Available online at www.sciencedirect.com

ScienceDirect

Procedia Computer Science 102 (2016) 630 – 634

Procedia Computer Science

12th International Conference on Application of Fuzzy Systems and Soft Computing, ICAFS 2016, 29-30 August 2016, Vienna, Austria

Giftedness and technology

Deniz Ozcan[a*], Huseyin Bicen[b]

[a] *Ataturk Education Faculty, Near East University, P.O.BOX:99138, Nicosia, North Cyprus, Mersin 10, Turkey*
[b] *Distance Learning Center, Near East University, Nicosia, North Cyprus, Mersin 10, Turkey*

Abstract

The aim of this study is to determine the gifted students' opinions on the use of technological tools. Furthermore, it seeks to determine the gifted students' mobile phone usage purposes, use of social networking sites, the hours spent with technological tools, opinions on social media usage, opinions about the place of technology in their lives, opinions on technology usage in education and opinions on technology usage as a communication tool. The descriptive method is applied in this study. The population of the study consists of 105 secondary school students enrolled in Science and Art Center. 45 of them are female and 58 of them are male. "Students' technological device use habits on their social lives"[6] scale is used to collect the data. According to results of the study, gifted students have stated that they cannot imagine a life without technology. Gifted students who have membership in more than 3 social media accounts reported that they feel sad and angry when there is no internet connection. In addition, they indicated that technology plays an important role in their education. Furthermore, they stated that they contact with other students for a short period of time through technology and share their experiences and knowledge with each other.

Peer-review under responsibility of the Organizing Committee of ICAFS 2016

Keywords: Gifted student; technology tools; technology usage.

1. Introduction

Technology strengthens it's place in our lives day by day. Children benefit from all facilities of technology and they also made it a part of their social lives. Ridour et. al. showed that technology is used for fun by children and they spend time in technological environments for 7 hours on average during a day[11]. Young individuals also stated that they have most of the technological products and they spend time with using messaging software for approximately 2 hours during a day[7]. Besides, gifted students use all facilities of technology and perceives

* Deniz Ozcan: +90-392-392-223-6464/378; fax: +0-000-000-0000 .
E-mail address: *deniz.ozcan@neu.edu.tr*

Peer-review under responsibility of the Organizing Committee of ICAFS 2016
doi:10.1016/j.procs.2016.09.453

technology as an assistive tool for their personal developments[2]. Therefore, technological tools become tools in which gifted students can perform their own talents[3]. Gifted students can become aware of their strengths through using internet effectively as other students[12]. Students also develop learning methods for themselves through technology[8-9]. Students who can easily access to many details through technology might also discover their own interests [5-13-14-15-16]. Knowledge become more permanent with technological tools and used materials [1-10-13-16-17].
Thus, the aim of this study is to determine the opinions of gifted students on the use of technological tools. More specifically the study seeks to answer the following questions:

1. What purposes do the gifted children use their smart phones?
2. How often do the gifted children use social media?
3. How many hours do the gifted children spend time with technologic devices in a day?
4. What are the opinions of gifted students towards technological device use habits?
5. What are the opinions of gifted students towards effects of social media?
6. What are the opinions of gifted students towards the place of technology in daily life?
7. What are the opinions of gifted students towards the educational use of technology?
8. What are the opinions of gifted students towards the use of technology as a communication tool?

2. Method

In this study, descriptive research method was used to collect data about the opinions of gifted students on the use of technological tools.

2.1. Participants

The population of the study consists of 105 secondary school students enrolled in Science and Art Center. While 45 of them are female, 58 of them are male.

2.2. Instrument

In this study, "Students' technological device use habits on their social lives" scale developed by Bicen & Arnavut [6], 2015 was used to collect the data. The scale has five dimensions and totally has 60 items. The Cronbach alpha was 0.89 for the whole scale.

2.3. Data analysis

The data obtained from the scales were analysed by using SPSS 21. In the analysis of the data, percentages, frequencies, means and standard deviations, maximum and minimum values were calculated.

3. Results

3.1. Statistics Results of Purposes of Gifted Children to Use Their Smart Phones

Statistics Results of Purposes of Gifted Children to Use Their Smart Phones Are Given in Table 1.

Table 1. Purposes of Gifted Children to Use Their Smart Phones

Proposes of using smart phones	f	%
Chatting	56	10.6
Social Media	47	8.9
Download Applications	37	7.0
Follow the News	17	3.2

Communication with Friends	70	13.2
Sharing photos	38	7.2
Sharing Videos	20	3.8
Checking in	16	3.0
Getting Information	43	8.1
Listening to Music	55	10.4
Surfing on the Internet	58	10.9
Playing Game	51	9.6
Follow People	22	4.2
Total	105	100.0

As it is seen in Table 1. Most of the gifted children 70 % use their smart phones to communicate with their friends. In addition to this, 58% of them use their smart phones to surf on the internet. Also listening to music, social media and chatting are also among the most preferred purposes of using smart phones by the gifted children. The fewer of them use the smart phones to follows people, the news and to check in.

3.2. Statistics Results of Gifted Children's Social Media Use Frequency.

Table 2. Gifted Children's Social Media Use Frequency

Social Media Use Frequency	**f**	**%**
Never	13	12.4
Everyday	38	36.2
Once in a week	5	4.8
A few days in a week	30	28.6
Once in a month	2	1.9
A few times in a month	7	6.7
A couple of month	5	4.8
Once in a year	2	1.9
A few times in a year	3	2.9
Total	105	100.0

As it is seen in Table 2. 38 % of gifted children use social media everyday, 30 % of them use social media a few days in a week and 13 % of them stated that they newer use social media while others use it a few times in a month or a couple of month.

3.3. Statistics Results of Spent Time with Technologic Devices in A Day by Gifted Children.

Table 3. Spent Time with Technologic Devices by Gifted Children

Spent Time with Technologic Devices	**f**	**%**
Never	7	6.7
0-3 hours	69	65.7
4-7 hours	25	23.8
8-11 hours	3	2.9
12+	1	1.0
Total	105	100.0

As it is seen in Table 3. 69 % of the gifted children spend 0-3 hours with technologic devices in a day, and 25 % of them spend 4-7 hours in a day while 7 % of them do not spend any time with technologic devices.

- Descriptive statistics results of opinions of gifted students towards technological device use habits

Results shows that as technological device use habits, most of the gifted children have stated that "they cannot dream of a life without technology" (M= 4.01, SD=.99). They have also expressed that "they can express themselves better on the Internet" (M= 4.25, SD=.75), and "I attend Technology Fairs" (M= 4.13, SD=.87). On the other hand "I spend all of my money in order to have the most recent technological devices" (M= 4.23, SD=.77).

- Descriptive statistics results of opinions of gifted students towards effects of social media

As the effects of social media to gifted children daily life, they have stated mostly that “they have more than 3 memberships on social” (M= 4.39, SD=.61), in addition to this, they have expressed that “I use social media in order to follow technological trends” (M= 4.09, SD=.91). On the other hand, fewer of them have stated as effects of social media “On social media they never hesitate to share a very special thing in their lives” (M= 4.14, SD=.86).

- Descriptive statistics results of opinions of gifted students towards the place of technology in daily life

The place of technology in gifted children daily life are mostly stated as “I feel very angry when there is not an Internet connection” (M= 4.02, SD=1.19), “Using technological devices makes my life easier” (M= 4.87, SD=.13), and “I feel uncomfortable when my cell phone is not with me’” (M= 3.87, SD=1.09). On the other hand, fewer of them stated as “I feel nervous if somebody disturbs me while I use a technological device” (M= 4.23, SD=.77).

- Descriptive statistics results of opinions of gifted students towards the educational use of technology

Gifted students have given opinions about the educational use of technology mostly in the items that “I think that technological devices contribute to my education” (M= 4.19, SD=.81), “I find most of my homework from the Internet” (M= 4.85, SD=.25), and “Instead of asking my teacher about a problem during the lesson, I prefer asking him or her from the Internet” (M= 4.66, SD=.34).

- Descriptive statistics results of opinions of gifted students towards the use of technology as a communication tool

Gifted children have given opinions about the use of technology as communications tools mostly in the items that “with technological devices I communicate with more people in a shorter time” (M= 4.65, SD=.35), and “the biggest reason why I use technological devices is to communicate with my friends” (M= 4.38, SD=.62) and “With technological devices I communicate with more people in a shorter time” (M= 4.26, SD=.74).

4. Conclusion and Discussion

According to results of the study, most of the gifted children use their smart phones to communicate with their friends. In addition to this, they use their smart phones to surf on the internet and gifted children use social media every day. Furthermore, gifted children spend 0-3 hours with technologic devices in a day. They reported that they do not want a life without technology. Gifted students who have membership in more than 3 social media accounts reported that they feel sad and angry when there is no internet connection. Today, most of the students constitute their social lives with technology. Therefore, schools need to keep their technological infrastructures actual. Research showed that gifted students want to establish academic contact with their peers. They can establish contact with people from all around the world and share their experiences through technology[6]. In addition, many gifted students might establish contact with other gifted students with using technological tools in order to complete their identity developments[2]. Results of this study also revealed that technological tools have become tools in which they can develop themselves and share their experiences.

References

1. Boon RT, Fore C, Rasheed S. Students’ attitudes and perceptions toward technology-based applications and guided notes instruction in high school world history classrooms. *Reading Improvement* 2007; *4*(1): 23-31.
2. Cross T. Technology and the unseen world of gifted students: Social emotional needs. *Gifted Child Today* 2004; *27*(4): 14–15.
3. Cross T. Nerds and geeks: Society’s evolving stereotypes of our students with gifts and talents. *Gifted Child Today* 2005; **28**: 26–65.
4. Dove MK, Zitkovich J. A. Technology driven group investigations for gifted elementary students. *Information Technology in Childhood Education Annual* 2003; 223-241.
5. Garcia P, Rose S. The influence of technocentric collaboration on preservice teachers’ attitudes about technology’s role in powerful learning and teaching. *Journal of Technology and Teacher Education* 2007; **15:** 247-266.
6. H. Bicen, A. Arnavut. Students’ technological device use habits on their social lives. *Computers in Human Behavior* 2015;***48****:*457–462.
7. Lenhart A, Ling R, Campbell S, Purcell K, *Teens and mobile phones*. 2010; http://pewinternet.org/Reports/2010/Teens-and-Mobile-Phones/Summary-of-findings/Findings.aspx.
8. Lowther DL, Inan F. A, Ross S. M, Strahl J. D. Do ont-to-one initiatives bridge the way to 21st century knowledge and skills. *Journal of Educational Computing Research* 2012; *26*(1): 1-30.
9. Lye SY, Abas S, Tay L. Y, Saban F. Exploring the use of onliny space in an elementary school. *Educational Media International* 2012; *49*(3): 155-170.
10. Olszewski-Kubilius P, Lee S. Y. Gifted adolescents’ talent development through distance learning. *Journal for the Education of the Gifted* 2004; *28*(1): 7-35.
11. Rideout VJ, Foehr U.G, Roberts D.F. *Generation M2: Media in the Lives of 8 to 18 year Olds*. Menlo Park, CA: Henry J. Kaiser Family Foundation; 2010.

12. Siegle D. Technology: Mentors on the net: extending learning through telementoring. *Gifted Child Today* 2003; *26*(4): 51–54.
13. Siegle D, Foster. Laptop computers and multimedia and presentation software: Their effects on student achievement in anatomy and physiology. *Journal of Research on Technology in Education* 2001; **34:** 29-37.
14. Wighting MJ. Effects of computer use on high school students' sense of community. *The Journal of Educational Research* 2006; **99**: 371-379.
15. Wong AFL, Quek C. L, Divaharan S, Liu W. C, Peer J, Williams M. D. Singapore students' and teachers' perceptions of computer-supported project work classroom learning environments. Journal of *Research on Technology in Education* 2006; **38**: 449-479.
16. Ysseldyke J, Tardrew S, Betts J, Thill T, Hannigan E. Use of an instructional management system to enhance math instruction of gifted and talented students. *Journal for the Education of the Gifted* 2004; **27:** 293-310.
17. Zimlich SL. Using technology in gifted and talented education classrooms: *The teachers' perspective. Journal of Information Technology Education*: Innovations in Practice 2015; **14**: 101-124. Retrieved from http://www.jite.org/documents/Vol14/JITEv14IIPp101-124Zimlich0846.pdf