T.C.
BURSA ULUDAĞ UNIVERSITY
INSTITUTE OF EDUCATIONAL SCIENCES
DEPARTMENT OF FOREIGN LANGUAGE EDUCATION
ENGLISH LANGUAGE TEACHING PROGRAM

THE EFFECT OF INSTRUMENTAL MUSIC AND SONGS ON VOCABULARY LEARNING, READING COMPREHENSION AND MOTIVATION IN ENGLISH AS A FOREIGN LANGUAGE: A QUASI-EXPERIMENTAL STUDY WITH TURKISH HIGH SCHOOL STUDENTS

MASTER'S THESIS

Arzu SEVİNÇ

BURSA
2018

T.C.
BURSA ULUDAĞ ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ
YABANCI DİLLER EĞİTİMİ ANABİLİM DALI
İNGİLİZ DİLİ EĞİTİMİ BİLİM DALI

YABANCI DİL OLARAK İNGİLİZCE ÖĞRENİMİNDE ENSTRÜMANTAL VE SÖZLÜ MÜZİĞİN SÖZCÜK ÖĞRENİMİ, OKUDUĞUNU ANLAMA VE MOTİVASYON ÜZERİNDEKİ ETKİSİ: TÜRK LİSE ÖĞRENCİLERİ ARASINDA YARI DENEYSEL BİR ÇALIŞMA

YÜKSEK LİSANS TEZİ

Arzu SEVİNÇ

Danışman
Doç. Dr. Ayşegül Amanda YEŞİLBURSA

BURSA
2018

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BURSA ULUDAĞ ÜNİVERSİTESİ
EĞİTİM BİLİMLERİ ENSTİTÜSÜ
YABANCI DİLLER EĞİTİMİ ANABİLİM DALI BAŞKANLIĞI'NA

Tarih: 27/07/2018

Tez Başlığı/ Konusu: Yabancı Dil Olarak İngilizce Öğreniminde Enstrümantal ve Sözlü Müziğin Sözcük Öğrenimi, Okuduğunu Anlama ve Motivasyon Üzerindeki Etkisi: Türk Lise Öğrencileri Arasında Yarı Deneysel Bir Çalışma

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Programı: İngiliz Dili Eğitimi
Statüsü: ☒ Y.Lisans ☐ Doktora

Danışman
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27/07/2018

*** Turnitin programına Uludağ Üniversitesi Kütüphane web sayfasından ulaşılabilir.**

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Yabancı Diller Eğitimi Anabilim Dalı, İngiliz Dili Eğitimi Bilim Dalı'nda 801610005 numara ile kayıtlı olan Arzu SEVİNÇ'in hazırladığı "Yabancı Dil Olarak İngilizce Öğreniminde Enstrümantal ve Sözlü Müziğin Sözcük Öğrenimi, Okuduğunu Anlama ve Motivasyon Üzerindeki Etkisi: Türk Lise Öğrencileri Arasında Yarı Deneysel Bir Çalışma" konulu Yüksek Lisans çalışması ile ilgili tez savunma sınavı, 27/ 07/ 2018 günü 13.30 – 15.00 saatleri arasında yapılmış, sorulan sorulara alınan cevaplar sonunda adayın tezinin başarılı olduğuna oybirliği ile karar verilmiştir.

Üye (Tez Danışmanı ve Sınav Komisyonu Başkanı)
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Abstract

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University : Bursa Uludağ University
Field : Foreign Language Education
Branch : English Language Teaching
Degree Awarded : M.A.
Page Number : XIV+110
Degree Date : 28.08.2018
Thesis : The Effect of Instrumental Music and Songs on Vocabulary Learning, Reading Comprehension and Motivation in English as a Foreign Language: A Quasi-Experimental Study with Turkish High School Students
Supervisor : Assoc. Prof. Dr. Ayşegül Amanda YEŞİLBURSA

THE EFFECT OF INSTRUMENTAL MUSIC AND SONGS ON VOCABULARY LEARNING, READING COMPREHENSION AND MOTIVATION IN ENGLISH AS A FOREIGN LANGUAGE: A QUASI-EXPERIMENTAL STUDY WITH TURKISH HIGH SCHOOL STUDENTS

The purpose of this study is twofold. First, it aims to measure the statistical significance and effect size of the relationship between different instructional methods (instrumental music and songs) and subsequent changes in performance on vocabulary learning and reading comprehension. Second, it examines the possible mediating role of motivation in vocabulary learning and reading comprehension performance in relation to the implementation of music-based language instruction. This quasi-experimental study was conducted over a period of six weeks among 203 Turkish high school students learning English as a Foreign Language (EFL). Participants were divided into two groups: instrumental music group (n=102) and songs group (n=101). One group (n=102) was taught the target vocabulary items by using instrumental music; and the other group (n=101) was taught the vocabulary items by means of English language songs. The pre-tests were applied right before the interventions and the post tests were conducted one week later. The results showed that the music-based pedagogy integrating both instrumental music and songs into English language classes contributed to the improvement of students' vocabulary learning and reading comprehension. Moreover, high levels of improvement in both

vocabulary learning and reading comprehension performances were significantly associated with the implementation of song-based language teaching. Finally, motivation was found not to have a mediating role in vocabulary learning and reading comprehension in both groups. The study concluded that incorporating musical, specifically authentic songs, activities into the foreign language classroom can help raising students' achievement in vocabulary learning and reading comprehension.

Keywords: English as a foreign language, motivation, music, reading comprehension, vocabulary learning

Özet

Yazar	: Arzu SEVİNÇ
Üniversite	: Bursa Uludağ Üniversitesi
Ana Bilim Dalı	: Yabancı Diller Eğitimi
Bilim Dalı	: İngiliz Dili Eğitimi
Tezin Niteliği	: Yüksek Lisans
Sayfa Sayısı	: XIV+110
Mezuniyet Tarihi	: 28.08.2018
Tez	: Yabancı Dil Olarak İngilizce Öğreniminde Enstrümantal ve Sözlü Müziğin Sözcük Öğrenimi, Okuduğunu Anlama ve Motivasyon Üzerindeki Etkisi: Türk Lise Öğrencileri Arasında Yarı Deneysel Bir Çalışma
Danışmanı	: Doç. Dr. Ayşegül Amanda YEŞİLBURSA

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Bu çalışmanın amacı iki yönlüdür. Çalışma öncelikle farklı öğretim yöntemleri (enstrümantal müzik ve şarkılar) ve bunu takip eden kelime öğrenme ve okuduğunu anlama performansı değişimleri arasındaki ilişkinin istatistiksel anlamlılığını ve etki büyüklüğünü ölçmeyi amaçlamaktadır. İkinci olarak, müzik temelli dil öğretiminin uygulanmasına ilişkin olarak, motivasyonun kelime öğrenme ve okuduğunu anlama performansındaki olası bağdaştırıcı rolünü incelemektedir. Bu yarı deneysel çalışma, İngilizceyi yabancı dil olarak öğrenen 203 Türk lise öğrencisi arasında altı hafta süresince gerçekleştirilmiştir. Katılımcılar enstrümantal müzik (n=102) ve şarkı (n=101) grubu olmak üzere iki gruba ayrılmıştır. Bir gruba (n=102) enstrümantal müzik, diğer gruba (n=101) ise İngilizce şarkılar kullanılarak hedef kelime ögeleri öğretilmiştir. Ön testler uygulamaların hemen öncesinde, son testler ise bir hafta sonra yapılmıştır. Sonuçlar, enstrümantal müzik ve şarkıları İngilizce dersleriyle bütünleştiren müzik temelli pedagojinin, öğrencilerin kelime öğrenme ve okuduğunu anlama düzeyinin gelişmesine katkıda bulunduğunu göstermiştir. Buna ek olarak, hem kelime öğrenme hem de okuduğunu anlama performanslarında yüksek düzeydeki artış, şarkıya dayalı dil öğretiminin uygulanmasıyla

anlamlı olarak ilişkiliydi. Son olarak, motivasyonun her iki grupta da kelime öğrenme ve okuduğunu anlamada bağdaştırıcı bir role sahip olmadığı bulunmuştur. Çalışma, müzik etkinliklerini, özellikle otantik şarkıları, yabancı dil sınıfına dâhil etmenin, öğrencilerin kelime öğrenme ve okuduğunu anlamadaki başarısını artırmaya yardımcı olabileceği sonucuna varmıştır.

Anahtar sözcükler: Kelime öğrenme, motivasyon, müzik, okuduğunu anlama, yabancı dil olarak İngilizce

ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude to my advisor, Assoc. Prof. Dr. Ayşegül Amanda Yeşilbursa, for her great support and guidance throughout this study. Her insightful feedback, continuous support, immense knowledge, and professional advice have certainly added significant value to this research, and writing of this thesis from the beginning to the end.

I would like to offer my special thanks to the committee members, Asst. Prof. Dr. Levent Uzun, and Asst. Prof. Dr. Ayşe Selmin Söylemez, for their constructive comments, invaluable advice, and continous support. I sincerely appreciate their thoughtful feedback and guidance.

My sincere thanks also go to the administrators, teachers, and students of the participating school for their valuable contributions to this study.

I would like to express all my love and appreciation to my beloved family, especially my mother and father, who were always by my side and fully supported me every step of the way. Their unconditional love and support made this milestone in my life possible.

Arzu Sevinç

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List of Abbreviations

CEFR: Common European Framework of Reference for Languages

EF: Education First

EF EPI: EF English Proficiency Index

EF SET: EF Standard English Test

EFL: English as a Foreign Language

ELLs: English Language Learners

ELLMS: The English Language Learner Motivation Scale

Chapter 1

Introduction

1.1. Background of the Study

Crystal (2008) estimated that nearly a third of the Earth's population either spoke English as a native language or was studying English as a foreign language (EFL). Ushioda (2017) described the scope of English as a global language in terms suggesting that English is both more influential and more widespread than any language in known history. Despite the global prevalence of English, levels of English proficiency among EFL learners are highly variable. In 2017, the company Education First (EF, 2017) released its English Proficiency Index (EF EPI), a ranking of EFL speakers in five different regions (Europe, Asia, Latin America, Africa and Middle East) comprising 80 countries on the basis of testing data from nearly two million individuals. EF SET (Education First Standard English Test) ranked EFL learners on a continuous scale from 0 to 100, with 0 representing the lowest possible score and 100 representing a perfect score. On the basis of this scale, EF SET inferred the existence of five distinct bands: Very high proficiency, high proficiency, moderate proficiency, low proficiency, and very low proficiency. The scoring system of these bands is based on Common European Framework of Reference for Languages (CEFR).

On the basis of EF EPI (2017) ranking, Turkey was 62nd of 80 measured countries, with an overall English proficiency score of 47.79, which corresponds to very low in its scoring system. Turkey is the penultimate country, ranked in comparison with countries in the region, ahead only of Azerbaijan; regarding the EF EPI score (EF, 2017).

Low levels of Turkish proficiency at English have been documented not only by companies such as EF but also by individual researchers (Çiftçi & Koçoğlu, 2012; Kızıldağ, 2017; Subaşı, 2010). These researchers have found that, despite being exposed to academic

English from primary school onwards, many Turkish EFL students possess low levels of English proficiency in domains including speaking, comprehension, grammar, and writing. In this context, Turkish EFL has been described as failing the needs of students and failing to fulfill the national mission of promoting competence in English in Turkey.

Lexical competence is an essential facet in EFL, since words are key integrants of improving proficiency in foreign language (Hsueh-Chao & Nation, 2000). The strong connection between vocabulary and reading comprehension has been revealed by many studies (Hsueh-Chao & Nation, 2000; Qian, 2002; Schmitt, 2000; Stanovich, Nathan & Vala-Rossi, 1986; Stringer & Stanovich, 2000). In spite of this, when compared with the grammar, the systematic treatment of vocabulary teaching has been insufficient (Nation, 1998). Vocabulary has been identified as a particularly important deficiency among the overall English proficiency of Turkish EFL students (Atay & Kurt, 2006; Balcı & Çakır, 2012). Atay and Kurt suggested that one of the reasons for the vocabulary deficiencies among Turkish primary school students was the absence of engaging and meaningful post-reading activities. They reached this conclusion on the basis of an experiment whose main finding was that, after being exposed to the same items of English vocabulary, those Turkish primary school students who were exposed to interactive post-reading activities were likely to retain significantly more vocabulary items.

Music has also been found to have a pivotal role in vocabulary recall. Stansell (2005) states that when foreign language teachers shape the comprehensible language input with musical lessons, they can anticipate higher levels of motivation and a good grasp of vocabulary from learners. In addition, music and songs expand working memory capacity, while providing a constructed context for long-term vocabulary recall. There are numerous extant theories of language acquisition, among which the works of some scholars (Gardner & Lambert, 1959; MacIntyre, Dornyei, Clement, & Noels, 1998) emphasize motivation as a predominant aspect of

learning success. In these kinds of motivation theories, learners of a foreign language are successful to the extent that they visualize themselves as possessing a particular personality in the target language; these learners are able to reinvent themselves as successful foreign language speakers through acts of imaginative affiliation and expression. In this sense, their imagined mental images of self may concretize in the mind, playing a significant role as a motivator and establishing a meaningful connection with their desired selves (Dörnyei, 2009). However, besides using their imagination purposefully, in order to attain this level of motivation to enhance achievement, the learners of second languages must first apply themselves to minor, constituent tasks such as vocabulary building. The focus of the current study is not on the macro-level of motivation to achieve in the foreign language, but on the micro-level of vocabulary building and similar classroom exercises.

There is growing evidence that vocabulary learning is improved not only by interactive post-exposure activities but also by variation in how vocabulary is presented and reinforced. In this context, music — whether instrumental (background) music or songs — has been observed to play an important role (Gamage & Premarathne, 2013; Lems, 2005; Li & Brand, 2009; Limbong, 2012; Salcedo, 2010). Namely, the integration of music into vocabulary learning is major for the discovery of alternative ways which can enable the second language learners to make use of new words and succeed in remembering them. Working with a group of Chinese adult EFL students, Li and Brand (2009) carried out a study demonstrating that vocabulary performance was greater for those students for whom vocabulary was reinforced by presentation in English-language songs. However, they also found that other, non-vocabulary-related aspects of English performance also improved for the students with the most frequent in-class exposure to English-language songs. In other studies, there is also evidence that music exposure is associated with improvements in more than one domain of English proficiency; for example

grammar and vocabulary (e.g., Gamage & Premarathne, 2013; Sarıçoban & Metin, 2000); supra-segmental features (e.g., Lems, 2001; Wong, Perrachione & Parrish, 2007), pronunciation and phonology (e.g., Schön et al, 2008), vocabulary (e.g., Limbong, 2012), text recall (e.g., Salcedo, 2010; Mora, 2000).

Despite the emergence of a body of empirical literature on the positive correlation between musical exposure and EFL performance, there are numerous unanswered questions. First, the attitude taken by several researchers (Abbott, 2002; Gamage & Premarathne, 2013; Kang & Williamson, 2014; Lems, 2005; Li & Brand, 2009; Limbong, 2012; Salcedo, 2010) has been to measure the effectiveness of a single type of music, that is, instrumental music (background) or songs, on the dependent variable of EFL performance. To the researcher's knowledge, the existing empirical literature does not appear to contain examples of studies in which the effects of several types of music exposure—for example, exposure to instrumental (background) music and exposure to song lyrics—have been measured. Second, the existing body of empirical literature focuses more closely on single dependent variables, such as vocabulary learning; whereas, conceptually, there are several kinds of EFL performance that might be influenced by exposure to music. The focus of this quasi-experimental study is on the relationship between two forms of music exposure (exposure to instrumental music and exposure to songs) to two forms of performance improvement (vocabulary learning and reading comprehension) in EFL tasks among a sample of 9th grade Turkish EFL learners.

1.2. Statement of the Problem

In the context of Turkey, the identified problem is pervasively low achievement in EFL, as documented not only by the EF (2017) report but also by numerous scholars (Çiftçi & Koçoğlu, 2012; Kızıldağ, 2017; Subaşı, 2010) who have studied the performance levels of Turkish EFL students. In the context of existing research on the possibly beneficial effects of

music on EFL performance, the identified problem is the paucity of studies that have attempted to measure the impact of more than one form of music exposure on more than one type of EFL performance. Both of these problems will be addressed in the current study. Specifically, the current study aims to investigate the effects of exposure to instrumental music and songs on vocabulary learning and reading comprehension.

1.3. Purpose of the Study

The purpose of this quantitative, quasi-experimental study is to measure the statistical significance and effect size of the relationship between types of musical exposure and subsequent changes in performance on (a) vocabulary learning and (b) reading comprehension. This purpose will be achieved by means of a quasi-experiment, the details of which have been presented in Chapter 3.

1.4. Research Questions

Within the framework of the aim outlined above, the following research questions (RQs) have been formulated:

1. Is there a statistically significant association between exposure to instrumental music and improvement in vocabulary learning?

2. Is there a statistically significant association between exposure to English language songs and improvement in vocabulary learning?

3. Is there a statistically significant association between exposure to instrumental music and improvement in reading comprehension?

4. Is there a statistically significant association between exposure to English language songs and improvement in reading comprehension?

5. Is the effect of exposure to instrumental music and improvement in vocabulary learning greater than the effect of exposure to English language songs and improvement in vocabulary learning?

6. Is the effect of exposure to instrumental music and improvement in reading comprehension greater than the effect of exposure to English language songs and improvement in reading comprehension?

7. Does motivation moderate the relationship between musical exposure and vocabulary learning?

8. Does motivation moderate the relationship between musical exposure and reading comprehension?

1.5. Significance of the Study

The study is significant for several reasons. First, from the perspective of gaps in the existing literature (which have been discussed at greater length in the second chapter of the current study), the study aims to contribute to the literature pertaining to the effect of more than one type of music exposure on more than one kind of EFL performance. In addition, whereas previous studies have tended to report changes in means, and the significance levels of these changes, the current study includes a measure of effect size, Cohen's *d*, which is more easily interpretable as a real-world measure of change (Cohen, 2013). Finally, by comparing effect sizes for two kinds of music exposure, the study allows for an assessment of which type of music exposure, if any, might be superior. Such effect size-based comparisons between music types can allow teachers and administrators to forecast changes in standardized test scores and other measures of performance in relation to music exposure, which, in turn, could allow educational leaders and teachers to justify the use of music in relation to state-mandated forms of performance testing. Thus, the study will not only close some of the gaps in the existing

literature—including gaps relating to the absence of effect size measurements and to the apparent lack of research conducted comparing the effects of different types of music exposure on different forms of EFL performance—but also provide insights to teachers and educational policy in Turkey.

1.6. Conclusion

The purpose of the first chapter of the study was to introduce the topic, problem, purposes, research questions, and significance of the study. The remainder of the study has been structured as follows. The second chapter of the study constitutes the review of literature, which has been further subdivided into theoretical and empirical portions, and which also contains an identification of gaps in the empirical literature. The third chapter of the study contains a description and defense of the research methodology and design for the study. The fourth chapter of the study comprises the findings, which have been presented in order of the research questions of the study. The fifth chapter of the study consists of a discussion of the findings in relation to each of the research questions. The sixth and final chapter of the study is the conclusion, which includes an overview of the study, a description of pedagogical implications, an acknowledgement of limitations, recommendations for future research, and a summative conclusion.

Chapter 2

Literature Review

The purpose of this chapter is to present an overview, discussion, analysis, and synthesis of both theories and empirical findings relevant to the topic of the study. The literature review has been divided into three main sections. First, the theoretical framework of the study has been presented, with particular reference to the Mozart Effect of music on short-term cognitive performance (Ivanov & Geake, 2003; Nantais & Schellenberg, 1999; Perlovsky, Cabanac, Bonniot-Cabanac, & Cabanac, 2013; Thompson, Schellenberg, & Husain, 2001; Verrusio et al., 2015; Waterhouse, 2006). Second, the relationship between music and motivation in ELT has been presented (Brown, 2006; Dolean, 2016; Good et al., 2015; Kang & Williamson, 2014; Lozanov, 1978). Third, a cross-section (Abdolmanafi-Rokni & Ataee, 2014; Heidari & Araghi, 2015; Köksal, Yağışan, & Çekiç, 2013; Li & Brand, 2009; Shakerian, Rezaei, Murnani & Moeinmanesh, 2016) of the relevant empirical literature has been described, analyzed, and synthesized. Fourth, the main gaps in the literature have been identified. A brief conclusion contains a summary of the main points of the literature review.

2.1. Theoretical Framework

The theoretical framework of the current study is based on the Arousal and Mood Hypothesis (Nguyen & Grahn, 2017). Accordingly, the association between music and subsequent cognitive performance is mediated by two variables, namely (a) arousal and (b) mood. Thus, when exposed to music, individuals experience both higher levels of arousal and improved mood, and both of these states are associated with improved cognitive performance (Thompson, Schellenberg, & Husain, 2001; Nguyen & Grahn, 2017). Therefore, the arousal component suggests that music improves cognition by prompting the same kind of brain activity that is associated with learning (Chai et al., 2016; Grant et al., 2015; Saidi et al., 2013; Vinals,

2016; Volk et al., 2014). With heightened brain activity brought about through the mediation of music, an improved ability to learn what is being taught comes both immediately after listening to music and for some time afterwards as well. Specifically, there is a positive correlation between (a) heightened mood and neuronal / synaptic activity and (b) heightened mood and encoding of memory. While arousal might be a short-term effect, in that the brain arousal prompted by music is short-term, mood is a means of explaining the observed long-term persistence of the cognitive benefits of music exposure (Hallam, 2010; Verrusio et al., 2015). When individuals learn something while being in a heightened mood, the resulting memory is likely to last longer (Scott et al., 2014; Vinson, Ponari & Vigliocco; 2014; Yap & Seow, 2014). Studies have demonstrated that language learners who are in a state of moderate arousal are more likely to succeed at learning tasks (Kuperman et al., 2014; Scott et al., 2014; Sheikh & Titone, 2013; Vinson, Ponari & Vigliocco; 2014; Yap & Seow, 2014). In terms of mood, researchers (e.g., Aizpurua & Koutstaal, 2015; Min & Lee, 2015; Young, Siegle, Bodurka, & Drevets, 2015) have consistently found that tasks such as vocabulary recall were significantly more difficult in states of depressed mood. The main experimental finding in this context is that people who are in more positive mood states are more likely to learn and retain vocabulary (Aizpurua & Koutstaal, 2015; Min & Lee, 2015; Young et al., 2015).

The experimental nature of the Arousal and Mood Hypothesis provides important blueprints for the research design of any empirical analysis of the influence of music exposure on performance on EFL tasks. According to the arousal and mood hypothesis, the cognition-promoting effects of music are based in mechanisms (namely, arousal and mood) that are not under the conscious control of the music listener (Ferreri & Rodriguez-Fornells, 2017; Hallam, 2010; Lombardi & de Arcangelis, 2014; Schneider & Mooney, 2015; Verrusio et al., 2015). For example, the minor and major scales selectively alter mood in listeners regardless of their

previous exposure to music and their existing music culture. Thus, the arousal and mood hypothesis can be described in terms of involuntary physiological impact (Ferreri & Rodriguez-Fornells, 2017; Hallam, 2010; Lombardi & de Arcangelis, 2014; Schneider & Mooney, 2015; Verrusio et al., 2015).

The Rauscher, Shaw and Ky (1993) article encouraged numerous studies on the impact of music on cognitive performance. Their research served as a foundation for quite a few studies and has popularized the notion of the Mozart Effect, the name of the effect they found based on their study. The Mozart Effect is consequent on the physiological stimulation that occurs by listening to music (Gonzalez, Smith, Stockwell & Horton, 2003). The Mozart Effect suggests that listening to the music of Wolfgang Amadeus Mozart exerts positive effects on the brain functions. Irrespective of the composer, pieces possessing a high degree long-term periodicity, just like those of Bach and Yanni, also have the same effect on higher level cognition (Rideout, Dougherty & Wernert, 1998; Hughes & Fino, 2000). The “Mozart Effect” is one of the most prevalent theories that have been put forward to explain the Arousal and Mood Hypothesis (Thompson, Schellenberg & Husain, 2001), which forms the backbone of the current study.

In the context of language acquisition in particular, the Mozart Effect suggests that music promotes arousal while learning, increases the accuracy of memory encoding while reading and listening, and speeds up information processing in various language production tasks (Abdolmanafi-Rokni & Ataee, 2014; Heidari & Araghi, 2015; Köksal et al., 2013; Li & Brand, 2009; Shakerian et al., 2016). Other scholars (Dolean, 2016; Good, Russo, & Sullivan, 2015; Lou & Noels, 2016; Segalowitz, 2016) have argued that the Mozart Effect is not related to cognition, but, rather, to motivation.

2.2. Motivation in Relation to Music

As stated by Dörnyei (1994) L2 motivation is a multifaceted construct which comprises three levels: a) the language, b) the learner and c) the learning situation. The language level includes integrative and instrumental motivation. Researchers (Dörnyei, 1994; Hudson, 2000; Oxford & Shearin, 1994; Richards, 1972) agree that motivation is the major integrant for learning another language. Nonetheless, researchers have also found out that second language learning motivation declines when the learners are in the classroom (Miura, 2010). Therefore, classroom motivation has played a key role in foreign language learning, initiating the increasing importance of teachers' role and the language learning environment.

There are numerous reasons for learning a second language. One well-known category is Gardner and Lambert's (1972) categorization of motivation into two types: a) integrative motivation (e.g., to feel an affinity towards the speakers of a particular language and also the culture linked to the language; and b) instrumental motivation (e.g., to learn the language for practical reasons such as getting into university).

However, Dörnyei (1994) put forward that the amount of effort a learner spent on learning a new language would depend on both the desire to learn the new language, and on the satisfaction they derived from the learning activity. This indicates the importance of the instructional context and classroom motivation linked to second language learning. Accordingly, classroom learning motivation points out the fitting conditions which could increase learners' success (Asiyari, 2014). Such conditions encompass the instructional practices which help strengthen a learner's motivation to continue learning a second language such as teacher- specific motivational components, positive classroom environment and building connection with students' interests outside the classroom. Guilloteaux and Dörnyei (2008) demonstrated that

course level motivation (e.g., teaching materials and teachers' ability to get the subject matter across to the students) is a major factor which keeps students motivated.

As Krashen (1982) argued, anxiety lies at the heart of balancing the affective filter. The affective filter hypothesis proposes that comprehensible input is not the only factor to aid in successful language acquisition unless provided in an atmosphere reducing affective filter. In other words, comprehensible input does not necessarily mean the Language Acquisition Device or LAD will be activated though input was understood. Krashen (1985) asserted that this filter was a mental barrier which impedes the learners' absorption of comprehensible input owing to high anxiety, low motivation and low self-esteem. For that reason, successful language acquisition necessitates the conditions of comprehensible input and low affective filter should be met. When we receive comprehensible input with engaging activities in a low anxiety environment, we acquire language (Krashen, 1985).

Indeed, there have been numerous studies investigating the link between anxiety and foreign language learning (Dewaele & McIntyre, 2014; Gregersen et al., 2014; Kim, 2009; MacIntyre & Gardner, 1994; Wei, 2014). In the late 1970s, Lozanov (1978) devised "Suggestopedia", a language teaching method based on the use of classical music as an accompaniment to certain activities to create a relaxed and motivating learning environment which is the optimum state for language learning. It is important to highlight the fact that music is a means of lowering anxiety and encouraging low affective filter, which, as Krashen pointed out, creates a non-threatening learning environment, which is optimal for language learning.

Previous studies (Haynes, 2003; Oxford & Shearnin, 1994) have shown that playing background music has been associated with decreasing student anxiety and reducing affective filters. Moreover, prior research suggested that background music has also been connected with improved retention of vocabulary in the target language (de Groot, 2006) and enhanced

performance on language learning tasks such as writing (Cho, 2015; Kang & Williamson, 2014). However, the impact of music on EFL can truly be maximized if properly incorporated into instructional tasks. Songs provide access to authentic language usage and contexts providing a link between language and culture. The rhythmic and repetitive nature of songs helps the listener through the patterning of the sounds of the new language, exposing them to different voices and accents and helping to better grasp the grammatical usage addressed (Ziegler, 2016).

The gist of such theories is that students exposed to music perform well because they respond motivationally to the presence of music. Specifically, music makes the learning environment more entertaining and engaging, and, in consequence, the learner is motivated to do better (Brown, 2006; Dolean, 2016; Good et al., 2015; Lou & Noels, 2016; Segalowitz, 2016).

The explanatory power of the Arousal and Mood Hypothesis versus motivation-based theories of the relationship between music and cognition can be tested through carefully designed experimentation. If music is physiologically effective, then, the relationship between music exposure and subsequent increases in performance will not be mediated by motivation—in other words, performance improvement among students exposed to music will not be revealed by the inclusion of motivation as a mediating variable (Nguyen & Grahn, 2017). However, according to motivation-based theories of music and cognition (Dolean, 2016; Good et al., 2015; Lou & Noels, 2016; Segalowitz, 2016), the apparent effect of music on performance improvement is actually the effect of motivation.

Hence, it would be reasonable to investigate the mediating role of motivation in the relationship between exposure to music and English language achievement. With this explanation in mind, the seventh and eighth research questions of the study are particularly important, as they constitute explicit tests of the explanatory power of the arousal and mood hypothesis vis-à-vis motivation-based theories of the link between music and cognition.

2.3. Review of the Empirical Literature

The purpose of this section of the chapter is to describe, analyze, and synthesize pertinent empirical studies on the topic of music exposure and improvement in EFL tasks. The discussion of empirical literature has been subdivided into four sections. First and second sections of the chapter aim to present the international and national studies that set forth the relationship between music exposure and EFL performance improvement. Third, the results of the empirical studies have been synthesized. Finally, the gaps in the existing literature have been identified.

2.3.1. International studies on music and EFL performance. Li and Brand (2009) conducted an experiment on 105 Chinese EFL students who were undergraduates at a university in Shenzen. They were interested in the effects of music exposure on EFL performance in this sample, with performance defined as an omnibus variable integrating vocabulary, language use, and reading comprehension. They randomly divided their sample of 105 students into three groups: A control group that was not exposed to any music, an experimental group in which half of class time was spent in traditional pedagogy and the remaining half of which was spent on playing and learning from American pop music songs, and another experimental group in which the entirely of class time was based on listening to and learning from pop music. Their study was notable not only for testing the impact of music exposure on EFL performance but also for the researchers' inclusion of motivation as a study variable.

Li and Brand (2009) administered a pre-test of their customized performance instrument to students in all three groups and found no significant difference between the performance of students to be included in the all-music group, students to be included in the half-music group, and students to be included in the control group. They administered their intervention for a total of 540 minutes, divided into six sessions of 90 minutes, and conducted a post-test in order to measure performance improvement. Significant performance improvements were observed in

each group. All participants (full-music, half-music and no-music) performed significantly better at the end of the intervention.

Li and Brand (2009) also studied attitude in each of the groups, with the variable of *attitude* operationally defined to encompass enthusiasm and engagement relating to the class material. They found that the attitude scores of the all-music and no-music groups were similar; however, a pairwise comparison revealed that the attitude score of the students in the all-music group was significantly greater than the attitude score of the students in the half-music group. This finding was not necessarily useful, because it was a post-test measurement only. The absence of a pre-test assessment of attitude in each of the three groups of Li and Brand's study meant that it is impossible to determine whether attitudes might have been significantly higher or lower in any of the groups before they administered their intervention.

An important weakness in Li and Brand's (2009) study was the use of a single variable to measure three distinct components of EFL performance: vocabulary, reading comprehension, and language use. Because the researchers only reported a single score that incorporated of these performance measures, it was impossible to determine whether music exposure might have been positively associated with success in a single performance domain, such as vocabulary. Another important weakness in Li and Brand's study was the failure to present an effect size, such as Cohen's *d* (Cohen, 2013) to quantify the performance improvement observed in all three of the groups. Because each of the groups—the two experimental groups and the control group—obtained statistically significant performance increases over the intervention period, it would be especially useful to determine if the effect size of improvement any of the groups was higher than the effect size of improvement in any other of the groups. Such information could be of practical use, for example, in providing teachers, principals, and other stakeholders with the information necessary to choose between half-music and full-music lesson types. Because the researchers

reported the mean and standard deviations of performance improvement for each group, Cohen's *d* values can be calculated retroactively by readers aware of this calculation, but, for readers disinclined or unable to carry out their own Cohen's *d* analyses on the basis of Li and Brand's reported results, their decision to omit effect-size reporting was a limitation of the study.

On the other hand, one of the strengths of Li and Brand's (2009) study was to test for the impact of more than one approach to music. By testing the impact of half- and full-music classes, the researchers generated information that can be of practical use to EFL teachers interested in the usefulness of instruction that is music-based. This aspect of Li and Brand's study can be usefully adopted by other researchers.

A study (Heidari & Araghi, 2015) conducted in Iran disconfirmed the findings obtained by Abdolmanafi-Rokni and Atee (2014), which also emerged from an Iranian EFL setting. Heidari and Araghi conducted an experiment with 68 male EFL learners aged between 7 and 14, with the purpose of comparing the effectiveness of two different forms of EFL instruction—one form based on the use of pictures in order to teach and embed vocabulary, and another form based on the use of songs—on the dependent variable of vocabulary recall. Heidari and Araghi's study began by conducting a pre-test on the vocabulary knowledge of individuals randomly sorted into the experimental (song-based) and control (picture-based) control groups. An independent samples *t*-test indicated that there was no statistically significant difference in the vocabulary performance of the two groups, indicating that the researchers had been successful in randomizing their sample. The mean scores on the vocabulary pre-test administered to both groups were, in each case, just over 13. However, after the culmination of 17 sessions of the intervention, the researchers found that the vocabulary recall of the members of the picture group was significantly greater than the vocabulary recall of the members of the song group.

Li and Brand (2009) exposed students to music in a direct way, that is, by encouraging listening to songs and incorporating vocabulary and language concepts from the songs into EFL pedagogy. However, it is also possible to measure the possible influence of exposure to instrumental music on the performance of EFL tasks (e.g., Abdolmanafi-Rokni & Atee, 2014). Abdolmanafi and Atee conducted their study on a sample of 34 primary school EFL students in Iran and randomized this sample into two equal groups of students in a control group and an experimental group. Students in the experimental group were exposed to background music, whereas students in the control group were not exposed to background music. One point of interest in the comparison of Abdolmanafi-Rokni and Atee's study to Li and Brand's (2009) study is that Abdolmanafi-Rokni and Atee's intervention lasted for nearly 20 hours, whereas Li and Brand's intervention only lasted for nine hours. The use of a longer intervention period was one of the strengths of Abdolmanafi-Rokni and Atee's study design, and the length of this intervention period also raises the possibility that Li and Brand's intervention period was too short to be able to detect possible advantages of musical exposure.

In addition, whereas Li and Brand (2009) provided a single measure of EFL performance that combined vocabulary, general comprehension, and language use tasks, Abdolmanafi-Rokni and Atee (2014) were interested in a single measure of EFL performance, that of vocabulary. The students in the control and experimental groups in Abdolmanafi-Rokni and Atee's experiment were given a 30-item pre-test designed to measure their baseline understanding of vocabulary words that would be taught during the intervention. Unfortunately, unlike Li and Brand, Abdolmanafi-Rokni and Atee did not provide the results of an independent samples *t*-test designed to ensure that the pre-test vocabulary knowledge of the two groups was statistically equivalent. Therefore, it is possible that the effects subsequently measured by Abdolmanafi-

Rokni and Atee might have been the result not of the music exposure but of existing pre-test differences in the vocabulary performance of the study participants.

Abdolmanafi-Rokni and Atee's (2014) study was based on playing classical works of the composer Wolfgang Amadeus Mozart in the background during lessons. However, Abdolmanafi-Rokni and Atee did not list all of the Mozart pieces that were played and also did not report the volume of playback. After the conclusion of the 20-session intervention, they measured the experimental group and control group on the recall of vocabulary and found that the mean performance of the experimental group was significantly greater than that of the control group. In order to test the possible long-term effect of background music, they conducted another test four months after the initial post-test. The results of the post-test indicated that, even after four months, the mean performance of the experimental group was significantly greater than the mean performance of the control group.

Another study conducted in Iran (Shakerian et al., 2016) confirmed the existence of a positive influence of music on EFL performance. The study conducted by Shakerian et al. drew upon a sample of 60 advanced, adult EFL learners, of whom 30 were men and 30 women. The presence of both genders in Shakerian et al.'s study indicated the likelihood of this study's higher explanatory power, as other studies (Abdolmanafi-Rokni & Ataee, 2014; Heidari & Araghi, 2015) conducted in Iran draw upon single-gender samples, perhaps because of the gender-segregation of many forms of education in Iran.

Shakerian et al. (2016) measured the performance of two groups—an experimental group that was taught vocabulary through songs and a control group that was taught vocabulary through traditional pedagogy—on the dependent variable of vocabulary recall. One of the distinctive aspects of Shakerian et al.'s research design was allowing members of the experimental group to choose their own songs, which were then screened by Shakerian et al. in order to ensure the

inclusion of appropriate songs for the instruction of the experimental group. This aspect of Shakerian et al.'s approach appears to be unique in the literature.

Shakerian et al. (2016) found that there was a significant effect of music exposure on both vocabulary retention (as measured immediately after the administration of 30 hours of the intervention, divided into 20 sessions that were each 90 minutes in length) and vocabulary recall (as measured three months after the intervention). Because Shakerian et al. reported their results solely in an analysis of covariance (ANCOVA) format; they did not provide means and standard deviations for the recall and retention improvements of both the experimental and control groups. Shakerian et al. found a significant effect of gender on recall but not on retention, indicating that, immediately after the intervention, women were more likely to do better on recall, but that the superior performance of women did not persist over the long term. Shakerian et al. did not offer an explanation for the gender effect on vocabulary recall in the short-term, an effect that was statistically independent of exposure to music; however, the existence of an effect of gender in Shakerian et al.'s study suggests that future researchers should also attempt to include gender in statistical models of the relationship between music exposure and EFL performance improvement.

2.3.2. Studies on music and EFL performance in Turkey. The purpose of this section of the literature review is to discuss empirical findings that provide both confirmation and disconfirmation of the effect of music on EFL performance tasks in Turkish context. There appear to be few studies (e.g., Eken, 1996; Erten, 2015; Sarıçoban & Metin, 2000) on the music-EFL performance link set in Turkey. Their results cast a new light on using songs in ELT classes. For instance, Eken (1996) developed different techniques incorporating songs into language teaching in order to create a learning atmosphere conducive to language learning. Sarıçoban and Metin suggested some guidelines for effective grammar teaching through implementation of the

songs in foreign language classes. More recently, Erten highlighted the importance of using songs in ELT in terms of socio-affective, cognitive and linguistic benefits, and provided some guidelines on how to implement karaoke in language classes.

However, only one of these studies (Köksal et al., 2013) adopted an experimental design. Working with 56 5th grade Turkish EFL students, Köksal et al. aimed to investigate the effect of music on vocabulary recall and retention, and students' attitudes. The control group was taught in the traditional manner, and the experimental group was taught voabulary through music. Their study involved a 12-week intervention, with each weekly session lasting an hour. Before beginning the intervention, the researchers did not measure the vocabulary levels of both the experimental and control groups in order to ensure that these groups reflected random sorting, which constituted an important limitation of the study. Immediately after the intervention, an independent samples *t*-test indicated that the mean post-test vocabulary performance of the experimental group was significantly lower than the post-test vocabulary performance of the control group. However, this finding reversed when, after a month, the participants were tested again, this time on their recall of the relevant vocabulary words. Thus, Köksal et al.'s results were noteworthy in that they found support for a positive effect of music exposure on vocabulary retention, but no such effect for vocabulary recall. Köksal et al. did not attempt to theoretically account for this finding. However, the possibility that performance improvements might differ from the recall to retention stages suggests the importance of measuring both of these performance outcomes.

This section has shown that the studies carried out in Turkey on the role of music in ELT are largely limited to suggestions for classroom practice. The paucity of experimental studies in the Turkish context gives greater significance to the present study. It is hoped that this study will

provide empirical data that will serve as a theoretical building block to explain the role of music in ELT.

2.3.3. Synthesis of studies. Synthesizing the studies discussed in the empirical review of literature is difficult because of the disagreement between findings. Not all studies have identified a positive influence of music exposure on the performance of EFL tasks. Moreover, it does not appear to be the case that the studies failing to identify a significant relationship between music exposure and EFL performance are systematically inferior, in terms of factors such as research study and statistical sophistication, to studies that have identified a significant relationship between music exposure and EFL performance.

One way to synthesize the mutually contradictory currents in the research literature is to hypothesize that the positive relationship between music exposure and cognitive performance—on EFL-based performance tasks such as vocabulary recall and retention—might have a low effect size, in which case larger samples would be needed to detect such an effect. Indeed, many researchers (e.g., Ivanov & Geake, 2003; Nantais & Schellenberg, 1999; Perlovsky et al., 2013; Thompson et al., 2001; Waterhouse, 2006) who have attempted to quantify the general relationship between music exposure and cognitive performance, and who have found a positive correlation, have worked with much larger samples than have been gathered in EFL studies. If the effect size of music exposure on EFL performance is relatively small, then, in statistical theory (Cohen, 2013), only uniformly high-sample studies would identify a significant effect of music exposure on cognitive performance. In the context of small- and medium-sample studies, Cohen predicted that subtle effects would sometimes be identified and sometimes failed to be identified. The empirical studies reviewed earlier fit this pattern, as the existence of a music-cognitive performance link is confirmed in some studies and disconfirmed in others. Given the ambiguous

results in the literature, more empirical studies are necessary in order to determine whether there is a genuine effect of music exposure on EFL performance.

2.3.4. Gaps in the literature. One of the general gaps observed in each of the reviewed studies was the absence of best practices in statistical analysis. This gap in the literature can be overcome by researchers who are aware of such practices. Another general gap in the studies was the existence of fairly small samples that became even smaller after being subdivided into control groups and experimental groups. A final general gap in the empirical studies reviewed in this chapter is the absence of covariates. Students have many different characteristics, including demographic characteristics (such as gender and race), socioeconomic characteristics (such as family income level and level of parental education), and individual characteristics (such as general intelligence, familiarity with a foreign language, and level of emotional commitment to learning a foreign language). While including numerous covariates might pose practical difficulties related to privacy, the absence of any covariates—such as gender—in several of the studies is an important limitation.

In addition to the general gaps in the literature, there are also specific gaps related to the focus of the current study. One such gap is the absence of meaningful information about which kind of musical exposure might be superior to other kinds of exposure. Another important gap is a failure to study the impact of music exposure on more than one form of EFL performance. Vocabulary appears to be the most frequently utilized dependent variable in the existing literature, but there are several other plausible outcomes—such as reading comprehension—that can be tested.

2.4. Conclusion

The purpose of this chapter was to present an overview, discussion, analysis, and synthesis of both theories and empirical findings relevant to the topic of the study. The literature

review was divided into three main sections. First, the theoretical framework, the Mozart Effect, was presented and described in terms of a substantial cross-section of the literature on second-language acquisition and cognition (Ivanov & Geake, 2003; Nantais & Schellenberg, 1999; Perlovsky et al., 2013; Thompson et al., 2001; Verrusio et al., 2015; Waterhouse, 2006). Second, a substantial cross-section (Abdolmanafi-Rokni & Ataee, 2014; Heidari & Araghi, 2015; Köksal et al., 2013; Li & Brand, 2009; Shakerian et al., 2016) of the relevant empirical literature was described, analyzed, and synthesized. Third, the main gaps in the literature were identified. The main gaps in the empirical literature were (a) the absence of sufficient empirical knowledge on the impact of more than one kind of musical exposure on more than one kind of EFL performance, such as performance in vocabulary learning and reading comprehension; (b) the absence of sufficient knowledge about which types of musical exposure might be more effective with respect to EFL performance; and (c) the absence of effect-size estimates that can allow Turkish teachers, principals, and other stakeholders from forecasting the practical impact of music exposure on dependent variables such as performance on state-mandated tests. The methodology described and defended in the third chapter of the study is explicitly designed to address these gaps in the empirical literature.

Chapter 3

Methodology

The purpose of this chapter is to describe the elements of the study methodology. The chapter has been structured as follows. First, the research design adopted in the current study is described. Second, a description of the population and sample is given. Third, the research instruments are presented. Fourth, the validity of the experimental assignment is discussed. Fifth, the data collection procedures of the study are listed. Sixth, the materials used in the procedure are presented. Seventh, data analysis is described for each of the research questions of the study. Finally, ethical considerations are dealt with.

3.1. Research Design

The research design chosen for the study was quantitative. McNabb (2010) defined the characteristics of quantitative methodology, contrasted with the characteristics of qualitative methodology, as follows:

Table 1

Differences between Quantitative and Qualitative Research

Philosophical Foundations	Qualitative Research Designs	Quantitative Research Designs
Ontology (perceptions of reality)	Researchers assume that multiple, subjectively derived realities can coexist.	Researchers assume that a single, objective world exists.
Epistemology (roles for the researcher)	Researchers commonly assume that they must interact with their studied phenomena.	Researchers assume that they are independent from the variables under study.
Axiology (researchers' values)	Researchers overtly act in a value-laden and biased fashion.	Researchers overtly act in a value-free and unbiased manner.
Rhetoric (language styles)	Researchers often use personalized, informal, and context-laden language.	Researchers most often use impersonal, formal, and rule-based text.

Procedures (as employed in research)	Researchers tend to apply induction, multivariate, and multiprocess interactions, following context-laden methods.	Researchers tend to apply deduction, limited cause-and-effect relationships, with context-free methods.

Note: As specified by McNabb (2010, p. 225)

The consensus among methodologists (e.g., Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Creswell, 2015; McNabb, 2010) is that the choice of quantitative methods, qualitative methods, and mixed methods (a combination of quantitative and qualitative methods) should be governed by the nature of a research phenomenon, the gap in knowledge, and the proposed means of investigation. In the case of this study, the gap in knowledge is closely related to numerical measurement; there is limited research on the magnitude and significance of academic improvements that might be ascribable to the use of music in second language classrooms. As noted in Chapter 2, there are also studies that have explored how and why the use of music might influence learning, but the focus of the current study is on whether different kinds of musical exposure are associated with tangible improvements in two well-defined domains, those of vocabulary learning and reading comprehension. Therefore, because of its nature and focus, the study is based on objective measurement, making the study intrinsically suited to quantitative rather than qualitative methods (Balnaves & Caputi, 2001; Bernard & Bernard, 2012; Creswell, 2015; McNabb, 2010).

The quantitative orientations of the study are guided by McNabb's (2010) discussion of quantitative methods. In keeping with the ontology of quantitative methodology, there is an assumption that the concepts of vocabulary learning and reading comprehension improvement can be objectively measured. In keeping with the epistemology of quantitative methodology, there is an assumption that, while the researcher is responsible for delivering the intervention that is at the basis of the study, the researcher is independent from the studied variables. In terms of

axiology, the researcher's approach to students will be standardized, with all students in the study receiving appropriate levels of support. The rhetoric of the study is formal, and the analytical procedures of the study are based in statistical deduction.

Specifically, the research design of the study is quasi-experimental. In this study, the assumption is that changes in vocabulary and reading performance are attributable to an intervention; therefore, a correlational or descriptive design was not appropriate for the study (Leedy & Ormrod, 2010). The study implemented Cook, Campbell and Shadish's (2002) definition of quasi-experiment, due to its well-established utilization in educational research (Cook et al., 2002).

3.2. Population and Sample

The population of the study consists of Turkish high school EFL freshmen. The sample selected for this study was 203 students ($N = 203$; 102 male, 101 female) who are 15 year-old 9th graders, with an English proficiency of pre-intermediate, enrolled at a public high school in the city of Bursa during the 2017-2018 academic year. The participants were selected using the convenience sampling technique. This sampling method was utilized based on the students' availability for this study, rather than on random sampling techniques (VanderStoep & Johnson, 2008). In quasi-experimental designs, there is no random assignment to groups; participants either assign themselves to groups or are assigned by third parties, and researchers themselves do not possess the ability to randomly assign participants to groups (VanderStoep & Johnson, 2008). In the current research, study participants were not randomly assigned into groups.

The students are distributed across six classes, which, for the sake of convenience, have been labelled as classes A through F. Each of classes, A to E had exactly 34 students, while Class F had 33. In addition, the classes were highly gender-balanced in accordance with the school's policy. Ninety-four students (46.30%) in the sample attended a state school for middle school,

and the remaining 109 students (53.70%) attended a private school for middle school. Next, data were collected on the education levels of the students' family members. Of the students' fathers, 61 (30.05%) completed high school, 93 (45.81%) were university graduates, and 49 (24.14%) had postgraduate degrees from different disciplines. Of the students' mothers, 44 (21.67%) completed high school, 100 (49.26%) were university graduates, and 59 (29.07%) had postgraduate degrees from different disciplines. 147 (72.41%) of the students' fathers did not speak English, whereas 56 (27.59%) of the students' fathers spoke English. One hundred and fifty-four (75.86%) of the students' mothers did not speak English, whereas 49 (24.14%) of the students' mothers spoke English. The sample included a control group, but, since the focus of the study was on comparing music conditions to each other, the control group was not invoked in the research questions. It is possible for quasi-experimental designs to lack control groups (Creswell, 2015).

Using G*Power 3.1.5 software, an *a priori* sample size analysis was conducted in order to determine the adequacy of the sample size of the study. An *a priori* sample size requires, as its first input, the choice of statistical procedure (Faul, Erdfelder, Buchner, & Lang, 2009). Six of the eight research questions of the study are based on ordinary least squares (OLS) regression, so OLS was chosen as the statistical test for purposes of *a priori* sample size calculation. In *a priori* sample size calculations based on OLS regression, any increase in the number of predictors means an increase in required sample size (Faul et al., 2009). In RQ7 and RQ8, there were three independent variables and seven control variable, or a total of 10 predictor variables. Using G*Power 3.1.5 software, an *a priori* sample size was calculated on the basis of a desired statistical power of .8, 10 predictors, an Alpha of .05, two tails, and an effect size of .15.

Based on these inputs, the recommended sample size was 55. Thus, a sample size of 55 would, given the chosen statistical model, achieve an Alpha of .05 and succeed in capturing a

fairly small (d = .15) effect of the two conditions; a larger sample would, as per the rules of *a priori* sample sizes (Faul et al., 2009) confer even greater explanatory power on the study. Therefore, while 55 participants were the minimum required sample, the actual sample (N = 203) was much larger, conferring greater statistical power (Faul et al., 2009) on the findings of the study.

3.3. Instruments

Instruments are required to measure concepts or constructs that are complex in nature (Bernard & Bernard, 2012; Creswell, 2015). Ardasheva, Tong & Tretter's (2012) the English Language Learner Motivation Scale (ELLMS) was used to collect data regarding the participants' motivation during the current study. This is a 5-point Likert-type Scale with options, ranging from '1- Strongly Disagree' to '5- Strongly Agree'. ELLMS is an appropriate measurement of motivation for several reasons. First, ELLMS consists of 12 questions (yielding a scoring range from 12 to 60) and is simple in content; therefore, this scale is likely to possess higher reliability with reference to a sample of younger students, who are less likely to struggle with understanding and responding to ELLMS. Second, ELLMS has been reported to have construct validity, as the scale was assembled on the basis of insights and scale items constructed in previous, validated scales of motivation (Ardasheva et al., 2012). Third, the internal reliability of the ELLMS (Ardasheva et al., 2012) was measured through a Cronbach's Alpha coefficient of internal reliability, with any value over .70 accepted as a sufficiently high (Santos, 1999) measure of reliability. ELLMS was initially measured as having a Cronbach's Alpha of .80 (Ardasheva et al., 2012). The back-translated Turkish-language version of the ELLMS utilized in this study possessed a Cronbach's Alpha of .81. High Cronbach's Alpha scores indicate that a scale is measuring similar or related concepts, which, in the case of ELLMS, also suggests construct validity insofar as the scale is likely to be measuring a single construct of motivation. ELLMS

has also been factor-tested (Ardasheva et al., 2012), revealing the existence of three kinds of motivation measured within the scale; the existence of this complex structure, combined with the high Cronbach's Alpha of ELLMS, means that the scale is content-valid both as a unidimensional measurement of motivation and as a measure of subcomponents of motivation. In the current study, the construct validity of ELLMS was measured through the use of principal components analysis to discover whether, as (Ardasheva et al., 2012) initially found, the ELLMS can be factor- analyzed for the sub-constructs of external regulation, introjected regulation, and intrinsic motivation. Although these sub-scales have not been included into the data analysis scheme of the study—in which motivation is measured as the unidimensional result of all answers on ELLMS—factor-analyzing them helped to determine the construct validity of the scale with respect to the sample of Turkish students. As a Turkish version of ELLMS (see Appendix 2 for the Turkish version of ELLMS) and (see Appendix 3 for the original English version of ELLMS) was utilized, it is important to ensure that both the internal reliability and factor structure of the Turkish-language ELLMS are similar to the results obtained in previous psychometric testing (Ardasheva et al., 2012). Factor analysis extracted the three motivation factors found in the English-language version of the ELLMS, and the Cronbach (α) of the ELLMS was measured at .82, so the reliability of Turkish-language version of the ELLMS was deemed high.

Table 2 below, created using Stata software, presents the validation of the three constructs within ELLMS (All loadings below .50 are omitted for clarity). Finally, the reliability and validity of ELLMS was also checked. ELLMS had a Cronbach's Alpha of .82, indicating an acceptably high level of internal reliability. In addition, ELLMS was factor- analyzed into distinct components of external regulation, introjected regulation, and intrinsic motivation, suggesting the validity of the scale as applied to the experimental sample for this study.

Table 2

Factor Loadings of ELMMS (Translated Back into English)

Items	**Intrinsic Motivation**	**Introjected Regulation**	**External Regulation**
1- It's fun to learn a new language.	**.56**	< .50	< .50
2- I like learning new things.	**.59**	< .50	< .50
3- I like to learn about people from different cultures and how they live.	**.64**	< .50	< .50
4- I like it when I do well in English.	**.59**	< .50	< .50
5- I like it when I can understand difficult things in English.	**.80**	< .50	< .50
6- I like doing difficult things in English.	**.70**	< .50	< .50
7- I will feel bad about myself if I couldn't speak English in my school.	< .50	**.85**	< .50
8- I will feel bad about myself if I couldn't speak English to foreigners from English-speaking countries.	< .50	**.77**	< .50
9- I want to show my teachers that I can learn English.	< .50	< .50	**.52**
10- I want to find a good job when I grow up.	< .50	< .50	**.74**
11- My parents and teachers want me to learn English.	< .50	< .50	**.67**
12- Everyone in school needs to learn English.	< .50	< .50	**.53**

In terms of the reading comprehension variable, data were collected in two ways: First, a quiz that consisted of five multiple choice questions; second, a short essay prompt was administered (see Appendix 8 and 9 for an example).

Class discussion identified several themes that explained the songs that the students either heard (in the songs group) or read the lyrics of (in the instrumental music group). Requiring students to produce their own text to explain the songs thereby tested a deeper level of comprehension than could have been measured only through a multiple-choice test, especially if such a test were given after class discussion. In this manner, the use of a brief essay to measure

reading comprehension constituted an improvement of construct validity over a multiple-choice approach.

Finally, Cohen's kappa for inter-rater reliability (IRR) of the two graders' evaluations of the student essays was .92, indicating a very high degree of consensus between the two graders.

Vocabulary knowledge was measured on 120 identified vocabulary items from six songs (see Appendix 4). A pilot study was undertaken with a random sample of 30 freshmen students prior to commencement of the main study in order to initially test the items of vocabulary for reliability and validity issues. Identification of words was through correct contextual usage in a 5-item multiple-choice format for each word and through creating sentences using the vocabulary items meaningfully; thus, the possible scale of vocabulary performance was from 0 to 120. Reading comprehension was measured (see Appendix 6) through a combination of 5 multiple-choice questions (with 1 point each) and a reading comprehension essay whose possible score range was from 0 to 21 (as a maximum of 3 points were possible for each of the items, comprising text understanding, details, examples from text, support of position, task awareness, comprehension of ideas in response, and clear reasoning, on which participants were assessed (see Appendix 7). Therefore, the range for the entire reading comprehension instrument was from 0 to 26.

3.4. Validity of Experimental Assignment

The validity of the experimental assignment depended on the equivalence of the pre-assignment distribution of (a) English vocabulary knowledge and (b) English language learning motivation in the sample.

First, in order to establish validity, the pre-test vocabulary scores of the songs group as well as the instrumental music group were calculated, and two tests—an independent samples *t*-test (parametric) and a Mann-Whitney U test (non-parametric)—were applied to determine

whether the English language abilities of the two groups were equal before the intervention. The pre-test English score was the same vocabulary test that was administered after the intervention; thus, the pre-test score was used to calculate both (a) improvements in vocabulary after the intervention and (b) equivalency of both music groups prior to assignment to the conditions. The justification for the use of a non-parametric test is robustness to violations of normality (Natrella, 2013) in the dependent variable—in the case of the study, language scores. The mean English vocabulary score of the instrumental music group was 80.45 (SD = 5.21), with a minimum of 66, a maximum of 97, and a 95% CI of 79.43 to 81.47. The mean English vocabulary score of the songs group was 80.62 (SD = 5.23), with a minimum of 70, a maximum of 95, and a 95% CI of 79.59 to 81.66. The normality of the distribution of English vocabulary scores for the pre-test instrumental music and songs groups was also calculated. The distribution of English vocabulary score for the songs group was found to conform to a normal distribution, Shapiro-Wilk W = .99, p = .83. The distribution of English vocabulary score for the instrumental music group was also found to conform to a normal distribution, Shapiro-Wilk W = .99, p = .67.

An independent samples t-test found the absence of a significant difference between pre-test English vocabulary scores for the instrumental music group (M = 80.45, SD = 5.21) and the songs group (M = 80.62, SD = 5.23), t(201) = -.24, p = .81. A Mann-Whitney-U test also found the absence of a significant difference between pre-test English vocabulary scores for the instrumental music group (M = 80.45, SD = 5.21) and the songs group (M = 80.62, SD = 5.23), z = -.41, p = .68. Both the parametric and non-parametric approaches to comparing pre-test English vocabulary score means between the two exposure groups yielded the same result, that is, the absence of statistically significant pre-test English vocabulary scores between the groups. Therefore, it was concluded that the experimental sorting procedure was valid; the instrumental music and songs groups had highly comparable levels of English vocabulary knowledge before

the intervention, thereby increasing the likelihood that any significant difference in performance between these groups after the intervention could be causally attributed to the intervention itself.

Second, in order to establish validity, the pre-test language-learning motivations of the songs group as well as the instrumental music group were calculated, and two tests—an independent samples t-test (parametric) and a Mann-Whitney U test (non-parametric)—were applied to determine whether the language-learning motivations of the two groups were equal before the intervention. The mean language-learning motivation of the instrumental music group was 35.19 (SD = 7.13), with a minimum of 18, a maximum of 54, and a 95% CI of 33.79 to 36.59. The mean language-learning motivation of the songs group was 36.20 (SD = 7.09), with a minimum of 17, a maximum of 56, and a 95% CI of 34.80 to 37.60. The normality of the distribution of language-learning motivations for the pre-test song and instrumental music groups was also calculated. The distribution of language-learning motivation for the songs group was found to conform to a normal distribution, Shapiro-Wilk W = .99, p = .45. The distribution of language-learning motivation for the instrumental music group was also found to conform to a normal distribution, Shapiro-Wilk W = .99, p = .98.

An independent samples t-test found the absence of a significant difference between pre-test language-learning motivations for the instrumental music group (M = 35.19, SD = 7.13) and the songs group (M = 36.20, SD = 7.09), t(201) = -1.01, p = .31. A Mann-Whitney-U test also found the absence of a significant difference between pre-test language-learning motivations for the instrumental music group (M = 35.19, SD = 7.13) and the songs group (M = 36.20, SD = 7.09), z = -1.26, p = 0.21. Both the parametric and non-parametric approaches to comparing pre-test language-learning motivation means between the two exposure groups yielded the same result, that is, the absence of statistically significant pre-test language-learning motivations between the groups. Therefore, it was concluded that the experimental sorting procedure was

valid; the instrumental music and songs groups had highly comparable levels of language-learning motivation before the intervention, thereby increasing the likelihood that any significant difference in performance between these groups after the intervention could be causally attributed to the intervention itself.

3.5. Data Collection Procedures

The sample (N= 203) was divided into two groups for the purpose of the current study. The first group (n= 102) was exposed to instrumental music during vocabulary instruction, and is henceforth referred to as the "instrumental music group". The second group (n= 101) was exposed to songs containing the target vocabulary items during vocabulary instruction, and is henceforth referred to as the "songs group". Each of the six classes were exposed to the same instruction by the same teacher, that is, the researcher of the current study, in order to make sure any teaching differences would not constitute the differences in post-test results. The intervention was administered for six weeks. The administration of 58 hours was divided into 36 sessions that were each 80 minutes in length. The instrumental music group was exposed to the instrumental music and the songs group was exposed to the songs during the interventions. However, the instrumental music group still encountered the songs, but only as written lyrics. The difference was that, in the songs group, the song was played back three times in addition to being explored through lyrical text. The procedures of the instruction are as follows: First, students were noted of an upcoming two-session experimental procedure during which they were not responsible for their usual classwork or homework. Second, in the first experimental session, students were exposed to one of the two pre-defined conditions (instrumental music in the background; exposure to songs) in conjunction with the lesson. Students in the instrumental music group encountered background music provided by Bach's *Goldberg Variations*. It is nearly 40 minutes long and therefore overlaps with the end of the lesson. 40-minute segments were played twice

during each intervention. Students in the instrumental music group (a) took a vocabulary test, (b) were exposed to the lesson plan (see Appendix 5), (c) filled out the motivation instrument, and (d) were asked to respond to the essay prompt as a means of demonstrating their reading comprehension. Students in the songs group (a) took a vocabulary test, (b) were exposed to the lesson plan, (c) filled out the motivation instrument, and (d) were asked to respond to the essay prompt as a means of demonstrating their reading comprehension. Third, a week elapsed between the first and second experimental sessions. In the second experimental session, students (a) took the vocabulary test again, without any prior discussion or warm-up; and (b) responded to the reading comprehension prompt again, without any prior discussion or warm-up. The pre-tests were also used for the post-tests for both groups. There were 6 songs which were part of the instruction, with each week devoted to one song; post-tests (vocabulary and reading) were conducted one week after the intervention, and their results were aggregated for data analysis. Fourth, the students' reading comprehension prompts from the interventions were rated. Fifth, student data from the experiment were placed in a Stata / SE 14.2 data file for analysis.

3.5.1. Exposure to instrumental music. In week 1, the instructor began the lesson by briefly informing students that they would be exposed to a new teaching method in which they would be asked to (a) learn vocabulary and (b) demonstrate their comprehension of a song by writing about it. After this brief introduction, the instructor played Bach's *Goldberg Variations* at a volume level of 40 (out of 100) on a Bose SoundLink Color Wireless Speaker, a volume level that was sufficient to allow the music to be heard without impeding communication between the instructor and the students. While *Goldberg Variations* was playing, participants were given a multiple-choice testing sheet asking them to identify vocabulary items. Students completed this multiple-choice vocabulary test, after which they submitted it to the researcher. Following this, the intervention followed (as shown in Appendix 5).

The instructor disseminated the written lyrics of the song to all students. Students were given five minutes to read through the lyrics on their own.

Finally, students were (a) given the same multiple-choice vocabulary test based on the vocabulary items from the song and (b) asked to write a brief essay explaining what they thought the song was about following the prompts given. Both the pre- and post-discussion vocabulary and reading tests, and all student essays, were stored in a folder for subsequent scoring, as described later in this chapter.

3.5.2. Exposure to songs. There were six overall sessions for the songs group; these lessons were offered concurrently with the lessons for the songs group (that is, a lesson offered in the same calendar week to the instrumental music group was also offered in the same calendar week to the songs group).

In week 1, the instructor began the lesson by briefly informing students that they would be exposed to a new teaching method in which they would be asked to (a) learn vocabulary and (b) demonstrate their comprehension of a song by listening to and then writing about it. After this brief introduction, the instructor put on the song of the week at a volume level of 40 (out of 100) on a Bose SoundLink Color Wireless Speaker, a volume level that was sufficient to allow the music to be heard without impeding communication between the instructor and the students. While the song of the week was playing, participants were given a multiple-choice testing sheet asking them to identify vocabulary items that appeared in the song that they were listening to. Students completed this multiple-choice vocabulary test, and then they submitted it to the researcher. Following this, the intervention followed (as shown in Appendix 5). The instructor disseminated the written lyrics of the song to all students. Students were given five minutes to read through the lyrics on their own Afterwards, the song was played two times.

Finally, students were (a) given the same multiple-choice vocabulary test based on the vocabulary items from the song of the week and (b) asked to write a brief essay explaining what they thought the song was about. Both the pre- and post-discussion vocabulary and reading tests, and all student essays, were stored in a folder for subsequent scoring, as described later in this chapter.

3.5.3. After the intervention. In week 7, when both the instrumental music and songs group interventions were over, the vocabulary tests were graded by the researcher, and the reading comprehension prompts produced by the students were graded by (a) the researcher and (b) an English-teaching colleague of the researcher's from another high school. After achieving a kappa coefficient of .92, as a measure of inter-rater reliability, the instructor's grades and the colleague's grades were averaged to produce a single evaluation of reading comprehension for each student in the instrumental music and songs groups.

3.6. Materials

Lems (1996) and Poppleton (2001) proposed the criteria for deciding on the songs to be used for the classroom. In this study, accordingly, Lems' guidelines are adopted as follows: the potential songs selected need to: (a) have unambiguous words; (b) have a repetitive pattern to enhance oral practice; (c) be accessible to students for autonomous listening, either popular or classic; (d) be authentic, that is, not composed for language teaching purposes; (e) incorporate the themes and values we want to suggest in the class; (f) address the target grammar usage, if possible; (g) be suitable for making use of various musical genres; and (h) be fitting for both male and female voices provided the students sing it. As for what teachers need to avoid while selecting songs, Lems (1996) suggests some guidelines. Hence, the potential songs should not (a) be too long (b) include words with contradictory or confusing meanings (c) have grammatical errors, bad pronunciation, odd stress (d) have a wordy style (e) possess obscure references.

Additionally, as Lems (1996) and Poppleton (2001) suggested, the songs should: (a) not have any problematic content or inappropriate allusions; (b) have a reasonable vocabulary load for students' proficiency level; and (c) have clear and direct lyrics are clearly expressed. The songs used for intervention sessions are shown in Table 3.

Table 3

Songs Selected for the Intervention Process

Week	Song Title	Singer	Thematic Focus
1.	I'll Be	Reba McEntire	Love
2.	Streets of London	Ralph McTell	Gratitude
3.	Boat on the River	Styx	Memories
4.	After Rain	Ralph McTell	Hope
5.	Best Friend	Jason Mraz	Friendship
6.	One Day	Matisyahu	Peace

The reading materials used for pre-test and post-test sessions were adapted from Baker-González & Blau (1995) and Baker-González & Blau (1999), aiming at students of English as a foreign/second language. Reading passages were adapted based on the current themes of the study and students' level of English proficiency.

3.7. Data Analysis

Data analysis has been described for each of the research questions of the study. For each research question, the method of testing the null hypothesis and examining relevant statistical assumptions have been presented and justified. The null hypothesis of RQs 1, 2, 3, and 4 were tested by an OLS regression of change in vocabulary score on exposure, student gender, paternal education level, maternal education level, paternal knowledge of English, maternal knowledge of English, and English score on most recent report. The quality of the OLS regression for RQs 1, 2,3 and 4 was tested by means of a Breusch-Pagan / Cook-Weisberg test (Berger, Klapper, & Turk-Ariss, 2009) of heteroscedasticity, which yields a χ^2 value and a p value for the null

assumption of heteroscedasticity. All statistical calculations and accompanying graphics for RQs were performed in Stata / SE 14.2 software.

3.7.1. RQ1 data analysis. Is there a statistically significant association between exposure to instrumental music and improvement in vocabulary learning? The null hypothesis is that there is not a statistically significant association between exposure to instrumental music and improvement in vocabulary learning. In RQ1, the dependent variable is improvement in vocabulary learning, a continuous (specifically, a ratio) variable; the independent variable is exposure type (a dichotomous, nominal variable in which students are either exposed or not exposed to background, instrumental music); and the control variables are gender, type of middle school graduated from, education level of mother, education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

3.7.2. RQ2 data analysis. Is there a statistically significant association between exposure to English language songs and improvement in vocabulary learning? The null hypothesis is that there is not a statistically significant association between exposure to English-language songs and improvement in vocabulary learning. In RQ2, the dependent variable is improvement in vocabulary learning, a continuous (specifically, a ratio) variable; the independent variable is exposure type (a dichotomous, nominal variable in which students are either exposed or not exposed to English-language sons); and the control variables are gender, type of middle school graduated from, education level of mother, education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

3.7.3. RQ3 data analysis. Is there a statistically significant association between exposure to instrumental music and improvement in reading comprehension? The null hypothesis is that there is not a statistically significant association between exposure to instrumental music and improvement in reading comprehension. In RQ3, the dependent variable is improvement in reading comprehension, a continuous (specifically, a ratio) variable; the independent variable is exposure type (a dichotomous, nominal variable in which students are either exposed or not exposed to instrumental music); and the control variables are gender, type of middle school graduated from, education level of mother, education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

3.7.4. RQ4 data analysis. Is there a statistically significant association between exposure to English language songs and improvement in reading comprehension? The null hypothesis is that there is not a statistically significant association between exposure to English-language songs and improvement in reading comprehension. In RQ4, the dependent variable is improvement in reading comprehension, a continuous (specifically, a ratio) variable; the independent variable is exposure type (a dichotomous, nominal variable in which students are either exposed or not exposed to English-language songs); and the control variables are gender, type of middle school graduated from, education level of mother, education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

3.7.5. RQ5 data analysis. Is the effect of exposure to instrumental music and improvement in vocabulary learning greater than the effect of exposure to English language songs and improvement in vocabulary learning? The null hypothesis for RQ5 is that 0 occurs in the 95% *CI* of Cohen's *d* for the effect of group membership (instrumental vs. songs) on vocabulary learning improvement. If 0 does not occur in the 95% *CI* of Cohen's *d* for the effect of group membership (instrumental music vs. songs) on vocabulary learning improvement, then

the null hypothesis for RQ5 will be rejected. All statistical calculations and accompanying graphics for RQ5 will be performed in Stata / SE 14.2 software.

3.7.6. RQ6 data analysis. Is the effect of exposure to instrumental music and improvement in reading comprehension greater than the effect of exposure to English language songs and improvement in reading comprehension? The null hypothesis for RQ6 is that 0 occurs in the 95% *CI* of Cohen's *d* for the effect of group membership (instrumental vs. song) on reading comprehension improvement. If 0 does not occur in the 95% *CI* of Cohen's *d* for the effect of group membership (instrumental music vs. songs) on reading comprehension improvement, then the null hypothesis for RQ6 will be rejected. All statistical calculations and accompanying graphics for RQ6 will be performed in Stata / SE 14.2 software.

3.7.7. RQ7 data analysis. The seventh research question of the study was as follows: Does motivation moderate the relationship between musical exposure and vocabulary learning? The null hypothesis is that motivation is not a significant moderator of the relationship between musical exposure and vocabulary learning. Because moderation effects are said to exist when an interaction variable is a significant predictor of a dependent variable, after each of the two variables in the interaction variable are also included in regression,
the moderation effect for RQ7 will be tested by carrying out a regression model in which motivation and motivation * exposure condition are included as independent variables.

The null hypothesis is that there is not a statistically significant association between the interaction of (a) the independent variable of exposure to English-language songs * and motivation and (b) the dependent variable of improvement in vocabulary learning. In RQ7, the dependent variable is improvement in vocabulary learning, a continuous (specifically, a ratio) variable; the independent variable is exposure to English-language songs * motivation; and the control variables are gender, type of middle school graduated from, education level of mother,

education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

The null hypothesis of RQ7 will be tested by an OLS regression of change in vocabulary score on exposure, motivation, motivation * exposure, student gender, paternal education level, maternal education level, paternal knowledge of English, maternal knowledge of English, and English score on most recent report. If the *p* value of the *b* coefficient for exposure * motivation is < .05, then the null hypothesis associated with RQ7 will be rejected, meaning that there is a significant moderating effect of motivation on the relationship between exposure to English-language songs and vocabulary learning. If the *b* coefficient for motivation * exposure is > 0, it will be assumed that there was a positive moderating effect of motivation on the relationship between exposure to English-language songs and vocabulary learning. If the *b* coefficient for motivation * exposure is < 0, it will be assumed that there was negative moderating effect of motivation on the relationship between exposure to English-language songs and vocabulary learning. The quality of the OLS regression for RQ7 will be tested by means of a Breusch-Pagan / Cook-Weisberg test (Berger et al., 2009) of heteroscedasticity, which will yield a χ^2 value and a *p* value for the null assumption of heteroscedasticity. If the *p* value of the Breusch-Pagan / Cook-Weisberg test of heteroscedasticity is < 0.05, the results of the OLS regression for RQ7 will be triangulated by means of a robust errors regression. All statistical calculations and accompanying graphics for RQ7 will be performed in Stata / SE 14.2 software.

3.7.8. RQ8 data analysis. The eighth research question of the study was as follows: Does motivation moderate the relationship between musical exposure and reading comprehension? The null hypothesis is that motivation is not a significant moderator of the relationship between musical exposure and reading comprehension. Because moderation effects are said to exist when an interaction variable is a significant predictor of a dependent variable,

after each of the two variables in the interaction variable are also included in regression, the moderation effect for RQ8 will be tested by carrying out a regression model in which motivation and motivation * exposure condition are included as independent variables.

The null hypothesis is that there is not a statistically significant association between the interaction of (a) the independent variable of exposure to English-language songs * and motivation and (b) the dependent variable of improvement in reading comprehension. In RQ8, the dependent variable is improvement in reading comprehension, a continuous (specifically, a ratio) variable; the independent variable is exposure to English-language songs * improvement in reading comprehension; and the control variables are gender, type of middle school graduated from, education level of mother, education level of father, paternal knowledge of English, maternal knowledge of English, and English score on the most recent score report.

The null hypothesis of RQ8 will be tested by an OLS regression of change in vocabulary score on exposure, motivation, motivation * exposure, student gender, paternal education level, maternal education level, paternal knowledge of English, maternal knowledge of English, and English score on most recent report. If the *p* value of the *b* coefficient for exposure * motivation is < .05, then the null hypothesis associated with RQ8 will be rejected, meaning that there is a significant moderating effect of motivation on the relationship between exposure to English-language songs and reading comprehension. If the *b* coefficient for motivation * exposure is > 0, it will be assumed that there was a positive moderating effect of motivation on the relationship between exposure to English-language songs and reading comprehension. If the *b* coefficient for motivation * exposure is < 0, it will be assumed that there was negative moderating effect of motivation on the relationship between exposure to English-language songs and reading comprehension. The quality of the OLS regression for RQ8 was tested by means of a Breusch-Pagan / Cook-Weisberg test (Berger et al., 2009) of heteroscedasticity, which will yield a χ^2 value

and a *p* value for the null assumption of heteroscedasticity. Given that the *p* value of the Breusch-Pagan / Cook-Weisberg test of heteroscedasticity was < .05, the results of the OLS regression for RQ8 was triangulated by means of a robust errors regression. All statistical calculations and accompanying graphics for RQ8 were performed using Stata / SE 14.2 software.

3.8. Ethical Considerations

This quasi-experimental study was conducted on a sample of Turkish students of English as a foreign language. Ethical approval for this study was obtained from Bursa Uludağ University Committee on the Ethics of Research in Social Sciences and Humanities and the Turkish Ministry of National Education (see Appendix 1). In terms of research ethics, one possible problem is that, because of the imbalance of power between students and the researcher, who is also a teacher of the students, the students lack the ability to give informed consent. However, the issue of informed consent as it applies in experimental interventions directed at students is based primarily on the danger of exposing certain students to a beneficial intervention while denying the intervention to others. In the context of this study, there are two experimental groups and no control groups. The sample included a control group, but, because the focus of the study was on comparing music conditions to each other, the control group was not invoked in the research questions. It is possible for quasi-experimental designs to lack control groups (Creswell, 2015). Therefore, the utilization of the two musical groups can be considered as an extension of the researcher's prerogative to expose students to different pedagogic approaches. As noted in Chapter 2, there are benefits associated with both exposure to instrumental music and exposure to songs; therefore, none of the students in this study have been excluded from an academically useful intervention.

3.9. Conclusion

The purpose of this chapter was to describe the elements of methodology of the current study. In this way, the context of the current study has been delineated, and replication in future studies has been made possible. The following chapter will discuss the findings of the data analysis.

Chapter 4

Results

Chapter 4 contains a restatement of the research questions and the research findings of the current study. The research questions have been answered in order. The answer to each research question contains the appropriate descriptive and inferential statistics, including the results of hypothesis testing. The reliability of each regression has also been reported on and, where appropriate (as determined by the Breusch-Pagan / Cook-Weisberg test for the heteroscedasticity of errors), ordinary least squares (OLS) findings are supplemented with robust standard errors (RSE) regressions.

4.1. RQ1 Findings

The first research question of the study was as follows: Is there a statistically significant association between exposure to instrumental music and improvement in vocabulary learning? The results of the OLS regression were not significant, (R^2 = .06, F(10, 192) = 1.14, p = .33), and the coefficient of determination was .06, indicating that only 5.61% of the variation in change in vocabulary performance could be predicted through change in the independent variables for RQ1.

In answer to the first research question, it was found that being in the instrumental music condition meant having a vocabulary increase that was 1.01 points below that of the exposure to songs, *SE* = 0.39, *t* = 2.61, *p* = 0.01; the 95% confidence interval of this point estimate, suggesting the possibility that exposure to instrumental music and songs were equally effective in terms of their effects on vocabulary. Thus, members of the songs group performed significantly better than members of the instrumental music group in terms of their vocabulary retention improvement from the pre-test to the post-test, and this difference was statistically significant but small in explanatory power. None of the covariates included in RQ1 were significant predictors in their own right. In addition, when the covariates were removed from RQ1, there was minimum

impact on either the magnitude or the statistical significance of the *b* coefficient for the instrumental music condition. Thus, the inferior performance of the instrumental music condition remained roughly the same with and without the addition of covariates, suggesting that the inferior vocabulary improvement of the instrumental music group was independent of students' demographic characteristics.

The OLS results for RQ1 demonstrated heteroscedastic errors, Breusch-Pagan Cook-Weisberg Chi2(1) = 8.02, $p < .01$. For this reason, the RSE results triangulated the results of the OLS regression. The coefficient of instrumental music in the RSE regression was -1.01, the same value that it took in the OLS model. Therefore, the OLS findings for RQ1 were robust to the violation of the assumption of homoscedasticity of errors. The null hypothesis for RQ1 was rejected; there was significant evidence, at an Alpha of .05, that there was an effect of the instrumental music condition on the dependent variable of vocabulary improvement from the pre-test to the post-test.

4.2. RQ2 Findings

The second research question of the study was as follows: Is there a statistically significant association between exposure to English language songs and improvement in vocabulary learning? The results of OLS regression were not significant, ($R^2 = .056$, F(10, 192) = 1.14, p = .33), and its coefficient of determination was .056, indicating that only 5.60% of the variation in change in vocabulary performance could be predicted through change in the independent variables for RQ2.

In answer to the second research question, it was found that the exposure to songs meant having a vocabulary increase that was 1.01 points above that of the instrumental music condition, $SE = 0.39$, $t = 2.61$, $p = 0.01$; the 95% confidence interval of this point estimate, suggesting the possibility that exposure to instrumental music and songs were equally effective in terms of their

effects on vocabulary. Thus, members of the songs group performed significantly better than members of the instrumental music group in terms of their vocabulary retention improvement from the pre-test to the post-test, and this difference was statistically significant but small in explanatory power.

None of the covariates included in RQ2 were significant predictors in their own right. In addition, when the covariates were removed from RQ2, there was minimum impact on either the magnitude or the statistical significance of the *b* coefficient for the instrumental music condition. In the absence of covariates, the point estimate for the *b* coefficient of the song condition was 0.93 (*95% CI* = 0.19 to 1.67), whereas, with the covariates added, the point estimate for the *b* coefficient of the instrumental music condition was 1.008 (*95% CI* = 0.25 to 1.77). Thus, the superior performance of the song condition remained roughly the same with and without the addition of covariates, suggesting that the superior vocabulary improvement of the songs group was independent of students' demographic characteristics.

The OLS results for RQ2 demonstrated heteroscedastic errors, Breusch-Pagan Cook-Weisberg Chi2(1) = 8.02, $p < .01$. For this reason, the RSE results triangulated the results of the OLS regression. The coefficient of song in the RSE regression was 1.01, the same value that it took in the OLS model. Therefore, the OLS findings for RQ2 were robust to the violation of the assumption of homoscedasticity of errors. The null hypothesis for RQ2 was rejected; there was significant evidence, at an Alpha of .05, that there was an effect of the songs condition on the dependent variable of vocabulary improvement from the pre-test to the post-test.

4.3. RQ3 Findings

The third research question of the study was as follows: Is there a statistically significant association between exposure to instrumental music and improvement in reading comprehension? The OLS regression was significant, ($R^2 = .10$, $F(9, 193) = 2.46$, $p = .01$), and its coefficient of

determination was .10, indicating that only 10.00% of the variation in change in reading comprehension could be predicted through change in the independent variables for RQ3.

In answer to the third research question, it was found that being in the instrumental music condition meant having a vocabulary increase that was 1.43 points below that of the exposure to songs condition, *SE* = 0.55, *t* = -2.59, *p* = 0.01; the 95% confidence interval of this point estimate, suggesting the possibility that exposure to instrumental music and songs were equally effective in terms of their effects on reading comprehension. Thus, the songs group significantly outperformed the instrumental music group in terms of their reading comprehension improvement from the pre-test to the post-test, and this difference was statistically significant but small in explanatory power.

One of the covariates included in RQ3, gender, was a significant predictor in its own right, *b* = -1.21, *SE* = 0.55, *t* = -2.19, *p* = .03; females' scores were 1.21 points lower than the males' on reading comprehension improvement. When the covariates were removed from RQ3, there was minimum impact on either the magnitude or the statistical significance of the *b* coefficient for the instrumental music condition. In the absence of covariates, the point estimate for the *b* coefficient of the instrumental music condition was -1.38 (*95% CI* = -2.46 to -0.29), whereas, with the covariates added, the point estimate for the *b* coefficient of the instrumental music condition was -1.43 (*95% CI* = -2.52 to -0.34). Thus, the inferior performance of the instrumental music condition remained roughly the same with and without the addition of covariates, suggesting that the inferior reading comprehension improvement of the instrumental music group was independent of students' demographic characteristics.

The OLS results for RQ3 did not demonstrate heteroscedastic errors, Breusch-Pagan Cook-Weisberg Chi2(1) = 0.49, $p < .01$. For this reason, the OLS results for RQ3 were not

triangulated through an RSE regression. The null hypothesis for RQ3 was rejected; there was significant evidence, at an Alpha of .05, that there was an effect of the instrumental music condition on the dependent variable of reading comprehension improvement from the pre-test to the post-test.

4.4. RQ4 Findings

The fourth research question of the study was as follows: Is there a statistically significant association between exposure to English language songs and improvement in reading comprehension? The results of the OLS regression were significant, (R^2 = .1029, F(9, 193) = 2.46, p = .01), and its coefficient of determination was .1029, indicating that only 10.29% of the variation in change in reading comprehension could be predicted through change in the independent variables for RQ4.

In answer to the fourth research question, it was found that the exposure to songs condition meant having a reading comprehension increase that was 1.43 points above that of the instrumental music condition, *SE* = 0.55, *t* = 2.59, *p* = 0.01. Thus, members of the songs group performed significantly better than members of the instrumental music group in terms of their reading comprehension improvement from the pre-test to the post-test, and this difference was statistically significant but small in explanatory power.

One of the covariates included in RQ4, gender, was a significant predictor in its own right, *b* = -1.21, *SE* = 0.55, *t* = -2.19, *p* =.03; females' scores were 1.21 points lower than the males' on reading comprehension improvement. When the covariates were removed from RQ4, there was minimum impact on either the magnitude or the statistical significance of the *b* coefficient for the instrumental music condition. In the absence of covariates, the point estimate for the *b* coefficient of the song condition was 1.38 (*95% CI* = 0.29 to 2.46), whereas, with the covariates added, the point estimate for the *b* coefficient of the instrumental music condition was

1.43 (*95% CI* = 0.34 to 2.52); the 95% confidence interval of this point estimate, suggesting the possibility that exposure to instrumental music and songs were equally effective in terms of their effects on reading comprehension. Thus, the superior performance of the exposure to songs condition remained roughly the same with and without the addition of covariates, suggesting that the superior reading comprehension improvement of the songs group was independent of students' demographic characteristics.

The OLS results for RQ4 did not demonstrate heteroscedastic errors, Breusch-Pagan Cook-Weisberg Chi2(1) = 0.49, $p < .01$. For this reason, the OLS results for RQ4 were not triangulated through an RSE regression. The null hypothesis for RQ4 was rejected; there was significant evidence, at an Alpha of .05, that there was an effect of the songs condition on the dependent variable of reading comprehension improvement from the pre-test to the post-test.

4.5. RQ5 Findings

The fifth research question of the study was as follows: Is the effect of exposure to instrumental music and improvement in vocabulary learning greater than the effect of exposure to English language songs and improvement in vocabulary learning? To answer RQ5, the effect of group membership (instrumental vs. songs) on the dependent variable of vocabulary learning improvement was calculated through the derivation of Cohen's *d*, along with the 95% *CI* of Cohen's *d*.

In answer to the fifth research question, it was found that there was a positive effect size of membership in the songs group on vocabulary learning improvement, Cohen's $d = 0.35$ (95% *CI* = 0.07 to 0.63). Therefore, the null hypothesis associated with RQ5 was rejected.

4.6. RQ6 Findings

The sixth research question of the study was as follows: Is the effect of exposure to instrumental music and improvement in reading comprehension greater than the effect of

exposure to English language songs and improvement in reading comprehension? To answer RQ6, the effect of group membership (instrumental music vs. songs) on the dependent variable of reading comprehension improvement was calculated through the derivation of Cohen's *d*, along with the 95% *CI* of Cohen's *d*. There was a positive effect size of membership in the songs group on reading comprehension improvement, Cohen's $d = 0.35$ (95% $CI = 0.07$ to 0.63).

In answer to the sixth research question, it was found that there was a positive effect size of membership in the songs group on reading comprehension improvement, Cohen's $d = 0.35$ (95% $CI = 0.07$ to 0.63). Therefore, the null hypothesis associated with RQ6 was rejected. It was also observed that, rounded to 2 significant figures, the effect sizes of exposure to the songs group on both vocabulary learning and reading comprehension were identical.

4.7. RQ7 Findings

The seventh research question of the study was as follows: Does motivation moderate the relationship between musical exposure and vocabulary learning?

In answer to the seventh research question, it was found that the interaction between condition and motivation was not a significant predictor of improvement in vocabulary learning, $b = -0.04$, $SE = 0.06$, $t = -0.79$, $p = .43$. There is no evidence of a significant moderating effect of motivation on group membership as a predictor of RQ7; or, interpreted in another manner, there is no evidence that higher levels of moderation interacted with the different experimental conditions in helping to determine the extent of vocabulary improvement.

4.8. RQ8 Findings

The eighth research question of the study was as follows: Does motivation moderate the relationship between musical exposure and reading comprehension? In answer to the eighth research question, it was found that the interaction between condition and motivation was not a significant predictor of improvement in reading comprehension, $b = 0.10$, $SE = 0.08$, $t = 1.28$, $p =$

.20. There is no evidence of a significant moderating effect of motivation on group membership as a predictor of RQ8; or, interpreted in another manner, there is no evidence that higher levels of moderation interacted with the different experimental conditions in helping to determine the extent of reading comprehension improvement.

4.9. Other Relevant Findings

The purpose of this sub-section of Chapter 4 is to present and discuss additional statistical findings of the study. These findings were not part of the actual research questions of the study. However, the findings were still of direct relevance to the general topic of the study and were therefore included in their own separate section.

One question of interest with reference to RQ7 was whether the variable of motivation was a mediator of the relationship between exposure to music (instrumental vs. songs) and improvement in vocabulary learning. The answer to RQ7 tested whether motivation moderated the relationship between exposure to music and improvement in vocabulary learning. Moderation being a test of whether motivation increased the effect of musical exposure on vocabulary learning, the answer to RQ7 did not address the possibility of mediation, defined as the likelihood that (a) musical exposure increased motivation and (b) motivation increased vocabulary learning. Therefore, because mediation and moderation test fundamentally different effects, the analysis for RQ7 was reconfigured as a test of mediation. For purposes of robustness testing and triangulation, the test of the mediation effect of motivation on the relationship between exposure to music and improvement in vocabulary learning was carried out through two tests, the Sobel-Goodman mediation test and a bootstrapping with case resampling test (with 1,000 repetitions).

The key statistic is the reported *p* value of the Sobel test, which was .75; as the *p* value for the Sobel test for the mediating power of motivation on the relationship between music exposure and vocabulary learning was over .05, it can be concluded that motivation did not significantly

mediate the relationship between music exposure and vocabulary learning; in other words, the superior performance of the songs group on vocabulary learning did not take place as the result of superior motivation in the songs group. Because the *p* statistic for the indirect effect of motivation on the relationship between music exposure and vocabulary learning is 0.83, it can be concluded that there is no significant mediation of motivation on the relationship between music exposure and vocabulary learning. Thus, the Sobel-Goodman mediation test and bootstrapping with case resampling tests agree in their conclusions that there is no significant mediation of motivation on the relationship between music exposure and vocabulary learning.

One question of interest with reference to RQ8 was whether the variable of motivation was a mediator of the relationship between exposure to music (songs vs. instrumental) and improvement in reading comprehension. The answer to RQ8 tested whether motivation moderated the relationship between exposure to music and improvement in reading comprehension. Moderation being a test of whether motivation increased the effect of musical exposure on reading comprehension, the answer to RQ8 did not address the possibility of mediation, defined as the likelihood that (a) musical exposure increased motivation and (b) motivation increased reading comprehension. Therefore, because mediation and moderation test fundamentally different effects, the analysis for RQ8 was reconfigured as a test of mediation. For purposes of robustness testing and triangulation, the test of the mediation effect of motivation on the relationship between exposure to music and improvement in reading comprehension was carried out through two tests, the Sobel-Goodman mediation test and a bootstrapping with case resampling test (with 1,000 repetitions).

The key statistic is the reported *p* value of the Sobel test, which was .49; as the *p* value for the Sobel test for the mediating power of motivation on the relationship between music exposure and reading comprehension was over .05, it can be concluded that motivation did not

significantly mediate the relationship between music exposure and reading comprehension; in other words, the superior performance of the songs group on reading comprehension did not take place as the result of superior motivation in the songs group. Because the *p* statistic for the indirect effect of motivation on the relationship between music exposure and reading comprehension is 0.563, it can be concluded that there is no significant mediation of motivation on the relationship between music exposure and reading comprehension. Thus, the Sobel-Goodman mediation test and bootstrapping with case resampling tests agree in their conclusions that there is no significant mediation of motivation on the relationship between music exposure and reading comprehension.

Chapter 5

Discussion

The main findings of the study were that (a) there were statistically improvements in both vocabulary learning and reading comprehension associated with exposure to instrumental music and songs; (b) the effects of exposure to instrumental music and songs were similar to each other; and (c) motivation did not have a mediating role in the association between type of music exposure and vocabulary learning and reading comprehension. The statistical details of these findings were presented in Chapter 4. The purpose of Chapter 5 is to discuss the meaning of the findings, especially in reference to previous studies. The discussion has been structured separately for each research question; however, as the research questions are paired with each other (insofar as the effects of instrumental music vs. songs are statistically equivalent to the effect of songs vs. instrumental music), these pairings have also been adopted in the discussion. Each finding is (a) interpreted with reference to its meaning, (b) discussed with respect to alternative explanations, and (c) related to specific results from specific studies discussed in the literature review.

5.1. The Association between Music Exposure Type and Vocabulary Learning

RQ1 was as follows: Is there a statistically significant association between exposure to instrumental music and improvement in vocabulary learning? RQ2 was as follows: Is there a statistically significant association between exposure to English language songs and improvement in vocabulary learning? These questions are statistically equivalent insofar as the coefficient for exposure to instrumental music is merely the inverse for the coefficient for exposure to songs; therefore, these questions have also been grouped together for purposes of discussion.

In answer to the first two research questions, findings showed that exposure to both instrumental music and songs were associated with vocabulary learning improvement and that

high levels of improvement in vocabulary learning were significantly associated with exposure to songs specifically. Thus, while both groups improved, the improvement of the group exposed to songs was slightly greater. From the results, it is clear that the improvement in the songs group was greater than that of the improvement in the instrumental music group, for reasons that might be due to the combination of the Mozart Effect and the pedagogical integration between listening to music, discussing music, and remembering words from lyrics in the context of learning vocabulary.

Shakerian et al. (2016) provided an analysis of the effects of instrumental music exposure on vocabulary learning. Shakerian et al. found that there was a statistically significant effect of exposure to instrumental music, such that individuals exposed to instrumental music performed better on vocabulary testing than individuals with no music exposure. This finding is not directly comparable to RQs 1 and 2, as exposure to songs was not part of the analysis. However, the instrumental music group's improvement compared to their pre-exposure scores confirms the RQ1 and RQ2 findings of the current study.

Koksal et al. (2013) examined the effect of instrumental music exposure on vocabulary improvement. Koksal et al. also found a significant effect of instrumental music exposure on vocabulary improvement. However, as was the case in Shakerian et al.'s (2016) study, Koksal et al.'s findings did not include songs exposure as a second case group. Koksal et al.'s findings support the current study's findings in terms of their identification of the instrumental music group's improvement compared to their pre-exposure scores.

Abdolmanafi-Rokni and Atee (2014) found that students who were exposed to instrumental music were more likely to improve on vocabulary than students with no music exposure. This finding, like those of the other findings in the literature discussed above, did not include songs exposure as a comparison group. Nonetheless, as was the case in the other studies,

Abdolmanafi-Rokni and Atee found that students exposed to instrumental music performed better in comparison to their own pre-exposure scores.

Finally, Heidari and Araghi's (2015) study also indicated that instrumental music exposure was preferable to another exposure, that of pictures. Unlike the other scholars discussed earlier, Heidari and Araghi utilized a comparison treatment, that of pictures. Heidari and Araghi found that the instrumental music exposure group was superior to the picture group, and also that the instrumental music group obtained improvements over its own pre-exposure scores. Thus, as the other studies discussed earlier indicate, there is support for the claim that instrumental music exposure leads to improvements in vocabulary learning. However, because none of the previous studies included reading comprehension as a distinct variable, none of the previous studies can be interpreted as suggesting that one kind of music exposure might be superior to another.

5.2. The Association between Music Exposure Type and Reading Comprehension

RQ3 was as follows: Is there a statistically significant association between exposure to instrumental music and improvement in reading comprehension? RQ4 was as follows: Is there a statistically significant association between exposure to English language songs and improvement in reading comprehension? These questions are statistically equivalent insofar as the coefficient for instrumental music exposure is merely the inverse for the coefficient for songs exposure; therefore, these questions have also been grouped together for purposes of discussion.

In answer to the third and fourth research questions, it was found that the exposure to songs resulted in a significantly higher reading comprehension performance than the instrumental music condition. This finding suggests the possible superiority of deriving meaning from song lyrics when the lyrics are listened to as well as read and discussed in the classroom. If the Mozart Effect were the only possible explanation of cognitive improvements attendant on musical exposure, then both the instrumental and songs groups should have experienced the same degrees

of improvement in reading comprehension. Because none of the studies identified in the literature review included reading comprehension as a dependent variable, the results of RQ3 and RQ4 could not be discussed with reference to previous literature. However, in line with Hayati & Mohmedi's (2011) study, this finding could be explained by the fact that simultaneous display of words in audio-visual form through the song lyrics could have reinforced the impact of the exposure to the vocabulary items.

5.3. The Effect Size of the Association between Music Exposure Type, Vocabulary Learning and Reading Comprehension

RQ5 was as follows: Is the effect of exposure to instrumental music and improvement in vocabulary learning greater than the effect of exposure to English language songs and improvement in vocabulary learning? RQ6 was as follows: Is the effect of exposure to instrumental music and improvement in reading comprehension greater than the effect of exposure to English language songs and improvement in reading comprehension? These questions are statistically equivalent insofar as the effect size of instrumental music exposure is merely the inverse for the effect size of songs exposure; therefore, these questions have also been grouped together for purposes of discussion.

In answer to the fifth and sixth research questions, it was found that there was a positive effect size of membership in the songs group on vocabulary learning improvement, Cohen's d = 0.35 (95% CI = 0.07 to 0.63). The meaning of this finding is that is a small-to-moderate effect of songs on vocabulary learning, that is, an effect that is around 0.35 adjusted standard deviations better than the effect of instrumental music; Cohen (2013) defined 0.5 as the cutoff for a moderate effect size, and 0.2 as the cutoff for a small effect size. In practical terms, this means that the songs group is not merely significantly better than the instrumental music group in terms of improving vocabulary, but that the size of this effect has some practical relevance. On a 100-

point test of vocabulary with a mean of 80 points and a standard deviation of 10 points, for example, the songs group would score 3.5 points better than the instrumental music group. Thus, the positive effect of songs exposure on vocabulary learning improvement is substantial enough to merit attention from teachers.

The fifth and sixth research questions can be discussed with reference to the prior literature. None of the articles in the literature review reported effect sizes for music exposure's effect on vocabulary improvement, but some of the articles reported means and standard deviations that can be utilized to retroactively calculate effect sizes and compare them to the results for RQ5 and 6.

Shakerian et al. (2016) did not disclose either means or standard deviations for music exposure groups as ranked on vocabulary, meaning that an effect size could not retroactively calculated from their data. Koksal et al. (2013) reported means and standard deviations; based on a retroactive conversion of these means and standard deviations, Koksal et al.'s data suggest that the effect size of instrumental music exposure (as opposed to no music) on vocabulary increase was 0.18, a small effect size by Cohen's (2013) standards. Koksal et al. did not compare instrumental music to song groups, so Koksal et al.'s calculated effect size is not directly relevant to the RQ5 and RQ6 findings.

Abdolmanafi-Rokni and Atee (2014) reported means and standard deviations; based on a retroactive conversion of these means and standard deviations, Abdolmanafi-Rokni and Atee's data suggest that the effect size of instrumental music exposure (as opposed to no music) on vocabulary increase was 0.25, a small-to-moderate effect size by Cohen's (2013) standards. Abdolmanafi-Rokni and Atee did not compare instrumental music to songs groups, so Abdolmanafi-Rokni and Atee's calculated effect size is not directly relevant to the RQ5 and RQ6 findings.

Heidari and Araghi (2015) reported means and standard deviations; based on a retroactive conversion of these means and standard deviations, Heidari and Araghi's data suggest that the effect size of instrumental music exposure (as opposed to the use of pictures) on vocabulary increase was 0.36, a small-to-moderate effect size by Cohen's (2013) standards. Heidari and Araghi did not compare instrumental music to songs groups, so Heidari and Araghi's calculated effect size is not directly relevant to the RQ5 and RQ6 findings.

Li and Brand (2009) reported means and standard deviations; based on a retroactive conversion of these means and standard deviations, Li and Brand's data suggest that the effect size of songs exposure (as opposed to no music) on vocabulary increase and reading comprehension was 0.16, a small-to-moderate effect size by Cohen's (2013) standards. Li and Brand did not compare instrumental music to songs groups, so Li and Brand's calculated effect size is not directly relevant to the RQ5 and RQ6 findings. In addition, because Li and Brand calculated a single variable that combined vocabulary and reading comprehension performance, their finding is not specifically relevant to the RQ5 and RQ6 findings in their utilization of vocabulary as the chosen measure of performance.

5.4. The Role of Motivation in the Association between Music Exposure Type, Vocabulary Learning and Reading Comprehension

RQ7 was as follows: Does motivation moderate the relationship between musical exposure and vocabulary learning? RQ8 was as follows: Does motivation moderate the relationship between musical exposure and reading comprehension? These questions are not statistically equivalent, but, because they are both moderation questions that are conceptually related to each other, they can be discussed together.

In answer to the seventh research questions, it was found that the interaction between condition and motivation was not a significant predictor of improvement in vocabulary learning,

b = -0.04, SE = 0.06, t = -0.79, p = .43. In answer to the eighth research question, it was found that the interaction between condition and motivation was not a significant predictor of improvement in reading comprehension, b = 0.10, SE = 0.08, t = 1.28, p = .20. Because none of the studies evaluated in the literature review contained moderation or mediation models, these particular findings cannot be discussed with reference to the literature and must instead be interpreted on their own. The absence of moderation in both instances means that higher levels of motivation do not explain the benefits of music exposure for either vocabulary or reading comprehension improvement. In other words, students performed better on the measures of vocabulary and reading comprehension for some reason other than high levels of motivation, which could suggest both that the Mozart Effect and the integrated nature of listening to and discussing music improved the short-term cognitive performances of students. In other words, it is possible that the music exposure improved students' cognition, rather than change in the effect of motivation, explained the improvements in vocabulary and reading comprehension performance.

Chapter 6

Conclusion

6.1. Overview of the Study

The focus of this quasi-experimental study was to investigate the relationship between two forms of music exposure (exposure to instrumental music and exposure to songs) to two forms of performance improvement (vocabulary learning and reading comprehension) in EFL among a sample of ninth-grade Turkish EFL learners. Research questions addressed in this study were as follows:

1. Is there a statistically significant association between exposure to instrumental music and improvement in vocabulary learning?

2. Is there a statistically significant association between exposure to English language songs and improvement in vocabulary learning?

3. Is there a statistically significant association between exposure to instrumental music and improvement in reading comprehension?

4. Is there a statistically significant association between exposure to English language songs and improvement in reading comprehension?

5. Is the effect of exposure to instrumental music and improvement in vocabulary learning greater than the effect of exposure to English language songs and improvement in vocabulary learning?

6. Is the effect of exposure to instrumental music and improvement in reading comprehension greater than the effect of exposure to English language songs and improvement in reading comprehension?

7. Does motivation moderate the relationship between musical exposure and vocabulary learning?

8. Does motivation moderate the relationship between musical exposure and reading comprehension?

This research was conducted at a public high school, involving a total of 203 participants. The participants received an intervention of six weeks. The pre-tests were applied right before the interventions and the post-tests were conducted one week later. The data were collected and analyzed using quantitative approaches. All analysis was performed with Stata / SE 14.2.

The results showed that the music-based pedagogy integrating both instrumental music and songs into English language classes contributed to the improvement of students' vocabulary learning and reading comprehension. Moreover, higher levels of improvement in both vocabulary learning and reading comprehension performances were significantly associated with the implementation of song-based language teaching. Finally, motivation was found not to have a mediating role in vocabulary learning and reading comprehension in both groups. The study concluded that incorporating musical, specifically authentic songs, activities into the foreign language classroom can help raising students' achievement in vocabulary learning and reading comprehension.

6.2. Pedagogical Implications

The purpose of this sub-section of Chapter 6 is to make recommendations for practice on the basis of the findings of the study. The main recommendation for practice that can be made on the basis of the findings is that teachers of English as a second language in Turkey try to integrate music more closely into their lessons. Such integration can take the form of triangulation, meaning that actual music exposure can be combined with lyrics-based pedagogy. As noted earlier in Chapter 6, such an approach is likely to work because of its depth; students are exposed to content twice, in different formats, and also benefit from the generic advantages of the Mozart Effect.

Moreover, the integration of music with classroom pedagogy for ELLs must be closely aligned with cultural and institutional factors. In this study, values education was adopted as a bedrock principle, such that the songs chosen contained positive and morally or ethically instructive lyrical content. Such an approach should also be utilized in other Turkish practice settings.

Another key recommendation for practice is the careful alignment of musical content, non-musical content, and the learning domain defined by the teacher. For example, if the academic goal is vocabulary learning, then teachers should begin with a comprehensive list of the vocabulary to be learned, ensure that the vocabulary is featured in the chosen musical material, and integrate the vocabulary carefully into their ordinary pedagogy. The greater the level of alignment that exists, the more frequently students will be exposed to the same vocabulary while also benefitting from the Mozart Effect. For such an approach to be successful teachers must design lessons with a view to integration; *ad hoc* approaches are not likely to work.

Teacher engagement is also a variable that ought to be taken into account in practice settings. When incorporating music into their lessons, teachers of English as a second language should draw upon music that they themselves enjoy and know well. Teachers who teach unenthusiastically or with limited knowledge of the music that they are attempting to integrate into lessons are likely to alienate students. On the other hand, teachers who like their chosen pieces of music and know them well are more likely to convey enthusiasm and otherwise engage their students.

6.3. Limitations of the Study

The purpose of this sub-section of Chapter 6 is to acknowledge the limitations of the study. One important limitation of the study was the absence of any measurement of cognitive effects. On the other hand, this limitation was also necessary since this kind of measurement was

beyond the scope of the study. Nonetheless, it would have been informative to learn more about (a) the kinds of cognitive changes stimulated by exposure to both instrumental music and song conditions; and (b) the differences, if any, between the cognitive changes stimulated by exposure to instrumental music and the cognitive changes stimulated by exposure to songs. This limitation can be overcome by future researchers who have the available research materials to integrate cognitive data (such as data obtained from magnetic resonance imaging and other means) into their research designs.

6.4. Recommendations for Future Research

The purpose of this sub-section of Chapter 6 is to make recommendations for future studies on the basis of the findings of the study as well as on the basis of reflective insights obtained during the execution of the study. For future research, it would also be helpful to measure cognitive changes, if any, in experimental and quasi-experimental groups exposed to instrumental music or songs. Such analysis could rely upon measures such as magnetic resonance imaging. However, in the absence of access to such experiment, future researchers could also measure cognitive changes through simpler observational tests designed to measure information processing speed and other cognitive variables. Such research could be useful in identifying the precise cognitive mechanisms through which the Mozart Effect—whether exerted through instrumental music or exposure to songs—increases the performance of ELLs or learners of second languages other than English.

One important recommendation for future researchers interested in the variable of motivation in particular is to measure change in motivation, not only implementing the pre-tests and post-tests but also adding follow-up tests, as a potential mediator or moderator of the relationship between exposure to music and subsequent changes in language performance. Future researchers could discover that change in motivation is a moderating variable insofar as, while

musical exposure groups might obtain better academic results than groups not exposed to music. The academic results of music-exposed students who also experienced substantial increases in motivation might be stronger than the academic results of music-exposed students who did not experience substantial increases in motivation.

Future studies could investigate the effect of music-based pedagogy on different language skills (e.g., writing, speaking) among participants of different socioeconomic backgrounds, geographical areas, different age groups and proficiency levels.

6.5. Concluding Remarks

In the light of the results of the study, music and authentic songs should be given special attention in foreign language learning. It may be that the music improving the general activation stimulates the memory recall or, that creating an emotional state accompanied by decreased anxiety boosts the motor activity. Music may simply underpin the necessary elements complementing the domains of vocabulary and reading performance, such as engagement with themes, meaningful interaction, constructive involvement, motivation and relaxation.

Accordingly, language teachers may build upon this awareness and ground the integration of music and songs into the classroom with the purpose of facilitating foreign language learning. The promising results of this study revealing the efficacy of music and songs for the domains of vocabulary knowledge and reading comprehension should encourage language teachers to take necessary steps. In the long term, English teachers' and educators' efforts to incorporate music and songs into foreign language teaching can offer hope against the slow progress in developing English proficiency in Turkey.

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Appendices

Appendix 1: Ethics Committee Approval

ULUDAĞ ÜNİVERSİTESİ
ARAŞTIRMA VE YAYIN ETİK KURULLARI
(Sosyal ve Beşeri Bilimler Araştırma ve Yayın Etik Kurulu)
TOPLANTI TUTANAĞI

OTURUM TARİHİ	**OTURUM SAYISI**
26 Ocak 2018	**2017-01**

KARAR NO 1 : Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı yüksek lisans öğrencisi Arzu SEVİNÇ'in "9.Sınıf öğrencileri ile İngilizce Sözcük Çalışmalarında Kullanılan Müzik İçerikli Etkinliklerin Dil Gelişimine ve Öğrenci Motivasyonuna Etkilerinin İncelenmesi" konulu tez çalışması kapsamında uygulanacak anket sorularının değerlendirilmesine geçildi.

Yapılan görüşmeler sonunda; Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim Dalı İngiliz Dili Eğitimi Bilim Dalı yüksek lisans öğrencisi Arzu SEVİNÇ'in "9.Sınıf öğrencileri ile İngilizce Sözcük Çalışmalarında Kullanılan Müzik İçerikli Etkinliklerin Dil Gelişimine ve Öğrenci Motivasyonuna Etkilerinin İncelenmesi" konulu tez çalışması kapsamında uygulanacak anket sorularının, fikri, hukuki ve telif hakları bakımından metot ve ölçeğine ilişkin sorumluluğu başvurucuya ait olmak üzere uygun olduğuna oybirliği ile karar verildi.

Prof. Dr. Mehmet YÜCE
Kurul Başkanı

T.C.
BURSA VALİLİĞİ
İl Millî Eğitim Müdürlüğü

Sayı : 86896125-605.01-E.4875555 07.03.2018
Konu : Arzu SEVİNÇ'in Araştırma İzni

MÜDÜRLÜK MAKAMINA

İlgi : Milli Eğitim Bakanlığı'nın Araştırma, Yarışma ve Sosyal Etkinlik İzinleri konulu 22/08/2017 tarihli ve 2017/25 sayılı Genelgesi.

Uludağ Üniversitesi Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim Dalı yüksek lisans programı öğrencisi Arzu SEVİNÇ'in "9. Sınıf Öğrencileri İle İngilizce Sözcük Çalışmalarında Kullanılan Müzik İçerikli Etkinliklerin Dil Gelişimine ve Öğrenci Motivasyonuna Etkilerinin İncelenmesi" konulu araştırma isteği Uludağ Üniversitesi Rektörlüğü Genel Sekreterlik'in 01/03/2018 tarihli ve 7606 sayılı yazısı ile bildirilmektedir.

Uludağ Üniversitesi Eğitim Bilimleri Enstitüsü Yabancı Diller Eğitimi Anabilim Dalı yüksek lisans programı öğrencisi Arzu SEVİNÇ'in "9. Sınıf Öğrencileri İle İngilizce Sözcük Çalışmalarında Kullanılan Müzik İçerikli Etkinliklerin Dil Gelişimine ve Öğrenci Motivasyonuna Etkilerinin İncelenmesi" konulu araştırmasını Müdürlüğümüze bağlı **Nilüfer ilçesi Ali Karasu Anadolu Lisesi'nde** araştırma yapma isteği ilimizde oluşturulan "Araştırma Değerlendirme Komisyonu" tarafından incelenerek değerlendirilmiştir. Araştırma ile ilgili çalışmanın **okul/kurumlardaki eğitim öğretim faaliyetleri aksatılmadan, araştırma formlarının aslı okul müdürlüklerince görülerek ve gönüllülük esası ile** okul müdürlüklerinin gözetim ve sorumluluğunda ilgi Genelge çerçevesinde uygulanması ayrıca **araştırma sonuçlarının Müdürlüğümüz ile paylaşılması** komisyonumuzca uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

Müştak GENCER
İl Milli Eğitim Şube Müdürü

OLUR
07.03.2018

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Appendix 2: English Language Learner Motivation Scale (Turkish)

Değerli Öğrenciler,

Bu anketle, sizlerin yabancı dil olarak İngilizce öğrenme konusunda sahip olduğunuz motivasyon düzeyini ortaya koymak amaçlanmaktadır. Zamanınızı ayırarak anketi tamamladığınız için teşekkür ederiz. Çalışmaya katılım gönüllülük esasına dayalı olup, görüşleriniz yalnızca bu yüksek lisans çalışmasının amaçları doğrultusunda kullanılacaktır. Vereceğiniz yanıtlar anonim ve gizlidir. Görüşlerinizi lütfen doğru ya da yanlış cevap arayışında olmaksızın içtenlikle belirtiniz.

Lütfen aşağıdaki ifadeleri dikkatle okuyunuz. 1 ve 5 arasında numaralandırılmış ölçeği dikkate alarak, cevap seçeneklerinde size en uygun gelen kutucuğu daire içerisine alınız.

Katılımınız için teşekkür ederiz.

Arzu SEVİNÇ

A- Demografik Sorular

1-Yaş:

2-Cinsiyet: Erkek ☐ Kız ☐

3-Mezun olduğunuz ortaokul: Devlet ☐ Özel ☐

4-Eğitim Durumu (Baba)

İlkokul ☐

Ortaokul ☐

Lise ☐

Üniversite ☐

Lisansüstü ☐

5-Eğitim Durumu (Anne)

İlkokul ☐

Ortaokul ☐

Lise ☐

Üniversite ☐

Lisansüstü ☐

6- Babanızın Mesleği: _____

7- Annenizin Mesleği: _____

8- Babanız İngilizce konuşabiliyor mu? Evet ☐ / Hayır ☐

9- Anneniz İngilizce konuşabiliyor mu? Evet ☐ / Hayır ☐

10- En son karnenizdeki İngilizce dersi puanınız: _____ %

B- Lütfen aşağıdaki ölçeği kullanarak bu istemleri yanıtlayın: ***1 = kesinlikle katılmıyorum, 2 = katılmıyorum, 3= kararsızım, 4 = katılıyorum, 5 = kesinlikle katılıyorum.***

	Kesinlikle Katılmıyorum	**Katılmıyorum**	**Kararsızım**	**Katılıyorum**	**Kesinlikle Katılıyorum**
1- Yeni bir dil öğrenmek eğlencelidir.	(1)	(2)	(3)	(4)	(5)
2- Yeni şeyler öğrenmeyi severim.	(1)	(2)	(3)	(4)	(5)
3- Farklı kültürlerden gelen insanlar ve onların nasıl yaşadıkları hakkında bilgi edinmekten hoşlanırım.	(1)	(2)	(3)	(4)	(5)
4- İngilizce dersinde başarılı olmak hoşuma gidiyor.	(1)	(2)	(3)	(4)	(5)
5- İngilizce dersinde zor şeyleri anlayabilmek hoşuma gidiyor.	(1)	(2)	(3)	(4)	(5)
6- İngilizce dersinde zor şeyleri yapabilmek hoşuma gidiyor.	(1)	(2)	(3)	(4)	(5)
7- Okulda İngilizce konuşamazsam kendimi kötü hissederim.	(1)	(2)	(3)	(4)	(5)
8- Farklı kültürlerden gelen ve İngilizce konuşabilen kişilerle konuşamazsam kendimi kötü hissederim.	(1)	(2)	(3)	(4)	(5)
9- Öğretmenlerime İngilizce öğrenebileceğimi göstermek istiyorum.	(1)	(2)	(3)	(4)	(5)
10- Gelecekte iyi bir iş bulmak istiyorum.	(1)	(2)	(3)	(4)	(5)
11- Ailem ve öğretmenlerim İngilizce öğrenmemi istiyor.	(1)	(2)	(3)	(4)	(5)
12- Okuldaki herkesin İngilizce öğrenmesi gerekir.	(1)	(2)	(3)	(4)	(5)

Appendix 3: English Language Learner Motivation Scale (English)

Dear Students,

This survey aims to investigate the language learning motivational orientations among English language learners. Thank you for taking the time to complete this survey. Your participation in the study is voluntary and the information you provide will be used for research purposes only. Your answers will be kept confidential and anonymous. There are no ‘’right’’ or ‘’wrong’’ answers to this questionnaire.

Please read each of the following items carefully and circle the option which suits you best using the following scale: 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree.

Thank you for your participation.

Arzu SEVİNÇ

A- Demographic Questions

1-Age:

2-Gender: Male ☐ Female ☐

3-Type of Middle School Graduated From: State ☐ Private ☐

4-Education Level of Father

Primary ☐

Middle ☐

High school ☐

University ☐

Postgraduate ☐

5-Education Level of Mother

Primary ☐

Middle ☐

High school ☐

University ☐

Postgraduate ☐

6- Father’s Profession: _____

7- Mother’s Profession: _____

8- Does your father speak English? Yes ☐ / No ☐

9- Does your mother speak English? Yes ☐ / No ☐

10- Your English score on your most recent score report: _____ %

B- Please respond to these prompts using the following scale: *1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree.*

	Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**
1- It is fun to learn a new language.	(1)	(2)	(3)	(4)	(5)
2- I like learning new things.	(1)	(2)	(3)	(4)	(5)
3- I like to learn about people from different cultures and how they live.	(1)	(2)	(3)	(4)	(5)
4- I like it when I do well in English.	(1)	(2)	(3)	(4)	(5)
5- I like it when I can understand difficult things in English.	(1)	(2)	(3)	(4)	(5)
6- I like doing difficult things in English.	(1)	(2)	(3)	(4)	(5)
7- I will feel bad about myself if I couldn't speak English in my school.	(1)	(2)	(3)	(4)	(5)
8- I will feel bad about myself if I couldn't speak English to foreigners from English-speaking countries.	(1)	(2)	(3)	(4)	(5)
9- I want to show my teachers that I can learn English.	(1)	(2)	(3)	(4)	(5)
10- I want to find a good job when I grow up.	(1)	(2)	(3)	(4)	(5)
11- My parents and teachers want me to learn English.	(1)	(2)	(3)	(4)	(5)
12- Everybody in school has to learn English.	(1)	(2)	(3)	(4)	(5)

Appendix 4: Vocabulary Test (Pre-test and Post-test)

Instructor: _____ Name: _____

Class: _____ Date: _____

Period: _____ Results: _____

Instructions

Read each question carefully and choose the appropriate option below.

Part I

1) _____ **She's a great boss. If ever you've got any problems, you can go to her and she'll give you a _____ to cry on.**

a. decision
b. van
c. tip
d. shoulder

2) _____ **My sister has always been my _____ in difficult times.**

a. river
b. iron
c. bat
d. rock

3) _____ **We have only enough money to _____ us through the next 3 months.**

a. suffer
b. carry
c. use
d. chase

4) _____ **Could the neighbours _____ the curtains? Ava would have to check next time she was in the yard.**

a. see through
b. complain

c. spark
d. guard

5) _____ **His trust and _____ in his friend was still enormous.**
a. thrill
b. plan
c. range
d. faith

6) _____ **We were caught in a thunderstorm, without anywhere to _____.**
a. attend
b. paddle
c. shelter
d. face

7) _____ **They _____ on your parade because they feel unhappy.**
a. sneeze
b. rain
c. squash
d. laugh

8) _____ **He slowly smiles. It's like _____ breaking through rain clouds.**
a. thunder
b. sun
c. lightning
d. fog

9) _____ **He would have done anything to give me a(n) _____**
a. look
b. view
c. arm
d. scent

10) _____ **There's a good antiques _____ here on Sundays.**
a. strap
b. collar
c. market
d. land

11) _____ **Would you like to update the art, add more bookshelves and a desk, or retire old, _____carpet?**

a. tough
b. complete
c. worn-out
d. tenuous

12) _____ **Rick searched for a _____ and tried to wipe off the paint.**

a. rake
b. pump
c. rag
d. sleet

13) _____ **Since his arrival in January, he has been pretty _____.**

a. lonely
b. perpetual
c. smooth
d. spooky

14) _____ **A second patient, a Coast Guard _____ whose leg was amputated in a motorcycle accident, joined the soldier.**

a. farmer
b. seaman
c. vet
d. tailor

15) _____ **More funds are needed to establish trade _____ in eastern Europe.**

a. mission
b. battle
c. employment
d. count

16) _____ **As an amateur, he won two Olympic gold _____ and lost just one of his 397 fights.**

a. crown
b. present
c. medals
d. trip

17) _____ **I opened the box of long stemmed roses tied elegantly with a red _____.**

a. belt
b. ribbon
c. rope
d. scarf

18) _____ **It's filled with vintage _____, armoires, clocks and candelabras.**

a. objects
b. teacups
c. notes
d. stitches

19) _____ **One of them claims to be an insurance agent, another one _____to work for a car dealership.**

a. achieves
b. knows
c. pretends
d. introduces

20) _____ **I wouldn't _____ him with my car.**

a. sail
b. spoil
c. stale
d. trust

21) _____ **She seems to have _____ all her old friends.**

a. reduced
b. given up
c. faced
d. labelled

22) _____ **Once he was gone Silvia broke down fully in a fit of tears, still _____ her son close and rocking him slowly in her arms.**

a. locking
b. forming
c. holding
d. acting

23) _____ **He essentially just _____ the team _____ for being lazy.**

a. bought into
b. chewed over
c. called out
d. measured into

24) _____ **For someone so young, Chris is extremely _____.**

a. grounded
b. arrogant
c. foolish
d. greedy

25) _____ **Once again, the nature of the orchestra itself is an essential _____of this vision.**

a. border
b. purpose
c. store
d. part

26) _____ **I have great difficulty walking and yet I rarely use a wheelchair and am _____ for every day that I do not need to.**

a. eager
b. eligible
c. thankful
d. famous

27) _____ **His wife _____ at his side throughout his illness.**

a. covered
b. stood
c. commanded
d. asked

28) _____ **They _____ the crowd that had gathered.**

a. explained
b. dispersed
c. drew
d. checked

29) _____ **This little stream can become a _____ when it rains heavily.**

_____

a. thunder
b. avalanche
c. storm
d. deluge

30) _____ **Water and other liquids can _____ unprotected wood surfaces.**

a. appear
b. apply
c. stain
d. achieve

31) _____ **We could see a row of camels silhouetted on the _____.**

a. horizon
b. magazine
c. resource
d. promotion

32) _____ **The landscape was _____, with not a tree or shrub in sight.**

a. evergreen
b. exotic
c. barren
d. crowded

33) _____ **_____ from the aircraft was scattered over a large area.**

a. junk
b. debris
c. rubbish
d. trash

34) _____ **The flood waters finally began to _____ in November.**

a. allow
b. recede
c. announce
d. bet

35) _____ **The _____ she felt over Helen's death was almost unbearable.**

a. anxiety
b. nostalgia

c. grief
d. nervousness

36) _____ **I'm in such a muddle; I'd completely _____ you were coming today.**
a. arranged
b. forgotten
c. discovered
d. guessed

37) _____ **They went out at _____ to go bird-watching.**
a. sunlight
b. dawn
c. sunrise
d. night

38) _____ **He cared about her to the depths of his _____.**
a. perspective
b. perception
c. soul
d. intuition

39) _____ **It was a _____ mountain road, full of stones and huge holes.**
a. smooth
b. safe
c. rough
d. thick

40) _____ **Even ancient ships were able to _____ large stretches of open water.**
a. develop
b. record
c. navigate
d. foresee

41) _____ **He waited _____ for his name to be called.**
a. hastily
b. temporarily
c. patiently

d. humorously

42) _____ **The course is _____ for intermediate-level students.**

a. connected
b. decided
c. dealt
d. intended

43) _____ **Thanks to a large _____ from an anonymous donor, the charity was able to continue its work.**

a. straw
b. gift
c. material
d. item

44) _____ **A free low-interest credit card can be a useful budgeting _____.**

a. relation
b. match
c. arch
d. tool

45) _____ **Then the roof started _____ at that end of the station, everything seemed to happen in slow motion.**

a. cutting down on
b. caving in
c. breaking down
d. carrying out

46) _____ **He was _____ to bed for four days with a bad dose of flu.**

a. stolen
b. confined
c. asked
d. called

_____

47) _____ **Even the smallest movement made him _____ in pain.**

a. cry out
b. get along

c. grow apart

d. go after

48) _____ **But after half a dozen of these, the audience was _____ at the stage in confusion.**

a. goggling

b. glancing

c. gazing

d. glimpse

49) _____ **Water _____ into the cave.**

a. fastened

b. coiled

c. flowed

d. escaped

50) _____ **Just listen to the song of the lark, the lapping of the _____ on the shore.**

a. waves

b. letter

c. present

d. shade

51) _____ **The _____ of the quiet countryside impressed us.**

a. scene

b. ocean

c. action

d. tranquility

52) _____ **The edges of this framework supported the _____ of the walls.**

a. border

b. error

c. base

d. marble

53) _____ **It will complement _____ research on climate change.**

a. beneficial

b. existing

c. selective

d. talented

54) _____ **Elizabeth II ascended to the _____ (= became queen of Britain) when her father died.**

a. palace
b. reign
c. throne
d. crown

55) _____ **The officials said that it was important for small nations to _____.**

a. stick together
b. keep on
c. dress up
d. keep up

56) _____ **Jackie fell over and scraped her knee on the _____.**

a. key
b. wind
c. sack
d. pavement

57) _____ **The rain had turned the stream into a _____ torrent.**

a. disappointing
b. touching
c. raging
d. amusing

58) _____ **The old part of the town was a _____ of narrow passages.**

a. hollow
b. supply
c. match
d. maze

59) _____ **He died in the Vietnam _____.**

a. war

b. activity
c. reason
d. negotiation

60) _____ **Environmental sustainability was the exclusive _____ of public debate.**

a. label
b. suggestion
c. branch
d. focus

Instructions

Write a sentence in English, using the word in a meaningful way.

Part II

Shoulder

a) _____

Rock

a) _____

Arm

a) _____

Faith

a) _____

Shelter

a) _____

See Through

a) _____

Carry

a) _____

Rain

a) _____

Sun

a) _____

Market

a) _____

Worn-Out

a) _____

Rag

a) _____

Lonely

a) _____

Seaman

a) _____

Mission

a) _____

Medal

a) _____

Ribbon

a) _____

Forgotten

a) _____

Teacup

a) _____

Cry out

a) _____

Gaze

a) _____

Flow

a) _____

Wave

a) _____

Tranquility

a) _____

Base

a) _____

Disperse

a) _____

Deluge

a) _____

Stain

a) _____

Horizon

a) _____

Barren

a) _____

Debris

a) _____

Recede

a) _____

Confined

a) _____

Grief

a) _____

Sunrise

a) _____

Soul

a) _____

Rough

a) _____

Navigate

a) _____

Patiently

a) _____

Intend

a) _____

Tool

a) _____

Gift

a) _____

Cave in

a) _____

Existing

a) _____

Throne

a) _____

Stick together

a) _____

Pavement

a) _____

Raging

a) _____

Maze

a) _____

Focus

a) _____

War

a) _____

Hold

a) _____

Pretend

a) _____

Trust

a) _____

Give up

a) _____

Call out

a) _____

Grounded

a) _____

Part

a) _____

Thankful

a) _____

Stand

a) _____

Appendix 5: Sample Lesson Plan

The Name of the Song	Streets of London
Objectives	To improve listening comprehension, reading, guessing and composition skills.
Materials	Bose SoundLink Color Wireless Speaker, Smart Board, PowerPoint Presentation
Duration	80 minutes
Teaching Procedure	-The teacher shows magazine pictures and LP covers about the singer or the group and gives a short background history of the artist(s). -She talks about the reasons for choosing this song and the artist- what she likes about them and why other people might like the song or why she thinks they should know about it. The teacher shows the photos of the items to be taught via PowerPoint slides. The sequence of the presentation chosen is meaning first, then form. First, the teacher shows a photo of X (meaning) and then saying It's a(n) X (the form). -The teacher presents the meaning, and then she tries to elicit the form from the students. When the word is presented in its written form first, the spoken form will be elicited from the students the same way. Then, the L1 translation of the word will be elicited. After this, the teacher backtracks and changes the order of the words and the students are expected to produce the written forms, L1 translations and spoken forms of the vocabulary items as a pair work activity. -The teacher gives the students the words in random order on the board and tells them that the words tell a story or describe a situation and that they should first try to imagine a story of their own using the words. They either write it or tell it to a partner. Subsequently, the teacher tells the story or the situation of the song. -The students are given a hand-out with several example sentences containing the selected vocabulary, and they are expected to match the vocabulary items used in original sentences with their definitions. -The teacher distributes the copies of the song. The students first read the text together for overall comprehension, trying to think of words that might fit best each blank in the vocabulary test. Then, they are asked to choose from the vocabulary items in the options.

*Adapted from *Music and Song* (p. 69), by T. Murphey, 1992, Oxford: Oxford University Press.

Appendix 6: Sample Reading Comprehension Test

Best Friend (by Jason Mraz)

Jason Mraz's *Best Friend* is a song about friendship, love and mutual support. In this song, Mraz defines the essential traits of a best friend. Also, he beautifully describes love through friendship. According to him, friendship laid on the ground of love is described as inseparable. When two people meet who think alike, they grow intellectually and spiritually through affection. Friendship teaches us many valuable things in life and through friendship we learn to fully admire and sincerely comment on one another for the accomplishments. We truly enjoy being in one another's company and we could just be ourselves with them. When we are with our best friend, time just flies by, our sorrows and tragedies all vanish and just their company would keep us happy. Just as in the song *Best Friend*, friends broaden our horizons. They serve as new models with whom we can identify. They allow us to be ourselves – and accept us that way. They enhance our self-esteem because they think we are okay, because we matter to them. And because they matter to us- for various reasons, at various levels of intensity-they enrich the quality of our emotional life. Then, who do we call our friends?

Convenience Friends

These are the neighbour or office mate or member of our car pool whose lives routinely intersect with ours. These are the people with whom we exchange small favours. They lend us their cups and silverware for a party. They drive our children to soccer when we are sick. They keep our cat for a week when we go on vacation. And when we need a lift, they give us a ride to the garage to pick up the Honda. As we do for them.

Special-Interest Friends

These friendships depend on the sharing of some activity or concern. These are sports friends or work friends. We meet to participate jointly in knocking a ball across a net or saving the World. We can with special-interest friends be regularly involved without being intimate.

Historical Friends

With luck we also have a friend who knew us way back then. The years have gone by, these friends have gone separate ways, they have little in common now, but they still are an intimate part of each other's past.

Crossroads Friends

Like historical friends, our crossroads friends are important for what was- for the friendship we shared at a crucial, now past, time of life: a time, perhaps when we roomed in college together; or served a stint in the Air Force together; or worked as eager young waiters in Manhattan together.

Cross-Generational Friends

Another tender intimacy- tender but unequal- exists in the friendships that form across generations, the friendship that one mother calls her daughter-mother and her mother-daughter relationships. Across generations the younger enlivens the older, the older instructs the younger.

Close Friends

Emotionally and physically (by seeing each other, by mail, by talks on the phone) we maintain some on-going friendships of deep intimacy. And although we may not expose as much- or the same kinds of things- to each of our closest friends, close friendships involve revealing aspects of

our private self- of our private feelings and thoughts, of our private wishes and fears and fantasies and dreams. Indeed we frequently turn- for reassurance, for comfort, for come and save me help, not to our blood relations but to friends.

Multiple choice reading comprehension questions:

1. Which of the following is mentioned in the song *Best Friend*?

a) Ways of making friends

b) The power of friendship

c) The places to go with friends

d) How their friendship started

2. What kind of friendship does the song *Best Friend* represent?

a) Historical friends

b) Convenience friends

c) Crossroads friends

d) Close friends

3. Which of the following themes does not match the song *Best Friend*?

a) Love

b) Support

c) Hope

d) Breaking-up

4. Which one can be the type of friendship represented in the song?

a) Special-interest friends

b) Cross-generational friends

c) Historical friends

d) Crossroads friends

5. Which one is the type of friendship represented in the song?

a) Friends seeing each other since childhood

b) People who shared the same dorm in college

c) Neighbours

d) Sports class friends

Comprehension Essay

Having read the passage above, please write a response in which you (a) explain what *Best Friends* is about, (b) explore the social values that Best *Friends* represents, and (c) try to discuss the personal meanings of these themes to you.

Appendix 7: Rubric for Essay Response Component of Reading Comprehension

	3 points each	2 points each	1 point each	0 point each
	The student accurately demonstrates with higher level:	The student accurately demonstrates:	The student partially demonstrates:	The student fails to demonstrate:
Text comprehension	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position
Idea comprehension	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning

Appendix 8: Example Reading Comprehension Essay of a Participant #1

I'll Be (by Reba McEntire)

This song is about love. What does love mean? The word I kept seeing was "shelter." But there were other words like it. There was "support" and "rock." I understood this song by starting with these words. The song could be sung by anyone. When I read the lyrics, I thought of a mother and her child. Life can be hard. People suffer. But the singer of the song "will be strong," will be "your shelter" and "your shoulder." So the song is not just about love. It explains what love is. Love is about being there for someone in the difficult times. The chorus to this song is "I'll be." This sentence is not completed. But there are clues about what it means. "Be" refers to "shelter," "shoulder," "support," and words like these. All of these are ways of talking about love. That is why I believe that this song is about love.

Rater 1 Rating

	3 points each	2 points each	1 point each	0 point each
	The student accurately demonstrates with higher level:	The student accurately demonstrates	The student partially demonstrates:	The student fails to demonstrate:
Text comprehension	• Text understanding • Details • Examples from text • Support of position	• **Text understanding** • **Details** • **Examples from text** • **Support of position**	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position
Idea comprehension	• Task awareness • Comprehension of ideas in response • Clear reasoning	• **Task awareness** • **Comprehension of ideas in response** • **Clear reasoning**	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning

Rater 2 Rating

	3 points each	2 points each	1 point each	0 point each
	The student accurately demonstrates with higher level:	The student accurately demonstrates	The student partially demonstrates:	The student fails to demonstrate:
Text comprehension	• Text understanding • Details • Examples from text • Support of position	• **Text understanding** • **Details** • **Examples from text** • **Support of position**	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position
Idea comprehension	• Task awareness • Comprehension of ideas in response • Clear reasoning	• **Task awareness** • **Comprehension of ideas in response** • **Clear reasoning**	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning

Appendix 9: Example Reading Comprehension Essay of a Participant #2

I'll Be (by Reba McEntire)

This son began with a list of opposites. In the first line, there is "darkness." In the next line, there is "light." The song is about a person who is experiencing negatives. But the person who is singing is positive. To me, the song "I'll be" is about positivity. There is a person experiencing bad things. But there is a person who is there to give good things. This person could be anyone. Maybe a husband or a wife, a father or a mother, or a friend. Whoever the person is, he or she is helping. I would say that this help is even the essence of love!

Rater 1 Rating

	3 points each	2 points each	1 point each	0 point each
	The student accurately demonstrates with higher level:	The student accurately demonstrates	The student partially demonstrates:	The student fails to demonstrate:
Text comprehension	• Text understanding • Details • Examples from text • Support of position	• **Text understanding** • **Details** • **Examples from text** • **Support of position**	• Text understanding • **Details** • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position
Idea comprehension	• Task awareness • **Comprehension of ideas in response** • Clear reasoning	• **Task awareness** • **Comprehension of ideas in response** • **Clear reasoning**	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning

Rater 2 Rating

	3 points each	2 points each	1 point each	0 point each
	The student accurately demonstrates with higher level:	The student accurately demonstrates	The student partially demonstrates:	The student fails to demonstrate:
Text comprehension	• Text understanding • Details • Examples from text • Support of position	• **Text understanding** • **Details** • **Examples from text** • **Support of position**	• Text understanding • Details • Examples from text • Support of position	• Text understanding • Details • Examples from text • Support of position
Idea comprehension	• Task awareness • Comprehension of ideas in response • Clear reasoning	• **Task awareness** • **Comprehension of ideas in response** • **Clear reasoning**	• Task awareness • Comprehension of ideas in response • Clear reasoning	• Task awareness • Comprehension of ideas in response • Clear reasoning

Özgeçmiş

Doğum Yeri ve Yılı: Bursa - 1993

Yabancı Dil: İngilizce

Öğrenim Gördüğü Kurumlar:

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