MİMARLIK EĞİTİMİNDE DUYGUSAL ZEKÂ – AKADEMİK BAŞARI İLİŞKİSİ ÜZERİNE BİR ARAŞTIRMA¹

A STUDY IN THE CORRELATION OF EMOTIONAL INTELLIGENCE AND ACADEMIC ACHIEVEMENT IN ARCHITECTURE EDUCATION

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Öz: Bu çalışmada mimarlık öğrencilerinin akademik başarısının duygusal zekâ kavramıyla ilişkisini ortaya koymayı amaçlayan bir araştırma tasarlanmıştır. Öncelikli olarak;

- Genel akademik başarı – EQ ilişkisi,
- Mimarlık eğitiminde yer alan başlıca ders gruplarının EQ ile ilişkisi,
- Mimari tasarım derslerindeki başarının EQ ile ilişkisi,
- Mimari tasarım derslerinin mimarlık eğitiminin odağında yer alması sebebiyle ayrıca tasarım derslerinden ilk seferde geçen ve dersi tekrarlayan öğrencilerin başarı durumu – EQ ilişkisi de incelenmiştir. Araştırmada duygusal zekâ profilini ölçmek amacıyla Bar-On'un geliştirdiği beş boyut ve on beş alt boyuttan oluşan Duygusal Zekâ Envanteri (EQ-i) kullanılmıştır. Çalışmada, duygusal zekâyı oluşturan boyutlar (kişisel beceriler, kişilerarası beceriler, uyumluluk, stres yönetimi, genel ruh durumu) ve bunların alt boyutlarına yönelik analizler yapılmıştır. Elde edilen verilerin analizinde güvenilirlik analizi, frekans dağılımları, korelasyon analizi, independent samples t test, one-way anova analizlerinden yararlanılmıştır. Araştırma sonucunda duygusal zekânın genel akademik başarıyla ilişkisi olmadığı ortaya çıkmıştır. Buna karşılık sadece Mimari Tasarım dersleri ile doğru orantılı ve istatistiksel olarak anlamlı bir ilişki saptanmıştır. Tasarım derslerindeki akademik başarının kişisel beceriler boyutunda görüldüğü tespit edilmiştir. Buradan hareketle mimarlık eğitiminin temelini oluşturan tasarım derslerindeki başarının adayların duygusal zekâ düzeyleri ve kişisel becerileriyle bağlantılı olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: Mimarlık Eğitimi, Duygusal Zeka, Mimari Tasarım, Akademik Başarı

Abstract: This study was designed to correlate the academic achievement of architecture students and the concept of emotional intelligence. Essentially the following were examined:

- The correlation between academic achievement and EQ,
- The correlation between the principal courses of architecture education with EQ,
- The correlation of academic achievement in Architectural Design classes with EQ,
- Because architectural design classes are in the center of the architecture education the correlation between EQ and students that pass or fail the class in their first attempt were examined. In this study the Emotional Quotient Inventory, this was developed by Bar-On to measure emotional intelligence profile and composed of five scales and fifteen subscales. For the analysis of the data collected parametric statistic tests were used. The study has shown that emotional intelligence does not correlate with general academic achievement. Nevertheless a connection that is directly proportional to Architectural Design classes and that was statistically significant was found in the study. From this point of view it has been concluded that academic achievement in design classes, which is the basis of architecture education, is connected to the emotional intelligence and intrapersonal skills of students.

Key Words: Architecture Education, Emotional Intelligence, Architectural Design, Academic Achievement

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1. INTRODUCTION

Emotional intelligence has been defined differently by many theorists. The concept of emotional intelligence is a person's ability to examine his/her or others' sentiments and emotions, to distinguish sentiments and to use this information as a guide for thoughts and actions (Goleman, 2015). According to Bar-On (2006) emotional intelligence is composed of emotional and social skills that enable a person to understand his or herself or others effectively, to express himself or herself, develop relations with others and to adapt to the environment and cope up (Cumming, 2005; Bar-On, 2006). According to another definition, emotional intelligence is a type of social intelligence that covers the ability to control his/her or other's emotions, to select between them and to use these emotions to direct his/her life (Mayer and Salovey, 1997).

Education institutions are places where information is produced and shared. The academic achievement in these settings is both related to the education received by students and the individual skills of the students. Emotional intelligence is utilized to specify individual characteristics of people. There are many studies in the literature that examine the correlation between emotional intelligence and academic achievement in primary, middle and higher education levels. Some of these studies have found that there is a correlation between emotional intelligence and academic achievement or that emotional intelligence is a determinant of

academic achievement. On the other hand there are also findings that indicating that there are no significant correlation between emotional intelligence and academic achievement. Some of the results of these studies, which were conducted on students at higher education, are given below.

In Erbil's (2015) study on 31 architecture students no strong data has been found showing a significant correlation between academic achievement and EI (Erbil, 2015). In the research of Nazidizajia, Toméa and Regateirob (2014) study on 78 architecture students no sufficient data that could show a significant correlation between academic achievement and EI was found (Nazidizajia, Toméa, Regateirob, 2014). In the study of Birer (2012) on 1st year architecture students it has been found that motivation is a necessary element for achieving success and affects architectural design education in a fundamental way (Birer, 2012). In the study of Kavcar (2011) on 462 businesses department students found a weak positive correlation between the total EI points and academic success of those students. A correlation was found only between the interpersonal skills and adaptability scales of emotional intelligence (Kavcar, 2011). Afolabi, Ogunmwonyi and Okediji (2009) in their study carried out on 110 students have found that emotional intelligence is an effective factor on academic achievement (Afolabi, Ogunmwonyi, Okediji, 2009). Newsome, Day and Catano (2000), in their study at Canada University on 160 psychology students, have not

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found a correlation between emotional intelligence scores and academic achievement (Newsome, Day, Catano, 2000).

In Fallahzadeh's (2011) study on health sciences license students a significant correlation was found between the total emotional intelligence scores and academic achievement and its sub-scales stress management and adaptability scales. However no correlation was found between personal skills, interpersonal relations, general mood scales, and general academic achievement (Fallahzadeh, 2011). In the study of Fayombo (2012) on psychology students it has been seen that emotional intelligence can explain an important part of the total academic achievement variations (Fayombo, 2012).

In the various studies on higher education students it has been concluded that emotional intelligence cannot be used to predict academic achievement (Diken, 2007; Yılmaz, 2007; Otacioglu, 2009; Arli, Altunay, Yalcinkaya, 2011, Kanat, 2014). In the study of Kenarli (2007), it has been seen that emotional intelligence can predict academic achievement to various levels depending on different education programs. However data that can explain the reason for the difference between different education programs has not been reached (Kenarli, 2007). In Olson's (2008) study on 74 university students no significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point aver-

ages (Olson, 2008). In Bradshaw's (2008) study on 60 female university students no significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages (Bradshaw, 2008). In Colston's (2008) study on 115 university students a weak positive correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages (Colston, 2008). In Izaguirre's (2008) study on 199 university students a significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages. The academic achievement of female students was higher than male students (Izaguirre, 2008). According to the study of Diken (2007) on 104 university students there is no significant correlation between emotional intelligence levels of students studying science teaching and their achievement in science lessons and their attitudes against science and the emotional intelligence levels of females and males cannot be distinguished by gender (Diken, 2007).

According to the study of Holt (2007) on 124 university students it has been found that there is a positive correlation between emotional intelligence, which was measured with MSCEIT, and general grade point average, and that students that are older and female students have a higher grade point average and that emotional intelligence does not differ based on age and gender (Holt, 2007).

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In Evenson's (2007) study on university students a positive significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages (Evenson, 2007). In Walker's (2006) study on 1205 university students a positive significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages and the correlation was both related to the total emotional intelligence points and also related to the points of the five subscales, and it has also been found that women have a higher level of emotional intelligence (Walker, 2006).

In Fruh's (2006) study on 77 university students it has been found that there isn't a significant correlation between emotional intelligence measured with EQ-i and academic performance indicated by teachers (Fruh, 2006). In Drago's (2004) study on 32 university students, positive significant correlation has been found between emotional intelligence measured with MSCEIT and academic achievement measured with grade point averages and cognitive ability points. Also it has been found that older students had a higher level of emotional intelligence (Drago, 2004). In the study of Parker, Summerfeldt, Hogan and Majeski (2004) on 372 university students no significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages. However, it has been found that

there is a positive significant correlation between stress management, personal skills and adaptability subscales of emotional intelligence, and academic achievement (Parker, Summerfeldt, Hogan, Majeski, 2004). In Vela's (2003) study on 760 first year university students a positive significant correlation has been found between emotional intelligence measured with Exploring and Developing Emotional Intelligence Skills scale and academic achievement measured with grade point averages (Vela, 2003). In the study of Newsome et al. (2000) on 180 university students no significant correlation has been found between emotional intelligence measured with EQ-i and academic achievement measured with grade point averages. However a positive significant correlation between cognitive abilities and academic achievement was found (Newsome, Day, Catano, 2000). In Lasser's study (1997) on 64 university students no significant correlation between emotional intelligence measured with the scale of Goleman and general grade point averages were found and that emotional intelligence does not differ by gender (Lasser, 1997).

As it can be seen from the literature analyses above, although there are many studies examining the correlation between EI and academic achievement, the limited number of studies taking into consideration architecture education and the limited information about this is striking. This study aims to contribute to reduce this incompleteness in the literature.

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2. THE ROLE of EMOTIONAL INTELLIGENCE in ARCHITECTURE EDUCATION

In Turkey undergraduate level architecture education is 4 years. In addition to the occupational information and skills gained throughout the education related to the design and production of a building, the students are expected to learn how to analyze the information received. Therefore, Architectural Design, Building Information, Structure Information, Physical Environmental Control, Architecture History, Restoration, Construction Management classes are provided in Turkish architecture education programs.

Architectural design studios aim to create a connection between theory and implementation in the architecture education programs. Architectural design studios are central parts of and create the foundation of architecture education programs (Schön, 1985; Kuhn, 2001; Oh, Ishizaki, Gross, Yi-Luen, 2013). In architectural design studios, factors such as verbal communication, decision making, teamwork, negotiation, leadership, interpersonal skills and criticism are used to develop a design. These features indicate that emotional intelligence, which covers understanding one's own feelings or other's feelings, express his/her feelings, empathize, awareness in communication, can be important for the architectural design studios.

There are two main actors of architectural design studios. One of these actors is the supervisor of the studio. The supervisor of the studio creates the program, the environment and directs the project using a critical viewpoint. Another actor is the architect candidate, who tries to, understand the design problem, to interpret it, to develop it using criticisms and to present the architectural design he/she creates. Therefore thinking, debate and decision making phases in the design studio require a process, where architecture students are shaping that process together by interacting with the studio supervisors.

Design exercises, which can be done individually or collectively, aim to train architect candidates by giving answers to the open ended questions posed to them. The studio is a setting, where transitions among disciplines and all possibilities are discussed, where opposing subjects are needed to be taken into consideration together, and where an emphatic correlation between the teacher and the learner is developed. Therefore, the interaction between the architect candidate and the studio supervisor has a key role in the fruitful progress of the architectural design (Erbil, 2015). Also, factors like verbal communication, decision making, team work, negotiation, leadership, interpersonal skills and criticism are important for design processes (Nazidizajia, Toméa, Regateirob, 2014). These features indicate that emotional intellect, which cover concepts like a person's ability to understand his/her or other's

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emotions, to express his/her emotions, to establish empathy, awareness in communication, has an important place in the process of architectural design studios (Erbil, 2015). Therefore this study focused on understanding the impact of EI on the success in architectural design studio, in addition to investigating the impact of EI on the general academic achievement of architecture students.

3. METHODS

The Purpose of the Study: Although there are many studies examining the correlation between EI and academic achievement, the limited number of studies taking into consideration architecture education and the limited information about this is attention grabbing. Therefore a research has been designed to show the correlation between academic achievement (AA) and the concept of emotional intelligence. The following were initially examined;

- Correlation between general academic achievement and EQ,
- The correlation of main architecture lessons in architecture education with EQ,
- The correlation between achievement in architectural design classes and EQ,
- The correlation between EQ and academic standing of students that pass architectural design classes in their first attempt or that repeat architectural design classes.

Scope of the Study: In this study the academic achievement of students in the sample were analyzed by using the classes they have taken for 4 years and the grades they have taken. In this regard the weighted averages for all lessons taken were calculated. The weighted grade point average (WGPA) of every student was analyzed using for different grades, which were average of grades of structure classes (structure point average) (SPA), average of grades of building classes (building point average) (BPA), and average of grades of design classes (design point average) (DPA).

Study Population: The sample of this study is sixty 4th year students, who were attending Uludag University Faculty of Architecture, Department of Architecture during the 2014-2015 academic years. Using the convenience sampling method, students that were being supervised were included in this study. In this regard the sample of this study is composed of 35 students in Uludag University Architecture Faculty Architecture Department, who were enrolled to the school during the 2010-2011 education years and were to be graduated in the 2014-2015 education year.

Data Collection Tools: In this study the Bar-On Emotional Intelligence Inventory was used, which was developed by Bar-On (1997) and adapted to Turkish by Acar (2001), and used in many studies until today and regarded as satisfactory in terms of its dependability and validity levels (Salovey, 1997; Newsome, Day, Catano, 2000;

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Mayer, Acar, 2001; Parker, Summerfeldt, Hogan, Majeski, 2004; Yılmaz, 2007; Dogan, 2009; Otacioglu, 2009; Fallahzadeh, 2011; Yılmaz, Ozkan, 2011; Qualter, Gardner, Pope, Hutchinson, Whiteley, 2012).

Bar-On's Emotional Intelligence Inventory is composed of 88 articles under 5 scales and 15

subscales. Table 1 shows the scales, subscales and definitions of scales of Bar-On's Emotional Intelligence Model. The statements in the scales of Bar-On's Emotional Intelligence Inventory were evaluated with the five levels Likert scale. In the five item scale the most positive variables are coded with five and the most negative variables are coded with one.

Table 1. Scales, Subscales and deFinitions of Scales of Bar-On's Emotional Intelligence Model (Bar-On, 1997; Bar-On, 2005)

SCALES	SUBSCALES	
GENERAL MOOD (GM)	Optimism (Opt)	To be positive and look at the brighter side of life
	Happiness (Hap)	To feel content with oneself, others and life in general
STRESS MANAGEMENT (SM)	Impulse Control (Ic)	To effectively and constructively control emotions
	Stress Tolerance (St)	To effectively and constructively manage emotions
ADAPTABILITY (AD)	Flexibility (Fle)	To adapt and adjust one's feelings and thinking to new situations
	Reality-Testing (Rt)	To objectively validate one's feelings and thinking with external reality
	Problem-Solving (Ps)	To effectively solve problems of a personal and interpersonal nature
INTERPERSONAL (IRP)	Social Responsibility (Sr)	To identify with one's social group and cooperate with others
	Interpersonal Relationship (Ir)	To establish mutually satisfying relationships and relate well with others
	Empathy (Emp)	To be aware of and understand how others feel
INTRAPERSONAL (IRAP)	Independence (Ind)	To be self-reliant and free of emotional dependency on others
	Self-Actualization (Sa)	To strive to achieve personal goals and actualize one's potential
	Self-Regard (S-r)	To accurately understand and accept oneself
	Assertiveness (Ass) Emot.	To effectively and constructively express one's emotions
	Self-Awareness (Esa)	To be aware of and understand one's emotions

Reliability Check: As a result of the reliability check on Bar-On's emotional intelligence scale

Cronbach's Alpha factor was estimated at 0.919. Cronbach's Alpha values related to the subscales

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are 0.809 for General Mood (GM), 0.606 for stress management (SM), 0.708 for Adaptability (AD), 0.740 for Interpersonal skills (IRP) and 0.854 for Intrapersonal skills (IRAP).

These factors indicate that the scale and subscales are considerable reliable.

Findings: When the demographic data is examined of the 35 students 26 are (74%) females and 9 (26%) are males. Because the number of male students was less than females, the sample has a lower number of male students. 13 of the

students (37%) work either on a full or part time job, 2 of the students (63%) do not work, 16 of the students (46%) receive scholarship, and 19 (54%) do not receive scholarship. Correlation analysis, independent-samples t test and one-way ANOVA analysis were used in this study to understand if there is a correlation between emotional intelligence of students and their academic achievement. The values received are given below. Student's EQ-i and subscales and descriptive statistics values calculated based on the classes they took are given in Table 2.

Table 2. Descriptive Statistics for the Variables

	Mean	Std. Dev.	Minimum	Maximum	Range
EQ	3.63	0.35	2.72	4.36	1.65
GM	3.82	0.57	2.17	4.67	2.50
SM	3.05	0.44	2.23	3.77	1.54
AD	3.46	0.45	2.47	4.27	1.80
IRP	3.95	0.39	3.28	4.61	1.33
IRAP	3.65	0.44	2.86	4.41	1.55
WGPA	2.55	0.35	1.81	3.41	1.60
DPA	70.34	5.82	55.70	84.60	28.90
BPA	71.34	5.62	62.30	86.10	23.80
SPA	72.04	6.57	53.80	84.70	30.90

According to Table 2 the average EQ of students is 3.63, WGPA average is 2.55, DPA average is 70.34, BPA average is 71.34, and SPA average is 72.04. When the table is examined it can be seen that WGPA is between 1.81 and 3.41, and DPA is between 55.70- 84.60. The correlation

analysis finding, which was used to search for the correlation of EQ-I and scales with academic achievement is shown in Table 3.

When Table 3 is examined it can be seen that there are positive and statistically significant correlation between EQ, GM, AD, and IRAP

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and DPA. These findings indicate that students with higher emotional intelligence, general mood, adaptability, and intrapersonal scores will be more

successful in design classes. It is especially shown that students with high intrapersonal points are highly successful in design classes.

Table 3. Correlation of EQ and Scales With AA (Correlation Analysis)

	EQ	GM	SM	AD	IRP	IRAP	WGPA	DPA	BPA	SPA
EQ	1.000									
GM	0.878**	1.000								
SM	0.714**	0.730**	1.000							
AD	0.673**	0.525**	0.302	1.000						
IRP	0.694**	0.575**	0.471**	0.292	1.000					
IRAP	0.861**	0.647**	0.452**	0.505**	0.436**	1.000				
WGPA	0.192	0.089	0.074	0.073	0.115	0.2783	1.000			
DPA	0.375*	0.300***	0.240	0.300***	0.021	0.460**	0.573**	1.000		
BPA	0.227	0.124	0.008	0.162	0.052	0.356*	0.734**	0.503**	1.000	
SPA	0.009	-0.005	-0.072	0.024	-0.079	0.0911	0.755**	0.3092	0.513*	1.000

***Correlation is significant at the 0.10 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Statistically no significant correlation between EQ scores of students and their academic achievement was found. Correlation of EQ's subscales intrapersonal skills, interpersonal skills, adaptability, stress management and general mood with academic achievement (AA) were examined with a correlation analysis. The coefficients which were statistically significant are given in Table 4.

Based on the findings in Table 4 it is understood that there is a positive and significant correlation

between EQ's subscales Optimism (Opt), Stress Tolerance (St), Independence (Ind), Self-Regard (S-r), and Assertiveness (Ass) with DPA. Also it can be observed that there is a statistically significant correlation between Assertiveness (Ass) and WGPA. Therefore it can be understood that higher Optimism, Stress Tolerance, Independence, Self-Regard, and Assertiveness increases students' academic achievement levels in design classes.

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Table 4. Correlation of EQ Subscales With AA

	Opt	St	Sr	Ind	S-r	Ass	WGPA	DPA	BPA	SPA
Opt	1.000									
St	0.581**	1.000								
Sr	0.319	0.338*	1.000							
Ind	0.462**	0.056	-0.024	1.000						
S-r	0.640**	0.633**	0.480**	0.277	1.000					
Ass	0.294	0.289	0.350*	0.412*	0.484**	1.000				
WGPA	0.137	0.139	0.308***	0.266	0.127	0.339*	1.000			
DPA	0.426*	0.335*	0.116	0.494**	0.306***	0.340*	0.574**	1.000		
BPA	0.136	0.046	0.165	0.326	0.113	0.358	0.735**	0.504**	1.000	
SPA	-0.001	-0.067	0.141	0.130	0.067	0.141	0.755**	0.309	0.514**	1.000

***Correlation is significant at the 0.10 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Independent-samples t test and one-way ANOVA analysis were used to examine the students EQ and EQ scale scores, and if design, structure, building and general class grades differed according to gender, working condition, scholarship, and the places they live. No significant statistical correlation was found related to such variables. Because architectural design classes are at the

focus of the architecture education this study focused primarily on students that have passed and failed design classes.

Therefore independent-samples t test was used to see if there were differences of EQ and EQ scores and sub scores of students that never failed or failed design classes for once or more. The findings of the test are given in Table 5.

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Table 5. Results of Independent-Samples t Test

		Levene's Test for Equality of Variances		t test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
EQ	Eq. var. assumed	0.010	0.92	2.515	33.00	0.017	0.28048	0.11151
	Eq. var. not assumed			2.527	30.811	0.017	0.28048	0.11099
GM	Eq. var. assumed	0.930	0.342	2.085	33.00	0.045	0.3875	0.18586
	Eq. var. not assumed			2.023	26.499	0.053	0.3875	0.19156
SM	Eq. var. assumed	0.524	0.474	1.456	33.00	0.155	0.21795	0.14966
	Eq. var. not assumed			1.424	27.565	0.166	0.21795	0.15302
AD	Eq. var. assumed	0.399	0.532	1.692	33.00	0.100	0.25778	0.15238
	Eq. var. not assumed			1.680	29.511	0.103	0.25778	0.15343
IRP	Eq. var. assumed	0.150	0.701	1.167	33.00	0.252	0.15556	0.13329
	Eq. var. not assumed			1.166	30.213	0.253	0.155556	0.13342
IRAP	Eq. var. assumed	0.168	0.685	2.557	33.00	0.015	0.36379	0.14227
	Eq. var. not assumed			2.590	31.593	0.014	0.36379	0.14047
Sa	Eq. var. assumed	0.056	0.814	3.257	33.00	0.003	0.51667	0.15862
	Eq. var. not assumed			3.290	31.330	0.002	0.51667	0.15706

The hypothesis of the test is given below. These hypothesis aim to see if there are differences in EQ, GM, SM, AD, IRP, IRAP and Sa grades of students that have passed and failed design classes.

$$H_0 : \mu_P = \mu_F$$

$$H_1 : \mu_P \neq \mu_F$$

H_0 : Students that passed or failed have the same scores

H_1 : Students that passed or failed have different scores

According to the findings in the tests for EQ, IRAP, and Sa variables null hypothesis was rejected and alternative hypothesis was accepted. These findings indicate a statistically significant correlation that Emotional intelligence, Intrapersonal skills and Self-Actualization scores were different for students that pass and fail design classes. In addition, the table also shows that GM, SM, AD, and IRP scores of students who pass and fail design classes are not different. One-way ANOVA

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analysis was used to see if there is a difference of EQ, EQ scales and subscales of students that never failed, failed for once or multiple times and the findings of this analysis is given in Table 6.

The hypotheses of the test are given below. These hypothesis test if there are differences in EQ, GM, SM, AD, IRP, IRAP, WGPA, and Emp scores of students that have passed, failed for once or more design classes.

$$H_0: \mu_1 = \mu_2 = \mu_3$$

$$H_1: \mu_1 \neq \mu_2 \neq \mu_3$$

H₀: Students that never failed, failed for once and multiple times have the same scores

H₁: Students that never failed, failed for once and multiple times have the different scores

According to Table 6 in the tests for the WGPA and Emp variables null hypothesis was rejected and alternative hypothesis was accepted based on the 0.05 significance level. As a result weighted grade point average (WGPA) and Emp (Empathy) scores were different for students that have never failed, failed for once and failed for multiple times design classes. Also the table shows that EQ, GM, SM, AD, IRP, and IRAP scores did not differ for students that have passed design classes, failed them for once and failed them for multiple times. In Table 7 related to post hoc tests, students that have passed design classes, failed them for once and failed them for multiple times were coded with the values 1, 2, and 3 respectively.

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Table 6. Results of One-Way ANOVA

		Test of Homogeneity of Variances		ANOVA				
		Levene Statistic	Sig.	Sum of Squares	df	Mean Square	F	Sig.
EQ	Between Groups	0.259	0.77	0.695	2	0.347	3.180	0.055
	Within Groups			3.496	32	0.109		
	Total			4.191	34			
GM	Between Groups	1.020	0.372	1.315	2	0.657	2.159	0.132
	Within Groups			9.743	32	0.304		
	Total			11.058	34			
SM	Between Groups	1.124	0.338	0.807	2	0.404	2.176	0.130
	Within Groups			5.936	32	0.185		
	Total			6.743	34			
AD	Between Groups	0.867	0.430	0.703	2	0.352	1.748	0.190
	Within Groups			6.434	32	0.201		
	Total			7.137	34			
IRP	Between Groups	0.940	0.401	0.638	2	0.319	2.220	0.125
	Within Groups			4.596	32	0.144		
	Total			5.233	34			
IRAP	Between Groups	0.345	0.711	1.156	2	0.578	3.241	0.052
	Within Groups			5.704	32	0.178		
	Total			6.860	34			
WGPA	Between Groups	0.852	0.436	0.995	2	0.498	4.700	0.016
	Within Groups			3.388	32	0.106		
	Total			4.384	34			
Emp	Between Groups	0.306	0.738	1.700	2	0.850	5.022	0.013
	Within Groups			5.416	32	0.169		
	Total			7.115	34

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Table 7. Tukey HSD Multiple Comparisons

						95% Confidence Interval	
	(I)	(J)	Mean Diff.	Std.		Lower	Upper
	Never failed / failed	Never failed / failed	(I-J)	Error	Sig.	Bound	Bound
WGPA	1	2	0.081	0.131	0.810	-0.240	0.402
		3	0.463*	0.151	0.012	0.091	0.836
	2	1	-0.081	0.131	0.810	-0.402	0.240
		3	0.382	0.172	0.082	-0.039	0.804
	3	1	-0.463*	0.151	0.012	-0.836	-0.091
		2	-0.382	0.172	0.082	-0.804	0.039
Emp	1	2	0.344	0.165	0.109	-0.061	0.750
		3	-0.333	0.191	0.206	-0.804	0.137
	2	1	-0.344	0.165	0.109	-0.750	0.061
		3	-0.678*	0.217	0.010	-1.211	-0.145
	3	1	0.333	0.191	0.206	-0.137	0.804
		2	0.678*	0.217	0.010	0.145	1.211
* The mean difference significant at the 0.05 level							

According to the findings given in the table and the 0.05 significance level, there are differences in WGPA levels for those students who passed, failed or failed design classes for multiple times. Also another finding is that the Emp level of the students who failed and who failed for multiple times is different.

4. DISCUSSIONS

In this study the impact of emotional intelligence on architecture education was examined in four stages using Bar-On's emotional intelligence quotient scales and subscales: General academic achievement – EQ correlation: No statistically significant correlation has been found between the WGPA of students, which define their academic achievement and EQ and EQ's scales.

However when the WGPA and EQ's subscales are taken into consideration, it has been found that there is a positive and statistically significant correlation between WGPA and Social Responsibility (Sr) and Assertiveness (Ass). Therefore it can be said that if the Social Responsibility (Sr) and Assertiveness (Ass) scores of students increase their EQ scores will also increase.

The relationship of main architecture lessons in architecture education with EQ: No statistically significant correlation was found between academic achievement in main architecture lessons (structure and building classes) and EQ levels of students (emotional intelligence scores).

The correlation between academic achievement in architecture design classes and EQ: At the

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end of the correlation analysis it has been seen that the higher EQ levels and higher EQ scales of general mood, adaptability and intrapersonal correlated to increased success in design classes. Especially the 0.46 correlation factor related to the intrapersonal scores and academic achievement is striking. Also in this study it has been understood that higher Optimism, Stress Tolerance, Social Responsibility, Independence, Self-Regard, and Assertiveness scores increase students' academic achievement levels in design classes.

The relationship between EQ and academic standing of students that pass architecture design classes in their first attempt or that repeat architecture design classes: The focus of the second stage of this study is examining differences between students that pass or fail the aforementioned classes and the correlation with EQ's scales and subscales with design classes. The analysis carried out has shown that emotional intelligence, Intrapersonal skills and Self-Actualization scores were statistically significantly different for students that pass and fail design classes.

Also it has been seen that the WGPA scores of students, who have never failed design classes, were statistically significantly different than students, who have failed this class multiple times, and that the Emp scores of students, who have failed the design class for once, were statistically significantly higher than those students, who have failed the design class for multiple times.

These results indicate that EQ is an important factor for the architecture design class, which is the basis of the architecture education. Therefore architecture students will benefit from activities that increase their EQ throughout their architecture education.

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