

33. The effect of multilingualism on learning an additional language

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Abstract

The present study aimed to explore the effects of previous knowledge of multiple languages on learning a target language. In particular, it compared bilingual students with multilinguals with respect to the rate of progress in learning Turkish and analyzed whether or not knowing a language linguistically similar to Turkish would facilitate the learning of Turkish among multilinguals. Data were collected from 68 beginner level international students (20 females, 48 males) enrolled in the Turkish Teaching Application and Research Center of a government university in Turkey. The students took a pre-test in Turkish at the beginning of the Fall semester and a post-test at the end of the semester. The results of the quantitative analyses showed that there was a statistically significant difference between the bilinguals and the multilinguals, with multilinguals performing at a higher rate than the bilinguals in the post-test. In addition, multilinguals that had knowledge of a Turkic language achieved higher scores in the post-test than those that did not have any knowledge of a Turkic language. However, the results were not significant. The implications of these results are discussed with regard to the Dynamic Model of Multilingualism (Herdina & Jessner, 2002) which emphasized the importance of multilingual awareness and its positive effects on linguistic, cognitive, metacognitive and information processing abilities.

Keywords: Bilingualism, multilingualism, Turkish as a second language, language distance

Çok dilliliğin ek bir dili öğrenmeye etkisi

Öz

Bu çalışma, bilinen iki veya daha fazla dilin bir hedef dili öğrenme üzerindeki etkilerini araştırmayı amaçlamıştır. Özellikle, iki dilli öğrencileri çok dilli öğrencilerle Türkçe öğrenmedeki ilerleme oranı açısından karşılaştırmış ve dilsel olarak Türkçe'ye benzer bir dil bilmenin çok dilliler arasında Türkçenin öğrenilmesini kolaylaştırıp kolaylaştırmayacağı analiz edilmiştir. Veriler, Türkiye'de bir devlet üniversitesinin Türkçe Öğretimi Uygulama ve Araştırma Merkezi'ne kayıtlı 68 başlangıç seviyesindeki uluslararası öğrenciden (20 kız, 48 erkek) toplanmıştır. Katılımcılar iki gruba ayrılmıştır: İki dilliler ve çok dilliler. Çokdilliler ayrıca dilsel olarak Türkçe'ye benzer bir dil bilenler ve bilmeyenler olarak iki gruba ayrılmıştır. Veriler, bir dil anketi ve Türkçe ön ve son test puanları aracılığıyla toplanmıştır. Öğrenciler güz dönemi başında Türkçe ön teste, dönem sonunda ise son teste girmişlerdir. Nicel analizlerin sonuçları, iki dillilerle çok dilliler arasında istatistiksel olarak anlamlı bir fark olduğunu ve son testte çok dillilerin iki dillilere göre daha iyi bir oranda performans gösterdiğini göstermiştir. Ayrıca, son testte bir Türk dili bilgisine sahip olan çok dillilerin hiç Türk dili bilgisi olmayanlara göre daha yüksek puanlar aldığı görülmüştür. Ancak, sonuçlar istatistiksel olarak anlamlı çıkmamıştır. Sonuçlar, çok dillilik farkındalığı ve onun dilbilimsel, bilişsel, üstbilişsel

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ve bilgi işleme yetenekleri üzerindeki olumlu etkilerini vurgulayan Çok Dilliliğin Dinamik Modeli (Herdina & Jessner, 2002) açısından tartışılmıştır.

Anahtar kelimeler: İkidillilik, çokdillilik, ikinci dil olarak Türkçe, dil mesafesi

1. Introduction

In the past two decades, a great deal of research has explored the effect of previous language knowledge on multilingualism. Since then multilingualism has been perceived as a positive concept as research demonstrated its advantages over monolingualism and bilingualism in many areas of linguistics. Multilingualism was found to enhance managing multiple tasks, solving problems, communicating, neurological processing and so on (Krizman, Marian, Shook, Skoe, & Kraus 2012; Marian & Shook 2012; Quinteros & Billick 2018). The present study is based on the Dynamic Model of Multilingualism (DMM) proposed by Herdina and Jessner (2002). In this model, multilingualism was defined as crosslinguistic interaction between individual languages and the M(ultilingualism)-factor, which refers to the skills and abilities that multilinguals develop as they learn languages. One of the most important components of the M-factor is multilingual awareness which has a positive effect on linguistic, cognitive, metacognitive and information processing abilities as well as literacy skills which “form part of multilingual development, management of linguistic resources and maintenance of proficiency levels in the various language systems involved or the multilingual system itself, which is constantly subject to change” (p. 35).

Under multilingual awareness, metalinguistic awareness is another concept studied along with metacognitive knowledge and awareness of that knowledge. Metalinguistic awareness refers to the idea that as speakers learn additional languages, they are able to compare and contrast their languages, categorise words into parts of speech and explain the different meanings and functions a word has (Jessner, 2005). Metalinguistic awareness has been the focus of a considerable number of studies (Cenoz & Valencia 1994; Jessner 2005; Lasagabaster 1997; Safont 2003) examining the effect of bilingualism on third language acquisition. The studies investigated a number of variables, ranging from syntactic features to phonetic and pragmatic features. The results of such studies showed a positive effect of bilingualism on third language acquisition due to the higher metalinguistic awareness of bilinguals whose learning strategies and communicative skills also contributed to that effect. For instance, Hofer and Jessner (2016) investigated the effect of early multilingual education via examining metalinguistic awareness in primary school children in two schools in Italy. Two groups of students participated in the study. The first group received traditional education in Italian, German, and English and the second group learned the same languages in a multilingual education program. The children were asked to complete a metalinguistic awareness test in Italian, their L1, as well as a German and an English test. According to the findings, early multilingual education had a significant positive effect. The children in the multilingual education programmes outperformed those who were exposed to traditional education.

Although there has been numerous studies examining the effect of bilingualism or multilingualism on learning an additional language particularly in different European contexts, the number of studies conducted in educational contexts in Turkey is very scarce. Therefore, the purpose of the present study is to fill this gap in the literature by comparing bilinguals and multilinguals with respect to the rate of learning an additional language, in this case Turkish. The paper is organized as follows. Section 2 presents a review of previous studies that dealt with the effect of previous language background on target

language learning. Section 3 describes the methodology. Section 4 provides a discussion of the results, followed by concluding remarks and limitations of the study.

2. Literature review

A growing number of studies investigated the effect of bilingualism on third language acquisition. For instance, Keshavarz and Astaneh (2004) compared two groups of bilinguals, Armenian–Persian bilinguals who received formal education in both languages and Turkish–Persian bilinguals who received formal education in only Persian to Persian monolinguals with respect to vocabulary production in English. The results showed a statistically significant difference between Armenian–Persian bilinguals and Turkish–Persian bilinguals in that Armenian–Persian bilinguals outperformed Turkish–Persian bilinguals, suggesting that receiving formal education in a language may facilitate vocabulary learning. Similar results were also found in Jessner (2005) who observed an increase in multilingual processing when learners applied their metalinguistic knowledge in learning a third language. In another study, Kaushanskaya and Marian (2009) examined the effects of bilingualism on the acquisition of novel words by adults with different language backgrounds. In particular, the study compared speakers of phonologically and orthographically similar languages (English and Spanish) with those of two phonologically and orthographically different languages (English and Mandarin Chinese). Monolingual English speakers, early English–Spanish bilinguals, and early English–Mandarin bilinguals were compared with one another with respect to novel word learning. The results showed that both bilingual groups performed at a higher rate than the monolingual group, suggesting a bilingual advantage regarding learning new words. In an attempt to determine the impact of bilingualism and previous linguistic knowledge on the learning of a subsequent language, Wang and Saffran (2014) designed a tone language to determine whether adult learners could track regularities in a tonal language and whether previous knowledge of tonal languages and bilingualism would have an effect on learning the tone language. There were four groups in the study: English monolinguals who did not have any previous exposure to tone languages, Mandarin monolinguals, Mandarin–English bilinguals, and non-tonal bilinguals. The groups were compared with one another regarding a tonal statistical language-learning task. The findings showed that the bilingual Mandarin–English speakers performed at a higher rate than Mandarin and English monolinguals. In addition, the non-tonal bilingual group outperformed English monolinguals, which led the authors conclude that bilingualism by itself facilitates statistical learning.

In a similar study, Antoniou, Liang, Ettliger, and Wong (2015) investigated whether bilinguals would learn a third language easier than monolinguals would learn a second language. The study included 12 English monolinguals and 12 Mandarin–English bilinguals who were born in the U.S. and studied at a university in the U.S. Experiments were conducted to compare monolinguals and bilinguals. In the first experiment, English monolinguals and Mandarin–English bilinguals were compared with respect to learning English-like (fricative voicing) and Mandarin-like (retroflex consonants) phonetic contrasts. In the second one, English monolinguals and Mandarin–English and Korean–English bilinguals were compared regarding Mandarin-like (retroflex) and Korean-like (lenition) phonetic contrasts. The results showed that in both tests, bilinguals outperformed monolinguals. The results also showed that similarity to the native language helped acquire universally difficult contrasts. In a recent study, Budría and Swedberg (2019) analyzed the effect of the number of previous languages multilingual speakers knew on their proficiency in the Spanish language. The data were taken from the Spanish National Immigrant Survey. The number of previous languages was determined by the number of nationalities of the immigrant's father and the number of foreign countries in which the participant lived before he or she

arrived in Spain. The results showed that the more languages the participants knew, the more proficient they were in Spanish. In addition, the females benefitted more from multilingualism than the males.

The effects of memory flexibility, individual differences, and linguistic distance on learning an additional language by monolinguals, bilinguals, and trilinguals were also the focus of a considerable number of studies. For instance, Brito, Sebastian-Galles, and Barr (2014) examined the effects of language exposure on memory flexibility in monolingual, bilingual, and trilingual infants. The researchers conducted two experiments. In the first experiment, 15 bilingual 18-month-old infants exposed to two similar languages (9 Spanish–6 Catalan) or two more different (15 English–Spanish) languages were evaluated via a memory generalization task. These groups were then compared to 15 English monolingual 18-month-old infants. In the second one, trilingual 18-month-old infants were compared with monolinguals and bilinguals who participated in the first experiment. The results showed that the bilingual groups had more advantages than the monolingual groups regarding memory flexibility. With respect to studies on individual differences, Sanz (2008) investigated which individual differences predicted development in the third language (L3) and the effects of L2 acquisition onset, the order in which the majority and minority languages are acquired and the degree of balance between the two languages on L3 development. The participants were 120 bilinguals learning English as a foreign language in a high-school in Barcelona, Spain. The author found that independent variables such as motivation, exposure, language attitudes, language use, and language knowledge of the L1 and L2 were significantly related to overall L3 achievement.

As for linguistic distance, Crystal (1987), stated that the structural closeness of languages plays an important role in learning a foreign language in that if there are similarities between the native and the foreign language, then learning should be easier than in situations where the native and the foreign languages are very different from each other. However, Crystal also added that “it is not possible to correlate linguistic difference and learning difficulty in any straightforward way, and even the basic task of quantifying linguistic difference proves to be highly complex, because of the many variables involved” (p. 371). For example, previous studies (Beenstock, Chiswick, & Repetto, 2001) showed that in Israel, Jewish immigrants whose native language was Arabic were found to be very proficient in Hebrew due to the fact that Hebrew and Arabic belong to the same language family and thus shared similarities. In a recent longitudinal study, Jasińska, Wolf, Jukes, and Dubeck (2019) investigated how multilingual children attending first-grade primary school in Kenya made use of early literacy skills when they learned Kiswahili and English at school. There were three groups of children (N=1,223) involved in the study: The first group spoke Mijikenda as their L1 and learned Kiswahili and English as L2, the second group spoke Kikamba as their L1 and learned Kiswahili and English as L2, and the third group spoke Kiswahili as their L1 and learned English as L2. The students were tested on phonological awareness and reading. The findings showed that Mijikenda children relied on Kiswahili regarding the phonological structures due to the linguistic similarities between Mijikenda languages and Kiswahili which supports the common underlying proficiency proposed by Cummins (1991) who claimed that learners can transfer cognitive or academic skills from one language to another.

3. The Present Study

The purpose of the present study was to explore the effects of previous knowledge of multiple languages on learning a target language, compare bilingual students with multilinguals with respect to the rate of progress in learning Turkish, and analyze whether or not knowing a language linguistically similar to

Turkish would facilitate the learning of Turkish among multilinguals. The following research questions are addressed in the study.

1. Is there a difference between bilinguals and multilinguals with respect to the rate of progress in learning Turkish?
2. Does knowing a language linguistically similar to Turkish facilitate the learning of Turkish among multilinguals?

3.1. Methodology

Participants and instruments

The participants included 68 beginner level international students (20 females, 48 males; age mean 22.87) enrolled in the Turkish Teaching Application and Research Center of a government university in Turkey. The participants were learning Turkish as the target language in a 12 Week/ 375 hour intensive program, which prepares students academically for their undergraduate studies at different Turkish universities. At the time of the study, the students were all enrolled in the Fall semester. The participants were divided into three groups based on the responses to a questionnaire that elicited information regarding students' previous language knowledge and usage: a) Bilinguals (if they rated themselves as a 3-average or higher for a second language excluding the TL Turkish); b) Multilinguals (if they rated themselves as a 3-average or higher for all the languages they knew, excluding the TL Turkish); and c) multilinguals with knowledge of a Turkic language. All the students had been in Turkey for less than 6 months. The students were from Indonesia, Turkmenistan, Iraq (5), Kosova, China, Uzbekistan (3), Kazakhstan (7), Iran (5), Palestine (2), Afghanistan (10), Ghana (3), Central Africa (2), Bangladesh, Montenegro, Algeria, Mongolia (2), Kyrgyzstan (2), Morocco (8), Phillipines, Guinea, Kosovo, Albania (2), Comoros, Camerun, Ethiopia (2), Malaysia, Brazil, and Russia. The following table provides the previous languages that bilinguals and multilinguals knew.

Table 1: *Language Background of the participants*

Bilinguals	Multilinguals	Multilinguals with knowledge of a Turkic language
Indonesian, English	Bosnian, German, English, Albanian, French, Spanish	Russian, Kazakh, Azeri
Turkmen, Russian	Arabic, French, English, Spanish	Turkmen, English, Farsi, Hindi
Arabic, English (5 students)	Amazigh, Arabic, English, French (2 students)	Uzbek, Farsi, English, Hindi
Albanian, English	Albanian, English, Italian	Azeri, Persian, English (2 students)
Uighur, English	Tausug, Filipino, English, Arabic	Turkmen, Farsi, English, Arabic (2 students)
Kazakh, English	Albanian, Bosnian, English, German	Kazakh, Russian, Uzbek (5 students)
Uzbek, English	French, English, Arabic, Spanish	Uzbek, Persian, English
Kazakh, Russian (3 students)	Fula, Hausa, French, English	Turkmen, Arabic, English,
Persian, English	Amharic, Oromo, English (2 students)	Persian, Azeri, English, German, Arabic
Persian, Hindi	Malay, English, Arabic	Kyrgyz, Russian, English

Dagbani, English	Ghana, Iwi, English	Pashto, English, Farsi, Turkmen
Hausaca, English	Arabic, English, Portuguese	Uighur, Kazakh, Russian
French, English (3 students)	Pashto, Persian, English, Urdu	Tatar, Mongolian, English
Bangla, English	Persian, English, Arabic, Pashto	Tatar, Russian, English, Spanish
Bosnian, English	Russian, English, Spanish	
Mongolian, English	Persian, Korean, English	
	Arabic, French, English, Spanish (2 students)	
	Arabic, French, English (3 students)	
	Persian, English, Hindi	

The data were collected using three instruments: The first one was the placement test that is given to students, usually at the beginning of the Fall semester, to determine their proficiency levels. This test served as the pre-test in the present study. The second instrument was the final exam (post-test) which students take at the end of the semester. Both the placement and final exams are designed to assess students' knowledge of grammar, reading, writing, listening, and speaking skills in Turkish. Both tests are prepared and administered by the Institution. The third instrument was the language background and usage questionnaire which included questions about the learners' ages, gender, country of birth, language proficiency and usage of the languages they knew. The students were asked to rate their listening, speaking, reading, and writing skills and usage related to the languages they have knowledge of on a scale from 1 to 5.

3.2. Results

The first aim of the present study was to examine the effects of previous knowledge of multiple languages on learning Turkish. In particular, it aims to compare bilinguals and multilinguals with respect to their knowledge of Turkish. To achieve this, an independent-samples t-test was performed to compare the two groups. The following table shows the results.

Table 2: Results: Independent-Samples T-test

	Participants	N	Mean	Std. Deviation
Pre-test	Bilinguals	24	77,2	11,78
	Multilinguals	24	82,7	9,24
Post-test	Bilinguals	24	72,5	15,48
	Multilinguals	24	82,0	9,75

As the table shows, the multilingual students scored higher ($M=82,7$, $SD=9,75$) than the monolinguals in the pre-test. However, the only significant result was related to the difference between the multilinguals ($M=82$, $SD=9,75$) and bilinguals ($M=72,5$, $SD=15,48$) regarding the post-test scores. The multilinguals compared to the monolinguals demonstrated significantly higher post-test scores, $t(38,77) = -2,53$, $p=.05$. To answer the second research question that explored whether or not knowing a language linguistically similar to Turkish would facilitate the learning of Turkish among multilinguals, another independent-samples t-test was conducted.

Table 3: Results: Independent-Samples T-test

	Participants	N	Mean	Std. Deviation
Pre-test	Multilinguals	20	80,5	8,91
	Multilinguals with knowledge of Turkish	20	82,0	8,56
Post-test	Multilinguals	20	79,4	9,12
	Multilinguals with knowledge of Turkish	20	81,4	8,91

The table shows that the mean scores of multilinguals who had knowledge of Turkish was higher in the pre-test ($M=82$, $SD=8,56$) as well in the post-test ($M=81.4$, $SD=8,91$) than those who did not have any exposure to Turkish (pre-test: $M=80.5$, $SD=8,91$; post-test: $M=79.4$, $SD=9,12$). However, the differences between the two groups were not significant.

4. Discussion and conclusion

The first research question asked whether knowledge of previous languages would facilitate learning an additional language. The results showed a statistically significant difference between bilinguals and multilinguals with multilinguals outperforming bilinguals regarding post-test scores, suggesting that the more languages one knows, the better progress they make in learning an additional language. This result supports Herdina and Jessner's DMM model which refers to the development of multilingual awareness in cognitive, metacognitive, information processing abilities, and literacy skills. The second question was related to the effect of Turkish language knowledge on learning an additional language. According to the results, although multilinguals with knowledge of Turkish scored higher than those without any knowledge of Turkish both in the pre-and post-tests, the results were not significant, but they are partially in line with the findings of Jasińska, Wolf, Jukes, and Dubeck (2019) who found that children relied on the phonological structures in their native language when they were learning an additional language. It is also worth mentioning that linguistic similarities between previous languages and the target language facilitates learning the target language. Additionally, the result also emphasizes the importance of providing learners with strategy training that would enable them to learn how to transfer skills and strategies from their previous languages to the target language. For instance, in a large-scale study, Dahm (2015) provided strategy training in syntax, phonology, and semantics to learners learning Dutch, Italian and Finnish for the first time. The author found that the learners chose strategies based on the linguistic distance between the mother tongue and target language.

The study has several limitations which are mostly related to methodology. One has to do with the participants' previous language background which varied from one participant to another. In other words, the participants were not homogeneous with regard to the languages they knew. Some participants spoke Arabic and Farsi which Turkish shares lexical similarities with and therefore, this may have had affected the results. These languages can be excluded in a future study. The second limitation has to do with the number of participants. Only one Turkish learning and teaching center was included and only 68 participants were available to participate in the study. The results, therefore, may not generalize to other contexts. Further research can include several institutions. The third limitation is related to the data collection method. In the language background survey, the participants may have underestimated their knowledge of previous languages or did not stated them in the questionnaire, which may have affected the categorization of the participants as bilingual or multilingual. This points to the need for better measures that match participants' proficiency levels.

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