Teacher Candidates Opinion about Technology-Oriented Transformations

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One of the most important characteristics of period we live is change and transformation. Technology is one of the factors effecting this change. A new technological product or an advanced model of technology influences people's lives. While technology leaves an impression on life in the past, this effect becomes in a very quickly way compared to today. Therefore, most people have witnessed a great number of transformations in the recent period. In this study, changes caused by technology on our lives have been reviewed with the eye of teacher candidates. 35 teacher candidates whose ages change between 19-23 were participated in this study supported by qualitative methods. Transformations resulting from technology witnessed by them during all their lives are given as a finding from the perspective of participants. We have made use of open ended question form as a data collection mean in this study. As a result of examination of data gained through content analysis, accessibility to information in the field of education, increasing of quality in the education, becoming important of visual learning, in particular using of new technologies with the purposes of communication in family and negative aspects of new technologies, gaining speed of communication in the communication, coming into our life of new technologies such as 3G via internet and decreasing of social communication have become prominent transformations in the recent times. On the other hand, it has been stated that transportation, entertainment, health, automobile industry, public enterprises and agriculture sector are fields affected too much from technology-oriented transformations subsequent to education, family and communication.

Keywords: Social changes, Technology, Technological transformations, Social effects of technology.

INTRODUCTION

Social transformation is a phenomenon experienced in many fields of society since human beings exist. While the evolving from agriculture society to industry society, people have experienced a lot of innovations and changes in a speed way under effect of factory-assembled productions systems. Innovations have caused to social transformations and consequently social changes have been experienced such as immigration from rural zones to city centers, participating of all family members in workforce, systematic structuring focused on social mass in education institutions (Ballantine and Spade, 2011; Hirschmana and Mogfordb, 2009). During transition period to information age, this change and transformation have continued and all and any live standards from people's shopping habits to communication process have been renewed continuously. Also the most important characteristics of this period created a very speed change in social life and to separate individuals' life in different segments (Kaul, 2013). In today's world, the most remarkable matter experienced in the scope of this transformation is impression time of speed on change. (Table 1).

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State of the literature

- Technology has been changing the social life rapidly. The change is accelerating each day. The social change has brought about the new generations who adapt and use the technology effectively.
- Technology-based social transformations have caused the classifications of society 1.0, society 2.0, and society 3.0 emerge in the literature.
- Teacher candidates growing up with the company of new technologies have witnessed many changes varying from education to transportation throughout this historical process. Therefore, they are able to express these changes.

Contribution of this paper to the literature

- It explains what changes technologies have made in the society using the experiences of the individuals. Especially, the experiences of the new generations are significant in terms of describing the social change.
- The speed of change in technology and the fields affected by technology have been introduced by the teacher candidates' perspective. In this way, it will clarify the transformation in education, communication, and families; and what other fields have gained importance.
- It demonstrates that technology is the main character of the change in the living society.

When analyzed Table 1, it has been seen that people have encountered with a rapid change process within last twenty years particularly and people were obliged to comply with such a rapid change. Nowadays many factors such as economy, increase in world's population, changing requirements and expectations may be deemed among causes of rapid social change. Technology has a very important place among these factors.

Transformation and technology

Thorne (2000) expresses that transformation is transformation of one existing thing to another thing and also transformation are innovations carried out for these purposes. Mezirow (2000) states the technology as the most important element of transformation. Effects of new technologies are seen in all fields from mobile telephones to computers, from new generation automobiles to new buildings, from hospitals to schools. These innovations and developments cause transformations both in people's tasks and roles and in the whole fields such as education, health and communication. On the other hand, as stated by Al Shami (2008), development and impression time of

technological products in social life implement in a rapid way compared to last years. While a technology launched to the market in advance is adopted within one or next few years, it becomes necessary to use the technologic innovations developing and emanating in monthly periods in today's world. Technologic transformations require finding and employing the qualified individuals who may use such technologies (Poorman, 2002). When considered from this point of view, technologic developments cause social transformations as well as requiring qualified individuals. Transformation in technology already shows its effects on human beings and society. But main concern at the present time is that transformation happens in a rapid way and therefore individual and society are obliged to experience and use a lot of changes within a short time slot.

When literature is examined, we could not achieve to find any studies related with fields influenced by technology in general. But when this issue is considered by means of giving particular importance, it may be said that almost every field is influenced by this transformation. Education is only one of these fields. In particular during last twenty years, it is seen that it has been started to apply many innovations from black board to smart board, from computers to mobile applications, from display programmes to web-assisted application (distance education) (Van Dusen, 2014; Çalık, 2013; Chich-Jen S., Ying L. and Ridong H, 2013; Veletsianos, 2011; Jonassen, 2000). A great number of research where conventional method is compared with new technologies have been carried out and results have been obtained in the most of these researches that new technologies increase the learning level (Cheun and Slavin, 2013; Hollebrands, 2007; Liao, 2007; Steen, Brooks and Lyon, 2006). Technologic transformations influence the education environments and today it is discussed that whether receiving education of students at their homes without going to school through distance education is right or not (Solomon and Schrum, 2007). Health is another field influenced by technological developments. Technology is particularly used in developing of new diagnostic systems as well as drug production and in implementing of health services (Glied and Lleras-Muney, 2008). It is explicitly expressed that use of technology in health field supports the medical developments and shortens the time of transactions (Phelan, Link and Tehranifar, 2010; Cutler and McClellan, 2001). Furthermore, a more planned health system is supplied through appointment system nowadays and fraud actions are easily prevented by means of using information systems.

Also communication sector is one of the fields influenced by technological developments. Walter and et al. (2006) declares that internet makes easier the global communication throughout the world and plays a

Table 1. The Impression Time of Technological Transformations (Al Shami, 2008).

Current Period	Historical Interval	impression time on change
Dark Ages	1390 – 1720	330 Years
Industrial Revaluation	1720 – 1870	150 Years
Age of Modernism	1870 – 1950	80 Years
Era of Mass Communication	1950 – 1990	40 Years
Personalize Automation	1990 – 1994	4 Years
Age of Information	1994 – 1996	2 Years
Instant Interaction	2000 – …..	Monthly

very important role in order to throw the large mass of people together. People may be aware of information all over the world via mobile telephones, satellite channels, televisions and internet sites and establish all and any communications with other people at the other end of the world. Gibbs, Rozaidi and Eisenberg (2013) states that communication modes change because technology develops and today social networks transforms a much more strong communication channel.

In addition to explanations above written, transportation sector is another field influenced by technological transformations. Investments made for transportation vehicles such as construction of airports and high speed train increase the becoming widespread and availability of these vehicles. According to data regarding transportation sector published by Turkish Statistical Institute - TSI (2014), while the number of individuals benefited from domestic flights in Turkey is approximately 9 million in 2002, this figure reached to 65 million in 2012. According to similar data, the number of individuals benefited from high speed train services in 2009 in Turkey is approximately 1 million compared to data of 2012. Also transportation has been influenced by technology as a result of adding of different transportation vehicles and improving of comforts in existing vehicles.

Technology becomes more effective on all fields and sectors under the leadership of information and communication technologies. Such effect of technology use appears in such a way that technologies existing in our daily life until recently cannot be used and new technologies can be used. But a period where transformation carries out the quickest way maintains within historical period. This fact produces a human profile that lives together the very different applications arising from technology and may compare the new with the old within a period of twenty - thirty years.

The importance of this study

Technology use may become an indispensable part of life. As stated above particularly, new technologies develop within the shortest time and they shape people's life in a different way. In particular use of internet widely in the recent years causes to a multiple change from our communication way to our education and from our information sources to our shopping. Today people may establish communication each other via social networks and they may have a good time through computer screens. Instead of waiting in the hospital like in the old days, they gain time by means of getting appointment and they may collect preliminary information about physicians. Instead of traveling with bus, they may prefer to travel with high speed train and to buy flight ticket. The whole of these developments has been experienced within approximately a period of twenty - year.

Wilen-Daugenti (2012) indicates that three different transformations triggered by technology in terms of social changes are seen in the recent years and three different societies. (society1.0, society 2.0 and society 3.0) live together because technological change occurs rapidly. Moravec (2008) emphasizes the social transformation in a study made by him and in the scope of this study, he states that qualifications related with technology use of individuals in mid-twenties having a global network are much more than qualifications of other individuals of society and he classifies them as society 3.0. Individuals included in this group correspond to university students. Individuals of this group may use the technology better than their parents and teachers (society 2.0 and / or 3.0) and this group is the best one to evaluate the transformation occurred in technology.

In this study, the point arrived at technology, effects of technology, changing things in technology and fields influenced by technology during last twenty – year period have been evaluated by taking teacher candidates' opinions into consideration. Any study showing the general effect of technology in all fields could not be determined in literature. This study is very important when considered from this point of view. Also this study is of importance in terms of evaluating of situation in the past, making of plans regarding technology in the next future and developing of foresights.

The purpose of this study

The purpose of this study is to set the transformations arising from technology during approximately twenty-year period under opinions of

Table 2. Distribution of Technology-Oriented Transformations According to Opinions of Students

Fields	Number of themes		Number of opinion	
	n	%	n	%
Education	6	27.2	45	31.7
Family	5	22.8	41	28.9
Communication	5	22.8	33	23.2
Other Fields	6	27.2	23	16.2
Total	22	100	142	100

teacher candidates. We tried to seek answers for below written questions in the accordance with this purpose:

1. What are transformations experienced by teacher candidates in the field of technology – oriented education?

2. What are technology – oriented transformations appearing in family life of teacher candidates?

3. Which transformations are experienced by teacher candidates in the field of technology – oriented communication?

4. According to opinions of teacher candidates, which other fields are influenced by technology – oriented transformations?

METHODOLOGY

In this section model and participants of this study and data collection technique and analysis of collected data are given in topic titles below.

The model of this research

This study is a qualitative research in order to evaluate the effect on different fields of transformation experienced in technology with point of view of individuals studying in primary education in 1990s and studying in the university in 2010s. Furthermore, case study design selected from among qualitative method designs is used in this study. Case study is a research design used for circumstances where researched phenomenon is reviewed in the frame of its life and where limits between phenomenon and environment related with this phenomenon are not clear enough and evidences or data sources more than one are available (Yin, 1984; Yıldırım and Şimşek, 2006).

Participants

Participants of this research consist of 35 teacher candidates receiving "History of Science" course in Computer Teaching Department of Necmettin Erbakan University Education Faculty in Turkey in 2011-2012 academic year and participated in this research voluntarily. Purposeful sampling method is used in this research, which is a qualitative sampling method. Also students receiving "Technology and Transformations" course in the scope of "History of Science" are

included in this research. These students can be used the technology effectively as they study in computer teaching department and this is the most remarkable property of them. 14 students (36,8%) are female and remaining 24 students are male (63,2%). Also age range changes between 19 and 23, and average of age is 21.

Preparation and application of data collection tool

With the purpose of obtaining opinion from teacher candidates related with technology-oriented changes in education, family and communication fields, we benefited from open - ended question form (Open - Ended Question Form In Order To Determine Technology – Oriented Transformations). Open - Ended Question Form is a research technique expressed as "open-ended questions" or "open-ended survey" in relevant literature and used to gather data in qualitative field. In this method, participants are requested to give answers to questions as implemented in interview. But these answers are not given verbally but are written (Creswell, 2005; Gay, Mills ve Airasian, 2006).

Open - ended question form has been considered and controlled by three domain experts taking charge in education technologies field and it has been reissued in accordance with proposals offered by them. Preliminary test study has been carried out on three students and understandability of this form has been checked. Duplicated in needed number, assessment instrument has been applied to participants. Information has been given by researchers to students about this research and required explanations have been made about questions not understood by them without any directions. Students have filled this form in a class where only researchers have taken in charge.

Data analysis

We have made use of descriptive statistics in analyzing of demographic information obtained from participants. In analyzing of qualitative data, content analysis technique has been used and this technique is frequently used within qualitative researches. Content analysis has been performed for unclear themes in theoretical field and it has been carried out to create and

Table 3. Technology-oriented transformations experienced in education field according to opinions of students

Transformations experienced in education field	n	%
Accessibility to information	20	44.4
Increasing of visual learning	14	31.1
Increasing of quality in education	7	15.5
Saving from book and notebook	2	4.4
Practicability In Solving Problem	1	2.2
Economy	1	2.2
Total	**45**	**100**

Table 4. Technology-oriented transformations experienced in family according to students

Transformations experienced in family life	n	%
Telephone use in domestic communication	14	34.1
Decreasing of domestic communication and social relations	11	26.8
Use of internet and social media	10	24.4
Extending of auxiliary household appliances	4	9.7
Accessibility to information	2	4.9
Total	**41**	**100**

analysis the subthemes, if any, (Gay, Mills and Airasian, 2006; Yıldırım and Şimşek, 2006). Necessary transactions have been made respectively to register data obtained from teacher candidates in indexes, to create codes through indexes, to receive themes from codes, to issue and define these themes and to present and interpret the findings in accordance with these themes (Yıldırım and Şimşek, 2006; Creswell, 2005).

We received opinions from two experts in order to code data obtained from students to establish themes from codes and to provide the safety of data in defining of these data. After answers was compared, reliability of research data was calculated as 82 % by using of Consensus / (Difference of Opinion + Consensus) *100 formula found by Miles and Huberman (1994). Data that is reliable and suitable for analysis is transformed in codes and themes and findings are interpreted under topic titles. In creating of themes, we have paid attention to whether answers are suitable for analysis, they contain themes and they contain theme more than one or not.

FINDINGS

In this section, technology–oriented transformations experienced by students in education, family and communication fields within approximately last twenty year and other fields affected from these transformations are given in topic titles.

Distribution of opinions related with technology – oriented transformations

Firstly the themes declared by 35 students and the number of opinions forming these themes in order to determine general situation of technology – oriented

transformations of students in education, family, communication and other fields are separately reviewed and findings obtained are given Table 2.

When information is considered in table 2, it is seen that students deliver opinions (31.7 %) and themes (26.1 %) in education field particularly from among education, family and communication fields in terms of technology – oriented transformations. While family and communication are represented in equal number (21,7 %) in terms of themes, it is seen that students deliver more opinions (Family 28.9 %; communication 23.2 %) in the dimension of family. In the dimension of other fields, it is determined that students deliver 6 different themes and that they point out six different fields other than three themes effected by technology according to their opinions.

Technology – oriented transformations experienced in education field

First of all, opinions of students about transformations experienced in education field are researched and the following question is asked to students in accordance with this purpose: '' What kind of transformation did you experience in terms of education when you take developments and transformations in Information and Communication Technologies into consideration ''? In this scope, total 45 opinions were obtained from 32 students participated in this research and these opinions were gathered in 6 topic titles (Table 3).

It is seen that students consider positively the whole of transformations provided by technology use in education as a very important finding and it is further seen that they did not use a negative expression in this subject (Table 3). Accessibility to information reached

to 44.4 % among answers given by students. They think that sources between technology use and education field change considerably and information can be accessed easily compared to the past. Another transformation expressed particularly increased in terms of visual learning (31.1 %). Increasing of quality in education 15.5 % and saving from book and notebook use (4.4 %) became other findings stated by person more than one. In spite of this, practicability in solving problem and economy themes became other themes stated by one person (2.2 %).

Example statements of students related with transformations experienced in technology – oriented education are as follows:

Accessibility to information - *"With development of technology, we had opportunity to use and easily access to information which was limited to only books before..." (21, Female – F)*

Increasing in visual learning- *"With coming of technology into our life, of course we experienced positive developments in terms of education. One course became more comprehensible thanks to visual animation...." (22, Male - M)*

Increasing of quality in education- *"…improvements carried out in education. Now we may learn better. An increase became in quality of education." (21, F)*

Saving from book and notebook- *"…some interest change occurred. For example students don't carry books and notebooks...." (20, M)*

Practicability In Solving Problems - *"Technology brought with it practicability. Problems encountered are being solving easily." (19, M)*

Economy– *"…lots of photocopy fee and return fare to library were being paid in the past. Today it is not necessary to pay extra money for these actions." (22, M)*

Opinions related with technology-oriented transformations experienced in family

In accordance with purposes of this research, the following question is asked to students : "What do you think of the changes seen in family life because of development of technologic means in due course" in order to learn transformations experienced by them technology – oriented life and 5 different themes were gained (Table 4).

As seen in Table 4, existing of negative statement in family life in concern with technology-oriented transformation (Decreasing of domestic communication and social relations) is a remarkable issue. On the other hand, the most important technology – oriented change seen in family life (34.1 %) has been stated as use of telephone in domestic communication. Then, theme related to decreasing of domestic communication and social relations (26.8 %) draw attention as a topic title

effecting the family life negatively. Use of internet and social media (24.4 %), extending of auxiliary household appliances such as oven and food processor (9.7%) as well as accessibility to information (4.9 %) became other themes obtained when considered from this aspect.

Statements related with technology – oriented transformations experienced in family life may be exemplified as indicated below:

Telephone use in domestic communication- *"…today various communication instruments such as telephone enable us to establish communication with our family members living in long distance..." (20, F)*

Decreasing of domestic communication and social relations - *"…it is necessary not to deny that television is an important and negative factor in our daily life replacing by conservations in house..." (21, F)*

Use of internet and social media - *"…Msn and face book started to take the place of letter and telephone." (22, M)*

Extending of auxiliary household appliances - *"…today there are technologies gained time such as food processors and vacuum cleaner. They are almost used in every house." (21, F)*

Accessibility to information - *"...If today children of parents doesn't go to school, a SMS may be sent automatically. Information is no longer a mystery in family because of the technology." (20, M)*

Opinions related with technology-oriented transformations experienced in communication

One of the technology-oriented transformation kinds asked to students is related with communication field. In this scope answers given by 32 students to questions related to technology-oriented transformations experienced are analyzed and 5 different themes were listed in Table 5.

It may be stated that the most important change considered by students as reflecting of technology to communication is acceleration of communication % 45.4) (Table 5). Another transformation experienced in society became internet (21.2 %) having a very important position nowadays although it is not available in the past. This fact is followed by video communication with (18.2) showing the effect of mobile telephones. In this frame, social loneliness (12.1) draws attention as a negative theme brought by technology to communication. Finally, transformation experienced in communication field became the issuing of electronic invoices (3.0 %).

Example statements used by students in order to tell the effect of technology in communication field may be exemplified below by taking themes containing further statement into consideration:

Table 5. Technology-oriented transformations experienced in communication according to opinions of students

Transformations Experienced In Communication Field	n	%
Acceleration of communication	15	45.4
Internet	7	21.2
Video communication with 3G	6	18.2
Social loneliness	4	12.1
Electronic invoices	1	3.0
Total	**33**	**100**

Table 6. Other areas affected by the technology focused transformation in view of students

Other Fields	n	%
Transportation	7	30.4
Entertainment	5	21.7
Healthy	4	17.4
Automobile Industry	3	13.0
Public Enterprises	3	13.0
Agriculture	1	4.4
Total	**23**	**100**

Acceleration of communication - *"…I may establish communication with my friends and familiars via telephone in very speed way." (19, M)*

Internet - *"After internet came into my life (dialup), I started to e-mail and messenger in the shortest time..." (22,M)*

Video communication with 3G - *"I may establish video communication and voice communication through 3G …" (19, M).*

Social loneliness - *"Technology took the technology to virtual environment but we had intimate relations each other in the past. According to me, people suffer loneliness because of sociality in internet. …" (22, F).*

Electronic invoices - *"I can follow and pay my invoices over internet. I am not end up in the poor house and this is a very beautiful thing for me…" (21, M).*

Opinions related with other fields where are experienced technology-oriented transformations

A question in which other fields they experienced important change is also asked to teacher candidates. W For this question, total 23 opinions were reported under 6 different topic titles (Table 6).

Students stated the fields effected by technology as transportation (30,4 %), entertainment (21,7 %), health (17.4 %), automobile industry (13 %), public enterprises (13 %) and agriculture (4.4 %) respectively except education, family and communication (Table 6).
Sample statements of students related with other fields affected from technological transformations and implementation mode of this effect may be shown as above mentioned:

Transportation- *"In transportation field (for example high speed train)." (20, F)*

Health - *"It is not necessary anymore to wait in hospitals for hours thanks to technology. Because making an appointment by telephone, taking a number in door entrance of hospital and recording through computer facilitated the transactions of all patients in the hospitals."(21,M)*

Automobile industry - *"Technology cannot be considered only as a multimedia means. Even busses got on to go to the school changed …" (20, F)*

Public enterprises- *"We can make our many official transactions thanks to e-state applications…" (21, F)*

Agriculture- *"According to me agriculture was influenced from technology. Tractors and agricultural vehicles can never be compared with old methods …" (22, M)*

RESULTS AND DISCUSSION

Technology has been one of the important means with regards to taking shape of individual and communal living throughout the life. Information and communication technologies (television, mobile phone, computer, GPS systems etc.) have gained importance with their ever advancing new models during the information age especially when the information has become crucial and their usage have become widespread. It could be stated in this sense that the forecasting that had been put forward for these technologies during their development stage had been substantiated within the time. Toffler (1980) has foreseen that the technology had taken an important role during the information age that had started during the second half of the 20th century for the development of the information society and that the use of the technology would influence great number of issues such as saving of time, acculturation, travelling. MacKenzieandWajcman (1999) on the other hand, have stated in 1999 thatthe role of technologies with regards

to taking shape of the society would increase. As a matter of fact, the expected change has taken its effect in short period of time. Toffler has stated in his studies he conducted in 2006 and in which he has characterized the information as an important asset that information and communication technologies and especially the internet carry the life over to new dimension and exposure has taken place in numerous fields in the social sense (Toffler, 2006). Seyyedi (2012) on the other hand, has stated that the information revolution, which has started during the 1970's in Silicon Valley in California, had developed through an unanticipated rate and that an social network had been established amongst human beings and that this had been transformed into an new identity and life form for the mankind. Wilen-Daugenti (2012) andMoravec (2008) have expressed that a new society is being formed through this transformation that is technology based. Numerous changes in many fields ranging from the school to the family, from communication to the health have taken place today throughout the transformation period over to the new society that is being formed as being technology based.

The most important feature of technology based transformations today is the fact that transformation rate is very fast (Al Shami, 2008). In this sense, many individuals are in the position that they are able to compare past and current state of the technology. However, any literature which would put forward the influence of the technology over different areas in due course, have not been encountered. Many of the researches carried out have mainly been performed on an special field and that has been directed towards searching the role and effect of the new technologies (Van Dusen, 2014; Calik, 2013; Chich-Jen S., Ying L. and Ridong H, 2013; Gibbs, Rozaidiand Eisenberg, 2013; Veletsianos, 2011; Phelan, Link and Tehranifar, 2010; Hollebrands, 2007; Liao, 2007; Cutler and McClellan, 2001; Jonassen, 2000). There is a need for a research that should be directed to what has the technology changed in the sense of the life and throughout an historical 20 years of period and which areas have been influenced from this transformation and in what form. Opinions of teacher candidates, who have gone through the technology transformation throughout their lives and have observed in order to cater for this need, have been received. Technology based transformations and the results stated below directed to the influences of these transformations on the education, family and the communication fields have been obtained as a result of the research.

Teacher candidates have listed the transformations they lived through the expansion of the technology during their education period as; access to the information being easy, visual education getting more importance and the increase in the quality, recovering from the need to carry books and notebooks and as education had become more economical. The fact that the internet had become the most widely used information source especially during the last ten years and numerous findings with regards to the fact that ICT technologies increase the quality of education support the opinions of the students (Amenyedzi, Lartey and Dzomeku, 2011; Sahin, Balta and Ercan, 2010; Teo, 2008; Chandra and Patkar, 2007). While Van Dusen (2014) states in the way that technology reform is taking place within the education system, that the visual means and access to information are becoming important, it had been added that the basic source of accessing the information of today, the internet had come to the forefront especially in this sense and a transition time over to virtual campuses is being gone through. On the other hand, Chich-Jen, Ying and Ridong (2013) have stated that web supported education is being reformed today and that this causes important differences in student behaviour and habits. CheunandSlavinb (2013) and Hollebrands (2007) have emphasized that educational software have become important with regards to the education technology applications and that these applications increase success and interest of the student. Liao (2007) has stated that education applications supported by computer which promotes visual learning increase the student success and the education quality. When researches performed are analysed, it can be stated that technology in the education has been discussed in many different aspects ranging from computer supported education to remote education, from virtual campus to the ICT's and that all of these support the opinions expressed by the students.

Teacher candidates have considered the transformation that had been gone through with regards to the family issue more as communication oriented. The fact that the telephone had gained important for the family communication, that the internet and the social media have the say within the family and the theme of ease of access to the information are the themes that contain the communication dimension. Chesley (2006) has stated that the high-tech era has begun within families, that this era has the influence especially on the communication dimension within the family, that the communication tools within the families vary depending on the individuals who have mother-father-child roles. It could be possible that possession of many communication tools (telephone, internet, social media etc.) within the family have resulted from this. While Magnusson, Hanson and Borg (2004) have emphasized the importance of the new technologies for the family communication, they have also stated that old age individuals are still in need of communicating through the telephone due to the difference between the generations. In this respect, while the young individuals are using the internet based social media, old age

individuals are still using communication channels like the telephone and the television.

It also stands out that students have indicated negative opinions with regards to the family life. Students have expressed that communication within the family and the social relationship amongst the family has also decreased with the development of different technologies. Kraut et al. (1998) have stated in their research findings they have performed during the development years of the internet with 169 participants that the internet have made people isolated in social sense and has influenced the family life in negative sense. Besides, they have also emphasized that the results of the research had the feature of being suggestions for the local administrators and for the technology designer for that period of time. On the other hand, Young (2008) also states that the technology reduces the communication within the family, that communication technologies like television, computer and mobile telephones are now used in individual sense (mother watching TV in the kitchen, child on the computer in the room etc.) and that this in turn damages the communication within the family. Nyland, Marvezand Beck (2007) have expressed that social networks, which are internet application group, are important with regards to the social isolation of the individuals within the family and that the social isolation have also increased within the family as social networks like MySpace have become more wide spread. It can be expressed in this respect that differing communication means are preferred within the family through the influence of the technology and that in contrast, these communication means distance members of the family from each other.

More speed in the communication, visual communication over the internet and the 3G, electronic invoicing have been expressed as technology oriented transformations that have been gone through the communication issue. McFlane (2010) has expressed that the leading factor related to the influence of the communication is the technology and that human beings especially follow the new communication technologies continuously with regards to communicating. On the other hand, especially the increase of services that are provided by internet triggers new communication means. Different web 2.0 technologies such as social networks, forum sites, video sharing sites in addition to internet services like e-State processes, banking, shopping, which bring people together within the globalized world, increase the transformations within the communication dimension and the expectations for the future (Solomon and Schrum, 2007). A negative opinion in the form of social isolation have also been expressed by the participants with respect to technology based transformations that had been gone through within the communication field.

There are also results included in different researches with respect to the fact that social isolation is a problem of technology based communication (Mutekvwe, 2012; Weber, et all, 2012; Nyland,Marvez and Beck, 2007; Whitty and Mclaughlin, 2007). This finding is important in the sense that it also shows the technology also includes negative aspects for the communication.

Opinions of students with regards to other fields that are influenced by the technology the most are listed as transport, entertainment, health, automotive industry, public institutions and as agriculture respectively. As it has also been stated by Mutekwe (2012) and Seyyedi (2012), information technologies have radically changed many fields within the society and the life style today. Many fields of today, ranging from education to health, from transport to the entertainment sector have been expressed by the students. Gil-Garcia, Parde and Burke (2010) have stated that all of the fields have been influenced especially through the development of information and communication technologies and that the technology forces people to go through an important transformation in every field of their lives. Buckley (2003) has stated that especially use of the internet had expanded in every field and that the life will be formed again in a rapid way with the use of e-services. It is also possible to express in this aspect that technology transformations are being gone through rapidly for more than twenty years but it will also form our future in the coming years in a faster and more effective way especially with the internet technologies.

Influences of technological developments that have been gone through for the last twenty years have been searched many sided in this research. Results of the research supports the opinion that has been expressed by MacKenzie and Wajcman (1999) and which is stated as technology forms the life and this form taking would be faster in the future. Besides, as it has been expressed byAl Shami (2008), transformation rate is gradually increasing. In this respect, the research also brings light to the fact that technology based transformations will be faster. Educationalists, sociologists and technology planners could benefit from results of the research. In addition, new researches could be performed with regards to the problems faced related to the development of the technology by basing it on the negative aspects that had been obtained during the research.

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