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INVESTIGATION OF HIGH SCHOOL STUDENTS' COMPUTER ATTITUDES IN TERMS OF CERTAIN VARIABLES

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Abstract

The aim of this study is to research the role played by various factors (such as gender, the parents' level of education, level of income, the presence or not of a computer inside of the household, the type of school and class attended) in the attitudes towards computer of the students of different types of highschools. In order to do this, 340 pupils studying at the general high school, professional high school, scientific high school and Anatolia high school of the city of Hakkâri were, during the course of the 2010-2011 school year, submitted to a Computer Attitude Scale test along with a form destined to gather personal information. The data thus collected was then analysed using the SPSS 15.0 program. Descriptive analysis, t-test and one-way variance analyses were also performed on the data. The results of the study demonstrate that, statistically speaking, the attitudes of students towards computer vary significantly according to the type of high school they attend. However, factors such as gender, the parents' level of education, the level of income, the presence of a computer in the household and the class attended were shown to not cause significant variation.

Keywords: Computer Attitude, High School Students, Demografic Informations.

INTRODUCTION

We live in an epoch where the rapid progress being made in terms of new technologies and its repercussions on education are increasing over time. The technology of knowledge has been advancing at a fast pace, bringing to the fore a society of knowledge and forcing societies to follow and adapt to technological advances, as well as making compulsory the introduction of new technologies into education institutions (Uşun, 2004). Aside from the obvious benefit of improving the quality of education, the use of technology in education institutions also allows a new generation of students that are familiar with these technologies and know how to use them to

emerge (Köseoğlu, Yılmaz, Gerçek and Soran, 2007). With respect to this, education programs and their contents have an important part to play. The use of new technologies in schools permits to create an interactive study environment with the computers, which is also an important point to be stressed.

It is a well-known fact that people who don't possess the skills to use new techonologies are prone to react against these technologies and resist to change (Çelik, Coşkun and Bindak, 2005). For them to be able to adapt to technological changes occuring in their studying environment, students must firt be aware of the requirements of the technological age and properly assimilate them. It is safe to say that the attitude one adopts is of importance for the acceptance of a new situation or a new event. This is because an attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Allport, 1935). Using this definition as a basis, we can advance that in order to better comprehend student attitudes, one must also consider the students' environment outside of the school as a determining factor. Taking into account factors such as one student's particular socioeconomic conditions, the level of education of the parents or the students' relationship with computers, it is indeed possible to better examine the degree of awareness and assimilation of technological changes demonstrated by this student. The objective of this study was thus to investigate the effects of factors such as the level of education of the parents, the number of brothers and sisters, the type of school and class attended, gender and the use or not of a computer inside the household on attitudes towards computer amongst students of scientific classes, computers being understood as one of the main tools of education inside the realm of the emerging knowledge technologies.

METHOD

Participants
Participants to the study are pupils in the scientific classes of the highschools of the city of Hakkâri. The study was conducted in the spring semester of the 2010-2011 school year. With 126 students from the general highschool, 78 students from the professional highschool, 88 students from the scientific highschool and 48 students from the Anatolia highschool, a total of 340 students took part in the study. 152 of these were female students, while 188 were male students. 163 of the participating students were pupils in their 2nd year of high school, 130 in their 3rd year and 47 were in their 4th year of high school.

Methods Used For Data Collection
The study was conducted using the survey in 24 points on attitudes towards computer developed by Askar and Orçan (1987), which possesses a coefficient of reliability of 0.89.

Data Analysis
The data gathered in the study was analysed with the SPSS 15.0 program, using descriptive analysis and independent group t test as well as anova test.

FINDINGS

Table 1. Results of *t*-tests on independent groups about the effect of gender on attitudes towards computer

	Gender	N	Mean	Std. Deviation	T	P
Atitude scores	female	152	88.97	14.355		.177
	male	188	91.03	13.689	-1.353	

Analysing table 1 reveals that gender does not play any significant role on the attitude scores towards computer (P>.05).

Table 2. Results of anova tests on the effects of the mother's level of education on attitudes towards computer

	Sum of Squares	df	Mean Square	F	P
Between Groups	1805.598	3	601.866	3.125	.026
Within Groups	64711.375	336	192.593		
Total	66516.974	339			

Analysing table 2 shows that the mother's level of education does not induce any difference in terms of the participating students' attitude scores towards computer (P>.05).

Table 3. Results of anova tests on the effects of the father's level of education on attitudes towards computer

	Sum of Squares	df	Mean Square	F	P
Between Groups	1278.790	3	426.263	2.195	.088
Within Groups	65238.183	336	194.161		
Total	66516.974	339			

Analysing table 3 shows that the father's level of education does not induce any difference in terms of the participating students' attitude scores towards computer (P>.05).

Table 4. Results of anova tests on the effects of the family's level of income on attitudes towards computer

	Sum of Squares	Df	Mean Square	F	P
Between Groups	1669.953	6	278.325	1.429	.203
Within Groups	64847.021	333	194.736		
Total	66516.974	339			

Analysing table 4 shows that the family's monthly level of income does not induce any difference in terms of the participating students' attitude scores towards computer (P>.05).

Table 5. Results of t test on the effects of the presence of a computer in the household on attitudes towards computer

	presence of a computer at home	N	Mean	Sd	T	P
Atitude scores	Yes	124	90.29	15.408		
	No	216	90.00	13.173	.181	.857

Analysing table 5 shows that the presence or not of a computer inside of the household does not induce any difference in terms of the participating students' attitude scores towards computer (P>.05).

Table 6. Results of anova test on the difference in attitude scores towards computer induced by the type of school attended by the participating students

	Sum of Squares	df	Mean Square	F	P
Between Groups	3037.752	3	1012.584	5.360	.001
Within Groups	63479.221	336	188.926		
Total	66516.974	339			

Analysing table 6 demonstrates that significant differences in attitude scores towards computer occur depending on the type of school attended by the students (P<.05).

Table 7. Tukey results concerning the differences in attitude scores of the students towards computer

	(I) School	(J) School	Mean Difference (I-J)	Std. Error	P
Tukey HSD	1	2	-3.982	1.980	.186
		3	-7.144(*)	1.910	.001
		4	-6.050(*)	2.331	.048
	2	1	3.982	1.980	.186
		3	-3.162	2.138	.451
		4	-2.067	2.522	.845
	3	1	7.144(*)	1.910	.001
		2	3.162	2.138	.451
		4	1.095	2.466	.971
	4	1	6.050(*)	2.331	.048
		2	2.067	2.522	.845
		3	-1.095	2.466	.971

1= General high school   2=Professionnal high school   3=Scientific high school   4=Anatolia high school

Table 7 shows that important differences in terms of attitude scores towards computer occur between the students attending General highschool, Scientific highschool and Anatolia highschool (P<.05). These differences are clearly in favor of Scientific high school and Anatolia high school students.

Table 8. Results of anova tests on the difference in attitude scores towards computer induced by the class attended by the participating students

	Sum of Squares	df	Mean Square	F	P
Between Groups	276.066	2	138.033	.702	.496
Within Groups	66240.907	337	196.561		
Total	66516.974	339			

Analysing table 8 shows that the class of the students does not induce any difference in terms of the participating students' attitude scores towards computer (P>.05).

DISCUSSION AND RESULTS

After analysis of the data collected, it has been found that the attitude scores of students towards computer didn't change according to gender. This confirms previous findings by Köse and Gezer (2006), who demonstrated that highschool students' attitude scores did not vary in function of gender. Hunt and Bohlin (1993) and Çelik and Ceylan (2009) also came at the conclusion that gender did not have an influence on attitudes towards computer. The research also showed that the level of education of the students' parents did not have any type of effect on the attitude scores towards computer of the students. It is worth saying that amongst the researched group, most of the students' mothers had not received any type of formal education, while the students' fathers generally had a secondary level type of education. Taking these findings into account, we must therefore not expect the parents' level of education to have any significant impact on the students' attitude scores. Furthermore, the study revealed that attitude scores did not change according to the level of income either. Shashaani and Khalili (2001) had already shown in a study conducted in Iran that the family's socioeconomic situation did not have an influence on attitude scores towards computer. The study also demonstrated that attitude scores did not change for those students who had access to a computer inside of the household. Looking at the group of participants in this regard, it is worth noting that for the most part, the students did not have access to a computer in the household. For this reason, the results obtained cannot be taken as firm evidence which could be generalized. The type of highschool attented by the students was however shown to have a significant impact on the students' attitude scores. In the research, students attending Scientific

highschool and Anatolia highschool scored higher on the attitude scale than students attending general highschool. It is a well-known fact that the cognitive levels of the students of Anatolia and Scientific highschools are proportionally higher than those of general highschools' students. Because of the fact that they had to pass an examination to enter these highschools, It is possible that these students already had a higher interest in knowledge technologies such as computers. Meanwhile, the students of other highschools must improve their theoretical foundations in order to prepare for university, which may cause them to view computers as no more than a waste of time. Furthermore, in Anatolia and Scientific highschools' computer classes, there is a ratio of about 1 or 2 students per computer, whilst this number is significantly higher in general highschools' computer classes (Köse and Gezer, 2006). This applies to Scientific highschools' students as well. The study also demonstrated that the class of the students did not induce any difference in terms of attitude scores. The participating students had already chosen their field of interest since their 2nd year of highschool and were preparing the university entrance examination in this field. For this reason, most of the students were since the 2nd year of highschool primarily focused on the university entrance examination. This may explain why affective characteristics such as students' attitudes cannot be properly researched in this context.

RECOMMENDATIONS

1. It can be said that the use of computers in the educational environment might help creating a positive outlook towards computer on the part of students.

2. An important part of the researched group's students were found not to have access to a computer inside of the household, which is a failure to meet the needs of the current age of technology. In order to secure equality of chances in terms of new technologies, the ministry of Education should proceed to make the necessary adjustments.

3. It is advised that researches such as the present study be repeated in other fields and with larger sample groups.

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