

# The Role of Information and Communication Technologies in Schools: Perspectives of Teachers<sup>1</sup>

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## ABSTRACT

The aim of the study is to question the current state of ICT and to determine the role of it in schools via teachers' perspectives. The study is a qualitative study and was designed as a phenomenological research. A semi-structured interview form was used to collect the data. The participants were selected in accordance with the criterion and convenience sampling. 16 teachers have participated the study. Content analysis and descriptive analysis were used in data analysis. According to the participants, ICT is an effective and indispensable tool in schools. It has a positive role in schools. Perceptions of participants regarding the contributions of ICT in schools were, generally, positive. They think that ICT eases their profession and managerial tasks, enhances learning and motivates students. In addition, making learning process efficient, contributing to design e-materials, motivating students, enhancing academic success of students, easing measurement and evaluation, and fostering professional and personal development of teachers were found as the other contributions of ICT use in schools. However, they have some fears that undesired use of ICT may cause undesired results such as waste of time, decreasing success and making people anti-social.

**Keywords:** Schools, ICT, Role of ICT in schools.

## INTRODUCTION

The importance and effects of education on people has increased from past to present and became a critical issue today. It is accepted that there is a positive correlation between increasing educational status of the society and the development of it in all areas. Therefore, education that is among the priorities of both developed and developing countries is seen as the key of sustainable development.

Sustainable development is so crucial for the societies to survive in a globalizing world (Mengi & Algan, 2003). Meanwhile, producing and using technology has become one of the

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priorities of the societies as well as sustainable development. Yet, the rapid improvement and change cause the societies to face with the challenges both difficult and complex. Especially, technological improvements and their effects have become one of the most critical issues for education lately (Webber, 2003).

From now on, demands from technology has become supplying the needs and expectations of future rather than answering today's needs. In other words, the real important thing is the tasks to be done from now on in the view of future (Drucker, 1994). As we can graduate the generations the future needs, ICT use in schools is vital. Therefore, we should integrate ICT in education and use it effectively.

Integration of ICT in the education system has the ability of enriching the quality and effectiveness of learning and teaching processes. Three important rationales for integrating ICT in education is identified: (1) ICT is increasing in many areas of employment with acquired skills of ICT benefiting the national economic well-being; (2) ICT is becoming as essential a skill as reading and writing for daily life; (3) pedagogical, which focuses on the role of ICT in teaching and learning, as accessibility to resources through ICT not only increases the richness of learning, but also supports the development of higher-order thinking skills including analysis and synthesis (Luu, 2009).

In terms of these facts, as Drucker (1994) states; schools and education will undergo important changes, the knowledge society will demand these changes, and new learning approaches and technologies will start the change. Then, what will be the role of ICT in schools regarding the changing learning approaches and technologies? In fact, the role of ICT make sense with those sub-questions; "How can ICT enhance the quality of education?" and "How can we foster ICT literacy by means of education?"

Regarding the first sub-question, enhancing the quality of education in today's societies has become a vital issue. Anymore, to benefit from ICT for enhancing the quality of education and graduating generations for future have become unquestionable (Ersoy, 2010).

In the context of the second sub-question, the most commonly stressed reason for using ICT in classes has been to better prepare the current generation of students for a workplace where ICT is becoming more and more ubiquitous and dominant. The emergence of the knowledge-based economy means an ever-increasing demand for a well-educated and skilled workforce. Ability of ICT use has become a dominant and decisive skill to achieve the desired workplace competencies. As a result, education system is one avenue where broad-scale training can be offered to meet this demand and to graduate desired individuals (Luu, 2009).

On the whole, education is seen as a basic change agent in several areas. However, changed social expectations have altered the expectations from education systems necessarily in the last quarter. And this process will continue rapidly in the future.

Expectations from education systems have always located schools among the important actors in knowledge societies and economies. And this makes us to think and discuss inevitably whether ICT is a tool for ensuring better learning in schools or a basic skill for the student should have. In this context, the study aims to investigate the current state of ICT in schools and to determine the role of ICT in schools in the context of teachers' perceptions. According to this aim, the study seeks the answers of the questions below:

1. What do teachers think about ICT use and its roles in schools?

2. What contributions does ICT supply in schools?
3. What expectations do teachers have regarding ICT use in schools?

## **METHOD**

### **Research Design**

This is a qualitative study. Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel (2010) state that qualitative research methods are more favourable in researching human feelings and perceptions. A phenomenological research pattern, one of the qualitative strategies, has been used in the study in order to seek in dept the perceptions of teachers about the role of ICT in schools since Creswell (2009) says that phenomenological research is a strategy of inquiry in which the researcher identifies the essence of human experiences about a phenomenon as described by participants. Interview technique was used in this study to gather the data. Yıldırım and Şimşek (2011) stress that interview is a powerful technique in seeking people's feelings, emotions and perceptions.

### **Data Collection**

In order to investigate teachers' perceptions regarding ICT's role in schools, a semi-structured interview form was used. In the interviews, 3 main and 8 probe questions were addressed to the participants in order to explore the role of ICT in schools. The main questions were about ICT use, contributions of ICT and expectations of teachers in the context of ICT use in schools. The researcher went to the schools to interview with the participants. Face to face individual interviews were held with the participants who fulfil the criterions. All interviews were held in participants' own schools. In accordance with the convenience sampling only the participants who are both volunteer and free at that time were interviewed. The questions were asked to the participants one by one. Then, the participants were asked to express their own thoughts in detail. When an issue was unmentioned, the interviewer asked more detailed sub-questions to the participant to uncover the related thoughts regarding the issue.

### **Data Analysis**

Both content analysis and descriptive analysis techniques were used in the study. Before the data analysis all interview transcripts were read several times in order to get an idea on the whole. Then data were transferred to the NVivo, computer software package, and analyzed. The analysis of the qualitative data aimed to break the collected information into meaningful codes, and to synthesize these codes into meaningful themes (Bogdan & Bilken, 1992). After coding process the researcher grouped the codes into meaningful themes. Finally, the views were presented in tables.

Multiple techniques were used to increase the trustworthiness of the study. A colleague, conducted several studies about ICT, confirmed that the final textural-structural description that the researcher developed was consistent with all participants' experiences. The final results, also, were presented to the participants, and the views identified for the experience were confirmed.

## Participants

The participants were selected in accordance with the criterion and convenience sampling methods frequently used in qualitative researches (Yıldırım & Şimşek, 2011). The criteria were selected based on the school type, gender, seniority, and teaching subjects in order to explore the subject in detail from different perspectives. The participants were selected because they had direct experience with the phenomenon under study. The study was conducted in the province of Antalya, Turkey. The study group of the research consists of 16 teachers currently working in four different types of schools including 4 from kindergartens, 3 from primary schools, 4 from secondary schools, and 5 from high schools. Two year experience in the profession, using ICT in classes and working in public schools were the basic criteria for selecting the participants of the study. Participants' ICT use competencies were graded according to their own perceptions. The demographic of the participants shown in Table 1.

Table 1. Demographic Data of the Participants

Participant	Gender	Academic Degree	ICT Competency Level	ICT Usage Frequency (per week)	Institution	Seniority (year)	Subject
T1	Male	Bachelor's	Moderate	Everyday	High School	15	Geography
T2	Female	Bachelor's	Moderate	A few times	High School	12	Chemistry
T3	Female	Bachelor's	Moderate	Everyday	Kindergarten	9	Preschool
T4	Female	Bachelor's	Moderate	Everyday	Kindergarten	2	Preschool
T5	Female	Bachelor's	A little high from moderate	Everyday	Kindergarten	16	Preschool
T6	Male	Bachelor's	Moderate	A few times	Secondary School	8	Religion and Ethics
T7	Male	2-year degree	Moderate	Everyday	Primary School	32	Elementary School
T8	Female	Bachelor's	Moderate	Everyday	Primary School	5	Elementary School
T9	Male	Bachelor's	Moderate	A few times	High School	13	Maths
T10	Female	Master's	A little high from moderate	A few times	High School	13	Guidance and Psychological Counselling
T11	Male	Bachelor's	A little high from moderate	Everyday	Primary School	20	Elementary School
T12	Male	Master's	High	Everyday	Secondary School	11	English Language
T13	Male	Master's	Moderate	Everyday	High School	11	Computer Education and Instructional Technologies
T14	Male	Bachelor's	Low	Everyday	Secondary	14	Guidance and

					School	Psychological Counselling	
T15	Female	Bachelor's	Low	Everyday	Kindergarten	21	Preschool
T16	Female	Master's	Moderate	Everyday	Secondary School	10	Maths

### Ethical Considerations

Only volunteer teachers' ideas were included to the study because of the nature of qualitative studies. All participants were informed about the study. In this context, an info sheet about the study was prepared and participants were requested to read it before the interviews. After the briefing about the study, informants were asked for whether they want to participate the study. Voluntary participation was particularly highlighted. Some teachers refused to participate the study. So, the study was accomplished with volunteer teachers. The researcher declared to keep informants' identity and private data in secret. He also promised to use the data voiced by the participants in scientific studies in terms of ethical criteria. The participants also declared that they took part in the study voluntarily. For this reason, an engagement regarding permissions was signed by the informants and the researcher.

### FINDINGS

Participants' views were discussed under three parts to identify the perspectives of teachers about the role of ICT in schools; general views, contributions and expectations.

Table2. The Views About the Role of ICT in Schools

Views	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16
It has a useful and indispensable role in schools.	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
It is an effective tool in reaching the goals in education.				✓				✓	✓	✓	✓	✓	✓	✓		✓
It is a basic skill that students should have.			✓			✓			✓	✓		✓		✓	✓	✓
It makes people anti-social and isolate them from the society.								✓						✓		
Surfing internet and spending more time on games reduces academic success and causes waste of time.		✓						✓								
It should be used when needed.						✓										

Referring to teachers' views about ICT's role in schools, one of the most frequently voiced theme is ICT has particularly a very useful and indispensable role in schools. The teachers say that ICT's place in schools cannot be filled. They, also, emphasize that ICT in schools is another world and it has brought a different perspective for the education. T4 voices those regarding the issue: "Current roles of ICT are indispensable in education. If you are lack of ICT use in

*somewhere, a gap, a deficiency in education occurs necessarily... ICT has become another world anymore. Any profession actually cannot run without it nowadays. Everything is running by means of ICT. That's why, ICT is the sine qua non of education. That is it is vital and indispensable in our profession".*

Another important issue that teachers emphasize is ICT is an effective tool for reaching the targets in education. However, they stress that ICT use shouldn't be an end, an aim. It should be a mean that takes you to the target. That is to say, they imply ICT should be used for fostering learning and teaching process. Regarding the issue a participant, T13 expresses his view as *"I think, teacher is a dominant component of education process. Educational technologies are useful and effective tools that accompany the teachers for enriching their effectiveness and efficiency. That is to say, ICT is a by component that increases the quality of learning and teaching process, and of the activities in class. However, educational technologies are not a component that can replace the teacher".*

ICT use is also accepted as a basic skills students should have. In accordance with the topic T3 says *"ICT use is, anymore, one of the basic skills. Since, we have to keep up with the times. Children have, anymore, met with the computers at the age of two. That is why, to keep them away from ICTs means, in my opinion, to damp their minds down".* T4, similarly, voices *"ICT must be both a basic skill that students should have and an instrument fostering learning and teaching processes."*

Regarding the role of ICT, views of the some participants were, also, negative. That ICT causes harms instead of uses when they are used unnecessarily and uncontrolled is emphasised by T8 like that *"Useless and unnecessary surf on internet, and game based time spending cause decrease in class success and waste of time..."* and by saying like that she implies unconscious use of ICT may decrease class successes and may cause waste of time. Another negative view about the role of ICT in schools is ICT makes individuals alone and anti-social. A participant, T14, voices his view like that *"I think that excessive ICT use isolates people from real life and makes them more anti-social besides making the tasks easier. Especially, today's children cannot taste the life according to me. I observe that children spend much time in front of TV and computers. They don't know our childhood's games. I observe that they don't know how to start friendship relations. Technology makes people lonely".*



Table 3. The Contributions of ICT Use in Schools

Views	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16
It contributes to knowledge and content management	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
It makes officials tasks easier			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
It contributes to effective time management	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓	✓		✓
It is an effective tool for fast and economic communication	✓	✓	✓		✓	✓	✓		✓	✓		✓	✓	✓		
It makes learning process and in-class activities more effective and efficient.			✓	✓			✓		✓			✓	✓	✓	✓	✓
It contributes to multi-stimulant, and enjoyable activity design		✓			✓	✓		✓			✓	✓	✓			✓
It enhances personal and professional development of teachers			✓			✓	✓		✓	✓	✓	✓	✓			
It helps motivating students and increasing active involvement of them to the class.			✓	✓	✓	✓			✓							✓
It fosters academic development of students.			✓				✓							✓		
It contributes to measurement and evaluation tasks.	✓										✓			✓		

Most of the participants stated that ICT supplies much more contribution in the context of knowledge and content management. Regarding to the subject T4 says *"It is easier to access knowledge and materials. It is easier to store them. We are able to keep them easily."* and she emphasizes ICT eases and quickens accessing the knowledge. T2 stresses his thought as *"It has huge contribution to education. For example, I scan and store everything I have prepared in my professional life for ten years such as exams, work sheets, etc. I can access and use them easily when I need. That is, I am able to carry my library in my bag. It is an excellent thing. I can access any materials when I want. I can meet my any instant need so fast. If I recognize a subject is not understood enough, I can easily turn back and teach with projection machines for one hour effectively"*. T2 voices, in fact, that he is able to carry all his material in his bag since he has employed in teaching and says that he can use them easily at anytime he wants. He summaries his thought briefly as voicing *"I am carrying my library in my bag."*

Regarding the contributions, that ICT makes the official tasks easy is, especially, emphasized. T6 *"ICT, of course, made the paper tasks very easy in comparison with the previous tasks."* says and stresses ICTs make easier the tasks. T7, as well, voices ICTs give humans a show about online applications. That ICT reduces paper waste, and makes the tasks easier, faster and more objective is, especially, emphasized by him like that *"It helps us a lot in many issues. We are able to prepare the official tasks without using paper and pencils, and are able to access them easily from computers later. We do our lots of task via them... For example, we can see almost everything related to our profession such as retirement affairs, seniority tasks,*

*prizes, and penalties... We do course tasks, exam applications, and several different tasks with the help of computers".*

That ICT provides huge contributions in terms of time management is another subject voiced by the teachers. Teachers believe that ICT ensures time saving. They, in this regard, emphasize ICT shortens the running time of the tasks. With regard to this, T1 says *"We were, formerly, able to show geographical distributions curves by taking the maps to the class. But, now, I am able to show my students the world map in smart boards in a few seconds"*. Another participant, T6, voices *"We, especially, save time and paper... A task done in a month can be easily done with a computer in two hours"*. Similarly, T9 expresses his views as *"It, absolutely, saves time in Geometry class. Instead of writing 5 questions to the board, giving the photocopies of them are really time saving... We only show the solutions on the board. We, like that, save time because of not writing the questions on the board. Thus, we are solving more question"*.

Another significant view regarding the contributions of ICTs is about communication. That communication is faster, easier, and more economic by means of ICTs is general beliefs of teachers. Regarding the issue a participant explained his view as follows: *"It has, of course, very effective role in terms of communication. It has a huge role in terms of quick, easy and economic communication... We can reach parents very economically and quickly via mobile phones from everywhere. In this sense, we can get feedback very quickly (T12).*

Teachers argue that learning process becomes more effective and efficient by means of ICT. In this regard *"We can take more efficiency. Since, learning, in fact, actualizes by seeing, hearing, and experiencing. It, thus, leaves deeper traces on students."* said T4 by stressing that ICTs make learning long lasting. T7, similarly, touched the same issue by saying like that *"People don't forget what they have seen. To what extent you tell a subject, children forgets it. They, however, never forget the subject they have seen. They don't forget an experiment done, or a thing seen by themselves."* Regarding this T13 said *"They are the means that increase the learning. As all we know, how many senses you address, you increase learning much more... This, as a result, provides students learn the related subject better."*

Views on ICTs make contribution to learning-teaching activity design is generally about the profits of ICTs. They voice that they are able to design multi-stimulant, interesting, enjoyable, and learning facilitating class activities. Related to this *"We must endear all activities to our students. For example, music activities. We, here, cannot do anything with company of the piano, or the guitar. It is impossible. We don't have materials, or equipments. However, to find someone playing the guitar, or other things on internet and then to make students listen and watch these materials return us as positive points... When students see the things they haven't known before, they can easily identify them."* said T5 and pointed out that activities very close to reality are actualized in a short time and almost with a very little cost by means of ICTs. Another participant, T11, implies that class activities enriched as visual offer the opportunity for better learning. In this regard he voices *"A simple picture, or an image sometimes ensures the children to internalize even abstract things that they don't understand."*

That ICT enhances the personal and professional development of teachers is another contribution of ICT in schools which is mentioned by the teachers. T13 expresses his thoughts by emphasizing that he is able to enhance his personal and professional development via ICT. In this regard he says *"In fact, information technologies, generally internet, make huge contribution to you to develop yourself, to renew yourself, to keep yourself up to date... We are*



using these technologies very effectively to follow up the local and foreign literature, to access the publications."

ICTs, also, motivate the students, attract their attention, and ensure their active participation in classes Related to the issue "We have already decreased the monotony in classes by means of ICTs" said T3 by stressing that classes become more attractive for students. That ICTs are useful in attracting and motivating the students is likewise expressed by T16 like that "Besides, they are useful. Since you are able to motive the students and attract their attention." That classes become more enjoyable by means of ICTs is, also, stated by T9 like that "...since children have been grown up with computers and televisions, visual lectures are more enjoyable for them. They make the classes more enjoyable."

Another significant finding is ICTs make contribution to academic development of students. In accordance with the topic T3 voices that:"We are able to enhance the brains of the students easily... This, so, enables to enhance their brains.", T14 voices "I think that ICTs make easier the duty of students in terms of learning and success."

The last theme about the contribution of ICT in schools is about measurement and evaluation. Related to this issue, one of the participants says "When we wanted to report the results and feedbacks of an exam before, it was taking too much time. But, now, I can analyze and report the results of an exam in a short time... And, I can easily check for the reliability and validity of the questions I asked in the exams (T1)".

Table 4. The Expectations Regarding ICT use in Schools

Views	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16
To use ICT efficiently and effectively in a supervised manner				✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
To increase the number and quality of e-portals	✓	✓	✓				✓		✓	✓	✓					✓
To strengthen ICT infrastructure of schools		✓		✓			✓	✓		✓						
To enhance ICT use skill of students	✓		✓	✓									✓	✓		
To enhance ICT use skill of teachers		✓					✓	✓		✓						
To be able to use ICTs effectively in measurement and evaluation tasks		✓							✓	✓						
To reach students by means of distance learning tools	✓							✓								✓
To increase the number of ICT courses and enhance their quality														✓		

The most frequently voiced expectation is related to effective, efficient, and controlled use of ICT. Participants stress using beneficial side of ICT rather than its harmful effects. They hope to use ICT in a controlled manner to avoid its harms. Related to this theme T6 says "ICT is sine qua non of the life. I want ICT to be used more effective and for useful things in future. But I don't want it to get ahead of the people. If it gets ahead of the people, we convert life to robots". He expects ICT to be used effectively as a tool. According to him, it shouldn't get ahead

of the people in schools, since he thinks student-student, student-teacher interactions are more important. Another participant says about ICT use that *"We are sure that ICT will be more different in future... It will be better in terms of enriching the learning and teaching process. But, as I said before, useful parts of the ICTs will need to be used... As I said, we should define usage limits. Short and brief usage. That must be done. Must be used in a supervised manner. If they get uncontrolled, it will not be good to round up again (T5)"* and she emphasizes that we should both use positive sides of ICTs and care supervised usage of them.

That the number and qualification of education portals containing e-materials is another expectation mostly voiced by the participants. In this sense the participants voice educational software should be offered free for the use of the faculty. They, also, want rich e-content pools to be opened and want to be able access these e-content pools easily. In this regard T11 says those; *"In future, shared e-content pools, websites, can be opened. I wish, there was a collective website where sharing is possible. And I wish teachers visit these websites and may download images, or data related to their subject they teach. And I wish they may use these materials in their classes"*. Regarding this issue T16 expressed her expectations like that *"There are lots of very good educational software related to my subject... We are not able to use them. Since, they are not common. Some of these are sumptuous and require payment. I wish they were free and easily accessible for everybody"*.

Another expectation is to strengthen the infrastructure of ICT in schools. A participant voices her expectations related to fulfilling the requirements of ICT infrastructure of schools like that *"Well, there are lots of schools having insufficient ICTs in our country, in our city. Therefore, this, necessarily creates a deficiency and backwardness. If these are overcome, it will actually be better and educational quality reaches to upper levels. And I think a better performance can be yield (T4)"*. Another participant, T8, voices her expectations about achieving equality of educational opportunity like that *"First, equality of opportunity on educational technologies must be achieved. In Turkey, unfortunately, infrastructure of educational technologies are not equal to each other by region"*.

Besides, improving ICT use skill of both teachers and students is a desired expectation. Ability to access the right and needed information, and to make students gain software and programming skills are de rigueur. That ICT use is a basic skill students should have is expressed by T12 like that *"Having the skills of accessing information easily, or of accessing the right information are, anymore, more important... Therefore, not only students' ICT using but also right usage and acquiring ICT use skill is very important"* to stress that equipping students with the skill of right and effective ICT use is necessary. Another participant, T10, expresses his expectation related to improving ICT use competencies of teachers like that *"Teachers must be competent at ICT use in education. If we consider for today, are we competent at ICT use? In my opinion, no. Teachers must, absolutely, keep up with the time."*

Other expectations are easing measurement and evaluation, reaching to all students via distance learning, to increase the number and quality of ICT courses, and to educate programmers. Regarding measurement and evaluation tasks, T2 implies that *"After fundamental problems of the schools were overcome, I would want unity in education, would want measurement and evaluation is centralized, and would also want materials are centralized so that teachers can access them easily"*. Another participant voices his expectations about a centralized measurement and evaluation system like that *"There is, actually, a case that I*

*desired about exams. I am an advocate of the centralized exams. I, even, want schools' written exams to be done more centrally... Thus, everybody can be responsible from the same questions in the whole country (T9)". About reaching to all students via distance learning, T1 says "This is not a new thing. But like that we can reach the students that couldn't come to class because of an obstacle. When students got sick, at home we can provide them to study the lectures that the other students had studied in school. For example, we can record the lectures that we told in classes via smart boards. And we can send these lectures to the students couldn't come to school (T1)". The last expectation related to ICT use in schools is to increase the number and quality of ICT courses, and to educate programmers. In this regard T13 voices that "ICT courses do not need to be compulsory. Let's make them elective. But let's increase the number and the quality of them... We have to educate programmers. In order to educate programmers we need related courses in our schools".*

### **DISCUSSION and CONCLUSION**

One of the most significant results regarding the role of ICT in schools is ICT has particularly a very useful and indispensable role in schools. The participants voice the role of ICT in schools that ICT's place in schools cannot be filled. They, also, emphasize that ICT is another world and it has brought a different perspective for the education. In fact, these thoughts show that the participants have positive perceptions about ICT use and its benefits for schools.

Besides these positive thoughts, it is seen that there are some fears about ICT use in schools as well. They stress they have anxiety regarding ICT use, as they have fears about ICT is replacing the teachers in schools. They think that ICT should not lower the effectiveness of teachers. On the contrary, it must assist themselves in teaching process. The results indicate that while teachers benefit from ICT, they are cautious about integrating advanced technologies into school studies. As Barak (2006) states teachers value the potential of technology for stimulating students' learning, but do not think that ICT is preferable to class-based instruction in terms of promoting cooperation and reflection processes in learning.

It is, also, emphasized that ICT should be used controlled when it is necessary. Teachers, highlight it may, otherwise, do harm rather than its benefits. Therefore, they state unnecessary use of ICT may cause waste of time and may decrease success of students. Furthermore, another fear about ICT is internet and social media applications make people anti-social and alone, and jail people and their natural communication into virtual world.

Regarding the contributions of ICT, the study found that ICT makes knowledge and content management effective, saves time, and makes the official tasks easier, faster, and objective. Making knowledge accession and communication easier, faster, and more economical is another important result emphasized. Similar to the study, Usluel and Uslu (2013) state that teachers think ICT is beneficial in terms of "functionality", "time" and "economic". In addition, ensuring learning and teaching process to be more effective, enriching developing e-materials, motivating students, enhancing academic success of students, easing measurement and evaluation, and fostering professional and personal development of teachers were found as the other contributions. In this sense, Haddad and Jurich (2002) similarly state some of the

role of ICT in enhancing the quality of education as to foster learning to learn, motivating to learn, and facilitating the acquisition of basic skills.

Besides, we may conclude that effective and enjoyable learning environments can be created by means of ICT-based activities which are interesting, multi-stimulant, and easier. Çetin (2008), similarly, emphasizes ICT renders learning and teaching more enjoyable and attractive. Regarding the ICT-enhanced academic success of students, the study found that ICT motivates students, engages their attention, makes them learn easier, decreases monotony in classes, and makes learning long lasting. That ICT provides acquiring advanced inquiry skills and increasing the success of students can, also, be concluded. Luu (2009), similarly, states that integration of ICT in education not only enhance the quality and effectiveness of the learning process but also provide acquiring advanced inquiry skills such as analysis and synthesis. Also on this, a study by Mikre (2011) revealed that ICT-enhanced learning environment facilitates active, collaborative, creative, integrative, and evaluative learning as an advantage over the traditional methods.

When the contribution of ICT in schools is evaluated on the whole, Usluel and Uslu (2013), similar to the results of the study, claim that ICT contributes preparing lesson plans, writing exam questions, developing materials, communicating, drawing attention, visuality for class activities, and lasting learning.

According to the study, some of the expectations voiced include; using ICT effectively, having rich materials, accessing those materials easily, strengthening the infrastructure of schools, developing ICT use skill of both students and teachers, offering more opportunities regarding measurement and evaluation tasks, broadening distance learning and increasing the number and quality of ICT courses. Regarding to the issue, Mikre (2011), similarly, indicates that some major promises of ICT use in education systems focus on training teachers in new skills, introducing innovative pedagogies into the classrooms, and investing on ICT infrastructure for schools.

In conclusion, we can conclude that the perspectives of the participants are generally positive regarding the role of ICT in schools. About the contributions of ICT, it can be said that ICT, as a complementary tool in learning and teaching process, has positive effects on student success. In terms of the expectations, ensuring the quality of education with the use of ICT, and supporting the educational process are mostly expressed. In fact, ICT is seen as a complementary tool in learning and teaching process that fosters the quality in schools. The concerns expressed about the use of ICT in schools are therefore based on the fear of ICT will kill natural student-student and student-teacher interactions in learning process. Herein, developing ICT use skills of teachers, strengthening infrastructure of schools, and offering teachers rich and free e-materials may be suggested. Lastly, we may conclude that ICT can, thus, be used more actively and effectively, and can enhance the quality of education.

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