

Educational Process: International Journal

ISSN 2147– 0901 (Print) Journal homepage: www.edupij.com

EDUCATIONAL PROCESS: INTERNATIONAL JOURNAL
EDUPIJ / VOLUME 3 / ISSUE 1-2 / SPRING-SUMMER~FALL-WINTER / 2014

Evaluation of the Effectiveness of Social Networks and their Usage by High School Students

Chich-Jen Shieh and Murat Demirkol

To cite this article: Shieh, CJ., & Demirkol, M. (2014). Evaluation of the Effectiveness of Social Networks and their Usage by High School Students. *Educational Process: International Journal*, 3 (1-2), 7-18.

Chich-Jen Shieh, Chang Jung Christian University, Taiwan. (e-mail: charleshieh@gmail.com)

Murat Demirkol, Firat University, Turkey. (e-mail: mdkol@hotmail.com)

Evaluation of the Effectiveness of Social Networks and their Usage by High School Students

CHICH-JEN SHIEH and MURAT DEMIRKOL

Abstract

Social networks are virtual environments created by humans through software and programs. Today, social networks have expanded and become more commonplace. Individuals identify themselves through these internet networks and use their communication methods to enable them to get in touch with people from the same or different cultures. It is known that social networks have advantages as well as some disadvantages. The main purpose of this study is to determine why, how, and how frequently students use online social communication networks, and to identify the effects of these social networks on their education and social lives according to the opinions of high school students. In this study, one of each of the three high education institutions in a city center were randomly selected and the opinions of 63 students studying at different grades of these schools were collected. According to the results of this study, a significant percentage of participants regularly benefit from social network websites. The majority of opinions indicate that the participants use social network websites with the aim of communication and education.

Keywords: social network, high school students, qualitative research.

Introduction

In today's world where information expands convolutedly, the usability of current data has gained importance. Access to accurate information, rather than simply access to information, has become prominent (Kiper, 2004; Keten, 2012; Yucel & Devecioglu, 2012). This problem has been relatively resolved through the rapidly developing information technologies and the era we live in, named as the 'information era'. One of the most outstanding developments after the emergence of the first computer ENIAC (Martinez, Lopez, & Infante, 2011; Kandemir, 2011; Shen, 2011) was the emergence of the 'world wide web' (WWW) in 1989 (Berners-Lee, Cailliau, Groff, & Pollermann, 2010). One issue that educators are interested in as technology develops, is how these technologies could be successfully integrated into educational environments. A cornerstone in educational computer use, the WWW brought us the internet that is now in widespread use. Today, following on from the WWW, semantic web and web 3.0 have been considered within the scope of web 2.0, artificial intelligence and intelligent teaching system practices (Sendag, 2008; Morris, 2011).

Web 2.0 technologies enable users to contribute to networks which aim at providing content and ideas. Information, which have traditionally reached the masses through content, shared information, social networks and online communications created by users, have now begun to spread even faster with the emergence of social networks such as YouTube, Myspace and Facebook. By using simple web-based interfaces, guest users can create a resource of shared contents such as links, photographs, videos, documents, and question and answer suggestions (Bashan, 2011). The sharing and social features of these user-centric technologies have a major potential with regards to learning-teaching. Thus, the number of studies on social networks and their effects are increasing (Haythornthwaite, 2005; Valkenburg, Peter, & Schouten, 2006; Donath, 2007; Boyd & Ellison, 2010).

These social networks that we encounter when exploring Web 2.0 is one of the principals determined by O'Reilly (2005). Social networks can be defined as activities in which friends or enterprises interact with each other through network services such as "blogs, e-chats, e-mails, messages and video conferencing". Guests, who create individual spaces within social networks, promote relationships with each other and socialize by communicating (Ellison, Steinfield, & Lampe, 2007). Social networks are networks which emerge through relationships that users create in a group. Social networks are always defined by the social communities they belong to. These groups are social websites which develop and expand through the internet, and are grouped below based on their different features (Vossen & Hagemann, 2010):

Operation Groups: Groups created by people who buy and sell through the internet.

Interest Groups: Groups which are created to share information about areas of common interest.

Relationship Groups: Groups in which new ideas about life are shared and in which new friendships are created.

Imagination Groups: Groups created by people who come together in an imaginary setting.

Social networks enable people from different societies to come together and communicate. With this feature, social networks are used as solutions for different issues

related to the software sector. Social networks create these solutions through the network structure that they embody. Network analysis methods are used in these network structures (Diestel, 2000), and through implementing these methods, social networks can provide services and groups can be modeled through these social networks.

The purpose of this study is to determine for which reasons, how, and how frequently students use online social communication networks, and to identify the effects of social networks on their education and social lives according to the opinions of students in high schools. With respect to the findings; the effects of technology on their social communication experiences, the reason why students use social networks considering the education dimension, and the effectiveness of social networks on their social lives will be determined, and how social network relationships are reflected in real life will be identified.

Web 2.0 technologies and platforms such as MySpace, Facebook and Twitter etc. are have many users and significantly influence how students, who use these platforms the most, view and interpret issues that they encounter in their daily lives. When internet habits of students are considered, it is obvious that they frequently use Web 2.0 technologies. With the increase in the number of social network users, friendships which do not exist in real life have been created in a digital setting, and this constitutes an issue which should be examined sociologically. Researchers have found it crucial to identify how this affects students who have not completed their development and who are still receiving an education. How high school students use these online communication networks is crucial in comparing their social settings created through technology and their social communication settings created in their real lives.

Methodology

One school from each of the three different types of high school institutions were selected randomly, and a study group of a total of 63 students was arranged by selecting seven students studying in grade 10, 11 and 12 in these schools.

This qualitative study has been designed using the screening model. Structured interview forms were prepared in order for the study to collect data from the students. Participant students' opinions gathered through these interview forms were analyzed using the content analysis method. Content analysis is one of the most common qualitative data analysis methods used to analyze verbal and visual data (Ozdemir, 2010). This approach, which helps understanding the content of documents and determining features of the words and sentences, enables making categories out of data (May, 1996). This approach is neither as strict as structured interviews nor flexible like unstructured interviews (Karasar, 1995).

To ensure reliability of the study, participants should be treated equally and correct, and large amounts of data should be collected (Denzin 2000). Thus, the same questions were directed to all participants using the same words and in the same manner. Content and face validity were ensured by consulting expert faculty members (n=4).

Question forms, which were prepared to achieve the goal of the study, were distributed to the students. A few necessary explanations were provided to the students; then they were asked to answer the questions and hand the forms back in the next day. The returned question forms that were filled in by the participants were used as the primary data resource.

Student opinions were attained based on their suggestions made after the interactions. At this point, the opinions for each of the questions of the interview form that were decided to be excluded from the study, or those which did not carry any meaning, were accepted as being invalid. Categories were prepared for all the valid opinions and analyses conducted. The categories and interview data were examined separately by the researchers and the required arrangements were carried out for issues of 'consensus' or 'dissent'. As Miles and Huberman (1994) stated; qualitative studies are accepted as reliable when reliability values are above 70%. The reliability value of this study was 93%, and therefore accepted as reliable for the study.

Findings

In this section, findings were analyzed and interpreted according to sub-titles which were grouped under general terms. 60 students provided valid answers to the question "Which social network websites do you use for which reasons?" which aimed at determining which social networks the participants use and for which reasons. Among the social communication networks widely used by participants such as MSN, Gtalk, Facebook, YouTube, Blogger, Myspace, Twitter, Wikiler, Google Documents Picasa, Ning.com, Flickr.com, RSS, Secondlife.com, Slideshare, Delicious.com, Friendfeed.com, LinkedIn.com, Podcasters and Scribd.com, participants stated that they most commonly use Facebook, MSN, YouTube, Google Document, Picasa, Netlog and blogs. Among the 60 participants, 41 stated that they use Facebook, 32 stated that they use MSN, eight participants stated they use Blogs, seven stated that they use YouTube, six stated that they use Google Document Picasa and two participants stated that they use Netlog. Some participants stated that they use more than one social network.

Participants' purposes of using social sharing websites are given in Table 1. Because participants use a social network for more than one purpose, the total value of the purpose of using a social network exceeds the number of participants.

Table 1. Purpose of using the Social network

	Communication		Sharing info		Sharing Photos & Docs		Entertainment		Education		Watch videos		Total Users
	f	%	f	%	f	%	f	%	f	%	f	%	
Facebook	36	58	7	11	6	10	5	8	2	3	6	10	41
MSN	29	57	9	18	11	22	1	2	1	2	0	0	32
YouTube	0	0	0	0	0	0	3	27	0	0	8	73	7
Google Picasa	1	7	2	14	5	36	1	7	4	29	1	7	6
Forum Websites	0	0	4	24	7	41	2	12	2	12	2	12	8
Netlog	2	40	1	20	1	20	1	20	0	0	0	0	2
Total	68	43	23	14	30	19	13	8	9	6	17	11	95

While 58% of the Facebook users stated that they use it for communication purposes, only 24% expressed that they use it for education, sharing information, or photos/documents, and 28% of Facebook users use it for entertainment, to watch videos or to share photos/documents. Participants who state that they use Facebook to share Photos/Documents might be using them for education and entertainment because the content of this network is not specific. YouTube users underlined that they used the website to listen to music, watch and to share videos. Participants expressed that they use forum websites to share information and to solve problems which they encounter during their daily lives.

Participant opinions regarding the question “What are the positive and negative effects of social networks? Explain with examples” were examined and are given in Table 2. Of the participant opinions, 61 were regarded as valid and were grouped as positive, negative, and using it consciously. Participant opinions were categorized and these categories are shown in Figure1.

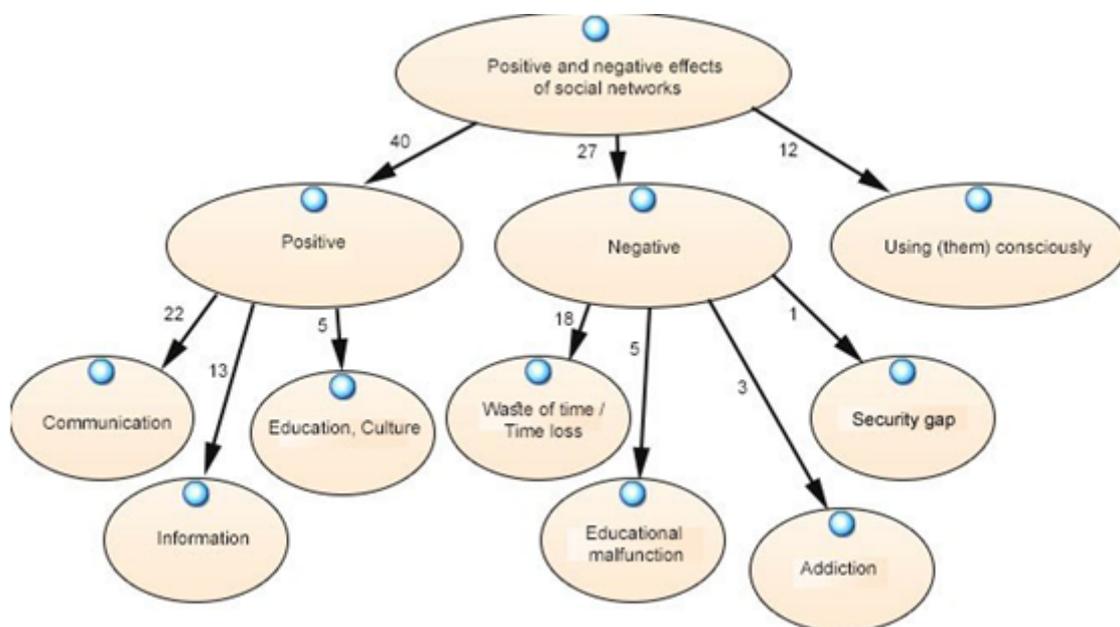


Figure 1. Positive and negative effects of social networks

The positive opinions of participants were grouped under the titles communication, information, and education/culture and 40 opinions were from this category. 27 participant opinions indicated that social networks have negative effects, and are titled as waste of time, educational malfunction, dependency, and security gap. 12 participants stated that social networks can only be useful in online environments when they are used consciously.

Participant opinions expressed in the interview forms for the question “How frequently do you use social networks for communication?” were ‘I use them daily’, ‘I use them on specific days’, ‘I use them once a week’, ‘I use them when necessary’, ‘I sometimes use them’ and ‘I don’t use them’. Some participants were observed to express opinions for more than one category. Thus, the total of opinions exceeds the number of participants. Analysis of the question “How frequently do you use social networks for communication?” is shown in Figure 2.

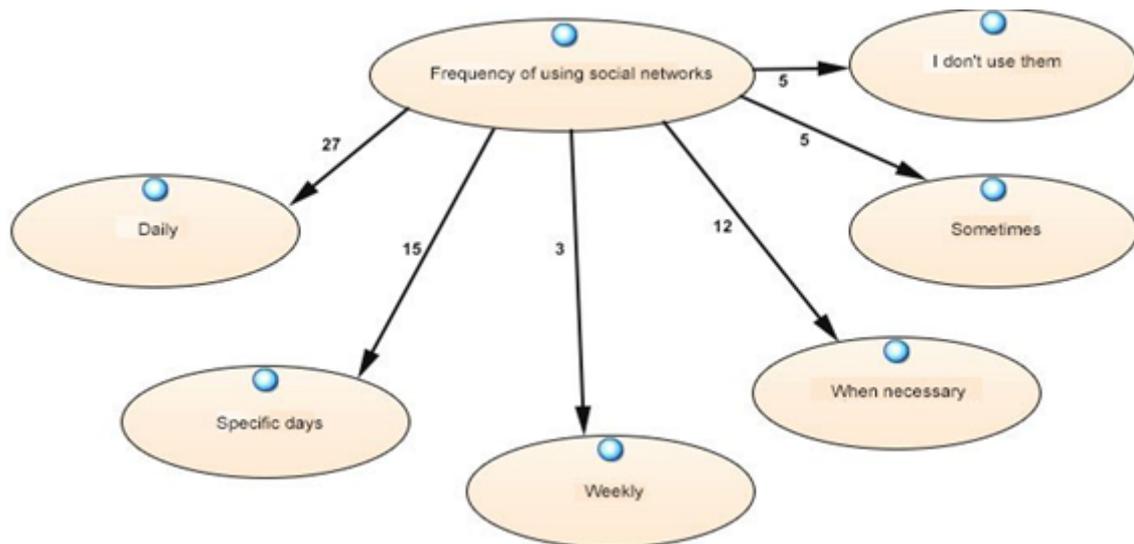


Figure 2. Frequency of using social networks

It is evident on Figure 2 that almost 63% of participant opinions state that they use online social environments regularly (daily, on specific days). All of the opinions regarding the question “To what extent do you benefit from social networks for education? Give an example” were observed to be valid. Participant opinions were categorized as ‘when I have homework’, ‘by subscribing to specific websites’, ‘to enhance my knowledge’, ‘by communicating with friends’, and ‘I don’t use them’. Data indicating the frequency and percentage of opinions related to the categories are shown in Figure 3.

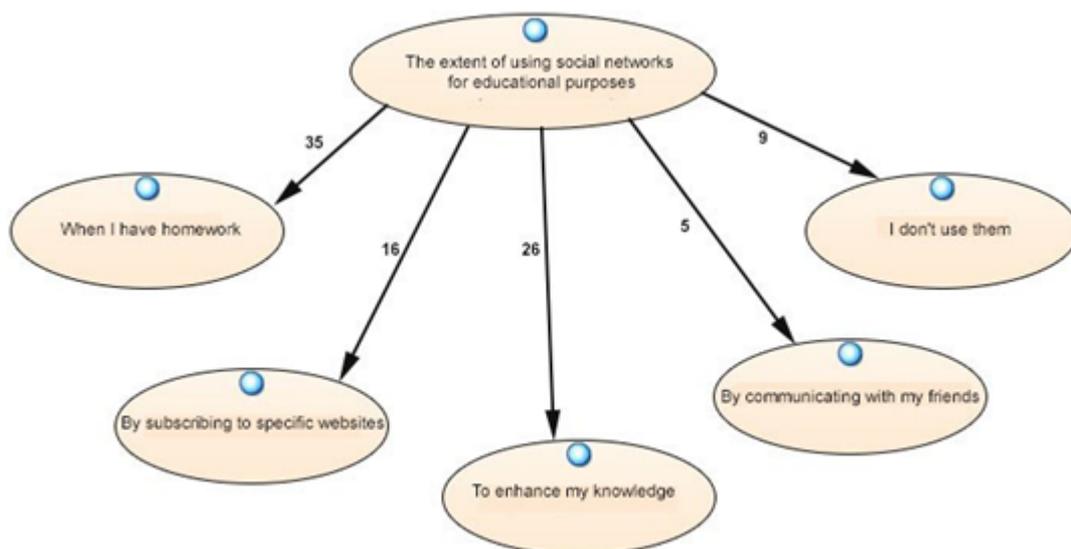


Figure 3. Level of educational use

Participants stated that the only forum websites which they use for educational purpose are virtual course, bilgicik.com, cyberwarrior, visualbasic.net, vitamin, sanaldersane, and cizgi tagem. Only nine participants stated that they do not use social networks for educational purposes; and when their demographic features are considered, it is obvious that the lack of technological opportunities are prevalent. The fact that the rest of the participants underlined that they use social networks for educational purposes indicates that individuals who are able to use social networks for their education is a crucial opportunity in today’s information era. Three of the opinions expressed for the study question “For which purposes

do you share information through social networks?”, in which the aim of sharing activities through online environments are questioned, were identified as invalid. The thematic distribution of participant opinions are given in Table 2.

Table 2. Purposes of sharing information on social networks

Education		Communication		Sharing info/files		Express oneself		Socialize		Dont use them	
f	%	f	%	f	%	f	%	f	%	f	%
17	21	17	21	26	33	8	10	1	1	11	14

33% of the participants claimed that they use social networks for sharing photos, documents, and information. 21% of the participants stated that they use them for educational purposes. The majority of the participants who stated that they use them for educational purposes added that they use it to do their homework or to conduct research about their subjects. 21% of the participants communicated with their friends and shared information this way. The other participants underlined that they use social networks to share their ideas and thoughts because they cannot express themselves in daily life; that they feel freer within a virtual environment and because they want to see the reactions of their friends.

Demographic structure of people communicated with through social networks

The demographic structure of people who the students communicate with through social networks were examined. Findings on the opinions regarding the demographic structure of people who the students communicate with through social networks are shown in Figure 4.

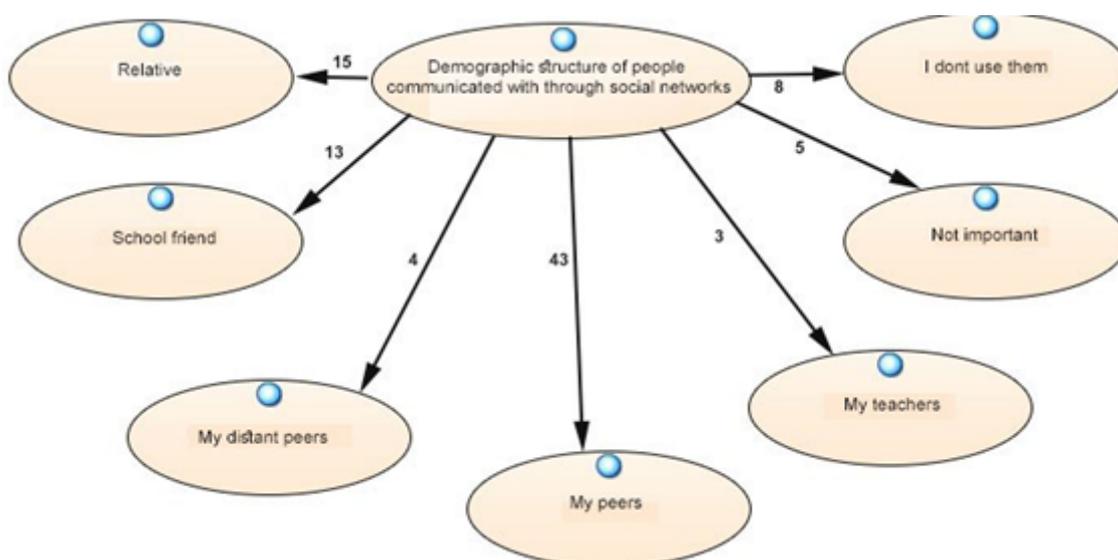


Figure 4. Demographic structure of people communicated with through social networks

According to Figure 4, in general, it is obvious that the majority of participants are in contact with their peers and with people who they are familiar with in their daily lives. This indicates that using online social networks does not very much influence students to socialize. In addition, some participants were observed to use online social networks in order to gain educational support when they find it necessary, or as a means to improve themselves.

The accuracy of information which students share on social networks were examined with the question *“To communicate through social networks you need to confirm your membership information. How do you determine the accuracy of this information while subscribing to such websites?”*. Information regarding the opinions are presented in Figure 5.

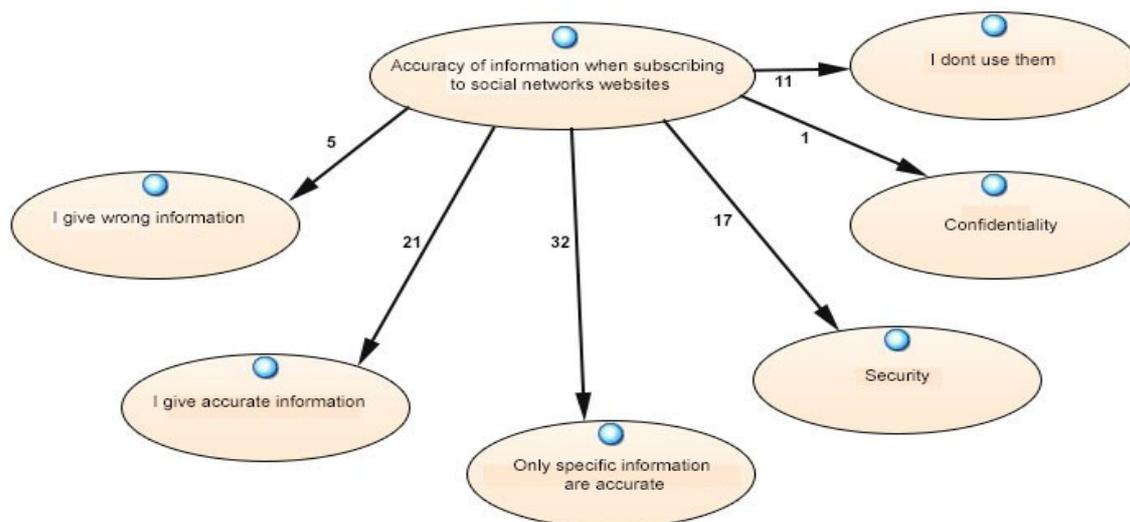


Figure 5. Accuracy of membership information on social networks

A considerable amount of participants asserted that they take security into consideration when using social network websites for daily use, or when they find it necessary to use them, and that they give specific information (e.g. e-mail address) which are mandatory for some websites accurately. They stated that they give accurate information for websites which they trust and which they use frequently.

How the daily lives of students are affected by online social environments was examined through the question *“What are the effects of your communication environment in social networks on your daily life?”* Information regarding participant opinions are shown in Figure 6.

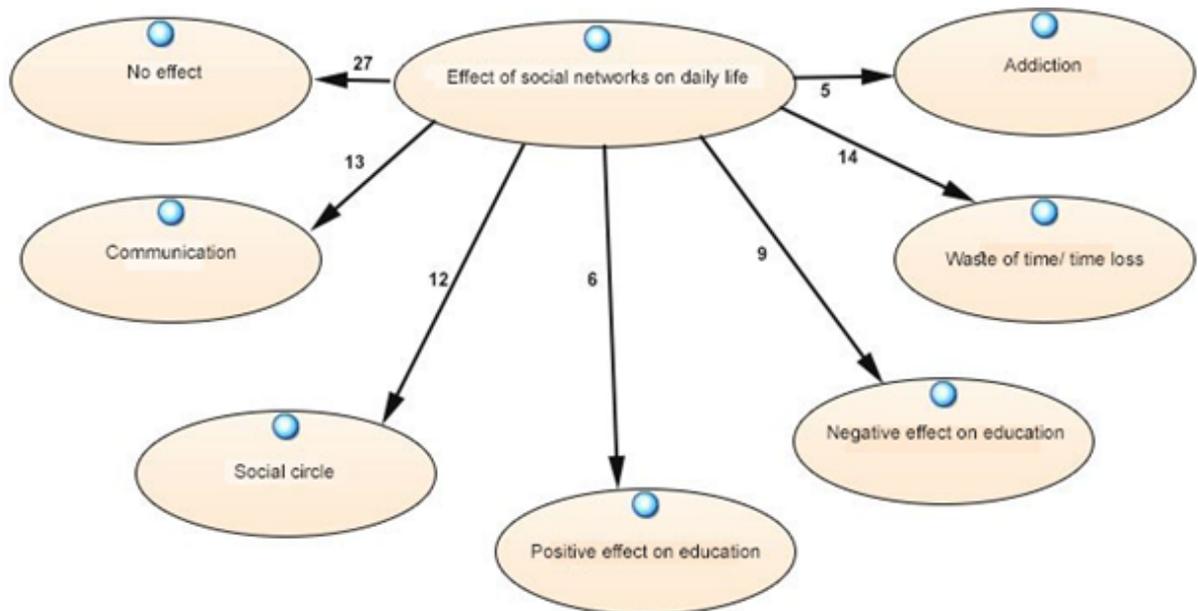


Figure 6. Effects of social networks on daily lives

Participants who believe that social networks have positive effects on daily lives stated that; they contribute to their education, help them in improving their communication with their social circle, and helped them access information. Participants with negative opinions expressed that; social networks cause a waste of time and addiction and thus negatively affect their education.

With regards to how social networks influence students’ education, the question “Do the websites for sharing information on social network websites influence your education? Explain.” was posed. The themes in which participants’ opinions were attributed for this question, which aimed at determining the effectiveness of social networks on participants’ education, are shown in Figure 7.

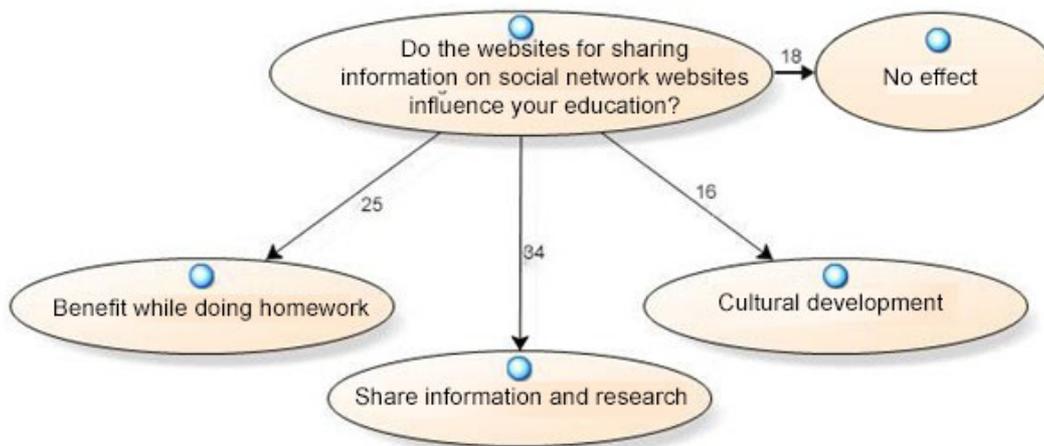


Figure 7. Effects of information sharing websites on education

The majority of participants underlined that social networks contribute to their education, that they have positive effects especially when researching, getting help for their homework and trying to improve their liberal knowledge. Because only some of the

participants stated that social networks have no effect, or do not use social networks, it is evident that the majority of the participants expressed positive opinions.

Conclusion and Discussion

This is a qualitative study in which the study group consisted of 63 students studying in high school institutions. The study was conducted with high school students because internet usage in daily lives is expanding rapidly among teenagers. Students show great interest to this new technology and become familiar with the internet culture in just a short period of time. Social networks which expand and develop with the internet make up a crucial part of this culture. Because the internet has entered many more homes and the number of places where the internet is being used has increased, the user group of social networks is increasing constantly. However, along with the fact that the technology has educational benefits for individuals, inappropriate content and purpose of use raises concerns for usage by students.

Opinions were gathered by directing questions to students, who study at different types of high schools, regarding social networks under the titles; ways of using social networks, effects on social lives, effects on education, and the positive and negative aspects of social networks. A considerable proportion of participants were observed to use social network websites regularly. The majority of opinions indicate that participants use social network websites with the aim of communication and education. The study conducted by Sheeks and Birchmeier (2007) underlines that students who have difficulty in communicating with people can gain new ways of communicating with these social networks, and our study is in line with this finding. In addition, Kim, Jeong, & Lee (2010) stated that social networks facilitate information acquisition and communication. Social networks were found to have positive effects on education, liberal knowledge, and social relations of the participants. Social networks were observed to enable participants to improve their communication within their social circle and to be beneficial in terms of self-confidence and self-expression. This finding is in line with the study conducted by Mazman (2009) in which the proportion of Facebook use was 51% and students stated that they used Facebook to continue to communicate with their social circle. According to the study conducted by Ofcom (2008) on social networks, individuals who use social networks use them to locate old friends, to communicate, to make new friends, and to extend their interaction with their current friends. It was observed that while online communication through social networks with teachers have positive effects on students, a considerable amount of participants hesitate to communicate in this way. It was detected that when social networks are used inappropriately, they can negatively affect the social lives of individuals, they can cause a waste of time, as well as hinder education and teaching activities.

The expansion of social networks through technology, using different technologies in different settings and technology becoming a part of our lives, in fact indicates that it is crucial to train individuals in using social networks. According to the findings of this study, participants stated that social networks can cause harm rather than benefit, and lead to a loss of time when they are misused; and this indicates that measures should be taken to ensure that students use social network websites appropriately. Social networks, which students start using from primary school, should be included in educational programs and users who have awareness should be trained.

Participants were observed to abstain from giving accurate information while subscribing to social networks. This is a sociologic issue which needs to be researched. It can have negative outcomes in real life if students display inappropriate behaviors in the virtual environment. In addition, the majority of the participants stated that social networks help them gain access to the information they require.

It is an inevitable fact that social networks, which have become social devices of today's world, will have both positive and negative effects on individuals. According to a study conducted by Kirschner and Karpinski (2010), there is an inverse proportion between the effects of social networks on academic success and the amount of time spent using them. At this point, policy makers and parents take on the duty of striving to overcome the negative effects resulting from using social networks. Most of the negative effects can be overcome by raising the awareness of social network users. Based on the opinions of most of the participants indicating that social networks favorably contribute to their education, expanding social network usage under control could well result in positive outcomes.

Notes

Corresponding author: MURAT DEMIRKOL

References

- Bashan, F. (2011). *Assimilating of Internet with its Various Aspects by Turkish Society: Sample of Karaman*, Unpublished Doctorate Dissertation, Karamanoglu Mehmetbey Universitesi Sosyal Bilimler Enstitusu Isletme Anabilim Dalı.
- Berners-Lee, T., Cailliau, R., Groff, J.F., & Pollermann, B. (2010). World-Wide Web: the information universe. *Internet Research*, 20(4), 461-471.
- Boyd, D., & Ellison, N. (2010). Social network sites: definition, history, and scholarship. *IEEE Engineering Management Review*, 3(38), 16-31.
- Denzin, N. K. (2000). *The practices and politics of interpretation*. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- Diestel, R. (2000). *Graphtheory {graduatetexts in mathematics; 173}*. Springer-Verlag Berlin and Heidelberg GmbH.
- Donath, J. (2007). Signals in social supernets. *Journal of Computer-Mediated Communication*, 13(1), 231-251.
- Ellison, N.B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Community & Society*, 8(2), 125-147.
- Kandemir, V. (2011). *General Purpose Pro Programmable Controller Design*. Unpublished Doctoral Thesis. Istanbul Teknik Universitesi, Fen Bilimleri Enstitusu.
- Karasar, N. (1995). *Arastirmalarda rapor hazirlama*. Ankara: 3A Arastirma Egitim Danismanligi
- Keten, B. (2012). Effects of Information Retrieval Process on Decision Making and Problem Solving: An Empirical Study. *Turk Kutuphaneciligi*, 26(3), 476-500.
- Kim, W., Jeong, O.R., & Lee, S.W. (2010). On social Web sites. *Information systems*, 35(2), 215-236.

- Kiper, M. (2004). Teknoloji Transfer Mekanizmalari ve Bu Kapsamda Universite–Sanayi isbirligi. *Teknoloji*, 59.
- Kirschner, P.A., & Karpinski, A.C. (2010). Facebook and academic performance. *Computers in Human Behavior* 26(6), 1237-1245.
- Martinez, J.S.V., Lopez, P.G., & Infante, J.C.G. (2011, February). Execution time Validation of the mathematical models of an electric motor in Soft Real Time simulation. In *Electrical Communications and Computers (CONIELECOMP), 2011 21st International Conference on* (pp.131-136). IEEE.
- Mazman G. (2009). Adoption Process of Social Network and Their Usage in Educational Context, Unpublished master thesis, Hacettepe Universitesi, Ankara.
- May, T. (1996). *Social research-issues, methods and process*. Buckingham: Open University.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. Thousands Oaks, CA: Sage.
- Morris, R. D. (2011). Web 3.0: Implications for online learning. *TechTrends*, 55(1), 42-46.
- Ofcom, (2008). Socialnetworking a quantitative and qualitative research report into attitudes, behaviours and use, Research Document, Office of Communications, 2 April, pp.1-72. http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrssi/socialnetworking/report.pdf.
- O'Reilly, T. (2005). Media <http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>.
- Ozdemir, M. (2010). Qualitative Data Analysis: A Study On Methodology Problem In Social Sciences. *Eskisehir Osmangazi Universitesi Sosyal Bilimler Dergisi*, 11(1).
- Sendag, S. (2008). Web'de Yeni Egilimler: Ogrenme Ortamlarina Entegrasyonu. International Educational Technology Conference, Eskisehir, Turkey.
- Sheeks, M., & Birchmeier, Z. (2007). Shyness, sociability, and the use of computer-mediated communication in relationship development. *Cyber Psychology & Behavior*, 10(1), 64-70.
- Shen, Z. (2011). Lecture Notes for CSDI1400 Computers: Past, Present and Future. Department of Computer Science and Technology Plymouth State University.
- Valkenburg, P.M., Peter, J., & Schouten, A.P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *Cyber Psychology & Behavior*, 9(5), 584-590.
- Vossen, G., & Hagemann, S. (2010). *Unleashing Web 2.0: From concepts to creativity*. Burlington: Elsevier.
- Yucel, A. S., & Devocioglu, S. (2012). The Usage of Information And Communication Technologies in Sport Education. *e-Journal of New World Sciences Academy*, 7(2).