LANGUAGE PROFICIENCY OF A BILINGUAL CHILD: A CASE STUDY

Cavide Demirci¹, Ahmet Güven²

¹Faculty of Education, Eskisehir Osmangazi University, Eskişehir, Turkey
²Institute of Educational Sciences, Eskisehir Osmangazi University, Eskişehir, Turkey

Abstract:
In this study, it is aimed to analyse, evaluate and define the Turkish and English communication skills and vocabulary levels of a bilingual Turkish child. According to Houwer (2007), although they are grown in a bilingual environment, in some cases, the process of acquiring two languages is not successful. It is quite interesting why the language skills of children who grew up in similar environments in a natural process such as language acquisition sometimes differ, and why some children are not bilingual while others are. In this study, communication skills in both languages of a child who grew up in a bilingual home environment and successfully learned both Turkish and English, were examined and receptive language levels in both languages were defined. Within the scope of the research, the language development process and the vocabulary levels in the two languages are assumed to be in the normal development characteristics of the individual and similar qualities with his peers. The child lives in Turkey in a big city. This study sought to answer the following questions:

1. How is the productive language level of the individual who grew up bilingual?
   a) How is the child’s productive language ability in English?
   b) How is the child’s productive language ability in Turkish?

2. How is the receptive language level of the individual who grew up bilingual?
   a) How is the English receptive language level?
   b) How is the Turkish receptive language level?

Keywords: bilingualism, bilingual kid, language proficiency, OPOL

¹ Correspondence: email eltguven@gmail.com, ahmetgoven26@gmail.com
1. Introduction

Today, communication, cooperation and relations between countries are maintained intensely and increasing day by day. Almost every country in the world, involved in this cooperation and communication for economic, politic or touristic reasons. As a natural consequence of this, speaking a common language and being able to speak a language used by a large number of people in the world apart from its mother tongue is importance. Globalization in the world has made the second language a great need for people. According to Baker (2007), the number of bilingual people in the world is more than the number of monolingual people. As a result, it is possible to meet people who can speak more than one language around the world wherever you go. “The human brain has been uniquely equipped with the remarkable ability to acquire more than one language, as in bilingual individuals.” (Luo et al., 2019). According to Crystal (1997), two thirds of the children in the world grow up bilingual. The fact that bilingualism is a very important subject, has led to an increase in the studies in this area.

Communication, which is so important for people, is interrupted from time to time due to hundreds of different languages spoken around the world. When people go to countries or places where languages other than their mother tongue are spoken, it will be impossible to communicate if they do not know the language spoken there. As a result of living in an increasingly intertwined world, people communicate more and encounter language barriers in this process. Millions of people spend large amounts of money, time and effort to learn a second language. At this point, another problem is that, in spite of making a huge effort, spending lots of time and paying a lot of money for language education, little progress or even sometimes no progress can be made.

Foreign language education is a very challenging and long process so it can be considered as a great advantage for individuals to be raised bilingually by certain methods, immediately after birth or starting from a young age, thus gaining a second language apart from their mother tongue. According to Diamond (2010), obtaining a second language from birth has different benefits. The issue of bilingual individuals also attracts a lot of attention in the literature, and the fact that millions of people around the world grow up as bilingual persons, pushes researchers to work on this. With this study, the language levels of a child who is raised as a bilingual person will be defined, examined and evaluated. The study is important in terms of defining the language acquisition process of a bilingual individual and examining the levels of the languages which are acquired by this child simultaneously from birth.

2. Literature Review

The human brain makes a great effort to learn languages in the first years of life and does this at an incredible speed. In this process, people can be exposed to more than one language naturally or artificially and learn these languages simultaneously. According to Ramirez and Kuhl (2017) the first years of life offer a great opportunity to learn a foreign language. People who learn a second language during the mother tongue acquisition
process, master both languages in a similar way, express themselves in these languages and communicate easily. Some researchers on the definition of bilingualism emphasized that both languages spoken should be acquired in the form of natural language acquisition by defining using both languages at the mother tongue level. However, some researchers have stated that no matter when, in what way, at what age they learned, they can be defined as bilingual if they use both languages. According to Bloomfield (1933, cited in Mackey (2000)), a bilingual person must master both languages at the mother tongue level. According to Field (2011), bilingualism is having two languages, speaking two languages. While Grosjean (2013) defines a bilingual individual, he stated that he is the person who uses both languages in his daily life. Based on this, we can say that a bilingual individual must have a good command of both languages.

Moreover, in order for such a domination to exist, both languages may be expected to be exposed and acquired before the age of 36 months old, which is an important milestone in the natural language acquisition process.

According to Callahan and Gandara (2014), considering the way we live in the century we are in; bilingual people can be considered lucky in many ways than people who speak only one language. Also, according to Bialystok (2011), people who grow up bilingual can be more successful in some cognitive skills such as executive functions beyond social and economic advantages. “Bilingualism can delay the onset of dementia symptoms and has thus been characterized as a mechanism for cognitive or brain reserve, although the origin of this reserve is unknown.” (Anderson et al., 2018).

Based on this, we can say that learning two languages simultaneously from birth will provide great benefits for people. According to Kuhl et al. (2006), babies can distinguish phonemes of all languages and this discrimination skill lasts up to 12 months when the first words are used and disappears afterwards. According to this, it would not be wrong to say that it will be quite suitable to expose children to two languages immediately after birth. In many cases, it is natural for an individual to grow up bilingual. This may be a situation where parents have different mother languages, a nanny who speaks in a different language, or that the language the family speaks is different from the language of the community they live in. However, some parents who want their children to benefit from the advantages of being bilingual can create an artificial environment and achieve teaching their child two languages simultaneously.

According to Houwer (2007), in the process of raising a child as bilingual, 5 different situations can usually take place at home. These situations can be stated as:

1) Both parents speak the target language to be taught.
2) One parent speaks both the majority language and the minority language, the other speaks the minority language.
3) OPOL; each parent speaks one language.
4) Both parents speak both languages.
5) Both parents speak the majority language while one of them speaks minority language too.

The most popular method of raising a bilingual child is the “one-person-one-language method, which was first proposed over a hundred years ago” (Ronjat, 1913; act.
Heinlein and Williams, 2013). In this method, which is widely used in the process of raising a kid as a bilingual person, and is very successful, each parent chooses one of the languages to be taught and they communicate with the child in this language. As in our case, for a kid who lives in Turkey, whose mother and father are both Turkish people and speak Turkish as a mother tongue, can be targeted to obtain Turkish and English languages simultaneously. In this case English can be described as minority language and Turkish is the majority language. The application of this method is carried out in the form of mother communicates with the child in Turkish, while his father communicates in English or vice versa.

There are a few points to consider. The language that parents will speak with each other is an important issue. Parents can speak in both languages between them. However, giving more chance to the minority language (English) will increase the chance of success.

The parent who choose the minority language (English) as the language of communication with the child, tries to maintain all communication in this language, and especially in the first months, she tries to speak to other people in the minority language (English). Thus, two language concepts are formed in the mind of the child, the language spoken by mother and the language spoken by father.

Parents can start communicating with their children in both languages after the application is carried out until 36th month. After that, the child will be able to use both languages comfortably at any time.

“The one-person-one-language method ensures that two languages are successfully acquired” (Barron-Hauwaert, 2004). Although this method is very successful, studies have shown that this is not the only effective method. According to De Houwer (2007), children who do not apply this method and principles and hear both languages from one parent can also acquire both languages very successfully. We can say that the fact that each parent speaks a different language and does not use the other language is not an indispensable rule for raising a bilingual child. Families can adopt a method which is appropriate for their family life.

There are 4 methods that can be used other than “one-person-one-language”. In the first method both parents use the minority language. In the second one, one parent uses minority language, the other uses both languages. In the third method, both parent use both languages equally. The fourth method: parents use majority language but one of them speaks minority language too.

According to Place and Hoff (2011), communicating with more than one person in one language increases the vocabulary knowledge of bilingual individuals. Based on this, it can be said that it would be beneficial to support the practice that carried out at home by communicating with individuals outside the home.

3. Material and Methods

Merriam B. Sharan (1991, p.1) states that especially having a formal teaching experience in the field of education, wanting to have more knowledge about the field and developing educational skills lead to research questions, some of these research questions can be
handled best with case study research design. Case study; it is a research method that works on a current case within its real life framework and is used in cases where the boundaries between the case and its content are not clearly defined and there is more than one source of evidence or data available (Yıldırım and Şimşek, 2005, s 277 as cited in Yin, 1984). As one of the case study research methods, single-case research design is a kind of research that carried out with a single analysis unit. The "situation" in this study is a 4-year-old boy who was provided to acquire two languages simultaneously by the application of "one-person-one-language" method. Besides the boy who acquired two languages simultaneously, the work group of this study consists of his mother and father.

Participant child lives in a big city, in the city center located within the borders of Turkey. His parents are working parents, their mother tongues are both Turkish. Both parents can speak Turkish and English. Father of the child is fluent in English. He has no brother. His mother took care of the child by taking a maternity leave until he was 2.5 years old. Until the 12th month from birth, his father communicated in English with the child on weekdays until noon, and it was aimed to expose the child to this language besides his mother tongue. As of the 12th month, the process of acquiring two languages was continued with the "one person, one language" method, which is frequently applied by parents to raise a bilingual kid. During this period, his father speak to him in English until the child was 36 months old. His mother spoke to him in Turkish.

Starting at the 36th month, his father communicates with the child in both languages, Turkish and English. However, child prefers to speak with his dad in English. The participant child is 4 years and 3 months old. To define and examine the levels of productive ability, three observation studies were conducted for each language.

3.1. Non-Participant Observations
During the play time of the child with his mother, three "non-participant" observations were made and how he communicated in Turkish was examined. At the first observation, language sampling was done by recording a video. According to Leadholm and Barbara (1994), the language sample effectively measures the performance of children in their daily speaking situations. Observations were carried out in accordance with the observation protocol created. During the observations, research data was collected in four dimensions of mother and child play time.

- Home environment: information about the physical environment of the house, information about the social environment, psychological environment.
- Intensity of communication: the frequency of the communication between mother and child. Receiving / transmitting roles of the child and his mother in language use.
- The quality of communication; mutual understanding of the communication between mother and the child, the appropriateness of the messages conveyed by the child.
- The level of communication: complexity of messages during communication, grammatical structures, sentence structures, richness of words. With the data obtained from the observations, it is aimed to answer the question of how the child
communicates in Turkish; how much he understands the messages conveyed and how he uses Turkish in his daily life.

3.2. Participant Observations
In order to observe the English communication, three "participant observations" were carried out by one of the researchers. At the first observation, language sampling was done by recording a video. During the observations, research data was collected by the researchers in the four-dimensional surroundings of the children's play time.

- Home environment: information about the physical environment of the house, information about the social environment, psychological environment.
- Intensity of communication: how often the communication is between the researcher and the child. Receiving / communicating roles of the child and the researcher in language use.
- The quality of communication: mutual understanding of the researcher and the child, the appropriateness of the messages conveyed by the child.
- The level of communication: complexity of messages during communication, grammatical structures, sentence structures, richness of words.

With the data obtained from the observations, it is aimed to answer the question of how the child communicates in English; how much he understands the messages conveyed and how he uses English in his daily life.

3.3. Peabody Picture Vocabulary Test (PPVT)
Peabody Picture Vocabulary Test (PPVT) developed by Dunn and Dunn (2007) was used to measure the receptive language level of the child. This test consists of 12 pictures, each set consisting of 12 pictures, with increasing difficulty level. According to Campbell (1998), PPVT can be applied to people of all ages, starting from the age of 2.5 and used to measure receptive language skills. The application of the test can be performed by speech therapists, psychologists, social workers, psychological counselors, child developers, teachers and doctors. The test procedure is to show the cards which contain four pictures in order and to ask for the picture on the card associated with the pronounced expression. This test is used only to measure receptive language skills, as said before. As one part of the research, the Peabody picture vocabulary test was applied to the participant child in English and the receptive language level was calculated. After the application of the test, the process monitored and evaluated again from the video recording to verify the calculation. The application of the test in Turkish was carried out after one day the child’s mother, who is a teacher. The process of the test was observed by the researchers and the performance evaluation was performed simultaneously by the practitioner and the researchers.

Data related to the research was obtained in April 2020. The collection of data was carried out at the child’s home to observe his natural behaviour and daily language use.
4. Results and Discussion

Descriptive analysis approach was used in this research. According to this approach, the data obtained are summarized and interpreted according to the previously determined themes. (Yıldırım & Şimşek, 2018, p. 239). In the study, four themes, Turkish Productive Language Skills, English Productive Language Skills, Turkish Receptive Language Level and English Receptive Language Level were formed. For the Turkish Productive Language Level, Turkish Average Expression Length, Turkish Sentence Complexity and Speech Domination are examined. Similarly, to define and evaluate English productive language level, English average expression length, English sentence complexity and speech domination are examined. The data obtained from the observations were analyzed. In the process of analyzing, the data from the observations first transcribed. The data obtained here are subjected to a standard comparison through the norm-referenced approach. Norm-referenced evaluation provides a standard for comparison (Fulcher, 2013). According to Davidson (2004), while the assessment of the language level remains different from other areas, it largely uses the principles of fields such as education and psychological tests that stand out in the development of the norm-referenced assessment approach. The language sample obtained from the observation was compared with the expected norms for children with standard development.


<table>
<thead>
<tr>
<th>41+ months</th>
<th>Mean Length of Utterance 4.5+</th>
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<tbody>
<tr>
<td>Sentence Complexity</td>
<td>1. VPs progress with use of contractible copula be, irregular 3rd person singular, and uncontractible auxiliary; contractible auxiliary stable; past tense were, was, have/een.</td>
</tr>
<tr>
<td>Conversational Competence</td>
<td>2. Percentage complex sentence by MLU 4.5-5.0, %10-20, MLU 5.0+, over %20. Complex sentences add gerund : She sees us running; WH – infinitive: You know where to go; unmarked infinitive clauses with help, make, watch, let : Help me pick up the toys, She makes him pick up; adverbials when and because medial: When I was little I had a cat, I want to go because I’m tired; conjunctions so, but at MLU 5.0+; I’m tired but I can wait, Let me go she can eat.</td>
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<td>3. Antonyms, synonyms, rhyming ability observed.</td>
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<td>4. More metalinguistic awareness after 40 months of age, increasing during school years.</td>
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<td>5. Deixis of place: proper use of here/there, come/go, bring/take.</td>
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<td>6. At 48 months adept at maintaining topics, using devices to break into conversation, considering both listener and situation when talking partners.</td>
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Figure 1: Summary of developmental stages for language production.
In this table, it is shown that the expressive language skills of children over 41 months should be above MLU (Mean Length of Utterance) 4.5 for normal development level. Leadholm and Barbara (1994) define MLU as a general measure of syntactic development. Miller and Chapman (1985) showed MLU’s stability and its high correlation with age. In addition, for this age group, there are two main topics as "sentence complexity" and "conversational competence". In the study, while examining English Productive language skills, a comparison was made with these norms.

The mean length of Utterance in Turkish was calculated from the language sample obtained during the observation. In order to reveal sentence complexity and conversational competence, Denis’s sentences, the way he perceived what he was told, his responses to what was said, and the frequency of his speech during communication was examined.

According to Koçak (2000), a four year old can use future and plural expressions. The child imitates his parents’ speech pattern. The sentence structure is more complex than the previous period. The plural use is correct and it is aware that the compound words are from separate units (Baykoç Dönmez, Ari, 1992, p.120; Yavuzer, 1990, p.35-38; Yavuzer, 1998b, p.209; Paycı, 1994, p.28).

![Figure 2: Diagram showing the observed language structures which are related to language skills both in English and Turkish during the analyses of the transcriptions of observations](image)
4.1. Productive Language Skills in Turkish

4.1.1. Mean Length of Utterance (MLU) in Turkish

As suggested by Leadholm and Barbara (1994), the first 100 expressions of Denis in the language sample were counted, sentences within these 100 expressions were found and the expressions were divided into the number of sentences. Mean Length of Utterance (MLU) in Turkish found as 5.61. This is higher than expected which is 4.5 for children 41 months and older.

In terms of Mean Length of Utterance, it can be said that he performed above the expected level for his age.

4.1.2. Sentence Complexity and Conversational Competence in Turkish

All of the data obtained from the non-participant observations was analyzed as a whole.

It was observed that Denis used future expressions in the examined statements:

“I will also throw the huge watermelon now. Look how it will sound now. How does the giant watermelon walk?”

Multiple expressions were observed in accordance with the language development of the 4-year-old child:

“Yeah, we’re having fun now.”

“Let’s hit the balls”

“Hexagons move like this, look, look like this”

It was observed that he was able to express his thoughts and feelings in his sentences, give correct answers to the questions posed to him, and took equivalent turns with the adult person during the conversation.

The following statements were observed in the observations:

“I like this the most. And look, his nose is red.”

“Look, this uncle is asleep climbing up a tree.”

“How is he sleeping, we can’t sleep on the tree, right?”

“Look at the mother, these two bees were making bee houses.”

While telling his mother about a chapter he remembers from a book he read before:

“Mummy! giant watermelon is coming, crush rivals, win prizes, prize prize prize”
It was observed that he made descriptive sentences about the object by examining the figure that his mother made and gave him while playing with play dough:

“Yes, and it looks like a cone. It looks like a cone when you hold up and look like this. Because cones have such a part. ”

It was observed that he frequently takes turns during the observations, was willing to speak and communicate, could express himself easily, understand what was said to him, and establish sentences in all time structures.

4.2. Productive Language Skills in English

4.2.1. Mean Length of Utterance (MLU) in English

Following the rules of segmentation, as suggested by Leadholm and Barbara (1994), the first 100 expressions of Denis in the language sample were counted, sentences within these 100 expressions were found and the expressions were divided into the number of sentences. With this calculation “mean length of utterance” was found as 5.77. The required value for children over 41 months is 4.5. It can be said that Denis has achieved even above the norm for his age in terms of language development.

4.2.2. Sentence Complexity and Conversational Competence in English

Gerrard (1991) stated that MLU should be above 5 in the evaluation of sentence complexity for standard language development, and that complex sentences should be above 20%. The average MLU of Denis has been determined as 5.77. According to this, it is understood that Denis can express himself with complex sentences in English.

Following this first evaluation, taking into account the language sample obtained during the first participant observation, all the data obtained from the participant observations were taken into consideration in a more detailed examination of sentence complexity and conversational competence. In this data, the following statements of Denis, which indicates complex sentences and command of language, are observed:

A. Usage of gerund:

“Look how is the worker holding the shovel?

“Because the engine is so big and there are so so fast turning gears inside if you touch that so fast turning gear, that may turn so fast and it may hurt your finger.”

“I saw the fish truck going and I opened these doors, and I took fish and ate.”

B. Usage of Wh infinitive:

“daddy when I grow up I will be a racing car driver and I will go to a racing car school and I will learn how to drive a racing car there and then I will go to the race part and drive
C. Adverbials usage:

“Daddy when I was a baby I used to say “duu” right?”

D. Conjunctions:

“Could you please hold the light at the back of your phone, so I can find that car which is a lightning car.”

“I will ask him but later I will ask him.”

E. Deixis of place:

“You shouldn’t put like this, you should take like this and you should put like this and you should press from here for not to touch the wheels.”

“Later if you want we can go to the zoo with you and if you want there are meerkats too”

“He can only draw this smashed house. He only can draw this damaged house. “

“Unbreakable Ninja rope, it means that, these parts are strong right?”

“Hold the light here.”

F. Synonyms:

“Unbreakable Ninja rope, it means that these parts are strong right?”

“He can only draw this smashed house. He only can draw this damaged house.

During the observations, no special efforts were made while communicating with Denis, and the statements were not simplified while addressing him. Observations were done in a casual and natural way. It has been observed that Denis frequently takes turns in conversations, is willing to speak and communicate, can express himself easily, understand what is said to him.

4.3. Receptive Language Skills in Turkish
With the Peabody picture vocabulary test, the Turkish language age of Denis was determined as 9.3. Considering the calendar age is 4.3., it is a quite high score. In the research, the data obtained from the observations ensured data diversity and measure if
productive language skills with the picture vocabulary test overlaps with the findings obtained in the receptive language age. Besides the results of PPVT, questions which are related to our speech, and expressions that show he understands the conversation, are observed during the non-participant observations. These observations are also shown on Figure 2 which was created with the codes found in the transcriptions of observations.

4.4. Receptive Language Skills in English
In the picture vocabulary test of Denis, whose calendar age is 4.3 as of the date of the study, the English language receptive age was determined as 8.1. The high finding of the English receptive language level overlaps with the findings for productive language skills in both languages and the findings of the receptive language level in Turkish. As in Turkish receptive skills, questions which are related to speech, and expressions show that he understands the conversation. These observations are also shown on Figure 2 which was created with the codes found in the transcriptions of observations.

5. Recommendations

Studies involving the examination of bilingual children in the long term will allow to find out the cognitive and social skills of individuals who learn two languages simultaneously and will enable the monitoring of the effects of bilingualism in the long term. In addition, studies on the large-scale, where the language development processes of bilingual individuals are analyzed with data that can be obtained from families, can provide important data on this subject. With a similar study, it may be possible to compare the language learning processes of bilingual individuals and others who speak only one language.

6. Conclusion

It is concluded that Denis, who grew up bilingual, has a command of both languages, can easily express and communicate in both languages. It has been concluded that the desired acquisition of two languages simultaneously was successful and that Denis had advanced language skills compared to his peers.

About the Authors

Prof. Dr. Cavide Demirci
Faculty of Education, Eskisehir Osmangazi University, Eskişehir, Turkey.
ORCID: https://orcid.org/0000-0003-4789-4286

Ahmet Güven
Institute of Educational Sciences, Eskisehir Osmangazi University, Eskişehir, Turkey.
ORCID: https://orcid.org/0000-0001-8156-2096
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