

WCES-2011

## An examination of the attitudes of secondary school students towards research homeworks according to different variants

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### Abstract

The aim of this study is to put forth whether the attitudes of secondary school students towards research homeworks according to the variants of gender, class level, and school type show any difference. This research was done with a total of 422 students who are enrolled in the secondary schools at Cankaya, Ankara. In the study was used a “research homework attitude scale”. Whether there is a meaningful difference in students’ attitudes towards research homework according to gender, class level, and school type was examined through ANOVA. Attitudes of secondary school students towards research homework according to their gender do not show a meaningful difference. As the class level increases, the attitudes of students change in the negative direction. Moreover, students who study at public schools have a more positive attitude than the students who study at a private school.

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*Keywords:* Research, homeworks, attitude;

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### 1. Introduction

In order for individuals to meet the requirements of the information age, they need to have certain advanced mental skills. In providing the students with these advanced mental skills, it is also necessary to provide them with the research skills such as obtaining data from various sources, evaluating and using that data (Şahhüseyinoğlu, Akkoyunlu, 2010). To this end, one of the most frequently used methods at schools is to prepare activities which direct students into research which, in return, aim to develop students’ research skills. It is thought that giving the students research homework beginning with primary school years is effective in helping them acquire research skills. However, although enabling students develop research know-how and techniques is one of the main requisites for them to be able to do research, it is not a sufficient one on its own. It is seen that the student’s personal interest in the field, his pre-acquired values and moreover the fact that whether he sees this process as a threat or not are also influential in his research (Büyüköztürk, 1997). In this respect, it is important to put forth the attitude levels of students toward research homework is important. The aim of this study is to put forth whether the attitudes of secondary school students towards research homeworks according to the variants of gender, class level, and school type show any difference.

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## **2. Method**

### *2.1. Model of Research*

This is a research in the form of a survey which aims to put forth whether the attitudes of secondary school students towards research homeworks according to the variants of gender, class level, and school type show any difference.

### *2.2. Study group*

The study group of the research consists of a total of 422 students who are enrolled in the secondary schools at Çankaya, Ankara.

### *2.3. Data gathering tools*

A research homework attitude scale was used in this research as the data gathering tool. Characteristics of the scale are given below.

#### *2.3.1 Attitude Scale*

In the study, one reliability and validity study, which was developed by the researchers, was done, and a “research home work attitude scale” was used. The pre-application of the scale, which consists of 32 items, was done with 349 secondary school students, and the alpha reliability was determined as 0.95. As a result of the repeated factor analyses, 9 items were left out of the scale and a finalized scale consisted of a total of 23 items, 6 of which are negative and 17 of which are positive. The alpha reliability of the scale in the actual application was determined as 0.77. The fact that reliability coefficient for psychological tests are higher than 0.70 is seen as enough for the reliability of test points (Büyükoztürk, 2006).

### *2.4. Data Analysis*

Whether there is a meaningful difference in students’ attitudes towards research home work according to gender, class level, and school type was examined through ANOVA. In the data analysis, the assumption of the Three-Way ANOVA was checked. Thus, it was accepted that the assumption of the independence of observations was achieved. In order to control that the measurements of attitude have a normal dispersal, it was paid attention that the values of kurtosis and skewness are between -1 and +1 (Groeneveld & Meeden, 1984). The equality of the variants, which is another assumption, was controlled by the Levene test. At the end of the Levene test, the equality of the variants was determined by looking at the fact that the p value is bigger than 0.05. In the multiple comparisons of the average points, Sheffe test was used.

## **3. Findings**

In this section, the findings on whether the attitudes of secondary school students towards research homeworks according to the variants of gender, class level, and school type show any difference was given.

Table 1: The result of the 3 Way ANOVA including the factors of Gender, School Type and Class Level

Factors	Sum of Squares	Sd	Mean of Squares	F	p	eta-square ( $\eta^2$ )
Gender	18.813	1	18.813	.132	.716	.000
School type	908.446	1	908.446	6.387	<b>.012</b>	.015
Class level	1921.824	2	960.912	6.756	<b>.001</b>	.032
Gender * school type	.012	1	.012	.000	.993	.000
Gender * class	102.420	2	51.210	.360	.698	.002
School type * class	47.073	2	23.536	.165	.848	.001
Gender * school type * class	556.627	2	278.313	1.957	.143	.009
Fault	58311.854	410	142.224			
Total	2336338.117	422				

When the p values in Table 1 are taken into consideration, while the attitudes of students towards research homework do not show a meaningful difference in terms of gender [ $F_{(1-421)}=0.13$ ,  $p>0.05$ ], there is a statistically meaningful difference according to school type [ $F_{(1-421)}=6.39$ ,  $p<0.05$ ] and class level [ $F_{(2-420)}=6.76$ ,  $p<0.05$ ]. Among the three independent variants, there are no meaningful interactions that affect the attitudes toward research homework.

The average point of female students (47.2%) towards research homework is 73.47 and that of male students (52.8%) is 73.47. According to the results of the applied ANOVA test, it has been seen that the attitudes of students toward research homework do not show a significant difference according to their gender. Both groups have a positive attitude toward research homework.

The point average of students attending a public school is 75.74 while the point average of students attending a private school is 70.11. Although both groups have a positive attitude toward research homework, it is seen that students attending a public school have a more positive attitude than students attending a private school. The influence level of the difference between school levels on the attitude toward research homework was determined as ( $\eta^2$ ) 0.015. According to Cohen (1988), there is a low influence here.

Table 2: Multiple comparisons of class factor – Scheffe Test

class (I)	Class (J)	Difference of average (I-J)	Standard Error	Sig.
6th grade	7th grade	3.8183*	1.27877	.012
	8th grade	9.6928*	1.65647	.000
7th grade	6th grade	-3.8183*	1.27877	.012
	8th grade	5.8745*	1.70225	.003
8th grade	6th grade	-9.6928*	1.65647	.000
	7th grade	-5.8745*	1.70225	.003

As can be seen in Table 2, the attitudes of students toward research homework show a significant difference ( $p < 0.05$ ) according to students' class levels (See Table 2). The influence level of the difference between class levels on the attitude toward research homework was determined as ( $\eta^2$ ) 0.032. According to Cohen (1988), Green & Salkind (2005), Knoke & Bohrnstedt (1991) and Ryan & Hess (1991), there is a low influence here.

Table 3: Point Averages of Secondary School Students' Attitudes Toward Research Homework

Groups According to Class Level	Total Point Average	N	Standard Deviation
6th grade	76.43	192	10.57
7th grade	72.61	159	12.78
8th grade	66.74	71	13.61

As can be seen in Table 3, the point average of 6<sup>th</sup> grade students is 76.43, the point average of 7<sup>th</sup> grade students is 74.61, and the point average of 8<sup>th</sup> grade students is 66.74. The attitude of students toward research homework changes in a negative direction from the 6<sup>th</sup> grade to the 8<sup>th</sup>.

#### 4. Result and Discussion

While the attitudes of students do not show a meaningful difference according to their gender, it does show a statistically meaningful difference according to their school type and class level. Among the three independent variants (gender, school type, and class), there are no meaningful interactions that affect the attitudes toward research homework. It is seen that students attending a public school have a more positive attitude than those attending a private school. Compared to the students attending a public school, the fact that students attending a private school have lower attitudes can be related to the possibility that students are bored since they are given more research homework in private schools. Attitudes of students toward research homework change in a negative way from 6<sup>th</sup> grade through the 8<sup>th</sup>. The fact that the attitude changes in a negative way as the class level increases can be interpreted as a result of the fact that students, who get ready for the exam, would like to spend their time studying for the exam instead of doing homework.

#### 5. Suggestions

In order to turn the attitude toward research homework into a more positive one, students should comprehend the importance of research homework. In order to realize this, students should be given research homework which has a reference in real life, and which is interesting and curiosity-raising. Thus, one can contribute to the development of students' advanced mental skills.

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