LOOK ACADEMIC PUBLISHERS
OPEN ACCESS

INTERNATIONAL JOURNAL OF ENVIRONMENTAL & SCIENCE EDUCATION
2017, VOL. 12, NO. 3, 505-521
DOI: 10.12973/ijese.2017.1244p

Teacher Views on Barriers to the Integration of Information and Communication Technologies (ICT) in Turkish Teaching

Serpil Özdemir

Bartın Üniversitesi, TURKEY

ABSTRACT

Technology has taken place in all areas of life. Educational environment is equipped with the technology to educate individuals with the skills to meet the needs of the day. It is expected that teachers use information and communication technologies and transfer this skill to the educational environment in the information age. When the use of ICT addressed in the context of the specific area the advantages and problems can be clearly evident. The purpose of this research is to identify barriers to the integration of ICT in Turkish teaching. Qualitative research method was adopted in the research. Participants were determined by criteria sampling method. 14 Turkish teachers who work in public schools in Bartın city center have participated in the research. The interview form was used as data collection tool. The data obtained from the interviews was conducted content analysis. Eight themes that prevent Turkish teachers from using ICT in Turkish lessons were identified. These themes are "inadequacy of technology infrastructure of the school, ICT inadequacy of the teacher, not directing the program to ICT, not being suitable for Turkish lessons, habit, loss of time, inadequacy of course materials for Turkish lesson, and ICT inadequacy of students". The participants' solution suggestions are based on the following themes: developing the ICT infrastructure of the school, practical training for the use of ICT in Turkish lessons, directing the program to ICT, developing the ICT information and equipment of the student.

KEYWORDS
Teaching Turkish, ICT integration, barriers, teacher views

ARTICLE HISTORY
Received 11 January 2017
Revised 27 March 2017
Accepted 14 April 2017

Introduction

Technology has taken place in all areas of life. Educational environment is equipped with the technology to educate individuals with the skills to meet the needs of the day. Teaching constantly refreshed knowledge is now very difficult.

CORRESPONDENCE Serpil Özdemir ✉ serpilozdemir34@gmail.com

Therefore, education has been directed to teach learning and developing high-level mental skills. It is aimed to educate individuals who can always reach the constantly changing knowledge. In the Tenth Development Plan, the main objectives of the education system were stated in the way that individuals using and producing science and technology should be trained and they should be brought up by attaining basic knowledge and skills. In the policy explained considering the realization of them, it has been stated that a transformation program involving a curriculum which has integrated into information and science technologies is going to be applied (The Ministry of Development, 2013, p.31-32).

It is expected that teachers use information and communication technologies and transfer this skill to the educational environment in the information age. For this reason, teacher qualifications have been redefined. Among the Special Area Competency of Turkish Teachers which have been put into effect by the approval 1385 by Board of Education on 04/06/2008 are stated as the skills that the teachers are expected to possess regarding the use of technological sources, to know the importance of the technological sources to make learning more effective, to know the sites and the software to reach knowledge, to evaluate the technological sources and to use them systematically to support teaching Turkish, to prepare the suitable conditions to enable students to benefit from the technological sources, to provide opportunities to students to criticize and to use appropriately the technological sources in learning Turkish (MEB Committee, 2008, p.47).

ICT integration

ICT integration is to ensure the continuity and permanence of the process by selecting the appropriate ICT in the learning teaching process in order to contribute to student learning (Koçak Usluel and Yıldız, 2012). One of the important factors in achieving ICT integration is having technological pedagogical content knowledge (TPACK). TPACK is the basis of effective teaching with technology, requiring an understanding of the representation of concepts using technologies; pedagogical techniques that use technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students' prior knowledge and theories of epistemology; and knowledge of how technologies can be used to build on existing knowledge to develop new epistemologies or strengthen old ones (Koehler and Mishra, 2009, p.66).

Barriers encountered in ICT integration

Studies show that there are many factors that impede ICT integration. The main barriers in the literature are: lack of in-service training, lack of appropriate software / materials, lack of basic ICT knowledge / skills, lack of hardware, lack of basic knowledge / skills for ICT integration, lack of technical support, lack of appropriate course content and curriculums, Inadequate managerial support (Göktaş, Yıldırım and Yıldırım, 2009, p.194); teachers' beliefs, attitudes and motivations toward ICT and the use of ICT in teaching and learning (Chen, 2008; Christensen, 2002; Papanastasiou and Angeli, 2008), not open to innovations (van Baraak, 2001), not knowing how to use ICT in harmony with subject area (Villalba, González-Rivera and Díaz-Pulido, 2017).

Factors that impede ICT integration are classified by various researchers. According to Koçak Usluel and Yıldız (2012), "pedagogical belief", "skill", "technical support", "tools-infrastructure" are the main factors affecting the process. Ertmer (1999, p.48) classifies the barriers that affect integration as first-order (external factors) and second-order (internal factors) barriers. The first-order barriers are described as being extrinsic to teachers and relatively easy to measure, such as access, time, support, resources, education, and financial resources. Second-order barriers are intrinsic to teachers and include beliefs about teaching and computers, established classroom practices, and unwillingness to change. These barriers may not be immediately apparent to others or even to the teachers themselves (Ertmer, 1999, p.50-51). Will technology integration happen if both first-order and second-order barriers have been removed? Tsai and Chai (2012, p.1058) have answered this question. According to them "As classroom context and students are quite dynamic, the teacher should rely on some design thinking to re-organise or create learning materials and activities, adapting to the instructional needs for different contexts or varying groups." In this case the lack of design thinking skills and disposition may be the third-order barrier for technology integration. Becta (2004, p.20) identifies the barriers whether they relate to the individual (teacher level barriers) or to the institution (school level barriers). Lack of time, lack of confidence, resistance to change & negative attitudes, no perception of benefits, lack of access to resources (personal / home access) are among the individual barriers. Lack of time, lack of access to resources (lack of hardware, inappropriate organization, and poor quality software), lack of effective training, and technical problems are among the institutional barriers.

The Ministry of National Education has presented "Movement of Enhancing Opportunities and Improving Technology", known as FATIH Project, as the greatest and the most comprehensive educational movement about education technology use in the world. It is aimed to establish smart board to all schools, to build fiber internet infrastructure, to fast internet connection, to provide in-service training to teachers, and to distribute tablet computers to all students from the fifth grade to the last grade of high school. Smart board installations have been completed in many schools, including Bartin. Some of the teachers have participated in the courses, and some have developed their own ICT skills by themselves. It is observed that in the research conducted ICT is not used effectively before the FATIH Project (Akçaoğlu, 2008; Ertmer, 2005; Kuşkaya Mumcu and Koçak Usluel, 2004), and ICT use is increasing in the courses after the FATIH Project (Bilici, 2015; Görhan, 2014; Koçak, 2013).

It is now very difficult to continue on its path today with the same understanding for the education model of the Industrial Revolution that was organized to provide factory personnel (Avcı, 2015, p.5). One of the competencies that an individual must possess in the 21st century is technology literacy (OECD, 2005, p.5). Today's education policy has been directed towards raising individuals who can be successful both academically and socially, adapt to technological development, and are happy and ready for life (http://mufredat.meb.gov.tr/Veliler.aspx). For these reasons, it is expected that the teachers should carry the requirements of the age to the lesson environment.

One of the main objectives of the draft Turkish Curriculum which was announced by the National Education Ministry is to educate individuals who are

able to acquire, create and share information using information technology safely (MEB, 2017, p.2). Among the benefits of using information technologies in Turkish lessons are making the lesson more interesting for the students, making it easier to reach the targets, preventing the loss of time, and making the learning more permanent (Katrancı and Uygun, 2013, p.773). Furthermore experimental studies show that computer assisted Turkish lessons increase the success and attitude towards Turkish lesson (Arslan, 2006; Durukan, 2011; Ovalı, 2011; Zobar, 2010). In order to achieve these benefits, teachers need to integrate information technology with Turkish lessons.

The aim of study

When the use of ICT addressed in the context of the specific area the advantages and problems can be clearly evident. In ICT integration, it is important for the teachers to relate technology knowledge to the subject area and what they can do in lessons using technology (Koehler and Mıshra, 2005, p.132). The determination of the barriers related to ICT integration in Turkish lesson is important in terms of overcoming theme. Therefore, it is foreseen that the work will guide the program and material designers and textbook authors.

In this context, the aim of the research is to determine the barriers of ICT integration of Turkish teaching.

Problem statement and sub problems

The problem sentence of this study is determined as “What are the barriers to the integration of ICT in Turkish teaching?"

The topic is dealt with within the frame of the following problems:

1. Why do not Turkish teachers use ICT in class?

2. What are the recommendations of Turkish teachers to provide ICT integration in Turkish Lessons?

Methodology

Research model

Qualitative method conducted aimed to explore the teachers’ opinions on the barriers of ICT integration in Turkish teaching greater depth. Qualitative research provides more profound information than quantitative research methods about psychological measurements and social events. Qualitative research is necessary for finding answers to questions which are difficult to express with traditional research methods (Büyüköztürk et al., 2010).

Participants

Participants were determined by criteria sampling method. Criteria sampling is based on the study of all situations that meet a set of predetermined criteria (Yıldırım and Şimşek, 2013, p.140). The predetermined criteria in this study are:

Smart boards have been established in the school.
The teachers have basic computer knowledge.
The teachers are using information technology in their daily life.

The teachers do not use information technology effectively in Turkish lessons.

14 Turkish teachers who work in public schools in Bartın city center and have met the predetermined criteria have participated in the research. The descriptive characteristics of the study group are given in Table 1.

Table 1. Descriptive characteristics of the study group

		N	%
Gender	Female	10	71.4
	Male	4	28.6
Teaching experience	1-5	0	0
	6-10	3	21.4
	11-15	6	42.8
	16-20	4	28.6
	21+	1	7.2
Educational level	Undergraduate	0	0
	Graduate	14	100
	Postgraduate	0	0

As seen in Table 1, 10 female and 4 male teachers have participated in the research. Participants' teaching experience periods are over 5 years. All participants have been trained at graduate level.

Data collection instrument

Interviews in qualitative research are the basic of data collection tools and the most powerful methods used to understand others (Punch, 2014, p.165). Semi-structured interview form was used as data collection tool. The form was prepared by the researcher and presented to the expert opinion to ensure content validity. In accordance opinions from two experts it was given final shape to the interview form. Participants were asked two open-ended questions and probes related to these questions. These questions were asked to participants: "What are your reasons for not using ICT in Turkish lessons?" and "What are your suggestions for ICT integrating in Turkish lessons?". The probes used to obtain more detailed answers and in-depth data are “the possibilities of the school, the Turkish curriculum, the adequacy of the student's information technology, the adequacy of the teacher's information technology, using social networks in extracurricular times”.

Data collection process

The survey was conducted in October and November 2016. Preliminary interviews were conducted in order to determine the Turkish teachers who met the criteria of the research. Research was conducted with volunteers from teachers who met the specified criteria. Interviews were transcribed since the participants indicated that they would be disturbed by the use of recording devices and conducted face to face in schools.

Data analysis techniques

Content analysis was performed on the data obtained from the interviews. In content analysis, the stages of the conceptualization of the data, the discovery of the themes, the presentation of the results with a descriptive expression, the direct citation of the results, and the interpretation of the findings within the themes (Yıldırım and Şimşek, 2013, p.81) were followed. After the direct citations, the participants are encoded as P1, P2… To ensure the reliability of results, triangulation and member checking strategies were conducted. Analysis and interpretation of the data was done with three experts for triangulation. Two expert and researcher examined the data independently. The results received in qualitative studies must be shared to increase the reliability of research (Yıldırım, 2010). Therefore the research report was shared with the participants for member checking. The participant stated that the matter was raised in an accurate and impartial manner.

Findings

Table 2. Reasons why Turkish teachers do not use ICT

Themes	Codes	f
Lack of school's ICT infrastructure	The lack of general network connectivity	14
	The lack of the necessary software for smart boards	6
	Total	**20**
Lack of teacher's ICT competency	Not knowing how to use some programs	11
	Not knowing how to use the smart board.	9
	Not having a vision to associate students with the course using social networks out of the classroom	14
	Lack of knowledge for ICT integration	5
	Total	**39**
Lack of instructional programs	Not directing the curriculum to ICT	13
	Lack of the course book set (course book, workbook and teacher's guidebook) in terms of direction to ICT	12
	Lack of time because of the many events to be included in the processing of topic	6
	Total	**31**
Not finding suitable for Turkish lesson	Finding unnecessary for Turkish lesson	5
	Believing adversely affect the thinking ability	3
	Believing adversely affect the expression skill	2
	Total	**10**

Habits	Adhering to the traditional role of the teacher	5
	Not being accustomed to using ICT in lessons	6
	Total	**11**
Waste of time	Taking a lot of time to prepare material that will attract the attention of the students	8
	not being carried out as planned the course due to technical difficulties	6
	Total	**14**
Lack of appropriate materials for Turkish lessons	Lack of appropriate materials for acquisitions in Turkish Lesson Curriculum	10
	Not being attractive the existing materials	6
	Total	**16**
Student's ICT problems	The absence of the student's computer	3
	Inadequate ICT skills of some students	4
	Not having internet access	2
	Total	**9**

As seen in Table 2, eight themes were identified that prevented Turkish teachers from using ICT in Turkish courses. The identified themes are "lack of school's ICT infrastructure, lack of teacher's ICT competency, lack of instructional programs, not finding suitable for Turkish lesson, habits, waste of time, and lack of appropriate materials for Turkish lessons". The most frequently highlighted barriers are lack of teacher's ICT competency (f=39), lack of instructional programs (f=31), and lack of school's ICT infrastructure (20).

Lack of school's ICT infrastructure

Lack of school's ICT infrastructure is based on the lack of public network access in the classrooms. Many participants state that "*I cannot use information technology in course because there is no internet access.*" (P9). In this case, it was reminded that it was possible to prepare the course materials at home and bring them with flash memory and it was seen that some programs were not installed at smart boards: "*I'm making a video at home, but when I come to school, my efforts are wasted because there is not a program to open this video*." (P3).

Lack of teacher's ICT competency

Lack of teacher's ICT competency problem is based on not knowing how to use some programs, not knowing how to use the smart board, not having a vision to associate students with the course using social networks out of the classroom, and lack of knowledge for ICT integration. It was determined that teachers wanted to use programs such as excel, flash, power point, movie maker and

animoto, but they could not use the programs because their knowledge about these programs was not enough. Participants' views on the topic show that they need high-level ICT skills: *"Sometimes I want to embody knowledge using a concept map, I want the titles to open in order as well or I want an action that directs the right information when the student points out a wrong option. My computer knowledge is not enough to do them."* (P2). It was seen that the participants were closely interested in digital stories. They would like to transfer the narrative texts in the textbook to a digital media if they had sufficient technology information: "*The images in the text book are inadequate. I think that if I combine the text with the pictures that fit the subject the children read them on the screen. But that sounds like a much idealized lesson for me. With my current knowledge, it is impossible to do.*" (P&).

It was determined that the participants' information about the effective use of smart boards was insufficient: "*The smart board is a computer, but a bit different from the computers we are used to. I want to present a summary with both flash memory and make markings on some examples on the screen. Switching between them can be difficult. Actually, smart board has a lot of features that I cannot use.*" (P5).

When it was reminded that they could benefit from social networks in order to associate students with the course out of the classroom, it was seen that they were unaware of what they could do using social networks: "*I do not use Twitter, I use Facebook, but I did not think it would do anything other than following the agenda. In fact, social networks can be a good way to attract students' interest. They are already surfing on social networks every minute.*" (P11).

One of the identified problems was that they had not been trained in what they could do in class using ICT: "*They gave us a course introducing the hardware of the computer, preparing a Word document, creating a folder, preparing simple presentations, and so on. With this information, we are preparing exams and writing the necessary documents for school work. There are a lot of things we do not know. We do not know what we can do with ICT in Turkish course.*" (K14).

Lack of instructional programs

The problems identified within this theme are not directing the curriculum to ICT, lack of the course book set (course book, workbook and teacher's guidebook) in terms of direction to ICT, and lack of time because of the many events to be included in the processing of topic. Not directing the curriculum to ICT is the most emphasized barrier by the participants. The participants stated that there was no guidance in the program other than listening texts: "*We are trying to do our job within the curriculum. But the curriculum does not show us what we will make with ICT in lessons except listening skills.*" (P14). Participants also noted that textbooks were a reflection of the program, and they were not direct teachers to ICT. By showing the activities in work and guide books, they stated that there was no activity related to technology for reading, writing, and speaking skills in books. For example, P7 showed the theme of "Community Life" from the 8th grade Turkish Teacher's Guidebook and said, "*Students are required to conduct research using ICT only in performance assignments. Other activities are based on reading, speaking*

and writing." In this case it was stated that they could make the lesson interesting with a material but participants drew attention to the inadequacy of the lecture time: "*There are many activities in the texts. To finish them is a job in itself.*" (P8).

Not finding suitable for Turkish lesson

Finding unnecessary for Turkish lesson, believing adversely affect the thinking ability and the expression skill was identified within the not finding suitable for Turkish lesson theme.

They see ICT unnecessary because Turkish lessons are based on language skills and there is a close connection between Turkish lesson and the book: *"The aim in Turkish lessons is to read, understand, explain, and write, and so on. The student must touch the book and turn the pages of a book. I see unnecessary the smart boards, computers, etc. for Turkish lessons.*" (P12). Participants noted that children used ICT too much and they were getting away from thinking. The teachers are thinking that children should be removed from this situation: "*ICT affects the ability to think negatively. Tablets, smartphones, etc. are causing the children to remain as spectators and to go through a new image without thinking too much. We are working to remove the children from this case at least in the lesson.*" (K12). Participants pointed out that they aimed to improve correct and effective use of the language skills in Turkish lesson, but ICT affected the expression of students negatively: The correspondences in the ICT environment are done with a very bad language, superficial, copy and paste. "*Turkish course aims to provide the children to express themselves by speaking and writing. But the correspondences in the ICT environment are done with a very bad language, superficial knowledge, and by copy and paste.*" (P8).

Habits

In the habits theme it was determined that teachers were away from ICT based on adhering to the traditional role of the teacher and not being accustomed to using ICT in lessons. It was seen that they could not keep up with the change because traditional teaching methods were used and they did not take advantage of ICT during in their education process: "*A Turkish teacher becomes an example with his / her writing, speaking and the knowledge gained from reading. Being in direct contact with the student is happier. This is what we see in our middle school and even our university. So I do not want to do something different.*" (P4). Participants are also aware that current children are a different generation than themselves: "*In fact, it is a good idea to add a wealth of lessons, to approach them using their favorite language, to keep up with the age of the children playing with tablet computers for toy intent. But we are not accustomed to using ICT in class. It's still easier for me to touch the book."* (P1).

Waste of time

The problems were determined in the theme of waste of time were taking a lot of time to prepare material that would attract the attention of the students and not being carried out as planned the course due to technical difficulties. Participants stated that it taken hours to produce a material that could attract the attention of the students and they had to make a long preparatory for a short part of lesson: "*Sometimes I am trying to make a good study with limited knowledge. Then I see that I had been working all night for a presentation that*

lasts for 5 minutes." (P10). It leads to a waste of time; to open the work on the smart board they bring with flash memory, unfortunately sometimes unable to open it. This is also an annoying factor for teachers: "*There is as much activity as the world to do. Worrying about finishing them and losing the time to open the material I prepared make me nerves*." (P13). "*Sometimes I cannot open the material on the smart board. The work I papered the whole evening is going to waste and during which students away from the course. It is a separate effort to gather them again*." (P10).

Lack of appropriate materials for Turkish lessons

Lack of appropriate materials for acquisitions in Turkish Lesson Curriculum and not being attractive the existing materials are the problems determined in this theme: "*If there were ready-made materials that overlap with each acquisition, I could use them. Most of the ready-made materials contain grammar knowledge. There is no need to carry them into the classroom. Already students are able to reach them from the internet or education and information network*." (P2). "*These children need fast, colorful and fun things. They like interactive materials, short animations, and movies. But it is not always possible to find the ones that are suitable for the acquisitions within them*." (P13).

Student's ICT problems

The absence of the student's computer, inadequate ICT skills of some students and not having internet access are the problems determined in this theme. Participants indicated that many learners had more ICT knowledge than themselves, but each student was not at the same level and they were careful not to be involved in ICT when giving project assignments to the students in this situation: "*There are students who do not have a computer or do not know how to prepare a power point presentation. Some students do not have internet connection. Their families have closed their internet connection because they could not limit the use of the internet. In such situations, I am careful not to give students homework related to ICT*." (P9).

In the study, the participants were also asked what their suggestions were for resolving the barriers they faced and widespread use of ICT in Turkish lesson. The findings of the study are given in Table 3.

Table 3. Suggestions of Turkish teachers on ICT integration

Themes	Codes	f
Improvement of the school's ICT infrastructure	Providing internet connection	14
	High speed internet connection	2
	Installation of software on smart board	6
	Unlimited internet access in school for teachers	3
	Total	**25**

Practical training on the use of ICT for Turkish lessons	A course for using the smart board effectively	12
	A course for using the software	8
	A course for creating web page, web side, blog	3
	Meeting good examples	8
	Total	**31**
A curriculum directing to ICT	Open guidance in the curriculum	10
	Textbooks compatible with the smart board	8
	Directing to ICT in Teacher Guide books	12
	Total	**30**
Development of course materials / software for Turkish lesson	Development of materials suitable for	10
	Interesting materials	6
	Easy-to-use soft wares for Turkish lessons	2
	Total	**18**
Giving information and equipment to student	Distributing tablet computers to students	3
	Allowing students to use the school's internet connection	2
	Educating students for effective and ethical use of ICT	4
	Total	**9**

As seen in Table 3, five themes were reached from the participants' solution suggestions. These themes are improvement of the school's ICT infrastructure, practical training on the use of ICT for Turkish lessons, a curriculum directing to ICT, development of course materials / software for Turkish lesson, and giving information and equipment to student. Participants' solution proposal, in parallel with ICT barriers, emphasizes on the teacher (f=31), curriculum (f=30) and school's ICT infrastructure (f=25) respectively.

Improvement of the school's ICT infrastructure

The suggestions made regarding improvement of the school's ICT infrastructure are providing internet high speed connection, installation of software on smart board, and unlimited internet access in school for teachers. Participants stated that they would benefit more from the internet after connecting to the public network: "*We are looking forward the establishment of the school's fiber internet connection. This will make it easier for us use ICT in lesson*." (P9). Some of the participants stated that they were trying to establish a connection with their mobile phone, but because of the slow connection speed they could not watch even a short video. For this reason, they need high speed connections and the necessary software must be installed to show the work in the flash memory. Following the fiber infrastructure work, it has been proposed to remove restriction in the Internet service provided by the Ministry of Education for teachers: "*It is not possible to enter every site in the internet*

environments provided by the Ministry of Education. Sometimes it is not even possible to search for educational information. These restrictions must be removed for the teacher. Then this investment gives effective result." (P1).

Practical training on the use of ICT for Turkish lessons

Participants stated that "using smart boards effectively, using software, designing web pages, preparing blogs" courses could improve their personal skills: "*It would be better if a course was given to use the smart board.* " (P6), "*I wish I had courses in graphics preparation, concept mapping, digital story preparation, short film making. Then I could create my own material instead of surf the web to find the ready material.*" (P2). "*I would like to learn how to make a web page or use a blog that I can use to create a course environment for my students, to give homework, to present their essays to peer view.*" (P11). They also think that encountering good examples will open their horizons on the use of ICT in Turkish lessons: "*I need to see how best to use ICT in Turkish lessons by watching good examples. If a Turkish teacher gives us such a presentation, or if we watch it with video, this can open a window. I would like to see both the teacher and the student are satisfied after all.*" (P1).

A curriculum directing to ICT

In the curriculum directing to ICT theme, open guidance in the curriculum, textbooks compatible with the smart board and directing to ICT in teacher guide books were stated: "*For example, the curriculum asks me to show the visuals in the book to the student at the beginning of the course. Then it continues with the reading, understanding, and writing etc. The curriculum should guide me in what stage what to do with ICT. Being given me a guideline will support the use of ICT.*" (P14). Some of the participants said that they were expected to move to enriched e-book with the smart board, but the textbooks did not have any difference from the old ones, and suggested that preparing textbooks in harmony with ICT: "*We should go to enriched e-book now. So we know when, where, for what purpose, and what we will show. Our material design load would also have been a little lighter. Charts, videos, music should be in a position where we can reach just one click*." (P6). It was emphasized that the teacher guidebooks should change with the program, which would encourage the use of ICT, provide order and continuity in use: "*In the age of knowledge, we are talking about generation z. Programs have more or less technology literacy submissions to raise students. But this issue must be clarified, for example, reading skill is handled in detail in guide books, it must be clear what the teacher is supposed to do with the ICT as well. This encourages us to use ICT.*" (P5).

Development of course materials / software for Turkish lesson

Developments of materials suitable for acquisitions, interesting materials, and easy-to-use soft wares for Turkish lessons were given as suggestions in this theme. Ready materials were suggested to remove the teacher's lack of ICT barrier: "*If we have ready-made materials, we do not have to be a computer or software specialist, there are already inadequacies in these matters, there must be ready materials that can be used easily*." (P11). Participants emphasized that ready-made materials should attract children: "*Children should be able to learn like watching a movie or playing a game. If the material is in this way, the*

course becomes enjoyable." (P13). Two participants suggested developing easy-to-use software for Turkish lessons: "*If the software is easy to use, it is also possible to prepare suitable materials.*"(P3).

Giving information and equipment to student

In the theme of the development of the learners' ICT information and equipment, the recommendation was made those distributing tablet computers and allowing students to use the school's internet connection, and educating them for effective and ethical use of ICT. The fact that students have tablets and able to benefit from the internet connection is considered important in terms of screen reading, using ICT for the right purposes, and improving information literacy: "*In this age of technology, it is not possible to keep children away from the computer, they already have to develop some skills. We should direct it to use it correctly in our lessons."* (P9). "*If children cannot benefit from the internet connection, they only play games, so they should be able to use the school network when necessary*." (P7). "*Ethics is a value that all of us should pay attention to. We should teach access to information by making them aware of information crimes*." (P10).

Discussion and Conclusion

This study was conducted to determine the barriers in front of ICT integration of Turkish education. Qualitative method was adopted in the research. Participants were determined by criteria sampling method. In the sample, it was taken into consideration that there were smart boards in the school, the teachers had basic computer knowledge, and used ICT in daily life but did not use information technology effectively in Turkish lessons. 14 Turkish teachers who work in public schools in Bartın city center were participated in the research.

Content analysis was performed on the data obtained from the interviews. Eight themes that prevent Turkish teachers from using ICT were identified. The identified themes are "lack of school's ICT infrastructure, lack of teacher's ICT competency, lack of instructional programs, not finding suitable for Turkish lesson, habits, waste of time, and lack of appropriate materials for Turkish lessons. The most frequently highlighted barriers are lack of teacher's ICT competency (f=39), lack of instructional programs (f=31), and lack of school's ICT infrastructure (20). Additionally five themes were reached from the participants' solution suggestions. These themes are improvement of the school's ICT infrastructure, practical training on the use of ICT for Turkish lessons, a curriculum directing to ICT, development of course materials / software for Turkish lesson, and giving information and equipment to student. Participants' solution proposal, in parallel with ICT barriers, emphasizes on the teacher (f=31), curriculum (f=30) and school's ICT infrastructure (f=25) respectively.

The findings of this research show that the biggest problem in the ICT integration of Turkish teachers is the ICT inadequacy of teachers. Buabeng-Andoh (2012, p.139) also emphasizes that teachers' ICT proficiency levels are the most important determinants of ICT use in the educational setting. In overcoming other identified problems, the teacher's ICT competency seems a key qualification Along with that it has been seen that the program's lack of direction to ICT is one of the biggest barriers in front of the Turkish teachers. It

is understood that teachers who try to run courses in accordance with the program will try to make effective use of ICT when the program provides the necessary guidelines. Not knowing how to use ICT in teaching and not guiding curriculum are among the issues highlighted in other study done by Koçak Usluel, et al. (2007). Set of course books prepared on the basis of curriculum should also be directed to ICT in the same way and students should be given hyper book. In this case, many barriers will come to an end. Teacher's ICT inadequacy, lack of ICT coverage of activities, concern about going out of schedule, taking a lot of time to prepare materials, and not being accustomed to using ICT can be said to be among the barriers that can be eliminated. Key Data on Learning and Innovation through ICT at School in Europe shows that in most countries/regions, education institutions are responsible for implementing central ICT strategies in education (Eurydice, 2011, p.30). This provides encouragement of teachers with centralized recommendations or support materials for ICT use in the classroom. Central steps seem to be very important in solving the problem.

It is another barrier emphasized that some computer programs have not been installed yet, not being connected to the public network, even though there are smart boards in the schools. The majority of participants are approaching positively the use of ICT. For this reason, with the elimination of the barriers, they seem ready to benefit more from ICT in Turkish lessons. They need to be supported by courses that improve the skills of using multimedia, preparing interactive materials, and using the smart board effectively. Teacher's knowledge about technology is important, but not separate and unrelated from contexts of teaching (Koehler and Mishra, 2005, p.132). Participants need the nested courses with field knowledge.

Not finding suitable for Turkish lesson is one of the barriers that the least emphasized by participants (f=10). This finding is important because it shows that Turkish teachers are open to change. They have emphasized that if they see good examples of using ICT in Turkish lessons, they will be able to move away from the barrier of understanding that the Turkish course is based on touching the book. Having images or models on which to build their visions of integrated classrooms is important in terms of technology integration. (Ertmer, 1999, p.49). The understanding of not finding ICT as suitable for Turkish lessons is also seen in other researches (Balkı and Saban, 2009; Katrancı and Uygun, 2013). Complaints like students are away from reading books and writing, they cannot bear to write because they find easier cut, copy and paste (Balkı and Saban, 2009, p.778), expression and thinking skills are adversely affected are consequences of students' using ICT in daily lives for no purpose or for entertainment. Today, children familiar with digital games at age one and a half, and mothers cannot control children's dependence on playing digital games (Toran et al., 2016, p.2274), and as a result children face various problems. The participants are anxious to reinforce this situation. However, in the educational environment, purposeful and ethical use orientation is the issue.

As a result, it should be considered that children should not be cut off from ICT in the information age, but their habits and pleasures should be made part of education. For this reason, many elements of the education system need to be developed. It is important for the widespread use of ICT in Turkish lessons; training of teachers; the orientation of the program to ICT, the compatibility of

textbooks and materials with ICT; solving the infrastructure problems of the school, and having students to use ICT ethically.

Suggestion

The following suggestions have been developed based on the findings of the study:

1. In-service courses should be given to teachers to integrate field knowledge with ICT.
2. Teachers should be brought together with good examples.
3. Turkish Curriculum should be integrated with ICT.
4. The course book set should be presented as enriched e-book.
5. Schools fiber internet infrastructure should be established.
6. Teachers should have unlimited access to the internet in the school environment.
7. Smart boards' missing programs must be completed.
8. Tablet distribution should be made to the students and they should be provided with access to the internet in the school environment.
9. Students should be improved in terms of ICT skills and ethical use.
10. Interesting materials that are compatible with the acquisitions should be developed.
11. Software that teachers can use easily should be developed and provided free of charge.
12. The results of this research conducted with the purposeful sample cannot be generalized to the environment. For this reason, in order to reach the results that can be generalized to the environment there is a need for research in the screening model to determine the barriers faced by Turkish teachers in ICT integration.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Dr. Serpil Özdemir - Bartın Üniversitesi, Turkey.

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