



Science-Based Reading and its Effect on the Development of Reading Comprehension Skills in Teaching Turkish as a Foreign Language

Ertan Miyanyedi

Ronakihawler Nilufer Girls Secondary School, Erbil, Iraq

Abstract: A language is a living tool that allows people to communicate. Human beings learn a foreign language while preserving their language to maintain their vitality. S/he teaches his/her language on one hand while s/he learns a foreign language. Teaching Turkish as a foreign language needs to be reconsidered in the light of new developments. In this study, while introducing the “science-based reading approach,” the contribution of this approach to students’ reading comprehension skills and its effect on academic achievement were examined. Experimental and control groups were formed, and pre-test and post-test were administered to these groups in this study. Microsoft Excel and SPSS-21 software programs were used in the analysis of the data obtained from the achievement tests. While there was no difference between the experimental and control groups in pre-tests, a significant difference was found in the post-test achievement test of the experimental and control groups in favor of the experimental group. Based on this result, it can be said that the science-based reading approach has a positive effect on students’ reading comprehension skills. It is expected from Turkish language teachers to conduct new researches with different groups to obtain more accurate results and to compare the results.

Keywords: *Comprehension; Science-based Reading Approach; Reading; Teaching Turkish; Turkish as a Foreign Language.*

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Introduction

Language is a social and versatile tool consisting of sounds, used in communication, and having a social aspect (Pilancı, 2011: 7-8). Today, people are expected to learn their mother tongue at the desired level and use it in written and verbal expression. Likewise, the changes in the field of science and technology have turned the world into a global village, increased people’s possibility to meet strangers at every corner, and brought their need to understand each other to the highest level. People feel obliged to learn at least one foreign language due to reasons such as economic, financial, military, education, future anxiety, finding a job.

On the basis of foreign language education lies the reinforcement of communication skills in students by

simultaneously developing their listening, speaking, reading comprehension, and verbal expression skills.

The importance of reading skill, which is one of the basic language skills in teaching Turkish as a foreign language, cannot be ignored. It can be described as following a written text through the eyes and receiving the desired message. However, there are different definitions for reading.

The teaching of grammatical skills, in which listening, speaking, reading, and writing skills and the correct use of these skills are taught, should be done equally and wherever appropriate. However, reading skill has special importance in teaching Turkish. According to Özbay (2013: 32), priority should be given to teaching reading. Because reading skill is one of the basic skills

that provide either in educational life or lifelong learning.

Reading involves the recognition of the letters, words, and signs of a text and the comprehension of their meanings (Göğüş, 1978: 60). To understand a written text by recognizing the letters and analyzing them silently or visually or to learn the content of a written text, the things it wishes to convey, to construe the meaning of something by converting them into sounds (Püsküllüoğlu, 1994: 784). It is the process of making sense in a regular environment in line with an appropriate method and purpose based on effective communication between the author and the reader in which preliminary information is used (Akyol, 2006: 1).

According to Günay (2001: 15-18), it is possible to approach the act of reading from two perspectives. First, in the narrow sense, reading is to decode a written text, graphically coded statement. Then, in a broad sense, reading is to interpret a literary text within its context and consistency. To make sense of the text by observing the system of signs and associating the systems with each other.

Any method appropriate to the spirit of the time will be effective in language teaching as technology permits. It is not possible to obtain unscientific results in the age of information. As a result of the studies conducted by the APA (American Psychological Association) in 2000, the “science-based reading” approach, in which 5 elements, such as phonemic awareness, phonetics, fluency in reading, vocabulary development, and reading comprehension were effective in its foundation, was adopted in language teaching especially in the improvement of reading

skills and it was recommended that teaching reading should be built upon this foundation (Cartrette, 2006).

Investigating the effects of the science-based reading approach on the development of reading skills in teaching Turkish to foreigners constituted the main problem of this study.

Literature Review

It was stated in an experimental study conducted by Podhajski et al. (2009: 403-417) that the teachers in the experimental group who participated in the study improved more than expected in phonemic awareness, phoneme, and the skills of reading aloud.

According to the NRP (National Reading Panel) report, it was stated that the student showed a significant academic improvement in the overall effect size (0.89), phonemic awareness, phoneme and reading outcomes (0.53), writing output (0.59), reading comprehension criteria, and standardized tests (NRP, 2002).

According to the aforementioned report, it was stated that students’ guided readings and repetitive oral reading and silent reading have a positive effect on their fluent reading skills, and it has positive effects on reading comprehension skills when students were taught ways to utilize from the background knowledge along with strategies such as summarizing the text, asking questions, etc., in the name of reading comprehension skills.

In another study conducted by Allor, Mathes, and Roberts (2014: 287-306) in which the experimental group was composed of mentally disabled students and the control group of students with lower IQ level,

it was stated that the experimental, in which the science-based reading approach was administered, had more academic reading skills compared to the control group.

It was discovered through the information conveyed by Cartrette (2006: 87-88) that the academic achievement of the students in the experimental group in which the science-based reading approach was administered, occurred higher than expected compared to the control group where classical methods were applied, in word recognition, phonetic and speed reading skills.

In the study by Baker, Simmons, and Kameenui (1995:55), it was stated that vocabulary was very important for academic success, and students need a rich vocabulary knowledge to be successful only in basic skill areas as well as knowing and learning specific words to understand context-based texts.

Science-Based Reading

One of the applications to improve reading comprehension skills in foreign language teaching is the “science-based reading” approach.

Science-based reading includes the use of clear and systematic procedures to obtain information valid in reading education and development studies. In TDK (2016) dictionary, the word “research” was defined as “methodical study on science and art” and the word “scientific” as “science-related, science-based and scientific.” A mountain of information appears when searching for the words “research” or “scientific” in internet-based search engines, and almost all of these studies were related to “medicine, science, physics, chemistry” teaching or laboratory studies. However,

as mentioned above, the reading skill that provided the most input should be based on scientific principles and methods.

When examining the studies on the literature, although there are different definitions related to the subject, the same subject was mentioned when the content was examined. It was used as Research-Based Reading in some sources (Shaw, 2003:5; Thompson & Vaughn, 2007), and Science-Based Reading in others (Christie, 2008). The emergence of the Science-Based Reading approach was caused by the differences of opinion among educators on early literacy.

In the United States in the 1980s and 90s, while educators fought for literacy in primary schools due to differences of opinion, they almost reached a consensus on how to attain reading for pre-school children. According to the whole language approach prevailing in primary schools, small children acquire written language as they acquire spoken language – by observing written language, creating their concepts and rules of how reading and writing function, and experimenting with these in social situations.

Color-printed classroom materials prepared for children and dramas and plays read to them played an effective role in early literacy (Christie, Enz, & Vukelich, 2007; Yaden, Rowe, & MacGillivray, 2000, as cited in Christie, 2008:25). Educators and politicians felt disturbed by the smooth spread of the whole language approach in educational institutions and called for the development of “science-based” methods to prevent tides in educational policies.

Sweet emphasized the need for a new perspective on early literacy known Science-Based Reading Research

(SBRR) while highlighting the importance of using science to determine new practices and policies due to the paradigm shift that has emerged in the field of education (Christie, 2008:26).

In addition, researches have been made in many countries, especially in the United States, England, and Australia, on the need to base reading on scientific foundations and it was stated that teaching reading should begin with systematic, synthetic, and direct phonetic teaching in the National Reading Panel report organized by the National Institute of Health (APA) in 2000 in line with the data from these studies. Furthermore, reading education should be based on five basic principles as Phonemic Awareness, Phonics Instruction, Fluency Training, Vocabulary Development, Text Comprehension / Constructing Meaning (Williams, 2018).

Phonemic Awareness

Sounds are the smallest building blocks in a language. Phonemes form the smallest parts of language in linguistic studies. Few vowels that arise from the structure of Turkish can make sense on their own. For example, an exclamation of surprise and boredom like “a” and “e” can make sense like the demonstrative pronoun, demonstrative adjective, and personal pronoun like “o”.

Awareness of the relationship between sound and letter constitutes two critical elements of all reading programs. This arises due to the inability to establish the connection between sound and letter quickly in students who cannot show proficiency in reading and read slowly. Phonemic Awareness is a skill that includes defining verbal-linguistic units (words, syllables, initial phonemes, and repeated words) and

being able to change them. Change in initial phonemes can be turned into a game (Мичальчук et al. 2015: 6).

Like **Yol, Kol, Sol, Bol.**

Phonemic awareness is defined as recognizing, distinguishing, and manipulating sounds, differentiating words made up of common sounds (Antony & Francis, 2005: 255-259), spoken language to be divided into small parts in different ways (Chard & Dickson, 1999: 261-270), a prerequisite for understanding the relationship between sounds and letters (Torgesen & Wagner, 1998: 220-232), and is expressed as the development of the level of phonological awareness and the level of success in reading skills (Nation & Snowling, 2004: 342-356).

Fitzpatrick (1997) summarizes phoneme awareness as “listening skills within words.” Phoneme awareness initially occurs in speaking in spoken language. Products of spoken language, such as riddles, tongue twisters, lullabies, etc., help to develop and improve this awareness. A student with advanced phonemic awareness can change the position of letters in words, such as ten-net, yat-kat, oakc-ocak, camu-cuma.

Phoneme awareness is a pre-reading skill. The difference between reading from speaking is that it aims to recognize individual sounds in words one by one. Listening and awareness exercises are carried out on sounds before the student reads the written text. This includes the recognition of the sounds in the vocalized words at the beginning, in the middle, or at the end of the word.

When considering the sentence “Bana bir su versine [Give me water],” it will be seen that there are four

different sound groups. The sounds in the phrases in this sentence can also be arranged differently. The letters “*B-a-n-a*” came together, created a meaningful whole through this arrangement, and formed the word “*bana*.” It could be arranged in the form of *A n a b* but it might not make sense. Again, the letters in the word “*versine*” could be arranged as “*verense*” by changing the arrangement of the letter and provide a conditional meaning. The meaning can be completely altered when the first phoneme in the word “*versene*” is changed.

Like **Gersene**

Sersene

Dersene.

So, phonology can be defined as a distinctive semantic element, a unit within the string that we call language (Aksan, 2000: 58).

According to Demirci (2015: 333-358), the first step in teaching Turkish as a foreign language is phoneme awareness. Foreign students should first be made to feel the phonemes in Turkish, then move on to the syllable and those phonemes should be presented to the students in a sentence by emphasizing the words in which the phoneme occurs.

Almost all the works composed on teaching Turkish to foreigners in the historical course starting from Mahmud al-Kashgari’s work called *Dīwān Lughāt al-Turk* first dictate teaching phonemes. This supports the argument that “teaching a language as a foreign language will only be possible by teaching the phonemic system” (Akkaya & Polat, 2013: 249). The richness of phonemes, the rhythmic and musical structures of the words in Turkish facilitate phonemic coding. Based on this, reading, writing,

comprehension, learning, and reconstruction in the mind become easier, the permanence of learning increases and this prevents forgetting (Güneş, 2014: 8-9). Students who cannot recognize the phonemes will not be able to decode the codes accurately and will not be able to give the message they want to give correct and may even cause misunderstandings. Students, who do not gain adequate phonemic awareness in the second language cannot show the necessary success in reading comprehension skills.

Phonics Instruction

Teaching phonics includes understanding the relationship between spoken language and written language and perceiving the sounds as well as gaining the ability to understand the relationships between letters. Phonology helps students to understand the alphabetical spelling principles of the language. Instructions for phonetics (sound science, acoustics) teaching should be clear and understandable (Shapley, 2001: 8).

Phonetics can be expressed as predictable knowledge of correspondence in written or verbal expressions, or in other words, a combination of sounds and letters. Readers make use of letters whether they are spelling or decoding a word they do not know, or when automatically defining a word they are already familiar with. Researchers state that students who have received a good phonetic education or letter training read more fluently and their writing skills are more developed than students who have not got this training (Moats, 2007: 12)

Phonetics is of vital importance for the healthy progress of reading skills. The knowledge of phonics of a language provides convenience to the student

about the letter combination while writing and how to write the word that s/he heard. The alphabet lies at the essence of phonetics and a person must master the letters to be able to possess a good command of phonics. A student who has mastered the knowledge of phonics provides the appropriate letter combination from the letters given to them by mixing and performs the desired decoding. For example, a student who encounters the letters "k, m, l, e, a" can reach different sequences such as "kalem, elma, ela, kel".

The alphabet system, which is the indicator of the sounds of each language, shows similarities as well as differences. Karababa (2009: 273) states that "due to these differences, foreigners experience numerous issues in writing, related to pronunciation and perception of phonemes while learning Turkish. It can be said that the issue with the alphabet in foreign language teaching is more or less a valid problem for all languages.

Şengül (2014: 337) also mentions that "one of the most important issues encountered while teaching Turkish to the students with Turkish ancestry and foreign nationality is the problem of pronunciation arising from the alphabet and the structure of Turkish language." The way to learn to read Turkish is through phonetics of the alphabet. A strong phonetic education will affect other fields of language learning such as writing and composition positively.

Fluency Training

Fluency, in its most general form, is the language user's ability to speak or read without being stuck and long silences (Fidan, 2016: 135). Fluency in reading can often be defined as reading the text quickly and meaningfully without any difficulties in extracting

meaning from the text and without much effort (Morin, 2017).

Reading fluency is the ability to read words in the text quickly with an accurate and appropriate tone of voice. Students' reading fluency is affected by the understanding and completion of the word and the type of text. Fluent readers have knowledge of the automatic completion of words and sentence structure. In addition, fluent readers can adjust their reading speed according to the difficulty level of the words and the purpose of reading.

Fluent reading is important because no reading activity is enjoyable without fluent reading. A reader who does not have the skills to read fluently cannot continue the reading activity for a long time, reads slowly and less read unpleasantly, and bore the listeners while reading aloud. Because while, on the one hand, his/her mind tries to decode during reading, s/he fights to understand the text. Although fluent reading is specified for educational programs, fluent readers are those who read books or other reading materials for themselves. The contribution of fluent reading to elevated vocabulary skills, a better understanding of the material being read, writing skills, and academic success cannot be denied (Morin, 2017).

Fluent reading and uttering words correctly are important elements of reading competence and are directly related to the comprehension of the text in all aspects and the purpose of reading. A student who does not possess fluent reading skills tends to vocalize the text instead of making sense of the text. According to Stanovich (1986), as cited by Baydık (2006: 30), it was stated that "reading incorrectly and vocalizing words slowly affect reading comprehension as well as

decreasing their reading experience and children, whose reading experiences diminish, will be deprived of its contribution to many linguistic/cognitive skills (vocabulary, syntax knowledge, etc.). A slow and toilsome reading causes the reader to make mistakes in understanding and interpreting the text (Hudson, 2001:170). The reader, who cannot vocalize the words correctly, has difficulty in accessing the message the author wishes to convey. Fluent reading develops over time and the first state of fluent reading begins with letter recognition and silent reading. In addition, reading is a bridge to understanding (Shapley, 2001: 8).

It should not be forgotten that phoneme awareness, phonics, and word recognition skills are also effective in the realization of fluent reading (Cartrette, 2006: 45).

Some features should be considered in fluency training and it is possible to list these features as follows:

1. Students should work on familiar language associations and regular ideas within their language experience. Fluency studies should not include foreign vocabulary.

2. The focus in studies should be on meaning.

3. The number of words vocalized by the students at a certain time should be determined, and planning on catching the reading standards with encouraging activities such as re-reading the text and reading by preparing for the text should be made (Nation, 2002: 270).

Shaw (2003: 5) emphasizes that students' ability to vocalize letters does not necessarily mean that they are good readers as fluency training is a skill that was treated less in schools. By fluency, it is aimed to read

words and word groups quickly, accurately, and comprehensively. In the absence of fluent reading, students read with fluctuations, slowly and by spelling out, without paying attention to the pronunciation of the words, without stress, and incomplete sentences.

Vocabulary Development

Words are the basis of communication whether in the mother tongue or a foreign language. They make up the main ingredient when listening to a person, reading a text, or transcribing human thoughts.

Vocabulary refers to the words that are necessary for a person to communicate effectively and enable the recognition of a text that is read later while listening or speaking (Armbuster, Lehr, & Osborn, 2001-34; cited in Cartrette, 2006).

Words are used to convey ideas and to share. The more words a person possesses, the more comfortable and solid communication s/he has. The success of humans in word acquisition is also reflected in their academic achievement. The strategies, applied to improve vocabulary, will also serve to use the ideas, vocabulary, and these words effectively. One of the best predictors of verbal intelligence is vocabulary and the correlation between general academic achievement and vocabulary is 80% (Andersen & Freebody, 1981; Stenberg & Pawel, 1983; cited in Calhoun, 1999: 111).

Linguists have acknowledged that regardless of the age of students, there is an important link between the development of literacy and vocabulary. It seems that consensus has been reached on vocabulary development through reading. While Stenberg (1987) claimed in an article that "most words are learned from

the context”, Nagy, Herman ve Anderson (1985) declared that learning words through reading is about 10 times more effective than common vocabulary learning methods (cited in Calhoun, 1999: 111-112).

According to Yıldız (2013: 359), the order that should be followed in teaching vocabulary to students in foreign language education: first the words that the student will use most frequently, secondly the words that are known by the majority of the society are taught with their real meanings and then the students are taught words suitable for the language learning purposes.

Nation (2000: 36-37) states that when there is a slight similarity between the target language and the native language in terms of sound, letter, sentence structure, and grammar, students' word recognition skills will be easier, if there is no such affinity, students will have difficulty in reading and word recognition. This difficulty in word recognition skills is called the word load. In this case, the difficulty and effort will increase the workload.

Reading skill requires not only storing a large number of words but also being able to deal with new words effectively, recognize them and use the word in context when necessary. Skilled readers have at least three sources of information or three word-identification strategies to use when dealing with new words:

1. Phonics for determining the pronunciation of the word,
2. Structural analysis for determining and confirming the meaning and pronunciation of a word,

3. Context for inferring and confirming the meaning of the word. Qualified readers see all the letters in the words, focus on the patterns, and then look at the context to confirm the meaning (Nagy et al., 1994: 45-58).

What does it mean to know a word? If the word's meaning is known when it is first seen, this constitutes only a small part of the definition of the word. To recognize a word means to know the meaning of the word, its correct spelling, its pronunciation, its grammatical behavior, to use its collocation for a specific purpose in a social environment, and to know its connotations, its associations, and the frequency of usage (Nation 1990:31; cited in Yelbay, 2015: 353).

Word recognition and using it in the right context are very important for the development of reading comprehension. Beck, McKeown & Omanson (1987) as cited in Barone and Shelley (2008: 190), talk about four stages in vocabulary development.

1. The ignorance phase: The student has never heard this word before.
2. General knowledge phase: The student believes that s/he has seen or heard this word before.
3. Partial knowledge phase: The student has a piece of information about the word and can relate this knowledge to situations.
4. The complete knowledge phase: The student can explain the meaning of the word and use it in the correct context.

In addition, vocabulary teaching must be integrated into the listening, speaking, reading, and writing components of a foreign language program (Begler & Hunt, 2002: 256). Hunt and Begler propose three approaches to vocabulary learning and teaching; 1.

Incidental learning, 2. Direct instruction, 3. Independent strategy development.

An important source of incidental learning is extensive reading which Hunt and Begler recommend as an extraordinary activity. Direct vocabulary teaching is determining vocabulary acquisition goals for students and teaching the words directly. Based on these, it is suggested that strategies that will enable vocabulary acquisition based on the context should be developed.

Text Comprehension/ Constructing Meaning

The reading indicates getting the information desired from a text and using this information appropriately when necessary. A person who knows why s/he is reading a text, uses different strategies to understand the text, and observes himself/herself while reading is called a conscious reader. All these mean use of upper consciousness. Upper consciousness refers to the ability to determine what the student knows and does not know to solve the problem, to develop a strategy, and whether they understand or not (Shapley, 2001: 9)

People with strong comprehension skills have common characteristics and these characteristics are:

1. To make sense of what one reads and to use different strategies to enrich and deepen one's learning,
2. To make strategic decisions by focusing on comprehension when faced with problems in making sense of their reading while being aware of reading processes,
3. To value the effort of making the meaning more than ability, they believe that they can understand what they read when they apply the correct comprehension strategies and they

should make an effort to reach this level (LPA, 2004: 30).

Nation (2006: 59-82) stated that "it is necessary to possess 6000-7000 vocabulary knowledge in spoken language and 8000-9000 in written language to achieve 98% of comprehension in English." In another study, although word percentage alone is not the threshold for comprehension, students attain a week comprehension when they know less than 80% of the words in the intended text, a good comprehension when they know 80-90%, and a successful comprehension when they know 90% or more (Bank, 2000, s. 14-31).

According to Fisher, Frey, ve Ross (2009: 329), many reasons affect reading comprehension and these reasons vary according to researchers. In the studies on the concept of understanding in general, the factors affecting understanding were determined as follows:

- a) Reader dependent variables (age, ability, influence, motivation,
- b) Variables depending on the text (the type of the text, its type, understandability)
- c) Variables depending on the educational environment (environment, task, purpose, social groups)
- d) Teacher dependent variables (knowledge, experience, attitude, pedagogical approach)

All these factors should be taken into consideration to achieve quality reading comprehension.

Reading Comprehension Strategies

Reading comprehension strategies are conscious plans that are under the reader's control and decide when and how to use these strategies. Conscious readers use different strategies to combine the text read with the

information from their prior knowledge, and they do this in three stages:

1. Pre-reading, 2. While reading, 3. Post-reading.

Researchers have studied a range of comprehension strategies and have almost agreed that these strategies are useful. These strategies are: Activating and using prior knowledge, asking questions, making inferences, predicting, summarizing, visualizing (T.R.I, 2002: 10-11).

Shaw (2003: 6) lists the strategies that a reader must have to understand a text as follows:

1. Monitoring: Perceiving reading problems and having strategies to solve these problems.
2. To be able to use graphic organizers to gather necessary information and to use them when necessary.
3. Asking questions and summarizing why reading is done continuously to organize information.
4. To know where, when, and how to use explicit, implicit, or scripted (empirical or prior knowledge) information in the text.
5. To be able to develop visual and mental clues about the text by knowing both fictional and non-fictional texts.
6. To know how to work in groups to share information and engage in discussions.

Karatay states that conscious readers use many strategies to understand the text more easily in the reading process, and listed these strategies as follows:

1. SQ3R: Survey; Question; Read; Recite; Review.
2. KWL: What do I know?, What do I want to learn? What is my learning?

3. RIPS: read and re-read, imagine, paraphrase, slow down, speed up or seek help.

4. REAP: read, encode, annotate, ponder.

5. PQ4R: review, questions, read, reflect, recite, and review.

6. PARS: preview, ask questions before reading, read with a purpose, and summarize.

7. STOP: summarize the content, troubleshoot, organize, predict.

8. SIP: summarize, imagine, predict.

9. RAM: relax, activate, motivate (Gürses, 2002: 24-28; Bonds and Bonds, 1992: 56-59; Collins and Cheek, 1999; cited in Karatay, 2014: 233).

As stated above, the aim of reading is to make sense. Various strategies for reading comprehension are at work at various stages of reading. The researchers (Karatay, 2014: 233-234; Vanques, Hansen, & Simit, 2010: 60) listed the strategies applied in these three phases as follows:

Pre-reading Activities

- a) Determining the purpose of reading,
- b) Reviewing the text,
- c) Predicting the content,
- d) Asking questions about the text,
- e) Activating prior knowledge,

While-Reading Activities

- a) Reading the text,
- b) Taking notes while reading,
- c) Adjusting the reading speed,
- d) Checking whether one understood the text at regular intervals,
- e) Concentrating on the text when it is difficult to understand,

- f) Reading aloud if necessary,
- g) Re-reading when distracted,

h) Underlining and circling important places in the text, s/he can also put special signs in his/her own right as s/he can underline the important points in the text. In one step beyond this practice, one can determine the method of reading the incomprehensible parts in getting back by coloring the places that one completely understands in the text with a colored pencil, coloring the less-understood parts with a different color, and finally coloring the incomprehensible parts with another color.

Post-reading Activities

- a) Questioning the accuracy of predictions about the text,
- b) Determining the topic of the text, s/he can express the topic of the text read with a single sentence like “the following topicis explained in this text.”
- c) Determining the main idea of the text,
- d) Identifying the supporting thoughts,
- e) Determining the keywords of the text,
- f) Summarizing the text in their own words,
- g) Presenting the mind map of the text,
- h) Commencing a classroom discussion to see whether the topic is understood correctly.

Effective Use of Reading Comprehension

Strategies

Although using a strategy model in lessons is an effective approach, it is more effective to have clear instructions on how to use this strategy with the model (Duffy et al., 1987: 347-368). Modeling can show how to use a strategy with a brief explanation. There should be more comprehensive descriptions of how students

can use a strategy on their own. Teachers who give clear and clear instructions on how to use these strategies directly will guide not only students with a high level of understanding but also students with low understanding and improve their level of understanding. Students who receive explicit instructions can also decide for themselves which strategy to use and when.

As a result, reading is a skill that needs to be done consciously and to deduct meaning. When a conscious foreign language learner reads with the knowledge of when, how much, how, and why to read in line with the specified reading comprehension strategies, s/he will start the journey of comprehension from the superficial structure of the text to the deep structure. Using strategies will make it easier to reach meaning.

Problem Statement

What is the effect of the science-based reading approach on academic achievement in improving reading comprehension skills in teaching Turkish as a foreign language?

1. Is there a significant difference between the pre-test scores of the experimental group and the control group?
2. Is there a significant difference between the post-test success scores and the pre-test scores of the control group?
3. Is there a significant difference between the pre-test success scores and the post-test scores of the experimental group?
4. Is there a significant difference between the post-test success scores of the experimental group and those of the control group?
5. What is the effect of the science-based reading approach on reading skills in teaching Turkish to foreigners?

Aim of the Study

How to improve reading skills is as important as reading materials. It can be said that the value of the act of reading is directly proportional to what is obtained because of reading and the effort made during reading. Reading is a kind of treasure hunt. Different materials are used to find the treasure. A good reader also needs to use some strategies to find valuable things from a text s/he does not know. The strategies a student will use in reading will facilitate his / her reading comprehension and help him/her reach the desired goal more easily.

This study aimed to improve reading comprehension skills with the "science-based reading approach" in teaching Turkish to foreigners. In addition, it also aimed to increase students' motivation towards reading and to raise students who conduct research, examine, and enrich their reading. Another aim of the study was to provide ideas for teachers to improve their reading comprehension skills.

Significance of the Study

Reading skill requires not only reading comprehension but also teaching of cognitive skills such as extracting meaning from what is read, then synthesizing and analyzing, comparing, making judgments. Question-answer session or briefly summarizing the reading text after reading is a traditional teacher-centered model. The foreign language is learned through the active efforts of the student. Today, a student-centered model that puts the responsibility on the student is dominant in foreign language teaching. In other words, foreign language lessons have gained an appearance in which students become active and organize their learning. Here, the students seek an answer to the question

“How will he learn?” in addition to the question “What will they learn?” The responsibility falls on the teacher in this regard. The teacher attracts attention as the teacher teaching the methods of learning methods, not as the teacher directly teaching the knowledge. From this point of view, the teacher will be the one teaching the students how should read and what strategies they need to use while reading.

In this study, the “science-based reading” approach was tested first in teaching Turkish to foreigners and the results were evaluated, and the discussion was directed at whether it will contribute to the development of students' reading skills in teaching Turkish to foreigners and what kind of contributions it will have on new studies.

The study is important in terms of giving Turkish language teachers an idea of providing an enriched environment for the development of students' reading comprehension skills in their lessons and providing more learner autonomy to the learners.

Methodology

This is a study based on an experimental research model founded on a quantitative research approach. Although there are many experimental designs used in the experimental research process, the preference was given to the application type in which at least two groups are formed in the dimension of practice. While the number of participants in each group was 30 for comparative studies in quantitative research, it was recommended to have at least 15 participants in each group for experimental research (Akarsu, 2016: 37). In this context, a total of 86 students, including 43 experimental groups and 43 control groups, participated in the study. A pre-test was applied before

the groups were formed, and after the comparison of the results, it was seen that there was no significant difference between the groups that would affect the results. After this stage, two groups were assigned as a control group and an experimental group. The randomly selected sampling method was accepted as the simplest, easiest, and most reliable method at the middle-good level in terms of validity and reliability of the study (Akarsu, 2016: 34). While the lectures in the control group were conducted by the researcher using classical methods, they were conducted by the researcher in the experimental group, and reading materials were prepared using a science-based reading approach and newspapers.

Population and Sampling of the Study

In this study, students of Ishik High School, affiliated with the Ronaki Hawler education company and carries out educational activities in Erbil/Iraq, in the 2017-2018 academic year, constituted the population for application. Students, whose official language of instruction was Kurdish in the region, participated in this study. The sampling was made up of the first-year high school students studying at Ishik Boys High School. The welfare level of the families of the students was above the middle class, and most of their families were engaged in civil service or trade. The level of the students, participating in the research, was predicted as B1 within the framework of the Common European Framework of Reference for Languages.

Data Collection Tools

Literature scan: Theses, articles, proceedings, congresses, conference papers, and workshops on teaching Turkish to foreigners were scanned in a digital environment, especially Google academic at

the beginning of the study. The keywords “teaching Turkish to foreigners, teaching Turkish, reading, reading comprehension, science/research-based reading, newspaper in education (NIE)” constituted the basis of scanning during the process of scanning. The main sources on teaching Turkish to foreigners were examined during the literature scan and some of these sources were tried to be obtained first-hand. Data was collected from the pre-test results for the determination of the experimental and control groups, from the post-test result obtained from the experimental group after the application process following the designation of groups, and from the post-test result obtained from the control group. The question booklets in the Language Olympics organized by the International Turkish Olympic Committee were used while determining questions for the pre-test and post-test. The pre-test and post-test questions were compiled by selecting 40 questions from these booklets in line with the subjects in the students’ textbooks.

Implementation of Newspaper-reading Activities

In this study, news items, pictures or articles, taken from newspapers in line with the topics in the textbook, were brought to the classroom environment for the experimental group for 40 minutes per week for 10 weeks. The attention is paid to the suitability of these materials to the class level and the reading skills at the B1 level of the Common European Framework of Reference for Languages. B1 is a limit for users at this level when looking at gains at the B1 level. This level places users in a position between the basic level and the advanced level. A person at this level can read in the target language with “uncomplicated texts” enough to meet his/her daily needs. Information on the study was given to the experimental group in the first

lesson. Students were suggested to provide resources for the lesson by themselves with free-reading texts and research materials after explaining to them that the lessons could be enriched by newspaper materials in line with the topics of the lesson. Before starting the application, the newspapers, collected by the researcher for the students to discover Turkish newspapers, were distributed to the students and they were encouraged to examine them. Students made free reading in line with their interests and wishes. They were introduced to the newspapers by asking them to give examples from the sections they read related to news, articles, cartoons, picture, headlines, analysis, sports, health, economy, etc. Students were asked to fill in the activity forms prepared by the researcher about the text, news, and pictures selected during the application phase. Later, they were encouraged to share these forms with their friends and classmates when suitable and to display their products on the class board.

Table 1

Descriptive statistics table of the pre-test and post-test results of the groups

	ExperOnTest	Exper Post-test	ControlOnTest	Control Post-test
N-Valid	43	43	43	43
N-Deficient	0	0	0	0
Mean	55.12	61.40	55.00	57.21
Median	55.00	60.00	55.00	55.00
Mode	55.00	60.00	55.00	55.00
Standard deviation	5.93	4.92	4.50	3.83
Variance	35.11	24.20	20.24	14.65
Skewness	1.30	0.50	0.82	0.37
Kurtosis	2.33	0.04	0.21	-0.13
Range	30.00	20.00	15.00	15.00
Minimum	45.00	55.00	50.00	50.00
Maximum	75.00	75.00	65.00	65.00

Data Collection and Analysis

The data to be analyzed were obtained from the student by applying pre-test and post-test. MS EXCEL and SPSS-21 (Statistical Package for the Social Sciences) software programs were used in the analysis of the data obtained from the success tests. Mode, median, arithmetic mean values, skewness, and kurtosis coefficients were calculated, and histograms were created to look at the condition that the data should have a normal distribution.

Findings

A pre-test and a post-test were applied to the experimental and control groups to measure the effect of the scientific-based reading approach in teaching Turkish. Descriptive statistics of the data obtained from these tests are shown in Table 1.

In this section, the normal distribution of data is a prerequisite for a t-test involving the independent groups. The values of skewness and kurtosis between -1.96 and +1.96 can be accepted to prove the normal distribution (Gravetter and Wallnau, 2014). It was seen when examining Table 1 that the skewness values were between 0.37 and 1.30 and the kurtosis values were between -0.13 and 2.33. It can be said that the data have a normal distribution considering that these appropriate skewness and kurtosis values and mode, median and mean values were close to each other for all groups.

Table 2

Pre-test and t-test results of the experimental and control groups

Levene Test for the equality of variances		T-test for equality of mean				
F	p	t	df	p	Difference in mean	
1.833	0.179	0.102	84	0.919	0.12	

The pretest success scores of the experimental and control groups were calculated as 55.12 and 55.00, respectively. The difference of 0.12 was not found significant as a result of the t-test analysis ($p > 0.05$). Accordingly, it can be accepted that the groups were equal in terms of academic achievement at the beginning.

Table 3

Pre-test and post-test success scores t-test of the experimental group

Levene Test for the equality of variances		T-test for equality of mean				
F	p	t	df	p	Difference in mean	
0.022	0.883	-5.347	84	0.000	-6.28	

Equality of Control and Experimental Groups

Whether the groups were equal at the beginning or not was checked as a result of the analysis of the data obtained from the pre-test applied to the groups by independent groups t-test. As seen in Table 2, the relationship between the pre-test success scores of the groups can be analyzed by the t-test since the variances were equal according to the Levene test result ($p > 0.05$).

Academic Success of Experimental Group

The difference between the pre-test and post-test success scores of the experimental group was analyzed by independent groups t-test. Since the variances were equal according to the Levene test result, the relationship between the pre-test success scores of the groups can be analyzed with the t-test ($p > 0.05$).

The mean pre-test success score of the experimental group was calculated as 55.12 and that post-test success score was 61.40. As seen in Table 3, there was a difference of 6.28 between the pre-test and post-test success scores of the experimental group students. This difference was found to be significant according to the results of the t-test ($p < 0.05$). In other words, a significant increase was observed in the success scores of the experimental group students for whom the science-based reading approach was applied in the lessons.

Table 4

Pre-test and post-test success scores t-test results of the Control group

Levene Test for the equality of variances		T-test for equality of mean			
F	p	t	df	p	Difference in mean
0.174	0.677	-2.453	84	0.016	-2.21

The mean of pre-test success scores of the control group was calculated as 55.00, and those of post-test success scores was 57.21. As seen in Table 4, there was a difference of 2.21 between the pre-test and post-test success scores of the control group students. This difference was found to be significant according to the results of the t-test ($p < 0.05$). In other words, a significant increase was observed in the success scores of the students in the control group, where the lessons were taught through traditional methods.

Academic Success of Control Group

The difference between the pre-test and post-test success scores of the control group was analyzed by independent groups t-test. Since the variances are equal according to the Levene test result, the relationship between the pre-test and post-test success scores of the groups can be analyzed with the t-test ($p > 0.05$).

The Effectiveness of Using Science-Based Reading Approach in Lessons

Post-test success scores of the experimental and control groups were compared to determine the effectiveness of the use of the Science-Based Reading Approach in the lessons. Since the variances were equal according to the Levene test result, the relationship between the post-test success scores of the groups can be analyzed with the t-test ($p > 0.05$).

Table 5*Post-test success scores t-test results of the Experimental and Control groups*

Levene Test for the equality of variances		T-test for equality of mean			
F	p	F	p	F	p
2.096	0.151	-4.404	84	0.000	-4.19

The mean post-test success score of the control group was calculated as 57.21 and that of the post-test success score of the experimental group was 61.40. As seen in Table 5, there was a difference of 4.19 between the post-test success scores of the control and experimental group students. This difference was found to be significant according to the results of the t-test ($p < 0.05$).

In other words, the success scores of the experimental group students who were taught using the Science-Based Reading Approach in the lessons increased significantly more than the achievement scores of the control group students where the lessons were taught with traditional methods. Accordingly, it can be said that the Science-Based Reading Approach and the use of newspapers as course material have a positive effect on academic achievement while teaching Turkish to foreigners.

Effect Size

Calculating the effect size in the reporting of research results has become an important criterion to obtain higher quality statistical results (Özsoy & Özsoy, 2013). According to APA, the calculated effect sizes should always be given with p significance values. Comparison of the effect sizes calculated in a study

with the effect sizes obtained previously was the primary prerequisite of a good report for the study.

For statistical methods that calculate the difference between the means of two groups, Cohen's d formula (Cohen, 1988) was widely preferred in calculating the effect size. To calculate with Cohen's d formula, there was a need for the means of the groups and blended standard deviation information. Calculation of the blended standard deviation and Cohen's d is done by the following formulas:

$$\text{Cohen } d = (M_2 - M_1) / SD_{\text{Blended}}$$

Here, M_1 and M_2 are the means of the control and experimental groups respectively.

$$SD_{\text{Blended}} = \sqrt{((SD_1^2 + SD_2^2) / 2)}$$

Here, SD_1 and SD_2 are the standard deviations of the control and experimental groups.

The means of post-test obtained from the success test of the experimental and control groups were 61.40 and 57.21 respectively, and their standard deviation was 4.92 and 3.83 respectively. When these values are placed in their places in the above formulas, $d=0.95$ can be obtained. The d value obtained as a result of the calculations was interpreted as follows: 0.20- small effect size; 0.50- medium; 0.80 is the large effect size (Cohen, 1988). Accordingly, it can be said that the use of newspapers to improve reading comprehension skills in teaching Turkish to foreigners has a great effect on students' academic success. In Figure 4.1.8

below, the effect size of the research will be seen more clearly with the difference between the experimental and control groups with the comparison of the post-test success scores.

Discussion and Conclusion

As a result of the study, it was the finding that the academic success score of the experimental group, in which the use of newspapers as a course material with a science-based reading approach in teaching Turkish as a foreign language, was higher than the control group.

The pre-test success score of the control group, where Turkish lessons were taught with the classical method, was 55, and the post-test success score was 57. Although the post-test success score of the control group increased by 2 points, the pre-test success score of the experimental group, where Turkish lessons were taught with the science-based reading method and newspaper activities, was 55.12, and the means of post-test success score was 61.40. An increase of 6.28 points was observed in the post-test success score of the experimental group. The difference between the post-test success scores of the experimental and control groups should be considered significant. Although the control group showed a 2-point improvement in the post-test, the 6.28-point progress of the experimental group should be seen as more significant. Here it was possible to reach the following conclusion: Science-based reading approach has a more positive effect on students' reading comprehension skills compared to the classical method. It was proven that the science-based reading approach, which is the fifth sub-heading in the problem statement, has a positive effect on reading skills in teaching Turkish to foreigners.

Recommendations

For the development of decoding and word recognition skills, phonetic teaching should be given importance, and the necessary activities, especially newspapers, should be prepared before the implementation.

Understanding the reading text is closely related to fluency in reading, decoding, word recognition, and using reading strategies. As understanding the reading text is concerned closely with reading strategies, teachers should be trained about the use of strategies in reading comprehension activities. Teachers who receive this training can serve as an example to their students on how to use an effective strategy.

While selecting reading texts by teachers, texts suitable for students' levels as well as reading comprehension strategies should be taken into consideration.

Project assignments can be given to students by teachers where they can improve their reading comprehension skills and apply science-based reading components. Teachers should be models for their students by deciding which strategies they can apply before reading and by showing examples of implementations.

Students need to manage their cognitive processes to be good readers. When encountering a problem, they need to be aware of the need to apply different strategies until the problem disappears. This depends on teaching students the reading comprehension strategies very well.

Teaching reading comprehension strategies to students can make learning active and enjoyable by removing reading comprehension from being a passive process.

Science-based reading, which forms the basis of the research, requires not only phonemic awareness or fluency but also the application of all other components in a holistic manner. In this regard, Turkish language teachers should organize activities for all components such as phonemic awareness, phonetics, fluency, word recognition, and reading

comprehension / making sense of reading during the preparation phase of the lesson.

In the science-based reading approach, activities for comprehension and interpretation, especially those on the use of strategies, will prove to be very beneficial for students about how they can obtain information. In line with the studies conducted, the results can be collected in a pool and analyzed again by integrating the implementations of the science-based reading approach in the lessons on the teaching of Turkish as a foreign language.

References

- Akarsu, B. (2016). Hipotezlerin, Değişkenlerin ve Örneklemenin Belirlenmesi. M. Metin (Dü.) içinde, *Kuramdan Uygulamaya Eğitim Bilimsel Araştırma Yöntemleri [Determination of Hypotheses, Variables and Sampling]. In, From Theory to Practice Educational Scientific Research Methods Ankara: Pegem Academy.* (s. 21- 43). Ankara: Pekem Akademi.
- Akkaya, A., & Polat, H. (2013). Seslere Dayalı Alfabe Eğitimi. M. Durmuş, & A. Okur içinde, *Yabancılara Türkçe Öğretimi El Kitabı [Alphabet Education Based on Sounds. Handbook of Turkish Teaching for Foreigners]. Ankara: Graphic Publications.* Ankara: Grafik Yayınları.
- Aksan, D. (2000). *Her Yönüyle Dil Ana Çizgileriyle Türkçe [Language in All Aspect, Turkish in Main Lines].* Ankara: Türk Dil Kurumu Yayınları.
- Akyol, H. (2006). *Türkçe İlkokuma Yazma Öğretimi [Teaching Primary Reading and Writing in Turkish].* Ankara: Pegem Yayıncılık.
- Allor, J. H., Mathes, P. G., & Roberts, J. K. (2014). Is Scientifically Based Reading Instruction Effective for Students With Below-Average IQs? *SAGE Journals*, 80(3), 287-306.
doi:<https://doi.org/10.1177%2F0014402914522208>
- Antony, J. L., & Francis, D. J. (2005). Development of phonological. . *Current Directions in Psychological Science*, 255-259.
- Baker, S., Simmons, D., & Kameenui, E. (1995). Vocabulary Acquisition: Synthesis of the Research. Technical Report No. 13. *ERIC*, 55. 07 09, 2019 tarihinde <https://eric.ed.gov/?id=ED386860> adresinden alındı
- Bank, W. J. (2000). Second Language Lexical Knowledge and Listening Comprehension. *International Journal of Listening*, 14, 24.
- Barone, D. M., & Shelley, H. X. (2008). *Literacy Instruction for English Language Learners, Pre-K–2.* New York/ London: THE GUILFORD PRESS.
- Baydık, B. (2006, 7 (1) 29-36). Okuma Güçlüğü Olan Çocukların Sözcük Okuma Becerileri [Word Reading Skills of Children with Dyslexia]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi* .

- Begler, D., & Hunt, A. (2002). Teaching Vocabulary. J. C. Richards, & W. A. Renandya içinde, *Methodology In language Teaching An Anthology Of Current Practise*. New York: Cambridge University Press.
- Brown, H. D. (2014; 237). *Principles of Language Learning and Teaching A Course in Second Language Acquisition*. New York: Pearson.
- Calhoun, E. F. (1999). *Teaching Beginning Reading And Writing With The Picture Word Inductive Model*. Alexandria, Virginia: ASCD.
- Cartrette, H. C. (2006). *Reading First And Scientifically Based Reading Research Programs: Answers To North Carolina's Reading Problems. Master Tezi*. Wilmington: University Of North Carolina.
- Chard, D. J., & Dickson, S. V. (1999). Phonological Awareness: İInstructional and assessment guidelines. *Intervention in School and Clinic*, 261-270.
- Christie, J. (2008). The Scientifically Based Reading Research Approach to Early Literacy Instruction. L. M. Vukelich. içinde, *Achieving Excellence in Preschool Literacy Instruction* (s. 26). Guilford Publications.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed. b.). Hillsdale NJ: Lawrence Erlbaum Associates.
- Demirci, M. (2015). B1 Seviyesinde Türkçe Öğrenen Suriyeli Öğrencilerin Sesli Okuma Becerileriyle İlgili Tespitler [Findings Related to Reading Aloud Skills of Syrian Students Learning Turkish at Level B1]. *International Periodical for the Languages, Literature and History of Turkish or Turkic*.
- Duffy, G., Roehler, L., Sivan, E., Rackliffe, G., Book, C., & Meloth, M. (1987). Effects of explaining the reasoning associated with using reading strategies. *Reading Research Quarterly*, 22(3), 347-368. 07 07, 2019 tarihinde https://dataworks-ed.com/wp-content/uploads/5_EssentialComponents.pdf adresinden alındı
- Fidan, Ö. (2016). Türkçenin Yabancı/ikinci Dil Olarak Öğretimi-Konuşma. F. Yıldırım, & B. Tüfekçioğlu içinde, *Yabancı Dil Olarak Türkçe Öğretimi, Kuramlar-Yöntemler-Beceriler-Uygulamalar [Teaching Turkish as a Foreign Language, Theories-Methods-Skills-Applications]*. Ankara: Pegem Akademi.
- Fisher, D., Frey, N., & Ross, D. (2009). Comprehension Is More Than a Strategy. K. D. Wood, & W. E. Blanton içinde, *Literacy Instruction for Adolescents Research-Based Practice* (s. 329). New York: The Guilford Press.
- Fitzpatrick, J. (1997). *Phonemic Awareness: Playing With Sounds to Strengthen Beginning Reading Skills. ERIC Number: ED420048*. Creative Teaching Press.
- Göğüş, B. (1978; 60). *Türkçe ve Yazın Öğretimi [Turkish and Literature Teaching]*. Ankara: Kadioğlu Matbaası.
- Gravetter, F., & Wallnau, L. (2014). *Essentials of Statistics for the behavioral sciences* (8 b.). Belmont, CA:: Wadsworth.
- Günay, D. (2001). *Metin Bilgisi [Knowledge of Text]*. İstanbul: Multilingual yayınları.
- Güneş, F. (2014). *Türkçe Öğretimi Yaklaşım ve Modeller [Turkish Teaching Approaches and Models]*. Ankara: Pegem 2.Baskı.
- Hudson, R. (2001). Fluency Problem. R. E. O'Connor, & P. F. Vadasy içinde, *Handbook Of Reading Interventions*. New York-London: The Guilford Press.
- Karababa, Z. C. (2009). Yabancı Dil Olarak Türkçenin Öğretimi ve Karşılaşılan Sorunlar [Teaching Turkish as a Foreign Language and Problems Encountered]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 42(2).

- Karatay, H. (2014). Okuma Eğitimi: Kuram, Uygulama, Ölçme ve Değerlendirme. A. Güzel, & H. Karatay içinde, *Türkçe Öğretimi El Kitabı [Reading Education: Theory, Practice, Measurement and Evaluation. - Turkish Teaching Handbook]*. Ankara: Pegem Akademi.
- Krashen, S. (1999). *Three Arguments Against Whole Language Why They Are Wrong*. Portsmouth NH: Heinemann.
- LPA. (2004). *A Closer Look at the Five Essential Components of Effective Reading Instruction: A Review of Scientifically Based Reading Research for Teachers*. Naperville, IL, US: Learning Point Associates.
- Moats, L. (2007:12). *Whole-Language High Jinks, How to Tell When "Scientifically-Based Reading Instruction" Isn't*. Washington: Thomas B Fordham Institute.
- Morin, A. (2017). *Why is Reading Fluency Important? What is Reading Fluency*, p 620984: www.werywell.com adresinden alındı
- Nagy, W. E., & ve diğerleri. (1994). Structural Analysis: Some Guidelines for Instruction. F. Lehr, & J. Osborn içinde, *Reading, Language And Literacy Instruction For The Twenty-First Century* (s. 45-58). New Jersey: Lawrence Erlbaum Associates.
- Nation, I. P. (2000). *Learning Vocabulary In Another Language*.
- Nation, I. P. (2006, September). How Large a Vocabulary Is Needed for Reading and Listening? *The Canadian Language Review*, 63(1), 59-82.
- Nation, K., & Snowling, M. (2004). Beyond phonological skills: broader language skills contribute to the development of reading. *Journal of Research in Reading*, 27.
- Nation, P. (2002). Best Practice In Vocabulary Teaching And learning. J. C. Richards, & W. A. Renandya içinde, *Methodology In Language Teaching An Anthology Of Current Practice*. New York: Cambridge University Press.
- NRP. (2002). *An Evidence-Based Assessment Literature on the Scientific and its Implications for Reading Instruction*. ABC. 07 04, 2019 tarihinde <https://www.cdli.org/articles/report-national-reading-panel-teaching-children-to-read/> adresinden alındı
- Özbay, M. (2013). *Türkçe Üzerine Bir Araştırma [A Research on Turkish]*. Ankara: Öncü Kitap.
- Özsoy, S., & Özsoy, G. (2013). Effect Size Reporting in Educational Research. *Ilkogretim Online*, 12(2), 334-346.
- Plancı, H. (2011). *Türkçe Ses Bilgisi [Turkish Phonology]*. Eskişehir: Anadolu Üniversitesi Yayını No 2362.
- Podhajski, B. (2009). Professional development in scientifically based reading instruction: teacher knowledge and reading outcomes. *PubMed*, 403-417. DOI:DOI: 10.1177/0022219409338737
- Püsküllüoğlu, A. (1994;784). *Arkadaş Türkçe Sözlük [Dating Turkish Dictionary]*. Ankara: Arkadaş.
- Shapley, B. (2001; 9). Newspaper Association of America Foundation.
- Shaw, D. (2003). *Reading First. Research-Based Reading Instruction Using The Newspaper*. Landower Hills: Newspaper in Education Institute.
- Sweet, R. (2004). *The big picture: Where we are on the reading front and how we got here*. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp. 13-44). Baltimore: Brookes.
- Şengül, K. (2014). Türkçenin Yabancı Dil Olarak Öğretiminde Alfabe Sorunu [Alphabet Problem in Teaching Turkish as a Foreign Language]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi Sayı: 3/1*.
- TDK. (2019, 03 13). *Türk Dil Kurumu [Turkish Language Society]*. <http://tdk.gov.tr> adresinden alındı

- Thompson, S. L., & Vaughn, S. (2007). *Research-Based Methods Of Reading Instruction For English Language Learners Grade K 4*. N. Beauregard St.: Association for Supervision and Curriculum Development.
- Torgesen, J. K., & Wagner, R. K. (1998). Alternative diagnostic approaches for specific developmental reading disabilities. *Learning Disabilities Research and Practice*.
- Vanques, A., Hansen, L. A., & Simit, P. C. (2010). *Teaching Language Art to English Language Learner*. New York& London: Routledge, Taylor&Francis Group.
- Williams, J. E. (2018, 12 31). *We All Can Read*. <https://weallcanread.com/science-based-reading/> adresinden alındı
- Yelbay, Y. (2015). Sözcük Bilgisi Öğretimi [*Teaching Vocabulary*]. N. Bekleyen içinde, *Dil Öğretimi*. Ankara: Pegem Akademi.
- Yıldız, F. U. (2013). Sözcük ve Sözcük Öğretimi. M. Durmuş, & A. Okur içinde, *Yabancılar Türkçe Öğretimi El Kitabı [Vocabulary and Vocabulary Teaching - Handbook for Teaching Turkish to Foreigners]*. Ankara: Grafik Yayınları.
- Мичальчук, Н. О., Курят, Ю. В., Касаткина- Кубишкино, О. В., & Фридрих, А. В. (2015: 6). *English Phonetics A Practical Course*. Ривне: Рівненський державний гуманітарний університет.

Details of Corresponding Author:

Author's Name: Ertan Miyanyedi

Department: Language Education Department

University, Country: Ronakihawler Nilufer Girls Secondary School, Erbil, Iraq

E-mail: mertan1971@gmail.com

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