

Full Length Research Paper

# Observation of multimedia-assisted instruction in the listening skills of students with mild mental deficiency

Erhan AKIN

Siirt University Education Faculty Turkish Education Turkey

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This study was carried out with 2 students with mild mental deficiency, one in 5<sup>th</sup> grade and the other in 6<sup>th</sup> grade of Turgut Özal Secondary School in Bulanık County of Muş Province. It was done during the spring semester of the 2014-2015 school year in order to observe the effect of multimedia-assisted instruction on listening skills of mainstreamed students with mild mental deficiency. The courses were taught in the information and communication technologies classroom outside the course hours with permissions from the parents and school administration. The study was designed as a case study, a qualitative research model. The lessons were videotaped to obtain data. The parents were interviewed in order to determine the state of the students after class. The data collected using semi-structured interviews was evaluated through content analysis. The study was conducted using the multimedia-assisted instruction method to discuss a total of four listening texts, with one text per week. The texts were prepared according to the multimedia-assisted instruction method. The students listened to the texts, accompanied by relevant visuals projected on a screen with background music. Tools such as animations, videos, music, etc. that reflect the central theme of the texts were prepared to be shown before and after the texts. As a result of classroom observations and interviews held with the parents, it was concluded that multimedia-assisted instruction was effective on the listening skills of mainstreamed students with mild mental deficiency. The animations, videos and cartoons that the students watched made them enjoy the lesson and become active participants in the listening process.

**Key words:** Multimedia, listening comprehension education, mainstreaming.

## INTRODUCTION

Mother tongue is the first language that an individual learns in his/her family or the society in which he/she grows up. It is a language that one learns without formal education and compulsion or without considerable efforts. Individuals learn and use most of the rules of their mother tongue before reaching school age. This occurs with a more organized education once they reach school age.

What is important in mother tongue education is how and for what purpose activities will be planned. It is argued that it will be hard to achieve the expected results when teaching activities are not planned according to the level of students (Erdem and Çelik, 2011). Teachers should make sure that they perform their duties perfectly in activating prior knowledge, organizing and implementing,

E-mail: [erhanakin49@hotmail.com](mailto:erhanakin49@hotmail.com).

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and finally, evaluating that knowledge (Temizkan, 2013).

### Listening comprehension education

Studies show that listening is among the leading skills most frequently used in classroom education. The listening skill has great importance in Turkish Language education. Listening is not just hearing what is being said. Listening depends on the individual's preference. It is composed of sounds that the individual perceives selectively and intentionally. Hence, listening is a process in which the individual makes a conscious effort to understand the sounds that are being heard (Özbay, 2009). The individual hears many things, but only listens to and comprehends what he/she likes.

The listening skill is listed alongside the reading skill within the comprehension skills for the Turkish Language course. The listening skill is the ability to comprehend completely a message that one conveys by speaking or reading aloud (Özbay, 2006). The listening skill is an ability which requires an active effort to comprehend a message completely (Melanlioğlu, 2013).

Although the recent Turkish course education curriculum places more emphasis on the use of new methods and techniques, teachers generally continue to use the narration technique (Melanlioğlu, 2012). In order to transform students from passive listeners to active listeners, visual and audio tools should be used in educational listening activities at schools. Multimedia-based instruction can increase the teacher's efficiency and activate the students in the learning environment, ensuring a high quality learning experience for the students (Akkoyunlu, 1998). This situation is considered to be more important and necessary for mainstreamed students with mild mental disability. This can be achieved through multimedia-assisted instruction methods and tools that can be used in the Turkish Language lesson and listening activities. It is believed that through these tools, that is videos, visuals, audio materials, etc., the texts to be taught will be more appealing, effective and meaningful for mainstreamed students with mild mental deficiency. Instructional materials meet the personal needs of students and if there are any mainstreamed students with mild mental deficiency in the classroom, instructional materials can be more effective in the learning environment (Kargin, 2010). It is stated that while using multimedia-assisted instruction, students' attention spans are longer and the material is better learnt and learnt more quickly because the learning environment addresses more senses (Merrill, Hammons, Vincent, Reynolds, Christensen and Tolman, 2004). In a constructivist learning system, technology makes an undeniable contribution to making students more active in the learning process (İşman et al., 2002). The use of technological tools in education offers a positive contribution to the success of students (Musarurwa,

2011). It is emphasized that that the use of tablet PCs in the learning environment brings great advantages to students and teachers both, and improves students' attention and interest (Koile and Singer, 2006).

### Multimedia

In terms of education, multimedia means the transfer and more frequent use of printed, visual, audio, video and similar tools in the learning environment in a harmonious manner.

*The definitions made for multimedia can be listed as follows: Multimedia is the simultaneous presentation of computer-based information via multiple tools (texts, graphic images, motion graphics, animations, hypermedia, photographs, videos and sounds) (Kahn, 2008). According to Vaughan (2004: 1), multimedia is any combination of text, image, audio, animation and video delivered by computer. According to Simkins et. al (2002: 11), multimedia is to integrate media such as texts, graphics, videos, animations and sounds in order to provide information. Simply defined, a computer-based multimedia system is a technology group which makes it possible to create, store, communicate, and when necessary, re-access various pieces of information in different formats such as text, graphic, photograph, motion video, animation, audio and music (Quoted by Akbaba, 2009, p. 49).*

Studies show that, time being constant, individuals are capable of remembering 10% of what they read, 20% of what they hear, 30% of what they see, 50% of what they see and hear, 70% of what they say, and 90% of what they do and say. It can be said that if activities prepared by using instructional technology address more senses, the attention, motivation and success of the students will be higher (Akkoyunlu and Yilmaz, 2005). Multimedia-assisted instruction increases the success levels of students (Harwood and McMahan, 1997). The use of multimedia-assisted instruction and tools in education requires active learning, which has a positive effect on students (Collins, 1991). Use of information and communication technologies in education enables to uncover students' potentials (Peltenburg et al., 2010).

The texts used in the Turkish Language course that is taught using the teacher-centered instruction method and the texts used in multimedia-assisted teaching of the Turkish Language course are different from each other. Every text may not be suitable for the multimedia learning environment. Thus, the design of the texts is as important and necessary as their selection in multimedia-assisted teaching of the Turkish Language course. Selection and design of multimedia tools can even become more important if these tools are to be used for students with mental deficiencies. The tools-materials to be used in the

learning environment should support the learning skills of students (Jacobsen et al., 2002; Wood, 2006). The design of the multimedia-assisted learning environment and its tools vary according to designers and personal characteristics of the target group (Müler and Storey, 1993; Theng et al., 1997; Chen, 2002). Appropriate instructional materials should be selected to eliminate deficiencies of students with different developmental characteristics (McKnight et al., 1990; Thomas and Rebecca, 1994). The learning environment should be organized according to personal characteristics of students and should be supported with suitable tools (Krason and Jaszczyszyn, 2006).

### **Mental deficiency**

Special Education Services Regulation of the Ministry of National Education defines individuals with mental deficiency as individuals who exhibit a score of two standard deviations below the mean in terms of mental deficiency and have deficiencies in conceptual, social and similar skills observed before the age of 18, and are in need of special education (Ministry of National Education {MEB}, 2006). Individuals with mild mental deficiency are defined as individuals whose mental development progresses are in the same order as their peers, but who have slower and less developed learning skills than their peers (Mastropieri and Scruggs, 2004; Eripek, 2005) and with underdeveloped comprehension skills (Ulukaya, 2009).

Individuals with mild mental deficiency receive education in the same environment as other students in order to preserve their ties with the society and their peers. These students are educated under the mainstreaming curriculum which is different from the curriculum applied to other students. Mainstreaming in our country is employed at primary and secondary schools in accordance with the 4<sup>th</sup> article of the Children in Need of Special Education Law numbered 2916 and dated 1983 (Balaban et al., 2009). Mainstreaming is a type of education which allows students with special education needs to establish psychosocial relationships (Macmillan, 1982), offers students with mild mental deficiency the same education as their peers with no deficiency in regular classrooms (Tüfekçioğlu, 1997; Sarı, 2002; Lewis and Doorlag, 2004; Balaban et. al, 2009), is designed to educate individuals with specific needs different than those of their peers, and is carried out in environments that enable these individuals to receive education with fewer obstacles (Lewis and Doorlag, 1987; Olson et al., 1999). The aim in mainstreaming is not only to ensure that students with mild mental deficiency receive education in regular classrooms. This education is carefully planned and is based on a sound foundation (Macmillan and Morrison, 1984; Blair, 1985; Deborah and Smith, 1992; Sucuoğlu, 2006). Mainstreaming is an

education method that fosters tolerance in the learning environment (Soodak and McCarthy, 2006). In the education of individuals with mild mental deficiency, students with mild mental deficiency and students with normal development are taught by the same teacher in the same learning environment (Batu and Kırcaali-lftar, 2005). For this reason, the aim of mainstreaming is not just to ensure knowledge acquisition in the academic context. The aim should be to develop individuals in all aspects (Salderay, 2008; Acedo, 2013).

In order to succeed in mainstreaming, opportunities must be given to students with mild mental deficiency and normal students so that they interact with and tolerate one another (Atıcı, 2014). There are numerous factors that affect the education of individuals with mild mental deficiency. One of these factors may be the multimedia-assisted teaching environment and tools that take into account personal differences and address all the senses of students. The multimedia-assisted teaching environment considers the experiences of students. Designed according to the levels of students, this is a current and personal environment that activates and engages the students (Akay et al., 2014).

A student subject to mainstreaming should benefit from all educational opportunities. The education environment suitable to the individual should be prepared taking all the characteristics of the individual into account and the individual should experience the feeling of success. To this end, the multimedia-assisted instruction method can be used for it is a method that addresses all senses of the individual. In mainstreaming, the education environment should be prepared and practical activities should be designed taking into account the needs of students (Tomlinson, 2005; Shaw, 2011). Through this method, a student with mild mental deficiency can listen to a text without getting bored and better comprehend what he/she listens to with the help of visual, audio and similar tools. The education environment and tools should be prepared by taking into account the characteristics of individuals with special educational needs (Kırcaali-lftar, 1998; Bauer and Kroeger, 2004; Şahbaz and Kalay, 2010). Employing technological materials and tools in the education of individuals with mild mental deficiency and creating a multimedia-assisted learning environment for them can contribute to their learning skills and motive them to participate in the lesson.

### **Aim and importance of the study**

One of the primary objectives of mainstreaming is to offer necessary education to students with mild mental deficiency and prepare them to social life. This becomes even more important for the Turkish Language courses in which the language is taught. For the listening skill, one of the basic language skills, multimedia-assisted instruction is an important method as it addresses all

senses of students subject to mainstreaming. It can contribute to the development of students' listening skills by addressing not only their hearing sense but also other senses. Problems originating from weaknesses of mainstreamed students with mild mental deficiency can be prevented by preparing listening activities including visuals, audio, animations, cartoons, and similar aids.

Multimedia-assisted instruction can be utilized to main attention of students subject to mainstreaming. The purpose of this study is to discuss and analyze in-class and out-of-class conditions of students subject to mainstreaming observed during the teaching of texts using the multimedia-assisted instruction method.

Multimedia-assisted instruction is believed to contribute to teachers in developing listening activities for the Turkish Language course, and to those who prepare mainstreaming curricula as well as to the relevant literature, with implications as to use of multimedia-assisted instruction in the education of students with mild mental deficiency.

## METHOD

This study was designed as a case study, a qualitative research model. The qualitative research method enables to study an existing case in more detail. Case studies provide the opportunity to examine multiple aspects of individuals in their own environments without any impact on the natural environment of any class or group. In the case study model, the aim is to discuss and interpret as a whole those environments or situations which the study focuses on (Yıldırım and Şimşek, 2006). The case study methodology enables to find detailed information on the subject being studied and to discuss the subject in all aspects. The person conducting the study is the primary source for the collection and analysis of data and drawing conclusions from that data (Merriam, 1998).

### Data collection tools

#### *Participant observation*

Investigation and interpretation of individuals' behaviors and attitudes require the use of the observation technique, a qualitative research method because the observation technique is used to collect data about a person, group of persons, an environment, a situation, and tools. It differs from other techniques in that the information is obtained directly (Karasar, 1998). If a researcher wants to obtain detailed and valid information about behaviors that take place in a particular environment and under a particular condition, he/she uses the observation technique (Yıldırım and Şimşek, 2000). In participant observation, the observer is among the individuals observed, but the individuals do not know that the observer is among them (Karasar, 2005). The observation technique will be scientifically meaningful only if it is planned, recorded and verified in terms of validity and reliability in line with the purpose of the research (Judd, 1991, quoted by Balcı, 2005). The observed behaviors are recorded, and then analyzed and interpreted.

Two students with mild mental deficiency were observed simultaneously in the information and communication technologies classroom of the school for a total of 8 course hours with two course hours and one text per week. The lessons were videotaped

without the knowledge of the students, but with the permission and knowledge of their parents and school administration. The data obtained was entered in the "Teacher Observation Form" prepared by the observer. "Windows media player" was used for the analysis of the video recordings. The data was analyzed and interpreted through the data analysis form prepared for this study.

### *Interview*

The interview technique can be classified as structured, semi-structured and unstructured interviews. The semi-structured interview technique is a method in which data is collected using questions prepared in advance (Karasar, 1998). The semi-structured interview technique was used as a data collection technique in this study. The interviews were conducted once a week on the day following the lesson at a time convenient for the family. The information given about the students during the interviews was noted.

### *Study group*

The study was carried out with 2 students with mild mental deficiency, one in 5<sup>th</sup> grade and the other in 6<sup>th</sup> grade of Turgut Özal Secondary School in Bulanık County of Muş province.

### *Characteristics of the study group*

The first student was coded with the letter "P", the first letter of his/her name. P is 11 years old and is still in 5<sup>th</sup> grade. The Individualized Curriculum for P prepared by Muş Counseling and Research Center and the counseling service of Turgut Özal Secondary School for the 2014-2015 school year provides the following educational diagnosis and assessment for P: The student has been attending the full-time mainstreaming program since the 2<sup>nd</sup> grade. P cognitively and physically reacts to audio and visual stimuli, and makes eye contact. P imitates voices and movements. P partially fulfills self-care skills. P's knowledge of concept is at an elementary level. P's writing skill is not yet at an adequate level. Academically, P has difficulty in comprehending instructions describing two or more actions during the Turkish Language lessons. P's reading skill is not at an adequate level. P is behind his/her peers in terms of receptive and expressive language skills. P can partially tell the protagonist, place, and time of a tale or story he/she listens to. Socially, P has acquired playing skills and can participate in group games. P's ability to comply with social rules and effective communicating skills are behind those of his/her peers. P is unwilling to talk.

P is living with his/her family. P has an extended family. P is in the same grade as his/her elder brother. P's family shows no particular interest to his/her condition or how P is doing at school. This attracted the attention of both the researcher and the school counselor, and efforts were spent, but no improvement could be made in that respect. Though rarely, P's grandfather visits the school. P does not have a room of his/her own at home. They are 8 siblings. There is no computer at home. According what his/her family tells, he/she usually watches cartoons and likes to be with his/her elder sister. P's toilet training is at the same level as his/her peers, and is normal.

The second student was coded with the letter "F", the first letter of his/her name. F is 12 years old and is still in 6<sup>th</sup> grade. The Individualized Curriculum for F prepared by Muş Counseling and Research Center and the counseling service of Turgut Özal Secondary School for the 2014-2015 school year provides the following educational diagnosis and assessment for F: The student has been attending full-time mainstreaming program since the 2<sup>nd</sup>

grade. F cognitively and physically reacts to audio and visual stimuli, and makes eye contact. F imitates voices and movements. F partially fulfills self-care skills. F's knowledge of concepts is at an elementary level. F's writing skill is not yet at an adequate level. Academically, F cannot comprehend instructions describing two or more actions during the Turkish Language lessons. F's reading skill is developing at a certain level. F is behind his/her peers in terms of receptive and expressive language skills. F can partially tell the protagonist, place, and time of a tale or story he/she listens to. Socially, F has acquired playing skills and can participate in group games. F's ability to comply with social rules and effective communicating skills are behind those of his/her peers. F is unwilling to talk. F has a speech impediment. The family has investigated treatment options and they state that F will need a surgical operation in the tongue and palate in the future.

F is living with his/her family. F has a nucleus family. F is attending the same school as his/her elder brother. F's family is interested and conscious in every respect. They received assistance at home from an expert last year. F's father visits the school and talks to teachers frequently. F stays in the same room as his/her elder brother. F has another sibling attending the kindergarten. They have a computer at home and F watches cartoons on the computer. F feels the need to go to the toilet frequently in the classroom and also at home according to what his/her family says. The researcher knows the fact that F is easily bored in class.

According to the Educational Diagnosis and Assessment performed by the Counseling and Research Center, both students attend full-time mainstreaming program on condition that necessary measures are taken within the framework of the Circular Nr. 2008/60 of the Directorate-General of The Ministry of Education for Special Education Guidance and Counseling Services.

The Individualized Turkish Language Education Curriculum was utilized in this study. The study was carried out in the information and communication technologies classroom of Turgut Özal Secondary School where the researcher teaches and both students take Turkish Language lessons. Only the researcher and the students were present in the classroom during the study. As the researcher had not encountered any problem during a reading activity carried out in the past with the two students outside the course hours in the same classroom, the validity and reliability committee approved the participation of the two students in the study together, taking also into account the possibility of interaction between the students during the lessons.

#### Validity and reliability committee

The validity and reliability of all phases of the research process were verified by a validity and reliability committee consisting of two Associate Professors in Turkish language education, a computer teacher, and a counselor responsible for the personal curricula of the participating students and monitoring their development. The research process was monitored by this committee and the committee's approval was obtained in all the phases of the process. The process was completed by using efforts to guarantee the validity and reliability of the study in the manner described above.

#### Collection of data

In order to take any piece of information into account as data, that piece of information must be recorded (Arıkan, 2004). As multiple data collection techniques and tools were needed for the study, literature reviews, observations, interview techniques and the tools required by these were used. The study was started by preparing 4 listening texts which were designed by the researcher according to the multimedia-assisted instruction approach.

Printed and visual materials such as scripts, photographs, pictures, economics, animations, videos, films, etc., consistent with the theme of the texts, and instrumental music believed to be appropriate to the emotional dimension of the theme, were transferred to digital media. The multimedia environment was prepared with harmonious use of printed, visual and audio tools, and resources were classified according to their contents. The study took its final shape after the activities prepared were approved by the validity and reliability committee.

#### Data analysis

The data in the study were analyzed through content analysis. Content analysis is a technique in which contents of texts are analyzed in order to obtain results about certain dimensions of unknown situations and behaviors by examining known situations and behaviors (Kaymakçı, 2010). Some tools are utilized in the data collection phase of qualitative studies. Using tools such as a camera, a tape recorder, etc. during the observation phase, the researcher records his/her observations about the environment. The observation made via tools gives detailed information about the environment and also records the elements which might have been overlooked by the researcher (Baş and Akturan, 2008).

Those parts of the videotaped observation data that had direct connection to the study were put down in writing and were organized and classified along with the interview data; common codes were identified by the researcher and a Turkish teacher using an independent encoder and were presented to the validity and reliability committee. In line with the recommendations of the validity and reliability committee, some codes were combined and were presented again to the committee for approval, and thereafter, the study took its final shape.

#### FINDINGS

Four listening texts were prepared for the study in accordance with the multimedia-assisted instruction method, and were presented to and approved by the validity and reliability committee. A brief description of the texts and how they were presented are given below.

1. Summary of the Quarter Apple text: Hophop the rabbit asks the crow for help as it cannot reach the apple on the tree. The crow agrees to help and causes the apple to fall, but the apple gets stuck in the quills of the hedgehog. The hedgehog now says that the apple belongs to it. But the rabbit still wants the apple and they quarrel. The crow joins the quarrel and says that it should take the apple. Tonton the Bear witnesses the quarrel and offers to act as a referee. Tonton the Bear suggests them to divide the apple into three equal pieces. They decide to share the apple in a brotherly manner, but dividing it into four equal pieces in response to the fair solution offered by Tonton the Bear.

Pre-Listening: Before the tests the students watched a 9-min animation film entitled Sharing Is Caring. The students were encouraged to talk about sharing. Listening Phase: The students listened to the text, accompanied by visuals and background music. After listening to the text a second time, the students were encouraged to talk about the content of the text and visuals. Post-Listening: After

listening to the text, for a better understanding of the text, the students watched a 7-minute clip from the cartoon entitled *Pepe*, whose theme was also *Sharing Is Caring*, and a 3-minute animation entitled *Hunger and Solidarity*. Afterwards, the students were encouraged to talk about the main idea of the text and comment on the characters of the text.

2. Summary of the Turkish Grand National Assembly text: The events before the opening of the Grand National Assembly and the state of the assembly that was opened under the leadership of Mustafa Kemal were briefly explained. The students were then told how 23 April, the opening date of the Grand National Assembly, was proclaimed an official holiday and celebrated as the Children's Day every year.

Pre-Listening Activities: Before the text, the students watched a 12-min clip from the documentary entitled *The War of Independence* in order to ensure that the students have an idea about the general situation before the opening of the Grand National Assembly. The students were asked to state their opinions about the documentary and were encouraged to speak. Listening phase: The students listened to the text, accompanied by appropriate visuals and background music. This was repeated twice and the students were encouraged to talk about the text and visuals. Post-Listening: The students watched a 15-min clip from the cartoon entitled *Pepe*, whose theme was also 23 April. The students then tried to find the main idea of the text. The students were encouraged to talk about Atatürk and 23 April celebrations.

3. Summary of the Earth in Space text: The text gives information about our planet Earth with an emphasis on its location in the universe. The solar system and the number of planets in the solar system were discussed, and the appearance of the earth as seen from space was explained. The balance of the earth and its other features were briefly mentioned, and the obscurity of the universe was emphasized. The suitability of the earth for life was discussed.

Pre-Listening Activities: Visuals showing the earth as seen from space were presented, and the students were encouraged to talk about the visuals. After watching a 6-min video about space, the earth, and the sun, the students were asked to speak once again. Listening phase: The students listened to the text, accompanied by appropriate visuals and background music. This was repeated twice and the students were encouraged to talk about the text. Post-Listening: After making the students talk about the text, the students watched a 10-min clip from the *A House in the Sky* episode of the cartoon entitled *Caillou*. The students were helped to understand what they listened to in the text. After that video, certain questions were asked to the students about the texts and the students were encouraged to talk about the text.

4. Summary of the Meaning of Traffic Signs text: The text

explains the traffic conditions for pedestrians and drivers by asking questions to the students. The text emphasizes that traffic lights and vehicle signals protect us from dangers and are a common language for people. It also stresses the importance of using that common language properly.

Pre-Listening Activities: The students watched an 8-min animation about traffic signs and rules in order to prepare them for the text and were encouraged to talk about traffic signs based on the animation. Listening Phase: The students listened to the text, accompanied by visuals of traffic signs and symbols used frequently in daily life projected on a screen with instrumental music in the background. While listening to the text a second time, the students were asked to talk about the content of the text. Post-Listening: The students watched a 10-minute cartoon entitled *Pepe*, whose theme was also traffic rules and signs, and were asked to make comments. The students tried to find the main idea of the text. By relating the topic to daily life, the students were asked to make comments and were caused to participate in the lesson.

After the lessons were completed, observations of the teacher in the classroom and observations of the parents outside the classroom were used to collect data. Based on the data collected, common codes were found. The findings achieved in respect of each student and the texts are given under the following headings.

### ***Engaging the attention of the participants***

Observations for the student named P: P listened very carefully to the 1<sup>st</sup> listening text “Quarter Apple” supported with visuals and instrumental music, after watching the animation about sharing. When the picture of a child eating apples was projected on the screen, P asked, “Why did he not share the apples?” Interestingly, P also stated that an old lady in a picture who was holding out something to her neighbor from the window could fall off the window. This showed that the student maintained his/her attention. It also showed that contrary to the situation observed during lessons taught in the regular classroom, multimedia-assisted instruction helped to hold the students’ attention. In the classroom, however, the class starts to carry out the activities while they are listening to the text, and the teacher reads the text a second time and explains it for P.

Before listening to the 2<sup>nd</sup> text about the “Turkish Grand National Assembly”, a clip from a documentary about the war of independence was shown in order to prepare the students for the listening text. P listened to this lesson with more attention and excitement than the previous lesson and asked questions. P said he/she saw the same picture in which Atatürk and children are portrayed also during the Social Sciences course. This shows that his/her attention was not diverted.

Before listening to the 3<sup>rd</sup> text “Earth in Space”, the students watched videos about space and the earth.

Then, the students listened to the text, accompanied by appropriate visuals projected on a screen with instrumental music in the background. After listening to the text, they watched clips from the cartoon entitled *Caillou* about space, planets, the earth, etc. P was more eager in this lesson than he/she was in the other two lessons, and answered the question 'How many planets are there' without hesitation. This proved that P listened to the text carefully. P followed the lesson very carefully and was not bored because the topic was very interesting.

Before listening to the 4<sup>th</sup> text "Meaning of Traffic Signs", the students were shown an animation about traffic signs and rules. Then, the students listened to the text, accompanied by visuals of some traffic signs and symbols used frequently in daily life projected on a screen with instrumental music in the background. After the listening to the text, they watched a cartoon about the same topic. P followed the lesson without getting bored and distraction. This is one of the most important aims of the lesson, which may suggest that multimedia-assisted instruction can be useful to maintain a longer attention span.

Observations for the student named F: The 1<sup>st</sup> Text: F immediately stood up from his/her seat and wanted to press the buttons before playing the videos during the pre-text phase. F was known for getting bored during the Turkish Language lessons taught in the regular classroom, getting distracted easily and asking for permission to go to the toilet. F asked for permission to go to the toilet also in this lesson just as he/she did during the regular Turkish Language lessons. Interestingly, however, F did not express this need while he/she was listening to the text and watching the videos. This showed that multimedia-assisted instruction can prevent F from getting bored during class and delay the need to use the toilet.

The 2<sup>nd</sup> text: F was allowed to turn on the computer. F answered most of the questions about Atatürk in the documentary, and said Atatürk saved us just like P did. Among the visuals shown, the photograph showing Atatürk on the battlefield was the one P liked most. This showed that F's attention was not diverted. While watching the cartoon entitled *Pepe*, F said he/she had already watched it and talked about some scenes even before watching those scenes. It was observed that F was not bored much in this lesson and kept a high level of concentration.

The 3<sup>rd</sup> text: F's motivation and attention to the lesson were observed to be higher than that observed in other lessons. F had not listened to the text when the text was before covered during the regular Turkish Language lesson. However, during multimedia-assisted teaching of the same text, F listened to the text without getting bored. F watched the videos about space and the earth without getting bored and without standing up from his/her seat.

The 4<sup>th</sup> text: F listened to the text and the activities related to text carefully and talked about the trip that F had taken to the city of İzmir with his/her family. These

observations show that multimedia-assisted instruction can be effective on a student like F who easily gets bored and distracted in class.

### ***Active participation of the students in the lesson***

Observations for the student named P: The 1<sup>st</sup> text "Quarter Apple"; P made comments easily in class without getting bored. Even though P strayed from the context of the lesson from time to time, communication continued in the form of questions and answers. When P was asked what he/she P liked most, he/she said it was a baby sharing toys with her sibling. However, during the Turkish Language lessons in the regular classroom, P was rarely observed to participate in the lesson.

The 2<sup>nd</sup> text: During the discussion about the lesson, arrestingly P said that Atatürk saved us. When P was asked who founded the Grand National Assembly, he/she answered that it was Atatürk, and when P was asked why Atatürk was sad, he/she answered that the enemy wanted to occupy our country. These answers showed that P could comprehend what he/she listened to. P made a very good connection between the cartoon *Pepe* and the text, and said we should also carry out entertaining activities in the holidays. This showed that P's participation in the lesson gradually increased. The answer P gave to the question what he/she liked best was the cartoon *Pepe*.

The 3<sup>rd</sup> text: P wanted to turn on the computer. P used the word 'space' very frequently. The fact that P frequently asked questions in this lesson showed once again that multimedia-assisted instruction was effective on P. On the other hand, P is known for getting bored during the Turkish Language lessons, particularly when listening texts are taught, and does not understand the lesson.

The 4<sup>th</sup> text: P showed active participation in the lesson. P could tell the meaning of traffic signs, referring also to the video. P said signs were not for cars only and people should also abide by the signs. This suggests that multimedia-assisted instruction was an important factor in P's participation in the lesson.

Observations for the student named F: The 1<sup>st</sup> text: F fiddled with the computer and wanted to press the buttons. While watching the sharing scenes of the siblings in the video, F said that he/she liked sharing, too. In response to the question why we share, F talked about sharing pencils.

The 2<sup>nd</sup> text: Among the visuals shown, F liked the photograph showing Atatürk on the battlefield most. While watching the *Pepe* cartoon, F said he/she had already watched it and talked about some scenes even before watching them. The answer F gave to the question what he/she liked best was again the *Pepe* cartoon.

The 3<sup>rd</sup> text: F asked questions about the visuals also in this lesson. F said heat and light were provided by the sun and it would always be night if the sun did not exist.

The answer F gave to the question what F liked best was the Caillou cartoon. F willingly talked about the cartoon.

The 4<sup>th</sup> text: During the lesson, F talked about the trip he/she had taken to the city of İzmir with his/her family. F asked questions about the car that did not stop at a red light. When F was asked why the rules should be followed, he/she said we would otherwise have an accident and die. The fact that F said pedestrians should walk on pavements showed that F actively listened to the lesson. This shows that multimedia-assisted instruction contributes, to some extent, to F's active participation in the lesson.

### **Facilitation of education**

Observations for the student named P: The 1<sup>st</sup> text: After listening to the text, P told the main idea of the text when he/she was given clues (by projecting visuals about sharing on the screen). This rarely occurred during the regular Turkish Language lessons. During the Turkish Language lessons taught in the regular classroom, it was observed that P could not talk before other students talked. However, during the lesson in which the multimedia-assisted instruction method was employed, P could easily make comments. The answer P gave to the question what he/she liked most was the visual of a baby sharing toys with her sibling.

The 2<sup>nd</sup> text: P's statement that the reason of Atatürk's sadness was the invasion of our country by the enemy showed that he/she could comprehend what he/she listened to. P made a very good connection between the Pepe cartoon and the text, and said we should also carry out entertaining activities in the holidays. The answer P gave to the question what he/she liked best was the Pepe cartoon. This showed that P tried to comprehend the lesson when the multimedia-assisted instruction method was used.

The 3<sup>rd</sup> text: P' statement that the earth was the only place where life exists showed that he/she grasped the purpose of the lesson. While answering the questions, P was as if he/she memorized the video describing how the sun emits heat and light. However, P is known for getting bored during the regular Turkish Language lessons, particularly when listening texts are taught, and does not understand the lesson. When P was asked what he/she liked most, he/she said that he/she liked them all. This shows that multimedia-assisted instruction can have a positive effect on P's learning skill.

The 4<sup>th</sup> text: P said that signs were not for cars only and people must also abide by them. P could perfectly tell the colors and meanings of traffic lights. P was impressed by the animation he/she watched and got very angry at the man in the car. P criticized the man's violation of the rules. When P was asked what he/she liked most, he/she said it was the animation they watched. This showed that multimedia-assisted instruction can lead

P to examine the events in his/her own way and to arrive at conclusions from events.

Observations for the student named F: The 1<sup>st</sup> text: While watching the sharing scenes of the siblings in the video, F said he/she liked sharing, too. By comparing himself/ herself to the character, F showed that he/she could attain the goals of the lesson. When he was asked the question why we share, he/she/said we should lend our pencil to those who have none, which shows that he/she could grasp the main idea of the text. The fact that F wanted to fiddle with the computer at every stage of the lesson showed that this was his/her way to participate in the lesson.

The 2<sup>nd</sup> text: F could answer most of the questions about Atatürk in the documentary he/she watched and said Atatürk saved us just like P did. When he was asked about the meaning of 23 April, he/she said it was a day that Atatürk told us to celebrate. This shows that F can draw conclusions from what he/she listened. When he/she was asked what he/she liked most, he/she said it was the Pepe cartoon.

The 3<sup>rd</sup> text: In the regular classroom, F did not listen to the text during the Turkish Language. However, during the multimedia-assisted teaching, F listened to the text without getting bored and made comments about the visuals while listening. While F was watching the video about the sun, he/she found it interesting that everything revolved around the sun.

The 4<sup>th</sup> text: F explained what traffic signs were in the general sense and was able to tell the cause of the accident in the animation he/she watched. When he/she was asked why we must follow the rules, he/she said: "otherwise we have an accident and die". The fact that F said pedestrians must walk on pavements showed that he/she can understand the lesson. This suggests that multimedia-assisted instruction can be effective on a student like F who easily gets bored and distracted in class, and contribute to the comprehension of a text listened.

### **Participants' ability to share what they learn**

Observations for the student named P: The 1<sup>st</sup> text: In the interview held with the family, the family said P did not talk much about the lesson. P just said they should also buy a computer. When they asked P the reason, P said "so that we can watch cartoons any time we want". In addition, P told his/her elder brother, who was also in the same grade, that they used a computer to learn the lesson. When his/her brother asked P what they learned, P answered that they learned about sharing. This showed that P could share what he/she learned in class with others.

The 2<sup>nd</sup> text: In the interview held with the family, the family said P told his/her elder sister that they watched a film about Atatürk when he/she got home. The fact that P



said it was Atatürk who saved us shows that P covered a considerable distance in comprehending the text. In addition, P said he/she watched the Pepe cartoon and used a computer to learn the lesson. P said he/she started the Pepe cartoon on the computer, and insisted that they should buy a computer. It is understood that P showed more excitement at home than the previous week.

The 3<sup>rd</sup> text: In the interview held with the family, the family said P told things about the sun to his/her grandfather, and wanted his/her sister to look up at the sky, calling her outside. This was one of the important objectives of the lesson. P's saying that the earth is a planet and using the concept of space at home even though he/she did not explain it suggest that P can cover a considerable distance in comprehending the lesson and may be the evidence of continued positive effect of multimedia-assisted instruction at home. The fact that P told about the video about space and wanted to look up at the sky before going to bed in the evening showed that multimedia-assisted instruction kept P's motivation still alive.

The 4<sup>th</sup> text: In the interview held with the family, the family said P first asked them why they had no traffic lights on their road. The fact that P told about the accident in the video to his/her elder sister along with the cause of the accident suggests that the aims of the lesson were achieved. Furthermore, the fact that P asked the colors and meanings of traffic lights to his/her elder brother indicated P's desire to share. All these suggest that multimedia-assisted instruction contributed positively to P's sharing what he/she learned.

Observations for the student named F: The 1<sup>st</sup> text: In the interview held with the family, the family said F asked his/her father to share his phone on the way home. It was interesting for the family to see that F talked to his/her father about the animation while his father was turning on his computer, wanted him to watch the same animation, frequently asked his/her father to open videos about sharing, and did not show any desire to watch cartoons that day, and said he loved the lesson with the computer more.

The 2<sup>nd</sup> text: In the interview held with the family, the family said they were surprised when F asked questions about Atatürk to his/her father and talked about the documentary because it was a very rare situation for them. The family also said that F expressed a desire to go 23 April celebrations with his/her father and showed Pepe and his family as an example.

The 3<sup>rd</sup> text: In the interview held with the family, the family said that F asked his/her mother how big the earth was as soon as he/she got home, and asked his/her mother to go outside to look at the sun, asked his/her father to the same, and that day, he/she asked questions about the sun and the earth to everyone at home and looked up at the sky.

The 4<sup>th</sup> text: In the interview held with the family, the

family said that F told his/her father that he/she wanted to get in the car so that they could stop at a red light. When his/her father asked why, he/she told him that he would have an accident if he did not stop at a red light and everyone should follow the traffic rules. He/she said a car might hit them if they stood on the road, and roads were for cars only. When his/her father asked where people should walk, F answered that they should walk on the pavement. This shows that F can comprehend the text that he/she listened to and watched via the multimedia-assisted instruction method and can share what he/she learned with other people.

## DISCUSSION, CONCLUSION AND SUGGESTIONS

The following conclusions can be drawn from the findings obtained as a result of observations during the lessons taught using the multimedia-assisted instruction method and the interviews held. Animations, videos, cartoons and similar activities carried out before and after listening to the texts during lessons taught using the multimedia-assisted instruction approach have a positive effect on participants' concentration and motivation, making the class more enjoyable. It is believed that this instructional approach can be useful for students with mild mental deficiency experiencing motivation and concentration problems during listening activities. When the body of literature is reviewed, studies with similar results can be found. In a study Pişkin (1995) concluded that individuals with mental disabilities can focus better on the lesson when visuals and audio materials are presented using a computer during the lesson. In a study carried out by utilizing PowerPoint presentation software, Melvin and Horton (1996) found that students' interest in the lesson improved. Boster et al. (2002) concluded that CDs, cassettes, and video clips used by the teacher in the classroom improved students' interest in the lesson. In their study, Hersh et al. (2003) concluded that use of technology in the classroom eliminates the deficiencies of individuals with special needs which originate from their personal differences, and enhances their interest in the lesson. Cnets (2006) stated that the materials and tools used in the classroom make a positive effect on students' concentration. In his study, Martin (2006) concluded that the use of technology and technological products in the education of individuals with special educational needs can be beneficial to these students and raise their interest in the education environment. Aruk (2008) concluded that the use of information technologies in the e-education of individuals with mental deficiencies has utmost importance and raises their interest in the lesson. It may be suggested that the use of tools and materials that address more than one sense of participants during lessons taught via the multimedia-assisted instruction method makes participants feel more confident during the lessons and facilitates achievement of the aims of the

lesson. Thus, it can be concluded that multimedia-assisted instruction facilitates the learning skills of students with mild mental deficiency. Another outcome of this study is that students with mild mental deficiency who learn the lesson easily participate actively in the lesson and react to visual and audio stimuli. This may be explained by the fact that multimedia-assisted instruction gives students with mild mental deficiency the opportunity to participate in the lesson. Another outcome of this study is that students with mild mental deficiency who have the opportunity to learn easily what they are taught during the lesson and to participate actively in the lesson can share what they have learned with others. It may thus be argued that multimedia-assisted instruction provides students with mild mental deficiency the opportunity to share what they have learned with others.

When the body of literature is reviewed, studies with similar conclusions can be encountered. Balliel (2014) analyzed the effect of the webquest-assisted teaching approach on students with mild mental deficiency and concluded that it is an instructional method that leads to positive results. Coşkun and Erdin (2014), in their study, stated that listening comprehension skills of mainstreamed students with mild mental deficiency are better with audiovisual materials than with audio materials only. Türkyılmaz (2010) suggested that the use of visual elements in educational listening activities can be more effective on students in achieving the aims of the lesson. Döngel (2009) concluded that individuals with mental deficiencies require more efforts, methods, techniques and time than normal individuals in order to focus their attention on a given subject. Atik et al. (2008) concluded that materials developed using the PowerPoint software, predominantly composed of visuals, help students with mental deficiency to materialize and understand the words, the sentences and the text. In his study, Ozan (2008) concluded that multimedia must be designed effectively, and messages and information to be conveyed must be communicated to the target population in different and interesting ways for learning to be more active. Kablan (2011) suggested that the attention-grabbing nature of the material prepared using the PowerPoint software can enhance participation of students in the lesson. In their study, Demirel et al. (2001) concluded that the use of various tools in the education environment can increase students' motivation, facilitate learning and participation in the lesson.

Being a method that addresses not only the sense of hearing but also other senses, multimedia-assisted instruction can be used for improving listening skills of mainstreamed students with mild mental deficiency. Problems arising from weaknesses of mainstreamed students with mild mental deficiency can be eliminated by using visual materials, audio materials, animations, cartoons, etc. during listening activities.

Based on these conclusions, the following suggestions can be made: 1) A similar observation study can be conducted for other basic language skills of mainstreamed

students with mild mental deficiency. 2) The effect of multimedia-assisted instruction on improvement of communication skills of students with mild mental deficiency can be examined. 3) This method can be implemented with more efficient and effective activities by subjecting teachers to in-service training on multimedia-assisted instruction. 4) A similar study can be conducted for students with mental deficiency who are in need of special education and who attend schools where special education is provided. 5) A study that addresses views and suggestions of teachers on the use of multimedia-assisted instruction in the education of mainstreamed students with mild mental deficiency can be conducted. 6) A study that addresses views and suggestions of parents on the use of multimedia-assisted instruction in the education of mainstreamed students with mild mental deficiency can be conducted.

### Conflict of Interests

The author has not declared any conflicts of interest.

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