An Investigation Of The Relationship Between Students' Views On Homework And Their Learning Styles

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Abstract

The purpose of this study is to identify the relationship between students' views on homework and their learning styles. The study follows a descriptive survey model. It is also an example of descriptive study in relational screening model. Target population is all first, second, third, and fourth year students who are enrolled in Çukurova University Primary School Classroom Teaching Department. The participants are 443 students who volunteered to fill in the data collection forms used in the study. Of the participants, 90 were first year, 103 were second year, 140 were third year, and 110 were fourth year students. 275 of the students participating in the study were female (62.1%) and 168 were male (37.9%). The data were collected through "Homework Attitudes Scale" developed by Gündüz (2005), Kolb's Learning Styles Inventory (LSI) which was first examined for its applicability in Turkey by Aşkar and Akkoyunlu (1993), "Homework Purpose Scale", "Homework Management Scale" and "Personal Information Form" developed by the researcher. No instruments were used to measure students' academic success levels; their academic success was identified according to the overall mean score obtained from the scores they received from all lessons. Findings show that 141 students (31.8%) preferred assimilating learning style while 133 students (30%) preferred converging learning style. Dominant learning style was found to differ according to grade level and grade point average. The difference in terms of homework attitudes, homework purpose, and homework management scale mean scores was in favour of mostly students who have converging learning style. Besides, there was a significant difference in terms of doing homework on time in favour of students who have converging learning style, and there was a significant difference in terms of coming to class without homework in favour of students who have diverging learning style.

Keywords: Homework, homework preferences, learning styles, prospective teachers

Introduction

Students are given homework by teachers almost in all grade levels with the purpose of expanding information and experiences learned at school or making them permanent. This behaviour of teachers can be explained with the understanding which is dominant in our country and in the world and which gives importance to a student-centred approach instead of teacher-centred, willingness instead of forcing, and importance of studying from various sources instead of from one source. Due to qualitative and quantitative deficiencies in the education system of our country, it is not easy for students to demonstrate high-level behaviours expected from them. Therefore, homework is an educational activity which is adopted and implemented both in our country and in the world with a view to supplementing the course and leading students search about a topic.

Homework is an important learning activity which can be done in relation to the school program, at home, or in various places of social life (cinema, theatre, shopping mall, etc.). When students complete their homework, they learn new information and reinforce classroom learning in practical and meaningful ways. Homework helps students come to class prepared, reinforce what is learned at school, improve sense of responsibility, develop an investigative personality, and gain independent study skills. Homework is also an effective tool in making previously learned information become important and learning the new information. It can be considered to be important in terms of making the gained information and skills permanent, improving them, and adapting them into new problems.

Homework has many aims such as reinforcing learning, bringing in good study habits and self-discipline, helping to make preparations for future classroom studies, giving opportunities for self-study, helping to make time planning, encouraging responsibility, gaining skills for using other learning sources and library, reaching sources which are not available at school, and providing input to the teacher for evaluation. Reaching these aims of homework and more can only be possible by realizing that learning styles, which are given importance in written program and in-school learning at a minimum level, are important in out-of-school learning as well. Learning style is a concept which does not change lifetime, but which can change individuals' life (Güven, 2004). There are many models which examine learning styles. This study is based on experiential learning, Kolb's Learning Style model which emphasizes the role of experiences in the learning process.

Kolb's learning style model is based on Kolb's Experiential Learning Theory. The theory emphasizes that knowledge, and thus learning, occurs with the transformation of experiences. According to Kolb, students should go through all four learning stages while learning a topic. Learning cycle should be constructed first from concrete experience to reflective observation, and then from abstract conceptualization to active experience (Kolb, Boyatzis, and Mainemelis, 1999; Joy and Kolb, 2009). This cycle is repeated numerous times in each learning task. Sometimes, one of these four categories gains importance for the individual.

Students are classified according to what they prefer in this model; concrete experience or abstract conceptualization (how they receive and comprehend information) and active experimentation or reflective observation (how they transform and internalize information) (Felder, 1996; Joy and Kolb, 2009; Kaf Hasırcı, 2006). This model can be explained more clearly in Figure 1.

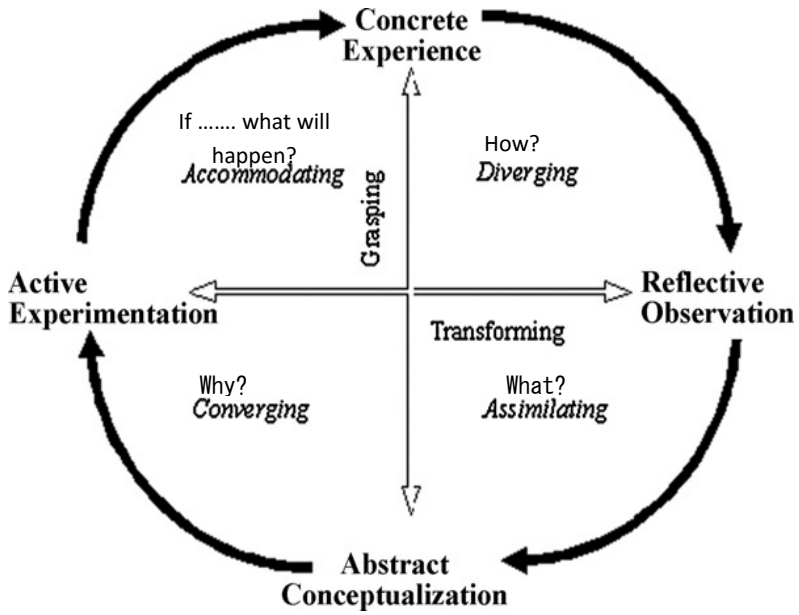

Figure 1. Experimental learning cycle (Joy and Kolb, 2009, 71)

In conclusion, according to Kolb's learning style model, individuals comprehend information by feeling or thinking, and process it by watching or doing. Within this framework, while identifying students' learning styles, a single component does not give an individual's dominant learning style. Each individual's learning style is formed with the combination of these four components. Combined scores demonstrate individual's various preferences ranging from abstract to concrete (AC-CE) and from active to reflective

(AE-RO). These two group learning styles form the foundation of Kolb's two dimension learning style. The combination of four elements in these two dimensions determines which one of four dominant learning styles the learner prefers. These are diverging, assimilating, converging, and accommodating learning styles (Kaf Hasırcı, 2006; Kolb, 1984; Jonassen and Grabowski, 1993; Felder, 1996; Riding and Rayner, 1998; Guild and Garger, 1991).

It is evident that studies at national level do not cover this issue sufficiently, and there is a need for studies which examine homework and learning styles. Hong and Milgram (2000) found that learning style and homework style correlated, but not empirically equivalent. When children are allowed to learn in school under conditions that match their learning style, they have higher academic achievement and more positive attitudes toward school (Dunn and Milgram, 1993). So if the children do their homework under condition that match their preferences similar positive results will be obtained. This study can be a scientific source for the decisions in relation to homework which has important place in the curriculum and for raising prospective teachers who can shoulder responsibility of designing, implementing and evaluating homework. In this regard, problem statement of this study is: what is the relationship between students' views on homework and their learning styles?

Purpose of the Study

The main purpose of this study is to identify the relationship between 1st, 2nd, 3rd, and 4th year Classroom Teaching Department students' views on homework and their learning styles. In line with this general purpose, the study aims to find answers to the following questions;

1. What is the distribution of learning styles of primary school classroom teaching department students and do the learning styles differ according to grade levels?
2. Do primary school classroom teaching students' homework attitudes, homework purpose and homework management scores differ according to their learning styles?
3. Do primary school classroom teaching students' doing homework on time, coming to class without homework and academic success scores differ according to their learning styles?

Method

This study follows a descriptive survey model. It is also an example of descriptive study in relational screening model. Relational screening models investigate whether there are any relationships between the variables involved in the study. As this study mainly investigates the relationship

between views about homework and learning styles, it is relational screening model in nature.

Target Population and the Participants

Target population of this study is all first, second, third, and fourth year students who are enrolled in Çukurova University Primary School Classroom Teaching Department. The participants are 443 students who volunteered to fill in the data collection forms used in the study. Of the participants, 90 were first year, 103 were second year, 140 were third year, and 110 were fourth year students. 275 of the students participating in the study were female (62.1%) and 168 were male (37.9%).

Data Collection Tools

The data were collected through "Homework Attitudes Scale" developed by Gündüz (2005), Kolb's Learning Styles Inventory (LSI) which was first examined for its applicability in Turkey by Aşkar and Akkoyunlu (1993), "Homework Purpose Scale" (Xu, 2010, 2010a, 2011), "Homework Management Scale" (Xu, 2008, 2008a) adapted and "Personal Information Form" developed by the researcher. No instruments were used to measure students' academic success levels; their academic success was identified according to the overall mean score obtained from the scores they received from all lessons.

Homework Attitudes Scale: The 5-point likert type scale has 31 items which were developed with a view to identifying individuals' attitudes when there is probability of doing homework or while they are doing homework. The responses ranged from "I totally disagree" (1) to "I totally agree" (5). The participants are asked to choose one option corresponding to the item. All the scale items are given in plain text. The highest score to be obtained from the scale is 155, while the lowest score is 31. Higher scores indicate positive attitudes towards homework.

Analyses show that the three dimensions of the scale are *attitudes towards the importance and benefit of homework* for the first sub-scale, *affective attitudes towards homework* for the second sub-scale, and *attitudes towards preparing homework* for the third sub-scale. Attitudes towards the importance and benefit of homework sub-scale has 12 items, affective dimension has 14 items, and preparing homework dimension has 5 items. The lowest score to be obtained from attitudes towards the importance and benefit of homework sub-scale, which has 12 items, is 12 (12x1) and highest score is 60 (12x5). Higher scores mean higher positive attitudes towards the importance and benefit of homework. The lowest score to be obtained from 14-item affective attitudes towards homework sub-scale is 14 and the highest score is 70 (14x5). Higher scores indicate higher affective attitudes towards

homework. Lowest score to be obtained from the 5-item preparing homework sub-scale is 5 (5x1) while the highest score is 25 (5x5). Higher scores indicate higher attitudes towards preparing homework. Gündüz found the internal consistency coefficient of the sub-scales .94, .93, and .69 for the importance and benefit of homework, affective attitudes towards homework, and attitudes towards preparing homework sub-scales respectively. In the present study, internal consistency coefficient was found .92, .92 and .70 for the importance and benefit of homework, affective attitudes towards homework, and attitudes towards preparing homework sub-scales respectively.

Kolb's Learning Styles Inventory (LSI): Kolb developed Learning Style Inventory in 1985 and assessed its reliability and validity. The inventory has 12 items. Each item has 4 words. Reliability of the Turkish translation of the scale was examined by Aşkar and Akkoyunlu (1993). Reliability coefficient was found .58 for concrete experience, .70 for reflective observation, .71 for abstract conceptualization, .65 for active experience, .77 for abstract-concrete, and .76 for active reflector. Kaf Hasırcı (2006) re-evaluated the reliability coefficients with the sample in his study and found them .61 for concrete experience, .69 for reflective observation, .70 for abstract conceptualization, .66 for active experience, .68 for abstract-concrete, and .69 for active reflector. These findings display similarity with the reliability coefficients assessed by Aşkar and Akkoyunlu (1993), Ergür (1998), and Demirbas and Demirkan (2003).

The Homework Purpose Scale (HPS)]: The scale which was developed by Xu (2010, 2010a, 2011) with a view to identifying how students perceive the purpose of doing homework has 15 items which are responded between "I totally disagree" (1) and "I totally agree" (4). The scale has three sub-scales called "Learning-oriented reasons" 9-item sub-scale, for example, "*Doing homework gives the opportunity to review the skills we learned at school*". Adult-oriented reasons 3-item sub-scale, for example, "*Doing homework brings teacher's approval*" and Peer-oriented reasons, for example 3 item sub-scale, for example, "*Doing homework brings you your friends' approval*". Xu (2010a) found Cronbach alpha reliability coefficients .90 for Learning-Oriented Reasons sub-scale, .79 for Peer-Oriented Reasons sub-scale, and .79 for Adult-Oriented Reasons sub-scale. Iflazoğlu Saban (2013) protected the three dimension nature of the scale in her adaptation study and found Cronbach alpha coefficients .87 for learning-oriented reasons sub-scale, .74 for adult-oriented sub-scale, and .77 for peer-oriented sub-scale.

Homework Management Scale *[Homework Management Scale (HMS; Xu, 2008, 2008a)]:* Homework management scale developed by Xu and Corno (2003) consists of 22 items in which students are asked to respond

on a 5-point likert scale items (1) never, (2) rarely, (3) sometimes, (4) often, (5) always to the six homework management strategies called *arranging environment, managing time, handling distraction, monitoring motivation, focusing,* and *controlling emotion.* The scale has 6 sub-scales: "*Arranging Environment*, 5-item sub-scale for example, "I find a quiet place", "*Managing Time*", 4-item sub-scale for example, "I set priority and plan ahead", "*Handling Distraction*", 5-item sub-scale, for example "I get busy with other things (e.g. I play with the pencil", "*Monitoring Motivation*, 4-item sub-scale, for example, "I find ways to make homework more interesting", *Focusing attention*, 4-item sub-scale for example "I stop homework to send or receive 'instant messaging'", and "*Controlling Emotion*" 4-item sub-scale for example "I tell myself to calm down". In handling distraction and focusing attention, the items are reverse scored. Cronbach alpha reliability coefficient of the six sub-scales was found between 0.74 and 0.83. Cronbach alpha reliability coefficient was found .72, 0.70, 0.83, 0.70, .82 and 0.70 respectively in the present study. In addition, the participants were asked, "Some students often complete homework on time, others rarely do; "How much of your assigned homework do you usually complete?". They were asked to respond one of the options including 1 (*none*), 2 (*some*), 3 (*about half*), 4 (*most*), and 5 (*all*). They were further asked, "How often do you come to class without your homework?" Responses included 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), and 5 (*routinely*).

Personal Information Form: The form was used with a view to identifying students' grade level, gender, and socio-economic levels. Personal Information Form included questions which aimed to collect information about parents' education level, number of people in family, whether the family had their own house, number of rooms in the house, average monthly income of the family, belongings, etc. The participants' responses to the questions about socio economic level give total socio-economic level score. Students in the low, middle, and high socio-economic levels were identified according to mean score and standard deviation values of the total socio-economic level scores.

Data Collection

The data collection tool was administered by the researcher to first, second, third, and fourth year students who were enrolled in the Çukurova University Primary School Classroom Teaching Department in the spring semester of 2010-2011 academic year. The forms were administered in groups, by visiting the classes of instructors from whom the necessary permissions had been taken. Data collection took approximately 30 minutes. During the process, the researcher was present in the classrooms and made

the necessary explanations. No instruments were used to measure students' academic success levels; their academic success was identified according to the overall mean score obtained from the scores they received from all lessons.

Analysis of the Data

Dominant learning styles of students according to grade levels were presented using frequencies and percentage statistics. The relationship between learning styles of first and fourth year students was tested with non-parametric chi-square test. One-way analysis of variance was conducted with a view to identifying whether homework attitudes, homework purpose, homework management scores, doing homework on time, coming to class without homework, and academic success scores differed according to students' learning styles. Statistical significance for the findings was taken .05.

Ranges were calculated for evaluating the academic mean scores appropriately to the 5-point options used in the study. Accordingly, for homework attitudes scale and homework management scale and "how often do you come to class without homework?", "how much of homework do you do on time"?, 1.00-1.80 corresponds to "I totally disagree, never, none", 1.81-2.60 corresponds to "I somewhat agree, rarely, some", 2.61 – 3.40 corresponds to " I partly agree, sometimes, about half", 3.41 – 4.20, corresponds to "I rather agree, often, most" and 4.21 – 5.00 corresponds to "I totally agree, routinely, all".

Homework Purpose Scale has a 4-point likert scale ranging from (1) "I totally disagree" to (4) "I totally agree". Ranges were calculated for evaluating the academic mean scores appropriately to 4-point likert options. Accordingly, 1.00 – 1.75 corresponds to "I totally disagree", 1.76 – 2.50 corresponds to "I disagree", 2.51 – 3.25 corresponds to "I agree", and 3.26 – 4.00 corresponds to "I totally agree" options.

Findings

Table 1 demonstrates findings in relation to the distribution of students' dominant learning styles and whether they differ according to grade levels.

Table 1. Distribution of Students' Dominant Learning Styles according to Grade Levels

Kolb's Learning Style	**Grade Level**								Total	
	First Year		Second Year		Third Year		Fourth Year			
	f	%	f	%	f	%	f	%	f	%
Assimilating	50	**55.6**	36	**35.0**	36	**25.7**	19	17.3	**141**	31.8
Converging	14	15.6	37	**35.9**	43	**30.7**	39	**35.5**	**133**	30.0
Diverging	16	**17.8**	21	20.4	33	23.6	19	17.3	**89**	20.1
Accommodating	10	11.1	9	8.7	28	20.0	33	**30.0**	**80**	18,1
Total	90	100.0	103	100.0	140	100.0	110	100.0	443	100.0

An analysis of students' dominant learning styles (see Table 1) shows that 141 students (31.8%) have assimilating learning style, 133 students (30%) have converging learning style, and 80 students (18.1%) have accommodating learning style. Chi-square(X^2) test results show that dominant learning styles (assimilating, converging, diverging, and accommodating) differed significantly according to grade level ($X^2(2)$= 51.635 p=.0001).

Table 2 displays one-way analysis of variance results in relation to mean scores and standard deviation values students obtained from "importance and benefit of homework", "affective attitudes towards homework", and "doing homework" sub-scales according to students'' learning styles.

Table 2. Mean Score, Standard Deviation, and One-Way Variance Analysis Results in Relation to Homework Attitudes Scale Scores According to Students' Learning Styles

	Sub-scales	**Kolb's Learning Style**	N	$\overline{X}$	S	F	p	Scheffe
Homework Attitudes Scale	Importance and Benefit of Homework	Assimilating	141	3.19	.84	4.410	.005	Converging ~ Assimilating Diverging
		Converging	133	**3.50**	.83			
		Diverging	89	3.16	.86			
		Accommodating	80	**3.21**	.83			
	Affective Attitudes towards homework	Assimilating	141	3.23	.90	5.043	.002	Converging ~ Assimilating Diverging
		Converging	133	**3.54**	.85			
		Diverging	89	3.10	.96			
		Accommodating	80	**3.37**	.89			
	Doing homework	Assimilating	141	2.74	.73	.838	.474	
		Converging	133	**2.83**	.77			
		Diverging	89	2.68	.77			
		Accommodating	80	2.70	.69			

Table 2 shows that homework attitudes scale "importance and benefit of homework", "affective attitudes towards homework" sub-scale mean scores according to learning styles were highest in students who have converging and then accommodating learning styles. It was found that "doing homework" mean scores according to students' learning styles were close to each other. Whether the difference between the mean scores was significant was identified with one-way analysis of variance. One-way

analysis of variance results demonstrated that there were significant differences in terms of "importance and benefit of homework [F (3, 439) = 4.410; p<.05]" and "affective attitudes towards homework" [F (3, 439) = 5.043; p<.05]" sub-scales. Scheffe test was performed in order to find out which learning styles students have created difference in favour of them. Scheffe test results showed that among converging, assimilating, and diverging learning styles, there was a significant differences in "importance and benefit of homework" and "affective attitudes towards homework" sub-scales in favour of students who have converging learning style.

Table 3 shows one-way analysis of variance results in relation to mean scores and standard deviations of homework purpose scale "learning-oriented reasons", "adult-oriented reasons" and "peer-oriented reasons" sub-scales according to students' learning styles.

Table 3. Mean Scores and Standard Deviation, and One-Way Analysis of Variance Results in Relation to Homework Purpose Scale Scores According to Students' Learning Styles

	Sub-Scales	**Kolb's Learning Style**	N	$\overline{X}$	S	F	p	Scheffe
Homework Purpose Scale	Learning-oriented reasons	Assimilating	141	3.08	.48	5.274	.001	Converging ~ Assimilating Diverging
		Converging	133	**3.26**	.41			
		Diverging	89	3.02	.59			
		Accommodating	80	3.10	.45			
	Adult-oriented reasons	Assimilating	141	2.73	.65	2.374	.070	
		Converging	133	**2.82**	.66			
		Diverging	89	2.58	.78			
		Accommodating	80	2.68	.66			
	Peer-oriented reasons	Assimilating	141	2.73	.59	1.398	.243	
		Converging	133	**2.84**	.60			
		Diverging	89	2.69	.72			
		Accommodating	80	2.79	.48			

Table 3 shows that homework purpose scale "*adult-oriented reasons*" "*peer-oriented reasons*" sub-scale mean scores according to learning styles were close to each other, but "*learning-oriented reasons*" sub-scale mean scores differed according to students' learning styles. One-way analysis of variance was performed to see whether the difference between the mean scores was significant. Results showed that there was a significant difference in terms of "learning oriented reasons [F (3, 439) = 5.274; p<.05]" sub-scale mean scores. Scheffe test was performed in order to find out which learning styles students have created difference in favour of them. Scheffe test results showed that in "learning-oriented reasons" sub-scale, among students who have converging, assimilating, and diverging learning styles, there was a significant difference in favour of students who have converging learning style.

Table 4 displays one-way analysis of variance results in relation to homework management scale "*arranging environment*", "*managing time*", "*handling distraction*", "*monitoring motivation*", "*focusing attention*", and "*controlling emotion*" sub-scales mean scores and standard deviations according to students' learning style.

Table 4. Mean Scores and Standard Deviation, and One-Way Analysis of Variance Results in Relation to Homework Management Scale Scores According to Students' Learning Styles

	Sub-Scales	**Kolb's Learning Style**	N	$\overline{X}$	S	F	p	Scheffe
Homework Management Scale	Arranging Environment	Assimilating	141	3.88	.70	2.015	.111	
		Converging	133	**3.94**	.68			
		Diverging	89	3.70	.80			
		Accommodating	80	3.84	.75			
	Managing Time	Assimilating	141	3.65	.68	3.666	.012	Converging ~ Diverging
		Converging	133	**3.72**	.64			
		Diverging	89	3.42	.83			
		Accommodating	80	3.52	.70			
	Handling Distraction	Assimilating	141	3.52	.81	3.154	.025	Converging ~ Diverging
		Converging	133	**3.72**	.72			
		Diverging	89	3.41	.82			
		Accommodating	80	3.49	.83			
	Monitoring Motivation	Assimilating	141	3.14	.69	6.000	.001	Converging ~ Diverging Accommodating ~ Diverging
		Converging	133	**3.37**	.70			
		Diverging	89	3.03	.79			
		Accommodating	80	**3.36**	.60			
	Focusing Attention	Assimilating	141	3.71	.89	3.579	.014	Converging ~ Diverging
		Converging	133	**3.95**	.76			
		Diverging	89	3.62	.84			
		Accommodating	80	3.69	.77			
	Controlling Emotion	Assimilating	141	3.56	.60	3.962	.008	Converging ~ Diverging
		Converging	133	**3.64**	.66			
		Diverging	89	3.34	.71			
		Accommodating	80	3.47	.66			

According to students' learning styles, homework management scale, "*arranging environment*" sub-scale mean scores were close to each other, but all the other sub-scale mean scores were different from each other (see Table 4). One-way analysis of variance was performed with a view to identifying whether the difference between the mean scores was significant. Results showed that there was a significant difference in terms of "*managing time*" [F (3, 439) = 3.666; p<.05]", "*handling distraction*" [F (3, 439) = 3.154; p<.05]*"* *"monitoring motivation"* [F (3, 439) = 6.000; p<.01]*", "focusing attention"* [F (3, 439) = 3.579; p<.05]*"* *and "controlling emotion* [F (3, 439) = 3.962; p<.05]*"* sub-scale scores. Scheffe test was performed in order to find out which learning styles students have

created difference in favour of them. Scheffe test results showed that in the "*managing time"*, "*handling distraction"*, "*focusing attention"* and "*controlling emotion*" sub-scales, among students who have converging and diverging learning styles, there was a significant difference in favour of students who have converging learning style. In "monitoring motivation" sub-scale, among students who have converging, diverging and accommodating learning styles, there was a significant difference in favour of students who have converging and accommodating learning styles.

Table 5 demonstrates one-way analysis of variance results in relation to mean scores and standard deviations students obtained from "being interested in homework, doing homework on time, coming to class without homework and academic success" variables according to their learning styles.

Table 5. Mean Score, Standard Deviation and One-Way Analysis of Variance Results in Relation to Being Interested in Homework, Doing Homework On Time, Coming to Class Without Homework, and Academic Success According to Students' Learning Style

	Kolb's Learning Style	N	$\overline{X}$	S	F	p	Scheffe
Being interested in homework	Assimilating	141	2.61	.86	3.778	.01	Converging ~ Diverging
	Converging	133	**2.88**	.76			
	Diverging	89	2.54	.93			
	Accommodating	80	2.60	.87			
Doing homework on time	Assimilating	141	3.82	.98	5.242	.001	Converging ~ Diverging
	Converging	133	**4.02**	.83			
	Diverging	89	3.53	1.13			
	Accommodating	80	3.68	. 90			
Coming to class without homework	Assimilating	141	2.09	.86	3.845	.01	Diverging ~ Assimilating Converging
	Converging	133	2.10	.79			
	Diverging	89	**2.46**	1.07			
	Accommodating	80	2.20	.91			
Academic success	Assimilating	141	2.47	.41	5.775	.001	Accommodating ~ Diverging Assimilating
	Converging	133	**2.59**	.39			
	Diverging	89	2.47	.43			
	Accommodating	80	2.67	.35			

Table 5 displays that according to students' learning styles; "being interested in homework, doing homework on time, coming to class without homework and academic success" mean scores are different from each other. One-way analysis of variance was performed with a view to identifying whether the difference between the mean scores was significant. Results showed that there was a significant difference in terms of "*being interested in homework* [F (3, 439) = 3.778; p<.05]", "*doing homework on time* [F (3, 439) = 5.242; p<.01]*"*, "*coming to class without homework"* [F (3, 439) = 3.845; p<.01]*"*, "*academic success"* [F (3, 439) = 5.775; p<.01]"

scores. Scheffe test was performed in order to find out which learning styles students have created difference in favour of them.

Scheffe test results show that among students who have converging and diverging learning styles, there was a significant difference in favour of students with converging learning styles in terms of their "being interested in homework, doing homework on time" scores. Among students who have diverging, assimilating, and converging learning styles, there was a significant difference in terms of "coming to class without homework" in favour of students who have diverging learning style, and among students who have accommodating, diverging and assimilating learning styles, there was a significant difference in favour of students with accommodating learning style in terms of the academic success mean scores.

Discussion and Interpretation

Findings of the present study are similar to various studies conducted before in that it found assimilating learning style was preferred more. Numerous studies (Baker, Simon and Bazeli, 1987; Aşkar and Akkoyunlu, 1993; Fox and Rankowski, 1997; Ergür, 1998; Kılıç, 2002; Özsoy, Yağdıran and Öztürk, 2004; Karakış, 2006; Gencel, 2006; Koç, 2007; Gürsoy, 2008; Güven and Kürüm, 2008) have demonstrated that individuals mainly have assimilating learning style. On the other hand, some studies conducted in various education levels (Dunn, 1982; Demir, 2008;Güven, 2003; Köse,2010; Oral, 2003;) show that students generally have converging learning styles. Some other studies show that students have diverging learning style (Foney, 1994; Payne, 2000 cited in Köse, 2010; Kaya, 2007).

Learning styles of prospective classroom teachers were found to differ according to grade level. Gürsoy (2008) found that grade level variable and learning styles differed significantly. It was found that first year prospective teachers had assimilating learning style and 4th year prospective teachers had converging learning style. Kaya (2007) investigated primary school students and found that converging learning style came into prominence with the increase in grade level. The present study has also found that converging learning style is the second most preferred learning style. On the other hand, Kaf Hasırcı (2006) conducted a study with prospective classroom teachers and found that learning styles did not differ according to grade level.

In the Homework Attitudes Scale "importance and benefit of homework", "affective attitudes towards homework" sub-scales, among students who have converging, assimilating and diverging learning styles, there was a significant difference in favour of students who have converging learning style. Higher attitudes towards homework can be associated with

the fact that individuals who have converging learning style are the practitioners of ideas. It is reported that students with converging learning style, who prefer to reach correct information by practicing and experimenting, frequently need the teacher's feedback (Kolb, 1999).

In the Homework Purpose Scale "learning oriented reasons" sub-scale, among students who have converging, assimilating, and diverging learning style, there was a significant difference in favour of students who have converging learning style. Students who have converging learning style choose the best solution, set goals, and make their own decisions. These features match up with describing the purpose of homework as learning centred.

In the Homework Management Scale, "*managing time*", "*handling distraction*", "*focusing attention"* and "*controlling emotions*" sub-scales, among students who have converging and diverging learning styles, there was a significant difference in favour of students who have converging learning style. Students who have this kind of a learning style focus on the question "how can I learn", and thus it can be interpreted that they control many environmental variables.

In the "Monitoring Motivation" sub-scale, among students who have converging, diverging and accommodating, diverging learning styles, there was a significant difference in favour of students who have converging and accommodating learning styles. This difference can be explained with the preference of students who have converging and accommodating learning styles in that they prefer learning by handling problems in active life, searching, and exploring. Hence, in monitoring motivation, they can be said to be more successful than students who have diverging learning style.

In terms of "being interested in homework, doing homework on time" scores, among students who have converging and diverging learning styles, there was a significant difference in favour of students who have converging learning style. In terms of "coming to class without homework" scores, among students who have diverging, assimilating and converging learning styles, there was significant difference in favour of students who have diverging learning style, which can be associated with the fact that students who have diverging learning style demonstrate more traditional student behaviours. In terms of *academic success mean scores*, among students who have accommodating, diverging, and assimilating learning styles, there was a significant difference in favour of students who have accommodating learning style.

In conclusion, this study has identified the relationships of many variables with learning styles and homework which is an out-of-school learning strategy. Hence, results of the study are of great importance in terms of raising awareness on the issue. It has been revealed that students'

learning styles should be considered in the decisions to be taken about homework. The study can be conducted with various learning levels.

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