Although he knows that it irritates me, my father is really fond correcting my grammar mistakes when I am speaking English.

- A. for
- B. on
- C. of
- D. from
- E. with

10- Sinop is famous its sandy beaches and crystal-clear waters.

- A. of
- B. in
- C. over
- D. for
- E. on

11- The Prime Minister of Taiwan has declared that they are really grateful the Turkish government for its immediate offer of help.

- A. with
- B. on
- C. at
- D. in
- E. for

12- After a two-year trial period, the jury found the criminal guilty murder.

- A. to
- B. on
- C. with
- D. of
- E. over

13- The country hasn't been successful importing goods over the last decade.

- A. over
- B. in
- C. to
- D. under
- E. through

14- Last summer, Caner was happy saving the right amount of money for his vacation.

- A. in
- B. for
- C. to
- D. about
- E. over

15- My best friend's parents were totally disappointed him when he showed them his test results.

- A. with
- B. on
- C. to
- D. of
- E. over

16- As the secretary has been working in this company for only one month, she is not eligible maternity leave.

- A. from
- B. in
- C. on
- D. for
- E. of

17- I think you should stop being envious ... him and start working on improvements.

- A. in
- B. on
- C. of
- D. for
- E. to

18- This article can be said to be full various important distinctions.

- A. of
- B. to
- C. under
- D. from
- E. for

19- The Turkish workers in Germany felt inferior the others until their team's international success gave them some pride.

- A. of
- B. in
- C. for
- D. over
- E. to

20- I thought I was going to be late ... the meeting. Therefore, I took a taxi.

- A. at
- B. in
- C. from
- D. with
- E. for

21- The revolutions weren't only limited the diplomacy, they were also present in art, science and social life.

- A. on
- B. of
- C. for
- D. to
- E. from

22- You should be patient Carl, because he is trying to make an improvement.

- A. with
- B. over
- C. on
- D. in
- E. from

23- Jolene was so pessimistic her exam score that she didn't even apply for the job.

- A. under
- B. in
- C. from
- D. about
- E. with

24- Experts were suspicious the authenticity of the vases found in the catacombs.

- A. in
- B. on
- C. of
- D. along
- E. within

25- If you are serious winning the race, you have to practice at all times.

- A. to
- B. with
- C. into
- D. about
- E. of

26- He was so upset the incident that he called the police immediately.

- A. from
- B. with
- C. in
- D. about
- E. for

27- Since his mother's funeral, he has been obsessed death.

- A. over
- B. in
- C. about
- D. with
- E. for

28- Nathan wasn't aware of how his coach was impressed his performance in the last match.

- A. for
- B. at
- C. of
- D. in
- E. with

29- The jeweller's wife was surprised his calm reaction to the recent increase in the price of the diamonds.

- A. at
- B. of
- C. under
- D. in
- E. from

30- Vincent sat next to Maria in silence, as he was terrified saying something stupid to her.

- A. for
- B. to
- C. of
- D. in
- E. with

Appendix B – Transfer Test

1- We all didn't think she was married him, it turned out she was.

- A. from
- B. in
- C. with
- D. on
- E. to

2- He had been prepared many scenarios, but this was beyond anything imagined.

- A. for
- B. to
- C. in
- D. about
- E. on

3- He seemed careless his own safety.

- A. of
- B. to
- C. on
- D. from
- E. for

4- He was wholeheartedly pleased his results.

- A. from
- B. to
- C. with
- D. for
- E. in

5- I have already admitted being wrong the accident.

- A. at
- B. to
- C. in
- D. about
- E. through

6- I must admit to you that yesterday I got extremely angry you.

- A. with
- B. at
- C. to
- D. from
- E. on

7- I really wonder when you will understand that owning an old car is nothing to be ashamed

- A. for
- B. from
- C. with
- D. of
- E. towards

8- Cecilia started bungee jumping last summer because she was bored her other hobbies.

- A. from
- B. in
- C. with
- D. on
- E. to

9- Although he knows that it irritates me, my father is really fond correcting my grammar mistakes when I am speaking English.

- A. for
- B. on
- C. of
- D. from
- E. to

10- Sinop is famous its sandy beaches and crystal-clear waters.

- A. with
- B. in
- C. over
- D. for
- E. on

11- The Prime Minister of Taiwan has declared that they are really grateful the Turkish government for its immediate offer of help.

- A. from
- B. on
- C. to
- D. in
- E. for

12- After a two-year trial period, the jury found the criminal guilty murder.

- A. to
- B. for
- C. with
- D. of
- E. from

13- The country hasn't been succesful importing goods over the last decade.

- A. over
- B. in
- C. to
- D. for
- E. through

14- Last summer, Caner was happy saving the right amount of money for his vacation.

- A. in
- B. for
- C. to
- D. about
- E. over

15- My best friend's parents were totally disappointed him when he showed them his test results.

- A. with
- B. on
- C. to
- D. from
- E. over

16- As the secretary has been working in this company for only one month, she is not eligible maternity leave.

- A. from
- B. in
- C. on
- D. for
- E. to

17- I think you should stop being envious ... him and start working on improvements.

- A. in
- B. on
- C. of
- D. for
- E. to

18- This article can be said to be full various important distinctions.

- A. of
- B. to
- C. with
- D. from
- E. for

19- The Turkish workers in Germany felt inferior the others until their team's international success gave them some pride.

- A. of
- B. in
- C. for
- D. from
- E. to

20- I thought I was going to be late ... the meeting. Therefore, I took a taxi.

- A. to
- B. in
- C. from
- D. with
- E. for

21- The revolutions weren't only limited the diplomacy, they were also present in art, science and social life.

- A. on
- B. of
- C. for
- D. to
- E. with

22- You should be patient Carl, because he is trying to make an improvement.

- A. with
- B. to
- C. on
- D. in
- E. from

23- Jolene was so pessimistic her exam score that she didn't even apply for the job.

- A. in
- B. for
- C. from
- D. about
- E. with

24- Experts were suspicious the authenticity of the vases found in the catacombs.

- A. from
- B. for
- C. of
- D. along
- E. within

25- If you are serious winning the race, you have to practice at all times.

- A. to
- B. with
- C. into
- D. about
- E. at

26- He was so upset the incident that he called the police immediately.

- A. to
- B. with
- C. in
- D. about
- E. for

27- Since his mother's funeral, he has been obsessed death.

- A. to
- B. in
- C. about
- D. with
- E. for

28- Nathan wasn't aware of how his coach was impressed his performance in the last match.

- A. for
- B. at
- C. from
- D. in
- E. with

29- The jeweller's wife was surprised his calm reaction to the recent increase in the price of the diamonds.

- A. from
- B. of
- C. under
- D. in
- E. from

30- Vincent sat next to Maria in silence, as he was terrified saying something stupid to her.

- F. for
- G. from
- H. of
- I. in
- J. with