

## Reading Difficulty and Development of Fluent Reading Skills: An Action Research

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### Abstract

In this study, it was aimed to remediate the reading difficulties of a fifth-grade student having no physical or mental problem but experiencing reading difficulties and to develop his skills of reading fluency. For this purpose, the repeated reading, paired reading, and word repetition techniques were used in the research process. In addition, the meaning analysis, word map and vocabulary notebook techniques were also used due to the positive effect of rich vocabulary knowledge in remediating reading difficulties and improving skills of reading fluency. This study was designed as action research, one of the qualitative research designs, and it was carried out with a fifth-grade primary school student in Sivas in the spring term of 2018-2019. The Error Analysis Inventory was used to determine reading errors. In the case study to determine the levels of reading and comprehension, it was found that the participant was at the level of frustration in the fifth, fourth and third grade texts, and at the instructional level in the second-grade text. As a result of the reading, comprehension and vocabulary development activities, the student's reading motivation, desire and self-confidence increased, and he started to detect and correct reading aloud mistakes by himself. It was observed that the participant, who was at the second-grade instructional level at the beginning, reached the independent level in the text of the third grade and the instructional level in the text of the fourth grade at the end of the study lasted for 31 class hours.

**Keywords:** Reading Difficulty, Reading Fluency, Vocabulary Knowledge, Reading Levels, Paired Reading, Repetitive Reading.

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## 1. INTRODUCTION

Human beings have been in the act of reading in order to understand the rapidly changing structure of society and to adapt to this structure, since the invention of writing to the present. Reading can be defined as 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, with the cooperation of cognitive behaviours and psychomotor skills (Akyol, 2015; Razon, 1982). When the definitions are examined, we can define reading as the process of making sense in the mind by exposing the text and symbols to cognitive processes.

For reading, which is defined as the process of making sense from texts and symbols, to be effective, it must be handled as a fluent, sense-making, strategic, motivation-based, and lifelong process. The skills involved in this process constitute five basic principles of reading (Akyol, 2015). To be able to read effectively and at the expected level, individuals need to gain fluent reading skill, which is one of the fundamentals of reading skill (Ulusal Okuma Paneli [NPR], 2000). Fluent reading is the ability of the student to read the text at an appropriate speed, without pausing when he/she sees the sound, syllable, and word, as if he/she speaks in his/her daily life in an emotional and harmonious way (Akyol, 2016; Young & Rasinski, 2009). Based on the definition made, it is seen that the reading skills required for fluent reading to occur are accuracy, speed, and prosody. Accuracy refers to quick reading without making addition, subtraction and inversion mistakes in reading sounds, syllables, and words. Reading speed, according to Turna and Güldenoğlu (2019), involves automating the word recognition process and reading at the appropriate speed for the level. Automation occurs when the reader sounds the words in a text accurately and quickly, without much effort. We can define prosody as the ability to read through appropriate intonation and stress according to the sense of the text after achieving word recognition, perception, interpretation and reading speed, as the music of the spoken language (Akyol et al., 2014; Reutzel, 2009; Yıldırım & Ateş, 2011).

The two most important skills that affect fluent reading are word recognition and vocabulary knowledge. The inadequacy of these skills negatively affects the reading skills of the students compared to their peers. Inadequacies in reading skills cause students to fall behind in terms of achievement in both reading and other fields. Although they do not have any mental, auditory and visual problems, the concept used for students who fall behind their peers and have difficulty in reading due to insufficient socio-economic and educational opportunities is defined as learning disability. The Ministry of National Education defines these students as children who do not have interests, experiences for education and instruction due to the material and cultural inadequacy of their environment or who have special difficulties in understanding, explaining, reading, writing, drawing, recognizing, and conceptualizing due to organic and functional reasons, although they are not different from their peers in terms of level of intelligence (MEB, 2014). On the other hand, Akyol (2016) defines a poor reader as an individual who cannot transfer his/her prior knowledge to the reading environment during the reading process.

Today, the most important purpose of reading is to make sense of what is read. Two basic skills are needed in the process of sense-making: Recognition and perception. Recognition is the accurate and fast reading of letters, syllables, and words. Perception refers to making sense of the activity that is recognized by the senses in a reading material and continues to be processed by brain functions. Phonological awareness, analysis, and word recognition, which are the first steps of reading, must be at a sufficient level to make sense and read fluently which are two of the basic principles of effective reading. Word recognition is an important element in the reading process. Stanovich (2005) stated that word recognition is the most basic element of reading comprehension.

Individuals who experience problems with their fluent reading skills have some difficulties while reading a text. It has been observed that students with reading difficulties generally have some problems such as having short-term memory, not being able to concentrate their attention, being emotionally weak, reading without thinking, lack of eye-motor coordination, reading the words by turning them back, and having problems to divide the plot into stages. The problems that readers

encounter and the mistakes they make in word recognition are summarized by Akyol (2015) as inability to comprehend the relationship between symbol and sound, confusing words and letters, spelling difficulty, changing the position of letters in words, wrong reading, adding and subtracting, reading by inverting and repeating. When the literature on the elimination of word recognition mistakes and improving fluency in reading aloud is examined, it is seen that there are some methods and techniques used such as repeated reading (Akyol, 2016; Armbruster et al., 2010; Samuels, 1997; Therrien, 2004; Torgesen, 1986), paired reading (Akyol, 2016; Reutzel & Cooter, 2007; Topping, 1998), reader theatres (Akyol, 2016; Rasinski, 1999), word repetition technique (Chafouleas et al, 2004; Rosenberg, 1986), reading in choral (Akyol , 2016).

People communicate using their vocabulary knowledge to understand and explain something. Word can be defined as the label of feelings, thoughts and attitudes consisting of sounds or sound groups in such a way as to have a meaning or grammatical function and it can be used alone (Akyol, 2015; Ergin, 2013; Türkçe Sözlük, 2018; Yıldız, 2019). Another sub-dimension that constitutes the fluency of reading skill is vocabulary knowledge. Vocabulary has an important place among the factors that affect reading and writing, which are the basic language skills of comprehension and expression, and even the sub-language skills of listening and speaking (Karadağ, 2019; Karatay, 2007). Instead of vocabulary knowledge, other terms such as vocabulary repertoire, word level, word proficiency have been used in studies and definitions focused on vocabulary. Vocabulary knowledge is defined as the accumulation of words that the individual learns, understands, uses, and stores in memory as a result of his or her experiences (Akyol & Temur, 2007; Karadağ, 2019; Özbay & Melanlıoğlu, 2008).

Vocabulary knowledge affects the reading speed of students depending on their grade levels. A certain vocabulary of students is formed as a result of the texts structured within the framework of life studies, mathematics and Turkish main courses up to the fourth grade. At the fourth and higher grade levels, students who encounter with different words as a result of inclusion of new subject areas in the curriculum can maintain their level of success in reading by eliminating these deficiencies with vocabulary teaching activities. In vocabulary teaching, it is of great importance to determine which words to teach first. It has not been determined exactly which words will be taught to which age groups of children in schools and what the number of these words will be (Özbay & Melanlıoğlu, 2008). Students should have words, word groups, terms, idioms, proverbs, etc. to use when they employ their skills of understanding and expressing their own thoughts, feelings, desires and wishes in daily life in accordance with their age and level. At this point, traditional vocabulary tests, multiple choice measurement technique, yes-no questions and rubrics are some of the assessment techniques put forward by researchers to assess individuals' vocabulary knowledge (Akyol & Temur, 2007).

Vocabulary teaching should not be thought of as one-dimensional, just like teaching the meaning of a word with the use of a dictionary. The word to be taught becomes more permanent and concretized in the student's mind when taught in a sentence, through its antonym, synonym and near-synonyms etc. Different methods and techniques should be used in vocabulary teaching activities in accordance with students' age, level, grade level, interests and needs (Acat, 2008; Akyol, 2015). There are some methods and techniques to ensure the retention of words in the student's mind and to enhance vocabulary knowledge. These include dictionary usage, association, finger technique, grouping, direct vocabulary teaching, concept development, using clues in the sentence and text environment, finding the similar word, definitions, prior experiences, summarizing, reflection, word map, meaning analysis, vocabulary grouping, brainstorming, possible sentences, venn diagram, using visual materials, creating a dictionary book, choosing different meanings of words, teaching with games, producing words from the last letter of words, riddles, songs, using observations and experiences, producing new words from the root of the word, word-meaning matching, using proverbs and idioms, writing the word suitable for the dotted places in a sentence, puzzles, working with different text types, finding meaning from the sentence, word-visual matching, drama, word-related painting and speaking activities (Akyol, 2015; Akyol & Temur, 2007; Foil & Alber, 2002; Gardner, 2007; Gill, 2007; İnce, 2006; Montenegro, 2019; Rupley & Nichols, 2005; Özbay & Melanlıoğlu, 2008; Star, 2019).

### 1.1.Strategies Used in the Study

Individuals lose their self-confidence and experience learned helplessness in the face of jobs, areas or situations in which they have failed throughout their lives. Students with reading difficulties also experience acceptance and avoidance in the face of failure and create a fear of reading aloud. The most important help to be given to the student in terms of success in reading is to make him/her read aloud (Anderson et al., 1985). Reading aloud allows the child to develop comprehension and vocabulary, gain ideas about sentence structure and ultimately professionalize in reading (Dickinson & Smith, 1994). The state of a student within the psychology defined in the first sentence of this paragraph should be determined for him/her not to be negatively affected in his/her future and an intervention program should be prepared including the appropriate methods and techniques for him/her to get rid of his/her problems.

In the current study, "Word Repetition Method", "Meaning Analysis", "Word Map" and "Vocabulary Notebook" techniques were used to increase the fluency in word reading. "Repeated Reading" and "Paired Reading" activities were carried out to improve fluency in text reading.

**Repeated Reading:** This type of reading refers to the poor reader's reading the text repeatedly until gaining fluency. In repeated readings, the reader will become automatic in word recognition and read fluently after a while, as it is repeated until the reader's mistakes are corrected and can read at the expected speed with the help of a good reader. (Armbruster et al., 2001; Rasinski, 1989). It is an effective method for students to recognize and learn the words they encounter frequently. In this method, reading is started with texts suitable for the level of the poor reader and continued until the reader has achieved the success in reading expected in his/her grade level. Through repeated reading, students' reading skills are improved with texts that they have never encountered before, and contributions are made to their fluency by enriching their vocabulary. Activities are started on short texts suitable for the grade level determined for the participant on the basis of his/her performance. During reading, repeated reading activities are performed to correct sound, syllable and word reading mistakes. Misread words determined in the reading process are used in sentences and texts to try to eliminate the mistakes.

**Paired Reading:** It is a reading technique in which a teacher, a member of the family or a peer who reads well becomes a pair to the poor reader. In this technique, after a text has been selected, its title and visuals are discussed before reading. Then in the reading process the poor reader and the guide read the text aloud. When the poor reader pauses for four or five seconds during reading or makes mistakes, the guide immediately intervenes and gives feedback and then reading continues. The reading partner should adjust his/her reading speed considering the speed of poor reader and the feedback given should be positive and motivate the student to read. If the child wants to read on his/her own at some points during the reading process, he/she should be allowed (Akyol, 2016). In reading studies, reading is done with the researcher in order to eliminate reading mistakes in sounds, syllables and words that the participant has difficulty in pronouncing and to ensure fluency. The researcher and the participant try to eliminate reading mistakes by reading at the same time.

**Word Repetition Technique:** It is a technique used to eliminate word reading mistakes of students having reading difficulties. The word repetition technique covers the exercises to eliminate the mistakes by repeating the words that the student has read incorrectly during reading.

The teacher provides a text suitable for the level of the student. After the end of reading act, misread words are written on the cards. The student is asked to read the words written on the cards. The word written on the card must be read correctly within five seconds. If the student cannot read the word shown within five seconds, it is considered to be misread. Each misread word is pronounced correctly by the teacher and then the student is asked to read that word again. The student reads the word and repeats it many times. Each corrected word is removed to be read later by the student. The word card that is read incorrectly is shown repeatedly. The misread word is read by the student until the student reads the word with its correct pronunciation. All words written on the cards are collected

and shown to the student again. This process continues until the student does not make a mistake on two consecutive cards (Jenkins & Larson, 1979; Yılmaz, 2008). The word repetition technique is an effective method for poor readers to enhance their word recognition skills and vocabulary knowledge.

**Word Map:** The word map method is a method that can be used from the fourth grade onwards to enhance vocabulary knowledge. The word map is a preferred word teaching strategy to show how the words to be taught relate to other words in a particular order (Searfoss, Readene & Mallette, 2001; Yıldız, 2019). When using the method, three basic questions should be answered (Akyol, 2016);

1. What is the definition of the word and concept?
2. What does it resemble to?
3. What are its examples?

In this method, the key word should be determined while the teacher is reading the text related to the theme in which the word or concept to be taught, or the words that the students have difficulty, do not know or express incorrectly should be studied. The misread words recognized during the reading activities performed on the texts suitable for the reading level of the student or the words whose meanings the reader is understood to not know from his/her questions such as "What is the meaning of this word?" are the targets of vocabulary activities. The determined words are noted by the researcher and a word map is designed by placing a picture of the word on a worksheet. By having the participant interpret and discover the picture of the word on the worksheet and by examining the meaning of the picture, its lexical meaning, examples and various dimensions, it is attempted to create a scheme of the word in the participant's mind.

**Meaning Analysis:** It is a technique developed to enhance vocabulary knowledge and to increase reading comprehension. In the literature, it is addressed under different names such as meaning analysis, feature analysis, semantic feature analysis. It is an effective technique especially for poor readers and students with learning difficulties (Gunning, 2006; as cited in Akyol, 2015). With the meaning analysis strategy, students focus on the basic properties of words. Meaning analysis contributes to the development of classification and analysis skills of students while helping them learn the properties of different words and concepts comparatively. It also improves students' verbal-linguistic, logical-mathematical, visual-spatial and interpersonal intelligence (Yıldız, 2019). Based on students' prior knowledge, it helps them to learn the meaning of new concepts and words they encounter. Reading errors or words that the participant does not know the meaning of are determined in the reading studies and the meaning clusters including these words are created. A table is created by determining whether the words have some properties or not, by writing the searched properties of the words in each column and the words to be analyzed in each line. Words that can be easily and concretely classified within the framework of the subject and theme should be chosen. After the table has been created, the semantic features of the world are determined by asking questions to the student. One "+" should be given for each feature that word has, one "-" should be given for each feature the word does not have and "?" should be put for each feature which cannot be decided whether the word has or not and they should be discussed (Akyol, 2015; Marzano, 2013; Yıldız, 2019). The table can be extended if the next text to be read will be relevant to it.

**Vocabulary Notebook:** The vocabulary notebook technique is like the student's word memory in vocabulary teaching. The student can write new words with its different meanings and uses in this notebook, which increases retention. In the literature, this technique has been called under different names such as vocabulary notebook, dictionary notebook and word notebook. Vocabulary notebooks aim to deepen the knowledge of students about the word they do not know and to increase their vocabulary knowledge by recording the various meanings of the words on the notebook (Marzano, 2013; Yıldız, 2019). It is a vocabulary teaching technique in which a notebook is formed from the words which the student does not know or the keywords extracted from texts on the basis of the

themes or topics covered during reading. Three or five words should be studied in a class hour. Studies have revealed that vocabulary teaching activities that are done by creating a vocabulary notebook have a positive effect on students' vocabulary and academic achievement (Marzano, 2006).

Before working with the word notebook technique, a notebook is determined or worksheets are designed for the participant to use, and then these are collected and turned into a notebook. The notebook is divided into sections in alphabetical order. A new word is written in the related section of the notebook according to the first letter of the word to be examined. The dictionary meaning of the word is found and written. Then, its synonyms and antonyms can be determined and their meanings are written as well. Two sentences (it can be increased according to the understanding of the student) containing the real, connotational, metaphorical, synonymous or opposite meanings of the word are written down in the notebook.

The development of reading and comprehension skills has a very important place in terms of individuals' carrying healthy communications with the society in which they live, fostering their own personal development and continuing their daily life. Before individuals start their formal education, they engage in the act of environmental reading in their daily lives. Deducing the meaning of the sales signs of the products in the markets and from the traffic signs on the streets is a kind of act of reading and comprehending. The success of students starting formal education in reading activities affects their overall academic success. Accurate and fluent reading and reading comprehension will positively affect students' academic achievement not only in Turkish lessons and activities, but also in other subject lessons.

The skill of reading has been among the most basic needs and indispensables of human beings since their existence, and the advancement in basic language skills has shown its positive effect in every moment and area of individuals' lives (Akyol, 2016; Akyol, 2019; Bıyık & Erdoğan, 2017; Çaycı & Demir, 2006). However, it is a fact that there are students who have difficulty or fall behind in reading. Early diagnosis of these students who have reading problems and interventions for these students are very important (Balçı, 2017; Hurford et al., 1994; Schatschneider & Torgesen, 2004). In this context, educational and instructional activities for students who have reading difficulties can be planned to reduce or eliminate their problems in reading. However, in our country, it is seen that there is limited research for the in-depth investigation of students who have reading difficulties or fall behind. The current study is considered important in terms of guiding researchers, teachers and parents in reducing and eliminating the problems experienced by students who have reading difficulties although they do not have any visual, auditory or mental disabilities, and in developing their reading skills.

## **2. METHOD**

### **2.1. Research Model**

In this study, action research model, one of the qualitative research designs, was used. Action research includes the working of practitioners on their own or with a researcher to understand and solve the problems that emerge in the application process. It is an approach that combines research and practice and facilitates the transfer of research results into practice (Yıldırım & Şimşek, 2016). Applied action research is designed by teachers to find a solution to a problem they encounter in their classrooms, to improve the learning level of students in any subject and to increase their own professional performance (Creswell, 2013).

### **2.2. Characteristics of the Participant**

Within the context of the current study, the code name Sefa was used to keep the actual identity of the participant confidential. It was determined that Sefa did not have any disability in the state hospital, where hearing and vision tests were applied to him. In addition, as a result of the

evaluations and observations made by two special education experts separately, it was determined that Sefa did not have any mental problem.

Sefa, who is a fifth-grade primary school student, is attending a primary school in Sivas. Sefa's father works in the private sector and his mother is a housewife. The mother and father are divorced and live in other cities. Sefa is living with his mother, grandfather and grandmother. His mother stated that Sefa had difficulty in doing his homework and therefore he did not like to do homework. Although he was not cognitively deficient, it was observed that he was distracted quickly during homework and study hours. During the activities, a great care was taken to keep the room door and window closed in order not to distract the participant, and that there were no distracting tools and devices on the table where the activities were performed. Behaviourally, observations of his parents and teachers were used. The participant has a calm and easy-going social personality. It was seen that he started and maintained communication. It was observed that the participant, who was observed in the classroom for one class-hour, listened to the lesson but did not much participate orally. It was observed that he did the tasks assigned by the teacher.

It was observed that the participant did not have any difficulties in the pronunciation of the sounds and the recognition of the letters, but he made mistakes by adding-subtracting sounds or syllables to/from the words he read and he could not attain the proper sitting position as he bended too much over the book while reading. In addition, it was observed that the participant made word recognition mistakes as he read the texts too quickly and answered the questions about the text incorrectly. Since the reading speed is related to the speed of thinking, it was decided to apply the meaning analysis, word map and vocabulary notebook methods among the word teaching methods for the participant. The texts in which very interesting, easy and concrete topics are covered were used to improve reading fluency and comprehension skills.

### **2.3. Study Environment**

The study was generally carried out in the living room of the participant's home one hour after leaving school on weekdays. As the study environment was his own home, he did not experience any adaptation problems. The participant has a moderate socio-economic home and study environment. A great care was taken not to leave any distracting items and materials on the table where the reading activities were carried out, and the student was allowed to have his favourite things (such as pencil, eraser, tripod) to provide the motivation. Since the student did not have a physiological problem and discomfort, it was ensured that the student was comfortable during reading by using the fabric upholstered chair he used at his study desk. During the study process, a sensitive attitude was displayed by being in constant interaction with the parents towards their opinions, requests and demands. It was observed that the communication carried with the parents had a positive contribution to the learning-teaching environment and process.

### **2.4. Data Collection Tools**

In the current study, the "Phonological Awareness Evaluation Form" was used to evaluate the readiness of the participant and to determine and improve his reading and writing level, the reading texts and the audio video recordings were used to have a qualified evaluation during the reading of the texts, and "Mistake Analysis Inventory" was used to make an evaluation before, during and after the reading activities.

*Reading Texts:* They are texts selected from Turkish textbooks and used in the reading process. For the participant who is a fifth-grade student, the level was determined with the texts selected from each grade level. Taking into account the reading level, the texts used in the study process were determined not to be above the student's level.

*Phonological Awareness Evaluation Form:* Before starting the reading activities with the participant on word recognition, the "Phonological Awareness Evaluation Form" (Delican, 2018),

which is one of the activities to evaluate phonological awareness skill, was used. This form aiming to evaluate phonological awareness consists of fourteen sub-tests: "finding rhymed words", "finding words starting with the same sound", "noticing rhymed lines", "knowing and deleting the last sound of the word", "knowing and changing the last sound of the word", "knowing and deleting the first sound of the word", "knowing and changing the first sound of the word", "producing word in compliance with the sound", "word combination", "word separation", "syllable combination", "syllable separation", "phoneme combination" and "phoneme separation". A scoring table was created for each test and the success status was determined by writing the value "1" for correct answers, "0" for incorrect answers.

*Audio Video Recordings:* Before starting the reading activities of the participant, a video recording of the application of each technique used in the reading process was made; audio video recordings were made to make an interim evaluation in the middle of the reading process and to make a final evaluation at the end of the reading process. Video shooting is important in terms of both a qualified evaluation and contributing to the participant and teacher to visibly follow the change in the reading level.

*Mistake Analysis Inventory:* The Mistake Analysis Inventory, which is one of the various activities to determine and evaluate the situation related to reading, consists of the word comprehension and percentage determination guide adapted by Akyol (2016) drawing on Ekwall and Shanker (1988), Haris and Sipay (1990) and May (1986). The inventory consists of four parts: mistake types and symbols, word recognition level and percentage determination guide, question scale and table of comprehension levels. With this inventory, three types of reading levels are identified.

1. *Independent Level:* It refers to the student's reading and understanding texts appropriate to his/her level without any help.
2. *Instructional Level:* It refers to the child's reading and understanding as desired with the support of a teacher or an adult.
3. *Frustration Level:* It refers to the level at which the child understands very little of what he/she reads and/or makes many reading mistakes.

We can express the above reading levels in percentages as follows: Those whose word recognition level is at least 99% and comprehension level is 90% and above are at the independent level, word recognition level is between 90% and 99% and comprehension level is between 51% and 89% are at the instructional level and word recognition level is 90% and below and comprehension level is 50% and below are at the frustration level.

*Vocabulary Teaching Activities:* These are activities performed on words whose meaning is unknown in the texts used during reading studies with the student. In the vocabulary teaching activities, words whose meaning was unknown were studied with the vocabulary notebook after reading. Some words whose meaning remained unknown within the context of the vocabulary activity were examined with the meaning analysis table and word map worksheets created by the researcher in the next lesson.

## **2.5. Stages of the Study**

In this section, activities were carried out to determine the reading and comprehension level of the participant. Although the participant was a fifth-grade student, it was found that he was at the second grade reading and comprehension level in the pre-test study. After the permission was taken from the parents, the student was taken to a state hospital for vision and hearing tests and it was determined that he had no impairment. Two experts in the field of special education confirmed that there was no mental problem of the student.

It was observed that Sefa made many mistakes of adding and subtracting during reading. It was observed that he mostly added/subtracted sounds or syllables to/from words he had difficulty recognizing. Sefa, who did not read fluently, read without stress and intonation and paying attention to punctuation marks. He read very fast and gave wrong or "I don't remember" answers to the questions asked to determine his level of comprehension.

### **2.5.1. Determination of Phonological Awareness**

The phonological awareness form of the literacy readiness evaluation tool developed by Delican (2018) to determine Sefa's phonological awareness was applied. In the form, fourteen sub-tests were administered to the participant in one class hour (40 minutes). For the participant not to be affected during the application, correct answers were coded with "A" and wrong answers with "B". The score to be taken from the form consisting of fourteen sub-tests is 209. The participant took 159 from the administration of the form. It was seen that he took low scores from the following sub-tests: "finding rhymed words", "knowing and deleting the last sound of the word", "knowing and changing the last sound of the word", "phoneme combination" and "phoneme separation".

### **2.5.2. Determination of the Reading Level**

In order to determine the reading level of Sefa, the texts were used in the pre-test process, starting from the text suitable for his own grade level and down to the first-grade level. Two class hours (80 minutes) application was conducted to determine the reading level. Sefa was first given a text called "Anadolu Atasözlerinde Özleşir" consisting of 312 words in his own grade level, fifth grade Turkish textbook. He made a reading mistake in 72 words in total, and 69 of these mistakes were adding/subtracting sounds or syllables to/from the word, and 3 of them were skipping and passing, and he read this text in 5 minutes and 45 seconds. According to the mistake analysis inventory, he was considered to be unsuccessful because the reading success was below 91%. Thus, the reading level of the student was found to be the frustration level.

Sefa was then given a text "Gizemli Canlılar" consisting of 173 words in the fourth-grade Turkish textbook and made a reading mistake in 32 words in total. All these mistakes are mistakes of adding/subtracting sounds and syllables to/from the word. In addition, the reader read this text in 2 minutes and 5 seconds. According to the mistake analysis inventory, he was considered to be unsuccessful because the reading success was below 91%. In this case, the reading level of the student was found to be at the frustration level.

Sefa was then given a text called "Çocuk Memur" consisting of 203 words in the third-grade Turkish textbook and made a reading mistake in 43 words in total. Forty of these errors were determined as adding/subtracting sounds or syllables to/from the word, 2 reversing and 1 skipping and the reader completed the text in 3 minutes and 5 seconds. He was considered to be unsuccessful because it was found to be below 91% according to the mistake analysis inventory. Thus, the reading level of the student was found to be at the frustration level.

Finally, Sefa was given a text called "Efe Tiyatroya Gidiyor" consisting of 120 words in the second-grade Turkish textbook and made a reading mistake in 7 words in total. Six of these mistakes were determined to be adding/subtracting sounds or syllables to/from the word and 1 skipping and he read the text in 1 minute and 45 seconds. Word recognition percentage was found to be 94% according to the mistake analysis inventory. Thus, the reading level of the student was found to be at the instructional level.

### **2.5.3. Determination of the Level of Comprehension**

In order to determine the comprehension level of Sefa, five questions were created for each text used as a pre-test in the reading process. The first three of these questions are about the literal comprehension, and the last two questions are about the deep comprehension. The comprehension

level was determined as 24% according to his answers to the questions created from the text at the fifth-grade level, 50% according to his answers to the questions created from the text at the fourth-grade level, and 32% according to his answers to the questions created from the text at the third-grade level. According to the mistake analysis inventory, percentages of 50% and below indicate that the reader's level of comprehension is the frustration level.

The level of comprehension was determined as 67% according to his answers to the questions created from the text at the second-grade level. The percentages of comprehension between 51 and 75% according to the mistake analysis inventory show that the reader's comprehension level is the instructional level.

## **2.6. Application Process for Remediation of Reading and Comprehension Mistakes**

In the current study, in order to ensure that Sefa is ready to read and relaxed, a conversation was started about the issues from his daily life. During the conversation, he was asked questions such as “Do you like reading”, “Why do you like reading?”, “Which subjects do you like reading about?”, “Are there books you like and wonder about?”, “Do you want to read as your friends do?”, “Why do you read very fast?”. In order for Sefa to have confidence in the researcher, the researcher tried to get to know Sefa closely and talked about himself. During the study, the researcher tried to motivate the participant and increase his motivation by saying that he will help him, give the chance to read again when he makes a mistake, and that they will perform reading together by using different techniques in order for his reading to be successful and for him to gain fluency.

The study was started in the spring semester of the 2018-2019 academic year and planned to be 9x40 class hours per week, one class hour (40 minutes) on Mondays, Tuesdays, Wednesdays, Thursdays and Fridays each and two class hours on Saturdays and Sundays. An action process was planned covering 31 class hours and 15 hours of these 31 class hours were allocated to the application of fluent reading methods and the other 16 hours to the application of phonological awareness and vocabulary techniques.

### **2.6.1. Applications to Remediate Reading Mistakes**

At the beginning of the reading studies, activities were planned to improve the student in the following areas of phonological awareness where he was found to be weak in the phonological awareness sub-tests: "phoneme separation", "phoneme combination", "knowing and deleting the last sound of the word", "knowing and changing the last sound of the word" and "finding rhymed words". Similar activities were designed and applied by the researchers for the phonological awareness subtests before all the reading activities.

Reading studies were started with the reading texts at the instructional level of the student. Repeated and paired reading activities were carried out, selected among the fluent reading techniques determined before. In the repeated and paired reading activities, the text was first read by the researcher. Then the researcher and the student read the text together. Finally, the student read the text aloud three or four times individually, depending on his reading success. As a result of the pre-test, it was observed that the student made mistakes by adding or subtracting syllables to/from words. During the reading activities, the words that were read incorrectly were detected and it was planned to do word recognition exercises by using the word repetition technique. While the student was reading the text, the researcher detected the mistakes made on the same text he had in front. After reading by using the repeated and paired reading techniques, the words where the student made reading mistakes were written on 5x10cm cards by the researcher and shown to the student. This practice was repeated until the student did not make a mistake in reading.

### 2.6.1. Applications to Remediate Comprehension Mistakes

After the reading activities, it was observed that vocabulary knowledge contributed to word recognition and discrimination, and also to the meaning of the text read. Therefore, it is aimed to improve the participant's reading aloud level, reduce reading errors and increase comprehension level by using word map, meaning analysis and vocabulary notebook techniques, answering the questions prepared about the texts read in the other 16 hours of class time.

During the reading activities, the words whose meanings were unknown to the student were detected. These words were examined in the vocabulary notebook by the researcher and the student together. With the vocabulary notebook, the student learned the definition of the unknown word, its usage in sentences, synonyms and antonyms by writing them in the vocabulary notebook. Some words were examined in the next lesson by using the meaning analysis table and word map worksheets prepared by the researcher. With the meaning analysis table, teaching of more words was achieved by examining the unknown word together with other words which were in the same meaning set. Teaching of the unknown word was carried out with the word map activity by examining the definition, features and examples of the word.

At the end of the thirty one class hour period, the texts that had been used in the pre-test were used again in the post-test, and the reading and comprehension levels of the participant after the study were assessed by applying the mistake analysis inventory.

## 3. FINDINGS

### 3.1. Assessment of the Reading Level

In order to assess the reading level of Sefa, a text suitable for his class level was given to him to read before starting the study. The texts at the lower grade levels were given to him to read until he reached the instructional level success determined according to the mistake analysis inventory and the pre-test studies were carried out by determining the texts up to the second-grade level where the instructional level success was achieved. Mistakes made by Sefa were detected in the reading level assessment activities and then some activities were conducted to remediate these reading mistakes within the action plan. After the completion of the action plan, a post-test evaluation was made with the same texts to assess reading success. As the continuation of lesson delivery process in the action plan conducted to assess the reading level, 2 class hours (80 minutes) were allocated to the evaluation of the reading success following the studies conducted with Sefa to increase his reading interest and motivation.

**Table 1. Results of the pre-test and post-test conducted to determine the reading level according to the Mistake Analysis Inventory.**

Text Level	The Number of the Words in the Text	Type of the Test	Type of the Mistake	The Number of the Mistakes	The Total Number of the Mistakes	Word Recognition Percentage	Time for Reading	Reading Level
2 <sup>nd</sup> Grade	120	Pre-test	Adding/Subtracting	6	6	%94	105 seconds	Instructional Level
			Skipping	1				
			Misreading	0				
		Post-test	Reversing	0	1	99%	81 seconds	Independent Level
			Adding/Subtracting	1				
			Skipping	0				
			Misreading	0				
			Reversing	0				

3 <sup>rd</sup> Grade	203	Pre-test	Adding/Subtracting	40	43	78%	185 seconds	Frustration Level
			Skipping	1				
			Misreading	0				
			Reversing	2				
		Post-test	Adding/Subtracting	5	5	%98	165 seconds	Instructional Level
			Skipping	0				
Misreading	0							
			Reversing	0				
4 <sup>th</sup> Grade	173	Pre-test	Adding/Subtracting	32	32	81%	125 seconds	Frustration Level
			Skipping	0				
			Misreading	0				
			Reversing	0				
		Post-test	Adding/Subtracting	6	6	97%	173 seconds	Instructional Level
			Skipping	0				
Misreading	0							
			Reversing	0				
5 <sup>th</sup> Grade	312	Pre-test	Adding/Subtracting	69	72	77%	345 seconds	Frustration Level
			Skipping	3				
			Misreading	0				
			Reversing	0				
		Post-test	Adding/Subtracting	37	37	91%	300 seconds	Frustration Level
			Skipping	0				
Misreading	0							
			Reversing	0				

When Table 1 is examined, it is seen that Sefa's reading level is at the frustration in the text of the fifth grade, which is his own grade level, in both the pre-test and post-test results. However, when the table is examined, it is seen that between the pre-test and the post-test, his reading mistakes decreased by 50 percent, the time to read the text decreased and the percentage of word recognition increased.

When the pre-test and post-test results for the text of the fourth grade were examined, it was found that as a result of the activities conducted to increase the reading and vocabulary knowledge of Sefa, when his reading level was at the frustration level, he achieved a success rate of 100% by making reading errors in 6 words in total in the same text consisting of 173 words, and his word recognition level was found to be 97%. Using the mistake analysis inventory, it was observed that Sefa reached the instructional level in the text of the fourth grade, according to this success percentage.

When the activities conducted within the context of the pre-test and the action plan process and the results of the post-test were examined, it was seen that Sefa reduced reading mistakes day by day and remediated the problems in word recognition to a great extent. In addition, while he had a slow reading speed at the beginning, the increase in the speed of word recognition after the action study and the decrease in his mistakes decreased his reading time of the texts and became an indication that he improved his reading skills. As a result of the investigation of the video recordings by the researchers, it was understood that Sefa read by paying attention to the stress and intonation and pauses during the reading activities and reading of the final evaluation texts, which is an indication that his prosodic reading skill also developed.

According to the results of the pre-test conducted to determine the reading level, Sefa was found to be at the instructional level in the second-grade text yet at the end of the reading activities, he increased his word recognition level to 99% by making a reading error in a total of 1 word in the same text consisting of 120 words. In addition, when Table 1 is examined, it is seen that according to the results of the post-test obtained for the text of the third-grade level Sefa's reading success reached the instructional level as a result of the activities conducted to improve his reading and vocabulary. According to the mistake analysis inventory, this success shows that Sefa reached the level of independent reading in the second-grade text and reached the instructional level in the third-grade text and thus in the further reading studies to be conducted with Sefa, the process can be started with third grade texts.

### 3.2. Assessment of Comprehension Level

In order to assess the comprehension level of Sefa, exactly the same texts used in the pre-test process were used in the post-test evaluation and five questions were asked again after reading for each text created. The first three of these questions are about the literal comprehension, and the last two questions are about the deep comprehension.

**Table 2. Results of the pre-test and post-test conducted to determine the comprehension level according to the mistake analysis inventory.**

Text Level	Type of the Test	Type of the Question	The Number of the Questions	Point to be Taken	Point Taken	Comprehension Percentage	Comprehension Level
2 <sup>nd</sup> Grade	Pre-test	Literal Comprehension	3	6	5	67%	Instructional Level
		Deep Comprehension	2	6	3		
	Post-test	Literal Comprehension	3	6	6	100%	Independent Level
		Deep Comprehension	2	6	6		
3 <sup>rd</sup> Grade	Pre-test	Literal Comprehension	3	6	3	32%	Frustration Level
		Deep Comprehension	2	6	1		
	Post-test	Literal Comprehension	3	6	6	100%	Independent Level
		Deep Comprehension	2	6	6		
4 <sup>th</sup> Grade	Pre-test	Literal Comprehension	3	6	3	50%	Frustration Level
		Deep Comprehension	2	6	3		
	Post-test	Literal Comprehension	3	6	5	84%	Instructional Level
		Deep Comprehension	2	6	5		
5 <sup>th</sup> Grade	Pre-test	Literal Comprehension	3	6	2	25%	Frustration Level
		Deep Comprehension	2	6	1		
	Post-test	Literal Comprehension	3	6	1	17%	Frustration Level
		Deep Comprehension	2	6	1		

Sefa made too many word reading mistakes as seen in Table 1 while reading the text at his own grade level during the post-test evaluation process. When table 2 is examined, it is seen that he gave either no answers or incomplete answers to the literal and deep comprehension questions during both the pre-test and post-test evaluation processes. Then, in the pre-test results, Sefa was found to give not adequate answers to the comprehension questions in the third and fourth grade texts and he was found to be at the frustration level as his percentage of comprehension was found to be 50% and below.

As can be seen in Table 2, since he was found to have a level of comprehension above 50% in the second-grade level text questions, comprehension studies were started with second grade text. Unknown words were identified during each reading activity. After the completion of the reading study, vocabulary activities focused on the unknown words and key words in the text to be read next were conducted. The unknown words were addressed and the activities conducted on the basis of the comprehension questions after each reading text increased the comprehension scores and success of Sefa as can be seen in Table 2.

The text determined for the fourth-grade level in the pre-test evaluation was also used in the post-test evaluation. When the answers given by Sefa to three literal questions and two deep comprehension questions were analysed by using the mistake analysis inventory, the comprehension level was found to be 84%. The scores taken by Sefa from the answers he gave to the questions on the texts revealed that his comprehension level reached the level expected at the fourth-grade level. As a result of the comprehension studies, it was seen that his success reached the instructional level in fourth grade text.

#### 4.DISCUSSION AND RESULTS

"Phonological Awareness Evaluation Form" and "Word Repetition Method" were used to remediate the reading difficulties of an elementary school fifth grade student. "Repeated Reading" and "Paired Reading" activities were carried out for the student to gain fluency in the reading process. In addition, since the development of vocabulary will contribute to fluent reading, "Meaning Analysis", "Word Map" and "Vocabulary Notebook" techniques were used. An action process was planned covering 31 class hours and 15 hours of these 31 class hours were allocated to the application of fluent reading methods and the other 16 hours to the application of phonological awareness and vocabulary techniques. As a result of the study, which was started with the 5<sup>th</sup> grade texts, followed by 4<sup>th</sup>, 3<sup>rd</sup>, 2<sup>nd</sup> and 1<sup>st</sup> grade level texts, the student reached the fourth-grade instructional level from the second-grade instructional level.

Repeated and paired reading activities were conducted to improve the student's reading speed and prosody. In a study conducted by Therrien (2004) to investigate the effect of repetitive reading on fluent reading and comprehension, repeated reading activities were carried out with students who have reading difficulties despite not having a mental disability, to improve fluent reading and comprehension on a particular text. After reading, he asked the students questions about the reading text. As a result of the study, it was found that the students read fluently and gave correct answers to the questions. Roundy and Roundy (2009), in their study investigating the effect of repeated reading on the development of fluent reading, found that the repeated reading strategy increased the students' reading speed. Many studies have been conducted using repeated reading which is one of the oldest and the most effective methods (Akyol & Çetinkaya, 2009; Akyol & Ketenöglü Kayabaşı, 2018; Carver & Hoffman, 1981; Gonzales & Elijah, 1975; O'Shea, Sinderal & O'Shea, 1987; Özkara, 2010; Weinstein, 2004; Yıldız, 2013; Yılmaz, 2008). The findings reported by these studies concur with the finding of the current study.

To minimize word recognition and reading mistakes, the mistakes made by the student in each reading activity were detected by the teacher and tried to be remediated with the word repetition technique. The student, who was found to have made 32 reading mistakes in the fourth-grade text consisted of 173 words in the pre-test evaluation, reached the instructional level from the frustration level by making a reading error in 6 words in the same text at the end of the study. Yılmaz (2008) investigated the effect of the word repetition technique on correcting the student's reading mistakes and ensuring fluent reading in the study conducted on an 8<sup>th</sup> grade student. As a result of the study lasting for two and half months, the student who was found to be at the fifth-grade frustration level at the beginning of the study reached the fifth-grade independent level and seventh-grade instructional level at the end of the study. It has been seen that the studies conducted by Jenkins and Larson (1979) and Rosenberg (1986) on correcting reading errors and developing fluent reading skills of the word repetition technique have achieved a successful result.

After the fluent reading activities, three literal and two deep comprehension questions for each reading text were used to assess and improve the student's comprehension level. In the pre-test evaluation, the student's comprehension level was found to be at the second-grade level yet in the post-test evaluation, his comprehension level was found to be at fourth-grade level. Students' having many mistakes in word recognition and fluent reading negatively affects their comprehension level. Studies support the fact that students' fluent reading problems negatively affect their reading comprehension level (Akyol & Baştuğ, 2015; Anema, 2008; Başaran, 2013; Hixson & McGlinchey,

2004; Kouider & Brian, 2006; Powell, 2008; Yıldırım & Ateş, 2012; Yıldırım & Rasinski, 2017; Yıldız, 2013).

There is a positive correlation between vocabulary knowledge and reading success. In other words, the richness of the reader's vocabulary has a positive effect on shortening the time spent on word recognition or focusing while reading a text. In the current study "Phonological Awareness Method" was used to increase syllable and word awareness; "Meaning Analysis Technique" was used to make the student better recognize different aspects of a word and "Word Map Method" was used to increase the retention by means of visuals. Establishing connections between the meaning of a word and visuals helps to encode the word in the mind (Sadoski, 2005). With "Vocabulary Notebook Method", activities were carried out to reduce the word recognition mistakes by introducing the student to different usages and meanings of the word because for the word to be completely formed in the mind, all the meanings of the word must be internalized by the student (Acat, 2008; Göçer, 2009). In the study, it was seen that word teaching methods contributed to word recognition and fluent reading because during the reading activities, it was observed that when the unknown words or the words in which the student made mistakes were studied, the student was able to read them correctly in the next text and this positively affected his answers to the comprehension questions.

In light of the findings of the current study, it can be suggested that teachers should not forget that fluent reading is an important component of reading comprehension, that they should conduct activities to develop fluent reading in their classrooms and that they should use fluent reading skills to measure and evaluate reading and comprehension. Researchers on the other hand can conduct similar studies on different grade levels through loud and silent reading activities and by diversifying the texts to be used.

Teachers and specialists of reading should remember that word recognition and fluency are important in reading comprehension, and vocabulary knowledge greatly affects reading and reading comprehension. Similar studies can be conducted on different grade levels.

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