Teacher Use of Instructional Technology in a Special Education School for Students with Intellectual Disabilities: A Case Study

Zihin Engelli Öğrencilerin Eğitim Aldığı Bir Özel Eğitim Uygulama Merkezindeki Öğretmenlerin Öğretim Teknolojilerini Kullanım Durumları: Bir Durum Çalışması

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Abstract
The purpose of this study was to investigate use of Instructional Technology (IT) by special education teachers in a school for students with moderate to severe intellectual disability (ID). Research questions were a) Which IT do teachers use during class time? b) What are the ways of providing IT? (c) What are the problems that teachers encountered while using IT? (d) What are the results and effects of the encountered problems? (e) Is there any use of assistive technology (AT) devices? This is a case study based on collecting and analyzing qualitative data. Semi-structured interviews were conducted with nine teachers; students with moderate to severe ID in the first, second, fifth, and seventh grade were observed in social studies lessons, as were eight teachers of those students. The study showed that use of IT is limited in a special school for children with ID and this situation is affecting teachers and students in a negative way. Also, use of AT is lacking.
Keywords: Instructional technology; assistive technology; moderate to severe intellectual disability.

Özet
Bu araştırmada, orta ve ağır düzeydeki zihin engelli öğrencilerin eğitim aldığı bir özel eğitim uygulama merkezinde görev yapan öğretmenlerin, öğretim teknolojilerini kullanım durumları incelenmiştir. Bu doğrultuda şu sorulara cevap aranmıştır: a) Öğretmenler derslerinde hangi öğretim teknolojilerini kullanmaktadırlar?, b) Öğretmenler öğretim teknolojilerini nasıl temin etmektedirler?, c) Öğretim teknolojilerini kullanırken öğretmenlerin karşılaştıkları sorunlar nelerdir?, d) Öğretim teknolojisi kullanımında karşılaşılan sorunların etkileri ve sonuçları nelerdir? e) Sınıfta yardımcı teknoloji kullanılmakta mıdır? Bu sorular doğrultusunda araştırma, nitel araştırma yöntemlerinden durum çalışması ile gerçekleştirilmiştir. Okulda görev yapan dokuz öğretmenle yarı-yapılandırılmış görüşmeler gerçekleştirilmiş; birinci, ikinci, beşinci ve yedinci sınıflardaki orta ve ağır derecedeki zihin engelli öğrencilerin hayat bilgisi dersleri gözlenmiştir. Bulgular, zihin engelli öğrenciler için öğretim teknolojilerinin çok sınırlı olduğunu, bu durumun öğrencileri ve öğretmenleri olumsuz yönde etkilediğini göstermektedir. Ayrıca derslerde yardımcı teknoloji kullanılmadığı gözlenmiştir.
Anahtar Sözcükler: Öğretim teknolojisi, yardımcı teknoloji, orta ve ağır düzeyde zihin engeli.

Introduction

Education and technology are central topics of the information era in which we live. Technology has made crucial changes in the educational system; what is more, technology has helped development of

diverse teaching and learning techniques (Can, 2010; İşman, 2010; Kazu & Yeşilyurt; 2008). Also it has contributed to the formations of new terms such as educational technology (ET), instructional technology (IT,) assistive technology (AT) and information technology. Since we focused on IT and AT in this article we described IT and AT in terms of special education.

"Instructional Technology is the theory and practice of design, development, utilization, management, and evaluation of processes and resources for learning" (Daştan, 2006; Reiser & Dempsey, 2011). According to Seels and Richey (1994), IT has broad definition which means developing instructional materials consistent with teaching methods and also implementing and evaluating the instructional materials besides designing and developing instructional materials (Adıgüzel, 2010; Boyraz, 2008).

There have been many studies indicated that instructional materials have positive impacts on student learning. Instructional materials help clarify concepts, arouse and sustain students' interest, give students opportunities to share their experiences for new learning and to make learning more permanent (Adıgüzel, 2010; Avcıoğlu, 2012; Can, 2010; Chingos & "Russ" Whitehurst, 2012). If there is a student with special needs in the classroom instructional materials become more important in terms of supporting and facilitating learning (Kargın, 2010). During education of a student with special need, teacher should consider individual needs of the student and provide acquiring skills experiencing real life by using instructional materials (Avcıoğlu, 2012).

The other case of using materials in education of students with special needs is AT. AT device as "any item, piece of equipment, or product system, whether acquired commercially of the self-modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability" (Individuals with Disabilities Education Act –IDEA, 2004). AT which is used in special education can be any tool that enables individuals with disabilities enrolled in special education or general education schools/classrooms to realize their potentials (Hager & Smith, 2003; Johnstone, Thurlow, Altman, Timmons & Kato, 2009; Netherton & Deal, 2006). AT devices are intended for individuals who have disabilities of different kinds and at different levels to assert their independence and minimize their disadvantages in educational environments (Maor, Currie & Drewry, 2011).

In the context of Turkey, AT has been a flourishing concept in recent years. Therefore, the distinction between terms IT and AT often can be confusing in special education. IT can improve academic development of children with disabilities, plays an important role in instructional delivery, providing practice opportunities and increasing motivation. On the other hand, AT compensates for their difficulties and enables the learner to improve their performance (Parette & Peterson-Karlan, 2007; Pedrotty Bryant & Bryant, 2012). IT for a student with disability can teach new skills, help to maintain performance; however these devices are not essential in instructional settings. When IT devices are removed students with disability can learn in other ways. However, AT is compensatory to access general curriculum or participate in the classroom. Because AT enables a student with disability to access materials, instructional activities and to communicate with their peers (Smith, 2000; Parette & Peterson-Karlan, 2007).

As indicated above AT is a new term in special education in Turkey. Although some adaptations are made in daily life of individuals with disabilities, AT devices are rarely being used in educational settings. Since the term AT has come into use very recently in our country, scientific research on AT is also insufficient. Furthermore, it is clear that academic studies about the use of IT in the special education field and the role of IT in special education environments are also inadequate.

While writing this literature review, we found just one example of research (Avcıoğlu, 2012) using material in special education in Turkey. In order to improve IT use and to increase its application, we

need to describe current situation of special education schools in their using IT. In addition, the efforts and studies that may be necessary for the use of IT and AT in order to provide more quality instructional activities will be determined. Based on such findings, some recommendations will be made to both teachers and researchers for the future.

For this reason, a case study was conducted in a special school for children with intellectual disability (ID) to examine use of IT. The study was conducted in only one course since it was probable that each course would differ from others in terms of using different technologies. Contents of the courses were analyzed; consequently, social sciences course was selected since its content varied and use of instructional materials could become diversified in this course. The purpose of the study was to examine use of IT s in a special school for children with ID and to indicate if there is any use of AT devices. The research questions were as following: (a) Which IT do teachers use during class time? b) What are the ways of providing IT? (c) What are the problems that teachers encountered while using IT? (d) What are the results and effects of the encountered problems? (e) Is there any use of AT during class time? If there is, which AT devices do teachers use?

Method

Design

The research was a case study involving qualitative data collection and analysis techniques aimed at assessing use of IT devices in a special school for children with ID. The case study is a research technique that examines a current phenomenon in depth in a real life context and uses more than one data collection technique (Yin, 2003; Yıldırım & Şimşek, 2008). The phenomenon examined can be an activity, a program, or a specific event (Hancock & Algozzine, 2006). There may be various sorts of case studies depending on the cases and individuals examined and the data collection techniques employed. Yin (1994) classified case study designs as exploratory, explanatory, and descriptive. According to Yin, there are four kinds of case study: holistic single case; embedded single case; holistic multiple-case; and embedded multiple-case. Since the present study attempted to describe the use of IT and AT devices only in one school, "*holistic single case*" design was employed.

Settings

Research took place in a special school for children with ID located in Ankara, Turkey. Founded in 1998, the school moved into a new building in 2007. This two-story building has 14 classrooms. The school also serves as an education application unit and work training center with 85 students and 24 teachers.

Classes vary by size and the IT possessed. While the observed classes 1-A and 2-A have a TV and a VCD player, the observed classes 5-A and 7-A do not contain any electronic device. All classes have a board where student activities are hung and a library containing stationary equipment. The IT devices used in the school are kept in a room called "material room".

Participants

Two different groups were participated to the study: Classroom teachers and students with ID. School manager determined teachers who wanted to participate voluntarily in the study. Nine teachers participated voluntarily in the study. Semi-structured interviews with nine teachers took place. Eight of the teachers were female, one was male. Teaching experience of the teachers varied from three to 32

years. Three of the teachers graduated from the teacher training program on special education from three different universities. The remaining six teachers graduated from primary school teacher program.

Four classes' teachers voluntarily participated to the study. Other classes' teachers expressed that they didn't want to be observed. Thus, 20 students from four classes' were participant of the study.

The Students of Class / 1-A

Six students are enrolled in this class; four students attend lessons regularly. Three students were males and one student was female. Four of the learners have severe ID (two have Down syndrome, one has cerebral palsy). The ages of the students range from seven to nine years.

The Students of Class / 2-A

The total student body in this classroom is six (three male students and three female students). Focusing on the student profiles, four of the learners have ID to a severe degree and two have moderate ID (two students have Down syndrome). The ages of the students range from eight to 11 years.

The Students of Class / 5-A

Although six students are enrolled in the class, three of them attend lessons regularly. Two of the learners are female; one of them is male. Three students have severe ID (one has Down syndrome, one exhibits characteristic of autism). The students' age group is between 10 and 12 years.

The Students of Class / 7-A

In this class, five students (four females and one male, whose age range is between 12 and 14 years) receive instruction. While three of the learners have ID to a severe degree, two have moderate ID (three of the learners have Down syndrome).

Table 1. Demographic Characteristic of Participant Students

Class	Number	Age	Moderate Intellectual Disability	Severe Intellectual Disability
1-A	6	7-9	2	4
2-A	6	8-11	2	4
5-A	3	10-12	-	3
7-A	5	12-14	2	3
		Total	6	14

Data Collection

To monitor situations at the observed school on the subject of using IT devices, the researchers carried out observations to gather data on the classroom layout, the school's physical condition, and the use of IT devices from the perspectives of teachers and students. The researchers also conducted semi-structured interviews to obtain teachers' opinions on use of IT. First author kept a diary to record and report on the research process and to transmit the process details. Table 2 presents the data collection information.

Table 2. Data Collection Techniques Used in the Research

Interviews	Semi-structured interviews with teachers
Observations	Observations of the four classes and physical condition data for the classes
Reflective Journal	Comments and observations of researcher during observations and interviews

Interviews

All the interviews took place in the materials room located on the second floor of the school. The first researcher conducted interviews face to face with teachers during class hours in a silent atmosphere. Prior to interview sections, the researcher reminded teachers that interviews would be tape recorded to prevent information loss and that no one other than the researchers would listen to the recordings or read transcripts of the recordings. During interviews, expectations were that the teachers would answer seven questions. Table 3 presents questions of the interview.

Table 3. Questions of the Interview

1	Could you tell me any social studies lesson in terms of your activity implementations?
	Which IT devices simplify to make students understand in the lesson? What do you think about that?
2	Which IT devices do you prefer to use in social studies lesson?
3	Which features of IT devices are more important for you?
4	What can you say about troubles and facilities of using IT devices?
	a. What are the facilities of using IT devices on teaching lesson?
	b. What are the troubles of using IT devices during the lesson?
5	What can you say about impacts of types of course and content of course on using IT devices?
6	What would you like to add to this conversation?

Each interview lasted an average 14 to 40 minutes, with 131 pages of data collected after completion of all interviews.

Observations

Social data (teachers' use of IT) in this study were obtained via video recordings. Moreover, the researchers' observations gathered physical data before video recording in order to define the classroom's structure and order.

Observations had their basis in the willingness of the teachers in 1-A, 2-A, 5-A and 7-A classes. While record imageries were kept in two hours of social studies lessons for two weeks in 1-A and 2-A classes, this procedure was applied in two hours of social studies lessons for one week in the other classes. To emphasize the ethical perspective of the video recording application in the school we mention, we affirm

that we secured the necessary consent and permission from teachers and from students' families before the application phase. Table 4 presents information on each video recording.

Table 4. Durations of Video Recording Sessions for Each Class

Class	Total Time
1-A	99' 56"
2-A	152'36"
5-A	42'46"
7-A	61'47"
Total	357 minutes 5 seconds

Reflective Journal

The keeping of a reflective journal is a confirmed technique for collecting qualitative data. The reflective journal definition includes records based on the comments of the researcher after taking notes for observations (Mills, 2003). The first author kept a reflective journal to convey her ideas during observations and her reflections and comments during semi-structured interviews with teachers. These reflective journal data found was used as supporting data in this study.

Data Analysis

The researchers use transcriptions obtained from the interviews as primary data. Inductive analysis was the data analysis method. The primary author transcribed audio recordings of the interviews according to interviewer-interviewee order. Once all the data were preserved in computer memory, transcriptions were checked by listening randomly to three interview tape recordings. Transcribed data were transferred to interview forms, with the interviewer comments was written on the left-hand parts of the interview forms and descriptive indices written on the right-hand parts of the interview forms.

Reliability

The first author read all printouts of the interview transcripts. Next were the creation of probable categories and the writing of suitable codes inside suitable lines, paragraphs, and pages. The next steps were the chopping of coded data and the creation of 23 encoding files so the themes of the research could be indicated. Another specialist evaluated the themes independently. Then, two specialists made a compromise on themes they built later by comparing and contrasting themes and sub-themes. The reliability percentage among the observers between two specialists was 87%. Analyzing the data under four themes facilitated the obtaining of research findings.

By watching video recordings, the first author prepared summative transcriptions of the records. After printing out those parts considered supportive data in answering research questions, the author placed these parts into proper themes. By reading her research diary, the researcher placed into the findings those parts of the diary that she considered supportive data.

Results

This part of the study includes research findings obtained from information the participants gave during interviews. Four themes and their sub-themes constitute these findings. Themes are; (a) IT devices that each teacher uses during class time, (b) ways of providing IT devices, (c) the problems encountered while using IT devices, (d) the results and effects of the encountered problems.

IT Devices that Each Teacher Uses during Class Time

Materials that Teachers Created

Seven of the participant teachers said that they used self-created materials in their classes. According to the teacher nicknamed KA5,

> "My partner and I squandered a course book for each unit by cutting pictures inside the course book and created a work unit, supplying the gist of the meaning presented inside the course book, for the students with pasting those pictures onto photocopying paper (p.56)."

Books

Five of the participant teachers said that they used books for class activities. For instance, the teacher nicknamed KA1 explained, "We have books that have been published recently. They include very useful pictures, we are fond of these books" (p. 9). Teachers' use of books as AT devices was recorded in the 7-A class observation on 17/05/2011. The researcher diary entry dated 17/05/2011 states clearly that the teacher in 7-A class only uses books as instructional device and that she organizes lessons with verbal statements.

Power Cards

Three participant teachers stated they used power cards in their lessons. The teacher encoded as KA1 said, "We have power cards, too" (p. 17). The use of power cards in the lessons was observed on 12 May 2011 in a class on teaching sense organs in 2-A and again on 9 June 2011 in a teaching occupations unit in the 5-A class.

Blackboard

Two teachers in the school stated that they used the blackboard in their lessons. According to the encoded KA2, "As I said, I sometimes use blackboard more by drawing on…." (p. 22). Furthermore, two additional teachers distinct from those in the interview were observed using their blackboards (12/05/2011, video recording, 09/05/2011, video recording).

Training Compact Discs (CDs)

Four teachers who took part in the research reported using CDs in training facilities. One of these teachers said:

> "I possess my personal training CDs that I got in university years and through my teaching experience. What I want to emphasize is that CDs work a lot! Although computer screen is very small and it is really challenging to catch attention of the students, CDs really work in the class (p. 32)."

However, the teachers' use of CDs in the classroom for educational purposes was not seen in the observations, which lasted six weeks; this was surprising.

Computer

Three participant teachers stated they sought to enhance classroom educational activities in the class by using their own computers. The teacher encoded as KA1 noted that they used computers to watch training CDs in the classroom: "Of course, my colleague has laptops and she brought her laptop into the classroom and we made use of laptops and CDs while teaching in math and social studies lesson" (p. 6).

Television

Two teachers taking part in the research remarked that television is among the high-tech resources they use. The teacher nicknamed as KA7 said, "Well, we turn on the television. If there is something related to the topic of the class on TV, for example what the season is here, the students check the clothes of the people in the mentioned situation and they infer what the season is there" (p. 96). This statement clarified how teachers use TV in educational activities. The observations recorded that the 1-A class watched cartoons at the end of its lesson (21/04/2011, video records).

Video Compact Disc (VCD)

One of the participant teachers stated that she used a VCD in her class. The teacher encoded as KA8 emphasized the use of VCD as high-tech: "We have possessed CD and VCD recently and television, but nothing else!" (p. 112). In observations, the first researcher recorded that the 1-A class watched cartoons via VCD after they learned about the topic of fruits (21/04/2011, video records).

Audio Cassette Player

One of the teachers explained the use of a cassette player in her class: "Err, You witnessed the facilities of our classroom, too. There was a cassette player we got from our students' parents. Well, we make musical activities, games and dramas using cassette player and CDs" (p. 114).

Ways of Providing IT Devices

During the observations of teachers, the researchers came to understand that the teachers obtained IT devices they use in their classes from different sources, which are classified below:

Teachers

Five teachers said they obtained their IT devices from their homes or from their surroundings. For instance, the teacher encoded as KA6 explained:

> "I bring my own CDs to classroom. What's more I brought my own television set and VCD player to the school; in other words, we make use of our non-used technological devices in the classroom or if we have more than one techno device, we bring the extra one to the school to use in our classes (p. 73)."

The teacher nicknamed as KA9 described how she supplied IT devices: "What I am exactly doing is bringing toy cars and trucks that I got from my son and neighbors to the classroom while teaching vehicles in the lesson" (p. 122).

Students' Parents

Three teachers stated that they obtained IT devices from the students' parents. According to the teacher nicknamed KA6, "We make use of students' parents in supplying IT devices. If they have second hand goods at home, we try to prepare these goods for re-using. We are all aware of the fact that our school cannot afford to buy all necessary IT devices we need. We are trying to do our best!" (p. 73)

School

In the observations, two teachers discussed having supplied IT devices loaned from the school where they worked. The teacher encoded as KA5 used materials from the school office: "Well, we use anything related to the topic of the day at school from material office if we can find. But, as I said before, there is not so many!" (p. 55)

Other Classes

One teacher stated that she supplied IT devices by drawing from the materials in other classes. The teacher encoded as KA5 said, "Err, my colleagues who are teaching other classes have box cards and box words. We exchange our materials, it is a kind of marketing" (p. 63).

The Problems Encountered While Using IT Devices

Insufficient Instructional Technology

When asked to present their ideas about problems encountered in using IT, all nine teachers interviewed agreed that they had problems with the lack of IT devices. The teacher encoded as KA3 pointed out the lack of materials at school: "This school really suffers from the shortage of material. Just imagine that I do not have even a book while teaching seasons, it is useless to talk about extra classroom materials" (p. 37). Examination of video recordings related to lack of materials at school revealed that two participant teachers stated there was a lack of materials in the special school for children with ID (07/04/2011 and 09/06/2011. video recordings).

Sharing IT Devices

Two teachers in this study described problems in sharing materials (IT devices) among classes. This teacher, nicknamed KA7, summarized the problem:

> "For example, the hours of 'traffic lesson' for our class coincide with the hours of 'traffic lesson' for other classes. So, we cannot use traffic set material at the same time, or someone takes traffic set from our class and the set never returns us! To talk about another IT device, we have an internal organs model, but some internal organs of the model are missing (p. 104)"

The researcher noted that the teachers searched for a CD for a long time to make the students watch cartoons but the CD was found in another classroom (researcher diary, 21/04/2011).

Insufficient Content

Two teachers in this study noted insufficient content in their use of AT devices. The teacher nicknamed KA9 concentrated on insufficient content in these words: "Well, we generally find our materials by

ourselves. The materials used in pre-school education suit our objectives to some extent, but we cannot use them as they are originally made. We make some changes on them. Well, I mean we adapt these materials for our students by copying them. Overall, there is a few material exactly suitable and ready-to use for us!" (p. 112).

The Results and Effects of the Encountered Problems

Effects on Teachers

Limited teaching techniques. Among the teachers observed, two stated that they could not use techniques unique to special education because of the lack of IT devices. The teacher nicknamed KA9 clarified this situation: "Unfortunately, we cannot train our students appropriate to the exact special education methods due to material lacking" (p. 121).

Decreasing motivation. Two of the participant teachers remarked that teachers' motivation decreased because of the shortage of IT devices. The teacher encoded as KA4 exemplified that situation in these words: "All I can do for material development of my class is to copy and paste non-used materials and create fresh materials for my students. Frankly speaking, I used to develop materials as I mentioned much more than I do now. Like other teachers, I am fed up with using outdated materials!" (p. 58).

Financial burdens. On teacher stated that obtaining IT devices burdens teachers financially when they try obtaining IT devices on their own: "As anybody knows, nothing is supplied without money in today's world. When a teacher wants to buy something for her class, she has to finance it, which is undoubtedly difficult." (p. 123).

Work load. One of the teachers taking part in the study noted that teachers faced excessive workloads because their IT devices were not sufficient: "Well, we are trying to do something innovative for our classes just by ourselves, which is really tiring for us! To our regret, we are responsible for everything! No matter what happens, we are really self-sacrificing, but this makes us dead tired!" (p. 50).

Effects on Students

Incomprehension of topics. Two participant teachers indicated that some topics in the lessons were too abstract and that students could not comprehend these lessons due to lack of materials. The teacher encoded as KA3 summarized this point: "Though, you keep on instructing the topic again and again, students do not seize the core of the topic because we
haven't got enough material" (p. 44).

Lack of interest. Two teachers in this inquiry noted that the students exhibited lack of interest in courses due to insufficient IT devices. To illustrate the point, here are the words of the teacher nicknamed KA9: "The lessons do not catch the attention of the students, and so we have a serious problem"(p. 126). The researcher observed instances of students abandoning lessons in the video recording of 12 May 2011.

Behavior problems. One of the teachers participating in this research remarked that the students got bored with using repeatedly the same IT devices because they lacked sufficient and varied IT devices. Therefore, these students exhibited behavior problems. The teacher encoded as KA8 explained this problem as follows: "The children naturally get bored with using the same things all time. Afterwards, they begin to throw them away, break them into pieces and discover them more deeply" (p. 116).

***Simplicity of content*.** One of the participant teachers noted that there were limited and even insufficient IT devices. Teachers could not provide the students with IT devices suitable for their levels and some students found the content of IT devices too simple. The teacher nicknamed KA9 summarized the point in her own words: "The lack of material and especially computer makes better students feel that the provided materials and lessons are so dead easy" (p. 121). The statements of teacher KA9 were affirmed during the observation of 17 May 2011. We observed that the delivered the lesson about body parts by using only the course textbook. The researcher wrote about this situation in her diary as follows:

> *"The teacher asked the students show her the name of the body part she had pointed before on the course book. The only material the teacher used during the lesson was the course book. I think that the teacher rarely used the mentioned material and the content of the material was too simple for the students. Once the teacher asked them to show the body parts, they were all managed to do this (12/05/2011, researcher diary)."*

Discussion

The main purpose of the current research was examining the use of IT devices in a special school for children with ID. Collected data relevant to the sub-problems were obtained and analyzed.

The teachers mentioned different kinds of IT devices and described how they used them in social studies classes. Based on the words of interviewed teachers, the teachers used especially low technologies (low-tech) such as course book, blackboard much more than high-tech in their classes. It is also explicit that books are the most frequently used low technology items among the teachers in the current study. The teachers remarked that IT usage level was low because they did not possess required devices for effective class instruction. This finding is consistent with the study of Flanagan, Bouck & Richardson (2012) in which teachers prefer low technologic (tech) AT devices more frequently than high-tech AT devices. The reasons for using low technologic devices seem same in two studies. Teachers use low-tech devices owing to the fact that low-tech devices are more available to obtain, less costly and easier to use.

Interviews revealed that the teachers had access to IT devices via different sources. The teachers also noted that they supported IT use classes with their own items because of insufficient sources at school. This is parallel to the research findings of Avcıoğlu (2012), in which the teachers stated that they had difficulty procuring needed materials.

When teachers were asked to present their ideas about problems related to the use of IT devices, they noted that lack of IT devices is a real concern. During observations, the teachers focused on this issue continually. To examine this problem in relation to the literature, the research of Stoner, Parette, Watts, Wojcik and Fogal (2008) observed that teachers often had difficulty in timing and identifying IT devices according to the performance levels of students. However, the current study shows that the lack of IT devices is the largest problem teachers encountered.

The observations made during preparation of this study indicate there are differences among classes in the use of IT devices. For example, while the teachers of Class 2-A were trying to enhance their learning atmosphere with teacher-made IT devices and dramas, the instructor of the 7-A class preferred to only use books as teaching material. As the data teachers obtained showed, major problems in the use of IT devices had their source in the lack of IT devices. To our surprise, some teachers struggled to make

their classroom atmosphere more enjoyable despite the lack of IT devices, while others taught their lessons without considering student motivation. Something more than the lack of IT devices is at work here. The skills of the teachers in using IT devices and their levels of knowledge about IT devices can be considered problems encountered in the use of IT devices. Mumtaz (2000) states that lack of teaching experience with technology is a reason why teachers do not prefer to use. Therefore inadequate use of IT devices may result from lack experience on using IT devices.

The teachers noted that inadequate IT devices affect them and their students negatively. Teachers also remarked that students cannot concentrate on lessons when they use the same IT devices in their classes. As a result of this situation, students start to display problem behaviors and motivation of the teacher decreases. Furthermore, teachers noted that some subjects, especially concepts of time, remained so abstract due to lack of IT devices that students had difficulty comprehending the subjects. Consequently, the subjects became temporal when the teacher taught them. This finding of the study is parallel to Bural and Avşaroğlu (2012)'s study which describes the evaluation of difficulties in the sense of pre-service teachers that are encountered in the teaching practice lesson in the division of mentally retarded teacher training program. In the study pre-service teachers stated that there were a large amount of material deficiencies in schools and classrooms. However, studies by Adıgüzel (2010), Avcıoğlu (2012), Kazu and Yeşilyurt (2008), Kurtdede-Fidan (2008) showed that students' motivation and interest will increase as teachers use varied materials in their classes. Therefore, it can be said that students will not be able to learn subjects permanently if there are not sufficient IT devices; also students will also have difficulty in focusing on the lessons.

The teachers participating in our study made suggestions for the problems encountered. They said that there is a limited number of IT devices suitable for special education and that these are not widely available. Expanding the selection of IT devices suitable for special education and having these IT available everywhere are among the expectations of teachers. The study by Connor, Snell, Gansneder, and Dexter (2010) confirms teachers' view indicating that the more support for teachers in terms of IT, the more use of IT by teachers. As a result it can be said that availability of IT, support for needs of teachers' play an important role in use of IT by teachers.

The last research question was if there is any use of AT. In the process of research, use of AT was not observed. Besides, when the question was asked to teachers in semi-structured interviews, it is determined that the term AT is not known by the teachers. Due to the fact that AT is flourishing term in special education, teachers do not know AT. Therefore we couldn't discuss the last question.

Conclusion and Suggestions for Further Researches

This qualitative research study observed use of IT devices at a limited level in a special school for children with ID and found that this situation is affecting teachers and students in a negative way. This study reflects the existing situation in a special education school in Turkey. To describe the existing situation, case study research technique was used and data triangulation which gathered data through interview, observation and research diary was considered.

Studies related to the use of IT in special education are inadequate. Also, use of AT is lacking. This is result from both lacking of sources and teachers' background in terms of use of IT. Further studies focusing on teachers' ability to use IT, trainings of teachers on IT should be conducted. Also, AT is a new term in Turkey, therefore studies explaining AT term should be done. This research also detected the use of IT devices in social studies lessons, so there should be further research on use of IT devices in other lessons.

Moreover, it was observed during the observations that some teachers failed to use high-tech devices. To make a solution for this matter, computer and instructional technologies teachers may be employed at schools to support teachers on this subject. What is more, teachers may be trained on the use of new devices if schools are provided with such devices.

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