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## High School Students' Attitudes towards Distance Education: Comparative Study

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### Abstract

By the rapidly evolving technologies, alternative training methods used on training needs of individuals instead of classical training methods. With the growing popularity of distance education opportunities, students' attitudes towards distance education is rapidly changing. The purpose of this study was determine to changes of attitudes of high school students in 2010 and 2014 towards distance education. To achieve this study "Distance Learning Attitude Scale" (DLAS) and "Personal Information Form" (PIF) developed by Celik (2011) utilized. Mentioned measuring tools applied to 92 in 2010 and 99 in 2014 high school students. DLAS has two sub-dimensions on distance education which are positive and negative attitudes. The reliability of these subscales were examined by Cronbach's Alpha coefficient. Positive sub-dimension attitude toward distance learning Cronbach's Alpha coefficient calculated as  $\alpha=0.91$  for 2010 and  $\alpha=0.92$  for 2014 and negative sub-dimension attitude toward distance learning Cronbach's Alpha coefficient calculated as  $\alpha=0.75$  for 2010 and  $\alpha=0.79$  for 2014. Participant student's gender, socio-economic levels and internet usage time determined by PIF. Internet usage time of students grouped by less than 1 hour, 1-3 hours and more than 3 hours. ANOVA used on SPSS 20 software to analyze if student's gender, socio-economic level and internet usage time have significant impact on positive and negative attitudes. Homogeneity of variances analyzed by Levene F test. Each test examined separately for the 2010 and 2014 data. As a result of the analysis, no significant difference ( $p<0.05$ ) of student's gender on distance education attitudes detected. The time spent on the Internet in 2010 has a significant difference ( $p=0.04$ ) on positive attitude but no significant difference on negative attitude. No significant difference for the time spent on Internet for both attitude scales. Socio-economic status of students has a significant difference ( $p=0.02$ ) on positive attitude for the year 2010 but no significant difference for the year 2014. Additionally no change detected on distance learning attitudes of students in comparison between the year 2010 and 2014.

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## 1. Introduction

The field on which the countries focuses upon and allocate more and more resources for in the science age is education. In parallel with the developments in science and technology; different education and training methods have been started to be tried in order to increase the quality in education and to get people gain the information, skills and behaviors required by employment potential and industrial society. Distance learning was developed in order to meet the needs of persons who cannot participate in face-to-face classes (Beldarrain, 2006). Distance learning was firstly described by Keegan (1996) as the continuation of the learning processes among the trainer and students who are located in different places with various means. According to Eisinger (2000), distance learning is a planned learning experience which was formed for certifying the learning and which encourages the student communication; and which may access the student all around the world by addressing the students in distant places.

When the history of distance learning in Turkey is investigated it is seen that distance learning was firstly performed via letter and “open university” has been developed. Together with the rapid developments and changes in technology, Distance learning has become different and e-learning and distance learning programs based upon internet have become widespread. One of the most important reasons of using computer and internet on education is increasing demand of education every passing day (Ozdamli ve Uzunboylu, 2008). Computer- computerized systems (laptop, tablets, smart phones, etc.) enable the formation of programs from which the individuals can get education in the time they want and on the place they are by benefitting from the internet. While the first generation web tools have been e-mail, chat rooms; the web blocks, wiki, podcast has followed these (Beldarrain, 2006). When the educationalists became aware of the power of these tools, the applications of these tools aiming at education have been developed (Beldarrain, 2006). Thus, lots of distance learning tools have been developed.

Since income is a significant factor in the formation of life styles of the people from every segment of society, it is thought that the perception of today’s high school students who have grown in technology era will be related to the socio- economical level of their families (Saybasili, 1992). Adequate socio-economic opportunities are required for keeping up with the contemporary technology. Celik (2011) researched upon high school students in Turkey in determined that approaches towards distance learning show social-economical differences. Moreover “Net Generation” has an easier access to technology and they spend more time with technology (Newland & Bylest, 2014). It is thought that the fact Turkey is among the developing countries will affect the attitude of high school students in Turkey towards distance learning. In this context investigation of the changes towards the distance learning in relation to rapidly changing technology due to the gender, socio-economic levels and access to technology of the high school students has been aimed.

## 2. Method

### 2.1. Participants

This research includes two study groups. First study group includes 92 students (72 men, 20 women) who were studied in high school in Istanbul in the year 2010. The second study group includes 99 students (75 men, 24 women) who study in high school in the year 2014. All of the participants were volunteers.

### 2.2. Instruments

#### 2.2.1. Personal Information Form (PIF)

Personal Information Form (PIF) was used for obtaining the demographical information of the students. While issuing this PIF, Socio-Economical Level Scale (SELS) which was developed by (Bacanli, 1992) was benefitted. PIF aims to determine the gender, internet access tools, income levels of the families and the time spend on internet of the students who have participated in the research.

#### 2.2.2. Distance Learning Attitude Scale (DLAS)

In order to determine the perception of the students upon distance learning, Distance Learning Attitude Scale (DLAS) which was developed by Celik (2011) was used. The scale includes 23 items. DLAS has got two sub-scales as positive and negative attitude towards distance learning. Scale is graded as five point likert type (1= Strongly Disagree, 5= Strongly Agree). Reliability of DLAS's sub-scales has been investigated with Cronbach's Alpha coefficient. Cronbach's Alpha coefficient of positive attitude sub-scale towards distance learning was found as  $\alpha = 0.91$  for the year 2010 and  $\alpha = 0.92$  for the year 2014. Cronbach's Alpha coefficient of negative attitude sub-scale towards distance learning was found as  $\alpha = 0.75$  for the year 2010 and  $\alpha = 0.79$  for the year 2014.

### 2.3. Analytic Procedure

ANOVA used on SPSS 20 software to analyze if student's gender, socio-economic and internet usage time have significant impact on positive and negative attitudes. Homogeneity of variances analyzed by Levene F test. Each test examined separately for the 2010 and 2014 data. Tukey test was conducted in order to determine the differences among the groups.

### 3. Results

The findings of the research are as the following. Gender distribution of the students participating in the research is provided in Table 1. When table 1 is investigated, it is seen that the gender distribution of the students participating in the research in the years 2010 and 2014 is similar.

Table 1: Gender distribution of the participants

Years	2010	2014
Women	21,98%	23,59%
Men	78,02%	76,41%

Monthly average income of the families of students participating in the research is provided in Table 2. According to Table, the monthly average income of the families of participants in the years 2010 and 2014 are similar. It is thought that the changes in percentiles are due to the wage increases depending on the inflation. Inflation changes according to the years are provided in Figure 1 (TUIK, 2014).

Table 2: Monthly average income levels of the families of participants

Years	2010	2014
Less than 1000 TL	26,40%	8,08%
1000 TL - 2500 TL	41,70%	60,61%
2500 TL - 5000 TL	22,00%	27,27%
5000 TL - 10000 TL	5,50%	2,02%
More than 10000 TL	4,40%	2,02%

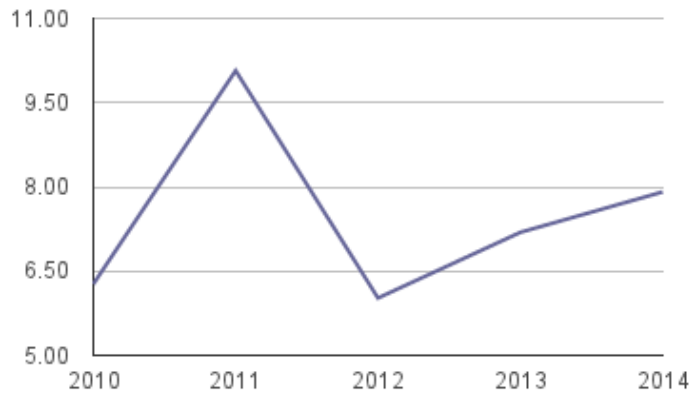


Figure 1: Inflation rate distribution by years

The time in which the participants daily internet usage duration is given in Table 3. When Table 3 is investigated it is seen that the time in which the participants spend in internet has significantly increased.

Table 3: Internet usage duration

Years	2010	2014
Less than 1 hour	26,09%	15,15%
1 - 3 Hours	35,87%	31,31%
More than 3 Hours	38,04%	53,54%

ANOVA test was conducted in order to determine whether the gender, internet usage duration and monthly average income which are independent variables of the research form a significant difference on the positive and negative attitude towards distance learning. ANOVA test was conducted separately for the data obtained in the year 2010 and 2014. The results of the year 2010 ANOVA are provided in Table 4. When Table 4 is investigated, gender does not form a significant difference in positive and negative attitude towards distance learning. It was found out that positive attitude in 2010 has shown a significant difference according to the time spend in internet [ $F(2, 89) = 0.019, p < 0.05$ ]. According to this positive attitude scores ( $\bar{X} = 54,52$ ) of the students who spend their time in internet more than 3 hours higher than the positive attitude scores ( $\bar{X} = 47,51$ ) of the students who spend their time in internet for 1-3 hours. It was found out that negative attitude in 2010 has shown a significant difference according to the time spend in internet [ $F(2, 89) = 0.036, p < 0.05$ ]. According to this negative attitude scores ( $\bar{X} = 25,45$ ) of the students who spend their time in internet less than 1 hour higher than the negative attitude scores ( $\bar{X} = 22,11$ ) of the students who spend their time in internet more than 3 hours. When Table 4 is investigated, it is determined that positive attitude shows a significant difference according to the monthly average income [ $F(4, 87) = 0.030, p < 0.05$ ]. According to this, it was found out that positive attitude scores ( $\bar{X} = 63,00$ ) of the students whose families' monthly average income is 5000-10000 TL are higher than the positive attitude scores ( $\bar{X} = 47,63$ ) of the students

whose families' monthly average income is between 1000-2500 TL. Monthly average income of the families does not form any significant difference on the negative attitude of the students towards distance learning.

Table 4: ANOVA results of year 2010

	Dependent variable	Sd	df	F	p	Effect Size
Gender	Positive attitude	360,626	1	2,964	0,089	0,032
	Negative attitude	63,832	1	2,282	0,134	0,025
Time spend in internet	Positive attitude	963,912	2	4,146	0,019	0,085
	Negative attitude	186,305	2	3,461	0,036	0,072
Monthly average income	Positive attitude	1293,484	4	2,808	0,030	0,114
	Negative attitude	228,784	4	2,115	0,086	0,089

ANOVA results of year 2014 are provided in Table 5. According to the results of ANOVA 2014; gender, time spend in internet and monthly average income which are independent variables of the research do not form a significant difference in positive and negative attitude towards distance learning.

Table 5: ANOVA results of year 2014

	Dependent variable	Sd	df	F	p	Effect Size
Gender	Positive attitude	2,185	1	0,013	0,909	0,000
	Negative attitude	0,170	1	0,004	0,947	0,000
Time spend in internet	Positive attitude	200,752	2	0,607	0,547	0,012
	Negative attitude	50,268	2	0,667	0,516	0,014
Monthly average income	Positive attitude	82,781	4	0,164	0,092	0,005
	Negative attitude	102,72	4	0,913	0,438	0,028

#### 4. Discussion & Conclusion

In this research the attitudes of the high school students towards distance learning in the years 2010 and 2014 were investigated according to gender of the students, the time they spend in internet and their families' average income. Two different study groups resembling each other were included in the research in the years 2010 and 2014. The findings of the research show that the time in which high school students spend in the internet has increased. As a result of the research, in the year 2010 the time spent in internet and students' families' monthly average income formed a significant difference on the attitude towards distance learning. However, in the year 2014 gender, the time spent in internet and students' families' monthly average income did not form a significant difference on the attitude towards distance learning.

As the findings of this research indicated that the time in which digital era high school students spend in the internet increases day by day. Net generation who was born in 1980 and after 1980 uses computer in their classes (Newland & Byles, 2014). Children who were born in 1992/1993 grow as the computer is a part of their life (Newland & Byles, 2014). All of these show that number of children in the world growing with technology increases day by day. Hence, in Turkey where the young population is much, the age group in which computer and internet usage rate is the highest is 16-24 (TUIK, 2014). In this research it was determined that internet usage increasing in the year 2014 form neither positive nor negative attitude towards distance learning when compared to year 2010. The reason of this may be the rapid change in the usage aims of the internet. Such that although the students spend more time in the internet, they do not spend their time not for education, but for activities such as social

networking sites, reading online news or magazines, seeking information upon goods and services, downloading or playing games, music, films, views, sending and receiving e-mails (TUIK, 2014). On the other hand, Yang & Tung (2007) conducted a research determining that long term internet usage indicates problematic internet usage. Thus, it may be said that attitudes of digital era children growing with technology towards distance learning do not have any positive or negative aspect. Similarly, in Turkey men spend more time in the internet but attitudes towards distance learning among men and women does not change. Again the reason of this may be the perception of distance learning is directed to online learning. More researches are need for having an opinion upon the attitude of the emerging youth towards distance learning and we need to explain the meaning of distance learning to the young persons. Also, training materials based on internet may be diversified and they may become more interesting in order to direct the rapidly increasing internet use to the education.

Another finding of this research is that positive directional relation between social-economical level and wide band internet access has disappeared. Decrease in the prices of technological tools which are the necessities of technology age and in the prices of internet makes the internet a tool which can be reached by every segment of society. When positive effect of distance learning upon equality of opportunity in education is taken into consideration (Li, Zhou, & Fan, 2013) it must be considered that computer and internet services have to be more easily accessible for every person in order to provide complete equality of opportunity in education. Countries such as America allocate more money to distance learning day by day (Holzweiss, Joyner, Fuller, & Henderson, 2014). Hence, in America online learning has started to become an important part of higher education. Researches show that online learning develops “critical thinking” and “problem solving” skills of the students (Holzweiss et al., 2014). In Turkey updating distance learning and making it online is needed. Also, explaining the students the exact meaning of distance learning is needed.

## References

- Bacanli, H. (1992). Sosyo-ekonomik duzeyin belirlenmesi. In VII. Ulusal Psikoloji Kongresi. Ankara.
- Beldarrain, Y. (2006). Distance Education Trends: Integrating new technologies to foster student interaction and collaboration. *Distance Education*, 27(2), 139–153. doi:10.1080/01587910600789498
- Celik, B. (2011). Socio-economic family structure of students reflections on e-learning. Bahcesehir University, Istanbul, Turkey.
- Eisinger, J. (2000). Education Evolution. *Journal of Association Management*, 52(13), 52–59.
- Holzweiss, P. C., Joyner, S. A., Fuller, M. B., & Henderson, S. (2014). Online graduate students' perceptions of best learning experiences, 35(3), 311–323. doi:10.1080/01587919.2015.955262 Online
- Keegan, D. (1996). Foundations of distance education (3rd ed.). London: Routledge.
- Li, F., Zhou, M., & Fan, B. (2013). Can distance education increase educational equality? Evidence from the expansion of Chinese higher education. *Studies in Higher Education*, (January 2015), 1–12. doi:10.1080/03075079.2013.806462
- Newland, B., & Byles, L. (2014). Changing academic teaching with Web 2.0 technologies. *Innovations in Educations and Teaching International*, 51(3), 315–325. doi:10.1080/14703297.2013.796727
- Ozdamli, F. ve Uzunboylu, H. (2008). Ogretmen Adaylarinin Teknoloji Destekli Isbirlikli Ogenme OrtaminaYonelik Tutumlari. *CYPRIOT Journal Of Educational Sciences*, 3(1), 28–36.
- Saybasili, K. (1992). Iktisat, siyaset, devlet ve Turkiye (p. 224). Baglam Yayincilik.
- TUIK. (2014). Hanehalki Bilisim Teknolojileri Kullanim Arastirmasi , 2014.
- Yang, S. C., & Tung, C.-J. (2007). Comparison of Internet addicts and non-addicts in Taiwanese high school. *Computers in Human Behavior*, 23(1), 79–96. doi:10.1016/j.chb.2004.03.037