Investigation of the Effectiveness of the Story-Map Method on Reading Comprehension Skills among Students with Mental Retardation

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Abstract

The purpose of this study was to investigate the effectiveness of the story-map technique on reading comprehension skills among students with mild mental retardation. The research group consisted of 14 students with mild mental retardation. The students in the research group were chosen from students who attended to an elementary school and a special education center in Ankara and who met the prerequisite skills for the research study. In order to collect data the "Read-Aloud Test" and "Teacher Interview Form" were used. In the study a pre-test post-test experimental design with a control group was used. The findings showed that the story mapping method positively affected the reading comprehension skills of the students in the experimental group.

Key Words

Mainstreaming, Reading Comprehension, Story Map Technique, Students with Mental Retardation.

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Children with mental retardation are individuals who have deficits in basic academic skills especially reading, writing, and reading comprehension in accordance with their level of impairment. Likewise, all students in order for students with mental retardation to be successful in Turkish, mathematics, and social studies especially reading and reading comprehension skills of students with mental retardation need to be improved. Reading and reading comprehension skills are directly related to many skills which determine student achievement. Students who have impairments in reading comprehension skills may not be expected to be interested in different subjects, understand what they read from the books and consequently be successful in different lessons (Doğan, 2002).

The impairments of students with mental retardation in reading comprehension skills show differences according to their level of disability and it is not seen possible for students with severe mental retardation to learn reading and writing skills. The impairments of students with mental retardation in reading skills are more evident in reading comprehension dimension and it is suggested that providing appropriate teaching methods can help students overcome these difficulties (Milli Eğitim Bakanlığı, 2001; Eripek, 2005).

The difficulties in reading comprehension skills of students with mental retardation are mostly in finding the components of the texts they read and associating these components. The short attention span, lacking repeating strategies, impairments in transferring what they have learnt, and memory problems are suggested to be the reasons for these difficulties (Eripek, 2005). In a related study, Eripek (1989) stated that students with mental retardation who are in special education classes had more difficulties in reading comprehension skills. He also indicated that most of these students have learnt reading in the first or second grade; nevertheless, they still need support in reading comprehension skills in upper grades. It is known that the purpose of the reading skills is to understand and extract meaning from the written materials. Therefore, the reading programs should focus on comprehension skills. Improving reading comprehension skills requires using different strategies to a large extent other than the traditional teaching methods and therefore requires instructional adaptations that are appropriate for the characteristics of children (Friend & Bursuck, 2002; Lewis & Doorlag, 1999). Despite these requirements, it is stated that most teachers make few

adaptations in practice and in fact throughout the year they are using the traditional instructional method in which teachers are more active in lecturing (Sucuoğlu & Kargın, 2006). In a study about reading comprehension skills, Durkin (1978) assessed teacher behaviors intended to improve reading comprehension skills and observed that teachers almost never spent time in improving reading comprehension skills. As a consequence, he indicated that there is a need to develop additional instructional programs in order to improve reading comprehension skills of students with mental retardation.

Using different instructional strategies and making adaptations in instruction when needed are required to improve reading comprehension skills. A teacher whose target is the improvement in every student in his/her class is a teacher who makes adaptations in his/her instructional methods with respect to the student needs. The main reason for making adaptations in instructional methods is to improve the areas in which students have difficulties and have them use their performances to the maximum extent possible. Children with mild mental retardation are educated in mainstreaming environments in Turkey. The success of mainstreaming mostly depends on the teacher to adapt the program with relation to the students' needs. In classes where the traditional method is basically used not only students with mental retardation but their peers with no disabilities also have difficulties (Duman, 2006; Sucuoğlu & Kargın, 2006). Practices in which the traditional method is used contain having the students read the text, answer the questions related to it, and narrate the text. In order for students to answer the questions no additional instruction is given. Nevertheless, when none of the students is able to answer the questions the teacher models the correct answer (Şengül & Yalçın, 2004). Thus, students with mental retardation encounter more failure in reading comprehension exercises.

Different techniques to help students understand the texts are listed in the literature. Some of these techniques involve repeated readings (Dowhower, 1987), questioning (Gersten, Fuchs, Williams, & Baker, 2001), think aloud strategies (Readence, 2005), the Story Map Method (Idol & Croll, 1987), and reciprocal teaching technique (Palinscar & Brown, 1984). The main purpose of all these strategies is to help students understand what they read.

Repeated Readings depend on repeating in reading comprehension (Dowhower, 1987). *Questioning* involves practicing comprehension

questions of the text with the student in improving reading comprehension (Gersten et. al., 2001). *Reciprocal teaching* is an active technique in which older experiences are activated and interacted to the text itself (Carter, 1997). Another reading comprehension technique is *story map*. There are different explanations of story map in the literature. One of these explanations indicates that story map is the representation of some part of or the whole story and the relations of basic components of the story to each other in graphical form (Davis & McPherson, 1989). It is also stated that story map is a schema construction technique that involves teaching the relationships of parts of a story with each other to the reader and giving basic elements of the story in a schema in order to draw the attention of the reader (Sorrel, 1990; cited in Duman, 2006). The purpose of the story map method is to have students construct the story about the elements of the story in their minds without using the given visual material as story map after a certain time and to improve thinking structures that provide text comprehension (Sorrell, 1990). The Story Map Method is accepted as an effective technique in distinguishing significant and insignificant information in the story, directing students (making them focus on important components), providing active participation, transferring information into long term memory, activating foreknowledge, and predicting (Akyol, 1999).

In another study of Idol (1987), three students with learning disabilities and two students with academic difficulties who attended to 3rd and 4th grades were instructed with story map in order to teach them the story components. The results showed that there was a progress in answering the questions that were related to the story components and this progress continued throughout the instruction period.

In their study with 2nd and 5th grade students with learning disabilities, Griffey, Zigmond, and Leinhardt (1988) wanted the students to find the components of stories. In the proceeding phases, the students were expected to go over these steps without using the story map. Eventually, it was observed that the students were able to apply what they had learnt without using the story map. This study is seen important in showing the success of maintenance phase of the story map method (Johnson & Graham, 1997; cited in Akça, 2002, p. 25).

Davis and McPherson (1989) planned a study to show the effectiveness and maintenance of the story map method using a multiple baseline design across subjects. In the study, five students with learning disabilities

were required to read the story they were given and fill in the story map. As a result, they found that there was an increase in students' comprehension and maintenance was also achieved.

In Dimino, Gersten, Carnine, and Blake's (1990) study, there were six students with learning disabilities who attended to 2nd grade. The purpose of the study was to show the effectiveness of the story map technique in improving reading comprehension with students who were unable to read in 2nd grade. Using a multiple baseline design across subjects, at the end of the study, it was seen that the students who were instructed with the story map technique were more successful in finding the story components while reading and answering the questions than the students who were instructed with the traditional techniques (Johnson ve Graham, 1997; cited in Akça, 2002, p. 25).

Davis (1994) conducted an experiment to compare the efficacy of story map and direct reading technique on reading comprehension. This experiment consisted of 90 students from both 3rd and 5th grades resulting in 180 students in total. The students were randomly assigned to either experimental or control groups. The purpose of the study was to compare the efficacy of story map and direct reading techniques on reading comprehension. After the experiment, it was seen that the story map technique was superior to direct teaching technique in teaching reading comprehension skills to the students in the experimental group.

Boulineau, Fore III, Hagan-Burke, and Burke (2004) conducted a study on 6 students with learning disabilities who attended to 3rd and 4th grades. In the study, the students were asked to fill the story map about the story that they had read in order to show the effectiveness of story map technique's effectiveness and maintenance. A single-subject design was used and there was an increase in the reading comprehension of the students and finding the components of the story and this increase was maintained after the study.

These findings of the research studies that were conducted in other countries to find out the effectiveness of story map technique on reading comprehension skills show that this method is effective. Having looked at the research studies involving story map method it is seen that most of these studies consisted of children without disabilities. Only one study was conducted with students with mental retardation. In order to summarize these studies the first one was of Akça's (2002). The

researcher conducted an experiment to determine the effectiveness of story map technique on reading comprehension skills of 44 4th grade students. As a result of this experimental study, it was found that the story map technique was effective in teaching students reading comprehension and finding the components of the story.

The second study was of Bozkurt's (2005) experiment using a pre-test post-test design with 34 students who attended to 8th grade and the purpose of the experiment was to investigate the effect of story map technique on reading comprehension. It was found that story map technique was superior to traditional methods in teaching reading comprehension skills.

Lastly, in a study of Duman (2006), it was aimed to find the effectiveness of story map technique on reading comprehension skills of 3 students with mild mental retardation that had 2nd grade reading abilities. Conducting a multiple probe design, it was found that story map technique was effective in teaching reading comprehension skills to these students. The study of Duman (2006) is important that in being the first research study that aimed to teach reading comprehension skills to students with mental retardation utilizing story map.

To summarize when we look at the studies in which story map technique was used that were summarized above, we can clearly see that this technique is effective on reading comprehension skills of children and the skills are also maintained. For these reasons, it is emphasized that teachers use the story map technique in teaching reading comprehension skills to their students in their classrooms.

As a consequence, in Turkey, there is a restricted range of studies that examine the effectiveness of different techniques on reading comprehension skills of students with special needs and there is a need to increase the number of these studies. For this necessity, the problem of this study was the effectiveness of the instruction utilizing story map technique on teaching reading comprehension skills to students with special needs that attend to general education classrooms.

The purpose of this study was to investigate the effectiveness of the story map technique on teaching reading comprehension skills to students with special needs that attended to general education classrooms. In order to achieve this purpose following questions were investigated: 1) Is there a difference between the reading comprehension skills of

children in the experimental and control groups before the application of the story map technique? 2) Is there a difference between the reading comprehension skills of children in the experimental and control groups after the application of the story map technique? 3) Is there a difference between the reading comprehension skills of children in experimental group before and after the application of the story map technique? 4) Is there a difference between the reading comprehension skills of children in control group before and after the program?

Method

Participants

This study was conducted with 14 students with mild mental retardation. 7 of them who were in the experimental group were attending in an inclusive elementary school in Sincan and the others who were in the control group were attending in a special education and rehabilitation center in Çankaya, in Ankara at the time the study was conducted. The characteristics of the participants were showed in Table 1.

Table 1.
Age, Sex and Grade Distribution of the Experimental and Control Groups

	Sex		**Age**			**Grade**		**Total**
	Female	Male	8 yrs	9 yrs	10 yrs	2nd	3rd	
Experimental G	2	5	4	3		4	3	7
Control G	1	6	2	3	2	2	5	7
Total	3	11	6	6	2	6	8	14

As it is seen in Table 1, there were 2 girls and 5 boys in the experimental group. The mean age of the students was 8.4 years. And also 4 of the students in the experimental group were attending 2nd grade and 3 of them were attending 3rd grade. There were 1 girl and 6 boys in the control group. The mean age of control groups was 9 years. Also, 2 of the students in the control group were attending 2nd grade and 5 of them were attending 3rd grade.

In order to implement this research, the participants were expected to have the following pre-conditions: 1. having the diagnosis of mild mental retardation, 2. having no other disabilities, 3. attending to general

education classrooms as a mainstreaming student, 4. having traditional instruction in Turkish lessons, 5. the ability of independent reading accuracy of 2nd grade (99% and more) and also independent writing skills of 2nd grade, 6. Having instructional level of reading comprehension skills of 2nd grade that were to be taught (that students were able to answer the questions with 89-70% accuracy, and 7. attending either 2nd or 3rd grade.

Data Collection Instruments

In this research for two different purposes data collection instruments were used: 1. to determine the research group and 2. the instruments used in the experimental phase.

The Instruments Used to Determine the Research Group: In order to collect the data to determine the experimental and control groups a *Read Aloud Test* (App. 1), and *Teacher Interview Form* (App. 2) that was developed by the researcher were used. The *Read Aloud Test* (App. 2) that was used in pre assessment was developed by Şenel (1998) in order to determine the reading and reading comprehension of students who attend to elementary school. The *Read Aloud Test* consists of reading texts and five questions about these texts that were intended for elementary grades 1 to 5. The reliability and validity studies of this test were done by Şenel.

In order to determine the reading comprehension difficulties of the students and to determine the research group (experimental and control) *The Read Aloud Test* of Şenel (1998) was administered individually to students that were chosen. All the sessions were videotaped while the test was being administered in order to make it possible for the error analysis and assessment of reading comprehension skills. The read aloud test consists of 5 stories that are at the grade level of the students and the students read all the stories starting from the 1st grade ones. After the students finished the story, the story was covered with a blank sheet and the questions related to the story were asked. After administering *The Read Aloud Test* the researcher scored all the answers at the end of the assessment session.

First, parallel-form reliability was used by Şenel (1998) as reliability and validity studies. For this purpose, *The Read Aloud Test* was prepared in two forms and conducting parallel form reliability correlations between

read aloud and reading comprehension scores were analyzed. A hundred and two students were administered both A and B forms of the reading test and correlations between the scores of students in reading aloud and reading comprehension from each form were calculated. The correlation coefficient of 102 students was r= .90 (p<.001) for reading aloud scores, r= .76 (p< .001) for reading comprehension scores. As a result, reading alaud and comprehension scores of A and B forms were significantly correlated.

For the validity studies of the reading test, content and criterion validity methods were used. For the content validity 20 elementary school teachers who had instructed from 1st to 5th grade were asked to assess the texts in *The Read Aloud Test* and indicate whether the texts were appropriate for the grade level of the students for them to read and comprehend. As a result, the texts were stated to be appropriate to the grade levels they were written for and that the students could read and comprehend the texts. For the criterion validity correlations between the Turkish grades and reading aloud and comprehension scores of the test were found .32 (p<.001) and .35 (p<.001) respectively. These findings show that the test has content and criterion validity in terms of both reading aloud and comprehension.

There are some criteria used to determine the appropriateness of the reading inventories to individual's reading level. These are independent level, instructional level, and failure level. According to these three levels, word recognition rate can be listed as follows: independent level is 99% and above, instructional level is 95% and failure level is below 90%. In determining the reading comprehension level of an individual, the score of the individual from the text s/he reads is divided by the total score. The rate of answering the questions at the independent level is 90% and above, at the instructional level is between 89-70% and at the failure level that ratio is 69% or below (Şenel, 1998).

Another instrument that was used to determine the research groups was *Teacher Interview Form*. It was developed by the researcher in order to determine the general situation of the students in the classes and to learn the teachers' information about their students' difficulties in reading comprehension and the techniques they used (App. 2). The form was completed by arranging an interview with the teachers of the students individually. *Teacher Interview Form* was consisted of questions whether there were any students who had difficulties in reading

comprehension in their classrooms, if any which areas these students had difficulties in reading comprehension, and which adaptations these teachers had made in order to improve the reading comprehension skills of the students, and etc.

The Instruments Used in the Implementation Phase of the Research: First, s*tory map schema form* was used in the implementation phase of the research that was developed by Boulineau, Fore III, Hagan-Burke, and Burke (2004) (App. 3). Boulineau et. al.'s *story map form* consisted of the following story components: a) Place, b) Time, c) Main Character, d) Problem, e) Solution, f) Result, g) Reaction, and h) Achievement of the Story. Because the experiment was done with students with special needs, all the story components on the *story map schema form* were presented with a picture in order for students to easily recode and remember the story components. Second, in the implementation phase, *monitoring form* was developed by the researcher to determine the rate of correct, false or missing answers of the students in the experimental group in filling the eight components in story map schema form. In *monitoring form,* all the eight components in the *story map schema form* were transformed into questions and a short answer were written for each question. While filling the *story map schema form* the experimental group was expected to answer these questions and the criterion was set to be 100%. Third, in the implementation phase *reading comprehension questions* were used. All the eight components in the story map were transformed into questions and appropriate blanks were given for the students in the experimental and control groups to write their answers in these blanks. The written answers were assessed as (+) and (-) in pre and post tests using *story map reading comprehension skills pre test form* and *story map reading comprehension skills post test form.*

Data Collection

Collecting the data of this research involved four phases. These are as follows: a) Forming the research group (pre-test), b) Determining the reading comprehension skills of students in the experimental and control groups with pre-test, c) Teaching reading comprehension skills to students in the experimental group using story map method, and d) Determining the reading comprehension skills of students in the experimental and control groups with post test.

Forming the Research Group (Pre-Test): In this phase to determine the students who have difficulties in reading comprehension skills, to determine the experimental and control groups, the school files and medical records of mainstreamed students from an elementary school in Sincan province of Ankara that had difficulties in reading comprehension skills and students from a special education center that had difficulties in reading comprehension skills were examined and interviews with their teachers were conducted using teacher interview form (App. 2). After student files, medical records, and teacher interview forms were analyzed Şenel's (1998) the Read Aloud Test was conducted to the students individually by the researcher.

Determining the Reading Comprehension Skills of Students in the Experimental and Control Groups with Pre Test (1st week): In order to determine the reading levels of the students they were asked to read the story that was chosen by the researcher for the pre-test then reading comprehension questions regarding the story components were asked to the students both in experimental and control groups individually. To find pre-test scores story comprehension questions were transformed into a form by the researcher. In this form, eight components were in directives and if the student answered all the questions it was coded as (+) and if s/he could not it was coded as (-). The researcher coded the answers of the students to *story map reading comprehension skills pre test assessment form* as (+) or (-). Then, this process was replicated for all the students in the experimental and control groups. After the assessment the scores of the students obtained from *story map the reading comprehension skills pre test assessment form* were calculated.

Teaching Reading Comprehension Skills to Students in the Experimental Group Using Story Map Method: When pre test was administered, students in the experimental group were instructed using story map method in teaching reading comprehension skills for 16 sessions. Every session was lasted 40 minutes and carried out four days of the week. Every phase of *Story Map Method* (modeling, guidance, test, and maintenance) was achieved in one week. In every session, one story was read. The stories in the implementation were developed by Cora-İnce (2007) in order to investigate the effectiveness of an instructional program that utilized collaborative teaching approach in teaching reading comprehension skills. The stories were designed to assess answering the questions of the text read, finding the main idea, and summarizing

the text consisting 15 stories in each skill category 45 stories in sum.

Cora-İnce (2007) asked professionas from Abant İzzet Baysal University, Faculty of Education, Department of Turkish Education and Ankara University, Faculty of Educational Sciences, Department of Curriculum Development, Turkish Language and Literacy Program to evaluate the stories in terms of grammar, content, form, questions, main purpose and subsidiary purposes, and summary. After this evaluation, the texts were rearranged. Pictures related to the content of the texts were pasted over the texts. The pictures were drawn by Abant İzzet Baysal University, Faculty of Education, Department of Fine Arts, Painting Teaching Program (Cora-İnce, 2007).

Instructional sessions of the students in the experimental group were administered according to the phases of the story map method. First, *modeling phase* was implemented. In this phase, each session started with standard directions and information, regarding the aim of the lesson, the expected behaviors for the students, and what the students would gain at the end of the lesson. The graphic organizer (story map schema form) which was going to be used during the sessions was introduced to students by the researcher. As a requirement of modeling, step by step teaching was conducted by the researcher and the students were asked to watch her carefully. Then, the story was read by the researcher once. While reading when the researcher came across a story component she stopped reading and explained the related component. After the reading, every story components were asked and the answers were given by the teacher and written below the graphic organizer. Then the students were asked to read the story and answer all the components in the same way. When the students had finished answering the components, the researcher checked and recorded the students' responses in data gathering form. The correct responses were recorded as "+"and reinforced verbally, and the wrong ones were recorded as "-" and corrected. After four sessions the students were able to answer four out of eight story components correctly on average.

The second phase was *guided training*. The same process used in modeling sessions was also followed in these sessions. The only difference was that the training was done by the students and the teacher only corrected mistakes by interrupting them. In this phase the researcher chose a student to read a story aloud. After reading she asked the students to explain the story components in turn. After all the students explained

they filled the graphic organizer with their answers. Then the researcher filled in her own graphic organizer and compared it to theirs. Then the researcher checked and recorded the students' responses in the related form. The correct responses were recorded as "+"and reinforced verbally, and the wrong ones were recorded as "-" and corrected. After four sessions the students were able to answer six out of eight story components correctly on average.

The next phase was *testing*. After all the students finished reading, they were asked to fill in the graphic organizer. When they finished correctly, the organizers were collected by the researcher and the comprehension questions were given to the students. While the students were answering the questions the researcher noted their answers. After completing all questions the answers were compared to key and the researcher coded the students' performances in the related form. The correct responses were recorded as "+"and reinforced verbally, and the wrong ones were recorded as "-" and corrected. After the testing phase students were able to answer eight out of eight story components correctly on average.

After the testing phase, maintenance phase was implemented. In this phase the researcher asked the students to read the story and answer all the questions without using the graphic organizer. When the students had finished answering all the questions, the researcher checked and recorded the answers in the related form. The correct responses were recorded as "+"and reinforced verbally, and the wrong ones were recorded as "-" and corrected. After four maintenance sessions the students were able to answer all the questions of the stories correctly on average.

Determining the Reading Comprehension Skills of Students in the Experimental and Control Groups with Post Test (6th week): In order to determine the reading comprehension levels of the students a story not used in the sessions was chosen by the researcher and she asked students to read the story and reading comprehension questions of the story was administered to the students both in experimental and control groups individually. The answers of the students were coded on *story map reading comprehension skills post test form* as (+) or (-). Then the same process was replicated to every student in experimental and control groups and the scores students obtained from the *story map reading comprehension skills post test form* was calculated.

Data Processing

The findings of this study were analyzed using Mann-Whitney U and Wilcoxon Signed Rank Test for Paired Samples (Bruning & Kintz, 1993; Topsever, 1977). The experimental and control groups were compared in terms of pre and post test results. In order to compare the pre and post tests of experimental and control groups with each other Mann-Whitney U test was chosen to compare the scores of two independent groups due to the small sample size. In order to compare the scores of within groups' pre and post tests Wilcoxon (signed rank) test was used for two paired samples.

Findings

Findings about the comparison of reading comprehension scores of experimental and control groups *before the implementation*

As can be seen in Table 2, the pre-test results of the experimental and control groups using Mann-Whitney U test revealed no significant difference between these two groups (U=16.50, p=.266). The results showed that there was no significant difference between the experimental and control groups before the implementation. In other words, reading comprehension skills of experimental and control groups were similar in pre-test phase.

Table 2.
Mann-Whitney U mean scores of experimental and control groups on reading comprehension scale before and after the program

	Experimental Group (n=7)		Control Group (n=7)	
	Mean Rank	Sum of the Rank	Mean Rank	Sum of the Rank
Pre test	8.36	44.50	8.64	60.50
Post test	11.00	77.00	8.64	28.00

*p<0.05.

Findings about the comparison of reading comprehension scores of experimental and control groups *after the implementation*

Comparing the post-test results of the experimental and control groups, we found a significant difference between these two groups (U=.00, p=.001). As can be seen in Table 3, the results showed that the reading

comprehension skills of the students in the experimental group were superior to the students in the control group. Thus, it can be inferred that the instruction that was conducted with story map technique in teaching reading comprehension skills was effective in improving reading comprehension skills.

Table 3.
Wilcoxon Signed Ranks Results of Experimental and Control Groups Before and After the Program

		Experimental Group			Control Group	
Post test – pre test	n	Mean Rank	Sum of Rank	n	Mean Rank	Sum of Rank
Negative Rank	0	.00	.00	3	2.50	7.50
Positive Rank	7	4.00	28.00	1	2.50	2.50
Equal	0			3		

$p<0.05$.

Findings about the reading comprehension skills of children in the experimental group *before* and *after the implementation*

Comparing pre and post test results of the experimental group with Wilcoxon signed ranks test, we found a significant difference between these two assessments ($z=2.45$, $p=.014$).

The results showed that there was a significant difference between the scores of students before teaching reading comprehension skills to them using story map and after using story map. With regard to this finding it can be inferred that the reading comprehension skills of the experimental group were significantly different after 16 instructional sessions.

Findings about the reading comprehension skills of children in control group before and after the program

Comparison of pre and post test results of the control group with Wilcoxon signed ranks test revealed no significant difference between these two assessments ($z=1.00$, $p=.317$). Thus, there was no significant difference in reading comprehension skills of the control group before and after the program.

Discussion

The findings of this study showed that the story map method had a positive effect on teaching reading comprehension skills to the participants who attended the instructional sessions. This finding was consistent with the findings of previous studies that have used story map (Akça, 2002; Baumann & Bergeron, 1993; Bozkurt; 2005; Davis & Mc Pherson, 1989; Duman, 2006; Gardill & Jitendra, 1999; Griffey et al., 1988, Idol & Croll, 1987).

In this study, a significant difference in the post test scores of the experimental group showed that the instructional sessions using the story map technique in teaching reading comprehension skills made positive increases in the reading comprehension levels of the students who attended these sessions. No significant difference in the pre and post test scores of the control group showed that instructional sessions were effective when the fact that the control group did not receive any instructional session is taken into account.

The teachers of the students in the experimental group were interviewed before and after the experiment and were asked about the improvement in these students' reading comprehension skills. The teachers indicated that before the experiment the students were not able to express themselves, they were not attending actively to the courses, they could not explain the cause and effect relationship in the stories, they could not find the topic of the story, they could not tell the story in accordance with the occurrence of the events, they did not know the meanings of the words in the story, they could not analyze the events, and they could not understand the achievement of the story. After the experiment, the teacher indicated that there was an improvement in the self expression skills of the students, they were raising hands more than before to answer the questions, they were able to tell the story in accordance with the occurrence of the events, they could explain the cause and effect relationships in the stories, they could find the topic of the story and say the achievement of the story. The interview data support our findings that showed the effectiveness of the instruction.

Comparing pre and post test scores of the control group shows no significant difference between them. Before the program the teachers also indicated that the students were unable to understand what they read because they were reading slowly, they could not tell the place or the time of the story, they could not follow the order of the story, they could

not explain the cause and effect relationship of the story, they could not find the topic and they could not tell the purpose of the study.

The students did not have any problems finding the main character of the story, when and where the story took place and the reaction of the main character at the end of the story but they had problems finding the problem of the story, how the main character solved the problem, what happened at the end of the story and what we earned from this story. Moreover they improved their self-expression skills during these 16 sessions because they formed a very good friendship with each other even if they were from different classes. All the students attended all the sessions. There were no problems in the instructional sessions. The students' social skills also improved because they spent time together for 16 sessions.

The stories to be read during the instructional sessions were chosen by drawing lots and because the student who was to read the story drew the lot students were really eager. The students also indicated that they were curious about the story to be read. Moreover because the sessions were videotaped and then the students were made to watch 10 minutes of the sessions, the students were interested in watching them. It was seen that all the students watched themselves on the videos. As a result it was seen that the instructional sessions were useful in improving reading comprehension skills to the students in the experimental group.

The findings of this research showed that the story map technique was effective in improving reading comprehension skills of students with mild mental retardation. With these findings, following recommendations can be given to educators and practitioners: 1) Instructional practices in this research are done with students with mild mental retardation that attended to general education classrooms in a separate room as a group format. It can be recommended that teachers can instruct in their classrooms in a group format. 2) In this study, direct instructional approach was found effective and the results were maintained. Therefore, it can be recommended that practitioners can use direct instructional approach in teaching reading comprehension to students with mental retardation. One of the limitations of the study was the small size of the research group. Replicating the results of this study about the effectiveness of story map technique with larger groups can shed light to the generalizability of the findings.

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