

CLASSROOM GEOGRAPHY: WHO SIT WHERE IN THE TRADITIONAL CLASSROOMS?

SINIF COĞRAFYASI: GELENEKSEL DERSLİKTE KİM, NEREDE OTURUR?

İkram ÇINAR¹

Abstract

It is not only the seating arrangement of the classroom but also the way students are distributed in the class that affects significantly the students' learning. In the teacher-centered (traditional) seating arrangement style, students sit one after another in columns facing the teacher. The place they prefer to sit brings some advantages and disadvantages in terms of learning and participation. For a teacher to know about the personal features of the students and about how effective their deskmates are helps her/him know about them more. In this study, the sitting place preferences of students are studied using the geography metaphor.

The purpose of the study is to determine the students' preferences about the place to sit in teacher-centered (traditional) classrooms in terms of their personal characteristics and the characteristics they look for in their deskmates based on their perceptions.

The Scale for Student Arrangement in Traditional Classrooms (SSATC) was used to collect data. This 5-point Likert-type instrument is composed of 20 items in three factors. The data were collected from 566 subjects. The sitting preferences of the students were analyzed based on the variables of gender, residence, parental educational background, subject field.

It was concluded that students preferring to sit at front rows care the lesson more and are more willing to participate, while those sitting at back rows are vice versa; that for females the place they prefer, which is usually the front rows, is more important than sit the characteristics of their deskmates; that students from city sit at front rows more than those from village and towns; and that with exceptions those sitting at back rows have less interest and motivation in lesson.

Keywords: Classroom geography, classroom order, physical arrangement of the classroom, seat location, seating order, classroom management

Özet

Okullarda dersliğin düzeni kadar öğrencilerin derslige nasıl yerleştiğinin de onların öğrenmeleri üzerinde önemli etkileri vardır. Öğretmen merkezli (geleneksel) oturma düzeneinde öğrenciler sıturn halinde öğretmen karşısında arkaya arkaya dizilirler. Tercih edilen yer öğrenme ve derse katılma bakımından öğrenciler avantajlı veya dezavantajlı yapar. Öğrencilerin bu dizilişte kişisel özellikleri ve sıra arkadaşının ne kadar etkili olduğunu bilmek öğretmenlerin onları daha iyi tanımlarına yardım eder. Bu araştırmada coğrafya mecazi kullanılarak öğrencilerin derslikteki oturma yeri tercihleri açıklanmaya çalışılmıştır.

Araştırmanın amacı öğrencilerin öğretmen merkezli (geleneksel) dersliklerdeki oturma yeri tercihlerinin kendi kişisel özellikleri, tercih ettiği sıra arkadaşında aradığı özellikler ve sınıfı seçtiği yerin özelliklerinin belirleyiciliğini kendi algılara dayalı olarak ortaya koymaktır.

Araştırmada, Geleneksel Derslikte Öğrenci Dağılımı Ölçeği (GDÖDÖ) kullanılarak veri toplanmıştır. Ölçme aracı, beş dereceli Likert tipi 20 maddeden oluşan üç boyutlu bir ölçektir. Araştırma bulgularına 566 kişilik örneklem uygulanarak ulaşılmıştır. Öğrencilerin yer seçimlerinin cinsiyet, ikamet yerinin türü, anne babasının öğrenim durumu, hangi alanda öğrenim gördüğü ve üniversitedeki derslikte nerede oturduğunun etkili olabileceğinin düşününlerek bu özellikler değişken olarak ele alınmıştır.

Ön sıralarda oturmayı tercih edenlerin dersi daha çok önemseyen ve katılmak isteyen, arka sıralarda ise dersi daha az önemseyen öğrenciler olduğu, kız öğrenciler için yer seçiminin sıra arkadaşının niteliğinden daha önemli olduğu ve ön sıralarda oturmayı tercih ettikleri, kentli öğrencilerin köy ve kasabada büyüyen öğrencilerden daha çok ön sıralarda oturdukları, istisnaları olmakla beraber arka sıralarda derse ilgi ve güdüsü düşük öğrencilerin oturdukları sonuçlarına ulaşılmıştır.

Anahtar Kelimeler: Sınıf coğrafyası, derslik düzeni, sınıfın fiziksel düzeni, oturma yeri, oturma düzeni, sınıf yönetimi

¹ Asist. Prof. Dr., Kafkas University, Faculty of Education. Kars, Turkey. ikramcinar@gmail.com

1. Introduction

Morgan (1998, p.14) suggests that all organization and management theories are based on images and metaphors which enable us to see, understand and manage the organizations partially but distinctively. To Morgan, beyond embellishing the discourse, metaphor is way of thinking and seeing which permeated deeply in our perception of the world. In this way of seeing, certain interpretations are put under magnifying glass in order to be understood better. In this respect, metaphors help the social facts become more comprehensible especially in social sciences (Kutanis & Alpaslan, 2006, p.666).

In this study about class management, “geography” metaphor was used. Geography is a science studying the relations between human and environment, and determines the mutual interaction (Baydil, 2007, p.8). Geography studies the earth and geographical events focusing on human, but not individuals. Classroom is a physical environment, too. Students with different characteristics are in interaction with the environment and each other. Moreover, learning takes place in this environment. Classroom management means arranging these events and interactions to optimize learning. Examining the classroom in a geography metaphor can allow us scrutinize the classroom, student and education in a different way.

Teaching-learning mainly takes place in classrooms. Thus, they have to be arranged so as to promote learning. While such factors as number of students, quality and color of the furniture and walls, temperature, illumination, air-conditioning and hygiene are important in class arrangement, the way students are located in class also has an indirect but important effect on learning (Başar 1994; Kitagawa 1998; Aydin 2000; Pointon 2000; Özden 2002; Tutkun 2002; Toprakçı 2002; Traynor 2003; Yağcı 2004; Otrar et al., 2004; Baines 2003; Douglas & Gifford 2001; Durukan & Öztürk 2004; Uludağ & Odacı 2002; Tabancalı 2007). A successful seating arrangement should facilitate interaction, suit the instructional objectives and activities, and ease access to the instructional materials. Students should be easily seen by the teacher and see the instruction taking place. Seating arrangement is also important in terms of rational use of classroom and control of class traffic (Emmer, Evertson & Worsham, 2006; Aydin 2000). Furthermore, arrangement of the class materials depends on the students' seating location.

The relation between students' seating preferences and personal characteristics has been studied since Waller (1932) first pointed to the issue. However, most of the studies on classroom seating location have not involved personality variables. Usually, researchers have examined the relationship of seating location to classroom behaviors, such as class participation, academic performance, teachers' perceptions of students, and the effect of free-versus assigned- seating on classroom behaviors (Pedersen, 1994, p.393).

Pedersen (1994) studied the relationship between seating place preference and personal preferences in a psychology class. Tatusek and Staton-Spicer (1982) found that students in central seats were more creative, assertive, and competitive than those in the left or right sections. Pedersen (1977) and Walberg (1969) found that students with good study habits, a liking for school, and a greater success in doing things than most people sat at the front (Pedersen 1994). Benedict and Hoag (2004) investigated the relationship between seating location and success in large economics classes. Dauglas and Gifford (2001) studied the physical arrangement of the classroom based on the views of the professors and students.

Traynor (2003) defines five strategies teachers use to arrange the seats in the classroom: coercive, laissez-faire, task oriented, authoritative, and intrinsic. Aydin (2000: p.30) also states two basic approaches to classroom arrangement: teacher-centered and student-centered. Based on these approaches, certain types of arrangement are represented in the relevant literature such as U type, group study type, boardroom type, round type.

Teacher-centered (traditional) arrangement is usually given alternative names in the relevant literature, e.g. lined arrangement (Özden, 2002), usual arrangement (Tutkun, 2002), teacher-centered classroom arrangement (Aydin, 2000), conference type arrangement (Toprakçı, 2002). The photograph below shows a classroom arranged according to this type of arrangement.



Photo 1. Teacher-centered seating arrangement

This study is about students' seating location preferences in the traditional classroom arrangement. When the students are allowed to choose where to sit in this traditional arrangement where lined desks face the board, some of them sit in front, some sit at middle and some always sit at the back.

In the teacher-centered arrangement style, students sit in two or three lines of desk groups facing the board, one behind the other seeing the nape of the one sitting in front. In this arrangement students usually take certain seats they prefer. Exceptions include the situations where primary or secondary school teachers move students at the back seats to the front rows because they can not see the blackboard or hear the teacher well or longer students at the front rows to the back rows.

Students can be lucky or unlucky in terms of the place they sit. Gage and Berliner (1984, p.611) suggest that students at front and middle rows are lucky in terms of communication and interaction opportunities. It is generally observed by teachers that students sitting next to the wall or at the back rows have less participation and attention and are more likely to display undesired behaviors (Otrar et. al. 2004: 53).

Moreover the equipments/materials are arranged according to the teacher in traditional arrangement. Students listen to the lesson and take notes. Communication usually takes place between teacher and students, but student-student interaction becomes poorer. Students at front rows are more advantageous than those at back rows. In this seating arrangement some problem behaviors are observed such as noise caused by distraction and lack of attention to the lesson (Aydin, 2000).

Tutkun suggests that (2002) traditional arrangement is suitable for situations where classroom is small and the number of students is high, where a single teacher is responsible for combined classes, where there is a considerable shortage of material and sources or the lesson content doesn't require these so much, and where the communication is rather between teacher and students.

Traditional arrangement does not render the students but the teacher active. Since it decreases the interaction, the negative interaction in the classroom also decreases. Students are interested in the teacher and her presentation, thus student-student interaction decreases. Students at front rows are more advantageous than those at back rows (Aydin, 2000).

It is not known how many teachers arrange their classes in the traditional way. Yet it can be said that this proportion for Turkey is very high, since the classrooms may sometimes accommodate as many

students as 50-60 (Durukan & Öztürk 2004, p. 88) and teachers know this arrangement best since they also come from the same system. Another reason can be the teacher-centered curriculum.

Success in educational/instructional activities depends on how well teacher and students know each other. In teacher-centered instruction the teacher as the initiator of and a major actor in the learning process should know her students well. In this respect, to know any possible relationship between students' seating preferences and their certain characteristics can help the teacher to know them and support their learning.

2. Purpose of the study

In Turkey students usually sit in classrooms in the traditional seating arrangement, which causes teacher-centered instruction. Students usually sit in twos or threes at each desk one after another in columns facing the teacher and the board. The purpose of the study is to determine the students' preferences about the place to sit in this arrangement in terms of their personal characteristics and the characteristics they look for in their deskmates based on their perceptions. The independent variables of the study included gender, residence, parental educational background, subject field, and their sitting place in the classroom.

The participating students of the educational faculty at İnönü University have classrooms with traditional arrangement and can sit wherever they want. It is observed that students consistently sit at certain places in the classroom during their entire education.

3. Method

3.1. Instrument

The Scale for Student Arrangement in Traditional Classrooms (SSATC) originally developed by Çınar (2006) was used to collect data. SSATC was designed to determine the students' criteria while selecting a place and a deskmate, and the associations between personal characteristics and certain places in the class (who sits where). Developed in a pilot study with 434 students from different departments at faculty of education at İnönü University, SSATC is a 5 point Likert scale with 20 items and 3 factors. 5th and 16th items are scored reversely.

SSATC explains 42,461% of the total variance: 1st factor 18,015%, 2nd factor 14,586%, and 3rd factor 9,860%. Cumulative variances are 18,015% for the 1st factor, 32,601% for 2nd, 42,461% for 3rd. The communalities of the three factors varied between .406 and .825. Based on the test-retest applied at intervals, the reliability coefficient of the scale (Pearson Moment Multiplication Correlation Coefficient) was found $r = .96$. Cronbach Alpha internal consistency coefficient for the entire scale was found .74 (first subscale: .74, second sub-scale: .78, and third subscale: .74). Kaiser-Meyer-Olkin (KMO) was found, 775 (n=434). Bartlett test yielded 3204,059 ($p < 0.000$). Degree of freedom was 351.

The first factor called "Personal Characteristics" (PC) included 7 items. Second factor called "Preferred Deskmate" (PD) included 10 items. Last factor called "Preferred Place" (PP) included 3 items. At the end of each factor an open-ended question was asked, i.e "Do you have any other characteristics you can describe yourself?", "Please write any other characteristics you consider while choosing your deskmate?" and "Please write any other criteria while choosing the place/seat." There were answers to these questions which were discussed in findings.

3.2. Study group

SSATC was used to collect data. Research was conducted on 566 senior students in Faculty of Education at İnönü University during 2007-2008. The faculty recruits students among those who fell into 3-10 percentages in terms of success at university entrance exam.

Study group included students from Science Departments (Science Education, Primary Mathematics Education, Computer and Instructional Technologies Education), Social Sciences (Class Teaching, Counseling and Guidance, Preschool Teaching, Turkish Language Teaching, English Language Teaching, and Social Studies Teaching), and Special Skills (Music Education, Art Education, and Physical Education). The findings of the study were obtained from a sample of 566 students [253 female

(44,7%), 313 male (55,3%)] selected among a population of 1099 senior students using proportional stratified sampling method. The sample's capacity to represent the population is (566: 1099x100) 51,5%.

Table 1. Demographic Characteristics (n=566)

Variables		f	%
Gender	Female	253	44,7
	Male	313	55,3
Residence	Village	48	8,5
	Town	156	27,6
	City	297	52,5
Mother's educational background	Metropolis	65	11,5
	Illiterate	156	27,6
	Primary	279	49,3
	Secondary	42	7,4
	High school	56	9,9
	University	33	5,8
Father's educational background	Illiterate	28	4,9
	Primary	212	37,5
	Secondary	75	13,3
	High school	148	26,1
	University	103	18,2
Subject field	Science	187	33,0
	Social	245	43,3
	Special skill	134	23,7
Place in classroom	Front	127	22,4
	Back	118	20,8
	Middle	167	29,5
	Constantly changing place	61	10,8
Changing place according to lesson	64	11,3	
	Changing place according to instructor.	19	3,4
	Other	10	1,8

In terms of residence, 48 students (8,5%) were from villages, 156 (27,5%) from towns, 297 (52,5%) from cities and 65 (11,5%) from metropolises.

As for the mother's education background, mothers of 156 (27,6%) students were illiterate mothers, 279 (49,3%) were primary school graduates, 42 (7,4%) secondary school, 56 (9,9%) high school, and 33 (5,8%) university graduates. In most of the countries compulsory education lasts 12 years. In this study 84% of the mothers of candidate teachers seem to be under this rate. On the other hand, 28 students (4,9%) had illiterate fathers, while 212 (37,5%) were primary school, 75 (13,3%) were secondary school, 148 (26,1%) were highschool, and 103 (18,2%) were university graduates. It is remarkable that fathers are more educated than mothers. Given the difficulties in entering a university in Turkey, candidate teachers can be said to be very successful despite the low educational levels of their parents.

According to their subject fields, 187 (33%) students were in Science Departments, 245 (43,3) were in Social Sciences, and 134 (23,7%) were in Special Skills programs.

As for the place variable, 127 (22,4%) students stated that they sit in front, 118 (20,8%) at the back, 167 (29,5%) at the middle, while 61 (10,8%) stated they change place constantly, 64 (11,3%) change according to lesson, and 19 (3,4%) change according to instructor, and 10 (1,8%) fell into other category.

3.3. Data analysis

The techniques used were described in findings and comments. The findings were interpreted according to the following criteria.

Students with high scores from Personal Characteristics subscale (1st factor) were considered to have positive self-esteem, while low scores indicated negative self-esteem. Students with high scores

from Preferred Deskmate subscale (2nd factor) were considered to care who their friends are, prefer a certain friend, and be self-confident, while students with low scores were those who do not care who sits next to. Students with high scores from Preferred Place subscale (3rd factor) were considered to spent more effort to learn, have higher motivation, while low scores indicated lower attention towards lesson. It is also interpreted that the higher the total score is, the more aware the student is of the place he/she prefers, the more the student cares about his/her deskmate, and the more willing the students is to participate.

The following weighted mean score intervals (see Table 2) were used in evaluating and interpreting the data obtained in 5-point Likert type scale.

Table 2. Weighted Mean Score Intervals and Comments

Interval	Answer	Implication	Indicates
1.00-1.80	Never	“Strongly negative”	Inadequacy, very poor self-esteem
1.81-2.60	Rarely	“Negative”	Low adequacy; negative self-esteem
2.61-3.40	Sometimes	“Moderate”	Moderate adequacy; moderate self-esteem
3.41-4.20	Often	“Positive”	Adequacy; high self-esteem
4.21-5.00	Always	“Strongly positive”	Highest adequacy; highest self-esteem, narcissism.

4. Findings and Comments

The findings about the students' preferences of place were examined and commented in the order of independent variables.

4.1. Analysis and comments about gender variable: The results of the t test regarding the students' preferences by gender variable were given in Table 3.

Table 3. Analysis Results According to Gender

Sub-scale	Gender	N	\bar{X}	Sd	t	p
Personal characteristic	Female	253	3,43	,653	,413	,680
	Male	313	3,41	,650		
Preferred Deskmate	Female	253	2,22	,542	-2,394	,017*
	Male	313	2,34	,587		
Preferred place	Female	253	3,75	,934	4,775	,000*
	Male	313	3,36	,996		
Total	Female	253	2,87	,399	,272	,786
	Male	313	2,86	,401		

Independent samples t test yielded no significant difference between the students' views about their Personal Characteristics (PC) in terms of gender. However, male students had significantly higher scores from Preferred Deskmate (PD) subscale than females. Moreover, a significant difference was found between male and female scores from Preferred Place (PP) subscale in favor of the former. Lastly, no significant difference was found between genders in terms of total score from the scale.

As far as the mean scores in PD subscale are considered, males seem to care more about the characteristics of their deskmates. Females are different from male in PP subscale and seem to care the place they prefer more. It is generally observed that females sit at the front rows. One reason for this can be their superior efforts to learn. While deskmate is more important for male, seating place seems more important for the female. This is also supported by students' answers to the open-ended questions.

4.2. Analysis and comments about residence variable: The results of the one-way ANOVA and LSD tests regarding the students' preferences by residence variable were given in Table 4.

Table 4. Results of F Test Analysis According to Residence

Sub-scale	Residence	N	\bar{X}	Sd	F	p	LSD
Personal characteristics	Village	48	3,25	,704			1-3
	Town	156	3,34	,640			2-3
	City	297	3,48	,633	2,716	,044	
	Metropolis	65	3,45	,689			
	Total	566	3,42	,651			
Preferred Deskmate	Village	48	2,18	,580			
	Town	156	2,29	,543			
	City	297	2,33	,563	2,121	,097	
	Metropolis	65	2,16	,633			
	Total	566	2,28	,569			
Preferred Place	Village	48	3,59	,982			
	Town	156	3,51	1,004			
	City	297	3,51	,957	,452	,716	
	Metropolis	65	3,65	1,096			
	Total	566	3,53	,987			
Total	Village	48	2,77	,406			
	Town	156	2,84	,397			
	City	297	2,91	,390	2,375	,069	
	Metropolis	65	2,84	,430			
	Total	566	2,87	,400			

Table 4 shows that students' scores from only PC subscale differ significantly according to the place they come from. The source of the difference was tested using LSD test, which revealed significant differences between students residing at city and students residing at towns and villages in favor of the former. Students coming from cities were observed to have higher mean scores ($\bar{X}=3,48$ and positive), which indicates that these students have more positive self-esteem. Low level of self-esteem among students coming from a village ($\bar{X}=3,25$ and moderate) can result from the lack of opportunities for socialization in village context compared to cities.

4.3. Analysis and comments about mother's educational background variable: The results of the one-way ANOVA and LSD tests regarding the students' preferences by mother's educational background variable were given in

Table 5. Results of F Test Analysis According to Mother's Educational Background

Subscale	Mother's educational background	N	\bar{X}	Sd	F	P	LSD
Personal Characteristics	Illiterate	156	3,38	,631			
	Primary	279	3,38	,661			
	Secondary	42	3,56	,636			
	High school	56	3,54	,646	1,751	,137	
	University	33	3,55	,655			
	Total	566	3,42	,651			
Demographic	Illiterate	156	2,30	,599	1,082	,365	

	Primary	279	2,25	,541		
	Secondary	42	2,32	,584		
	High school	56	2,41	,637		
	University	33	2,29	,521		
	Total	566	2,28	,569		
Preferred Place	Illiterate	156	3,47	1,031		
	Primary	279	3,53	,993		
	Secondary	42	3,63	,895		
	High school	56	3,60	,872	,426	,790
	University	33	3,63	,891		
	Total	566	3,53	,987		
Total	Illiterate	156	2,85	,391		1-4
	Primary	279	2,83	,384		2-4
	Secondary	42	2,95	,403		
	High school	56	2,98	,484	2,451	,045
	University	33	2,93	,373		
	Total	566	2,87	,400		

While no significant difference was found between students' views in any of the subscales in terms of mother's educational background, a significant difference was found between students' total scores from the scale. The source of the difference was tested using LSD test, which revealed significant differences between high school graduate mothers and both illiterate and elementary school graduate mothers. High school graduate mothers had higher mean score ($\bar{X}=2,98$ and moderate) than illiterates and primary school graduates, which indicates a significantly different approach towards their children. It can be interpreted from this finding that high school graduate mothers are more interested in their children's education. However, it is an interesting finding that graduation from university as the highest educational level does not make a significant difference, which should be investigated further.

4.4. Analysis and comments about father's educational background variable: The results of the one-way ANOVA test about the students' preferences by father's educational background variable were given in Table 6. As it is seen in the table no significant difference was found in the analysis.

Table 6. Results of F test Analysis According to Father's Educational Background

Subscale	Father's educational background	N	\bar{X}	Sd	F	P	LSD
Personal Characteristics	Illiterate	28	3,28	,752			
	Primary	212	3,34	,669			
	Secondary	75	3,57	,601			
	High school	148	3,45	,659	2,262	,061	
	University	103	3,46	,588			
	Total	566	3,42	,651			
Preferred Deskmate	Illiterate	28	2,54	,534	2,062	,084	
	Primary	212	2,30	,585			
	Secondary	75	2,20	,522			
	High school	148	2,26	,570			

	University	103	2,28	,565		
	Total	566	2,28	,569		
Preferred Place	Illiterate	28	3,50	,983		
	Primary	212	3,51	,982		
	Secondary	75	3,58	1,034	,253	,908
	High school	148	3,49	1,023		
	University	103	3,60	,923		
	Total	566	3,53	,987		
Total	Illiterate	28	2,94	,351		
	Primary	212	2,85	,392		
	Secondary	75	2,88	,404	,503	,734
	High school	148	2,86	,418		
	University	103	2,89	,402		
	Total	566	2,87	,400		

4.5. Analysis and comments about subject field variable: The results of the one-way ANOVA and LSD tests regarding the students' preferences by subject field variable were given in Table 7.

Table 7. Results of F Test Analysis According to Subject Field

Subscale	Subject field	N	\bar{X}	Sd	F	P	LSD
Personal Characteristic	Science	187	3,37	,660			
	Social	245	3,40	,630	2,486	,084	
	Special skill	134	3,52	,668			
	Total	566	3,42	,651			
Preferred Deskmate	Science	187	2,41	,558			1-2
	Social	245	2,23	,563	7,410	,001	
	Special skill	134	2,20	,570			1-3
	Total	566	2,28	,569			
Preferred Place	Science	187	3,49	,891			1-3
	Social	245	3,37	1,040	12,313	,000	2-3
	Special skill	134	3,88	,934			
	Total	566	3,53	,987			
Total	Science	187	2,91	,397			1-2
	Social	245	2,81	,385	4,626	,010	2-3
	Special skill	134	2,92	,418			
	Total	566	2,87	,400			

Significant differences in terms of subject field variable were found between scores from PD and PP subscales and total scale. No significant difference was found at personal characteristics subscale. The sources of the differences were tested using LSD tests, which revealed a difference in PD scores between Science subject field and both Social Sciences and Special Skill subject fields in favor of the Science subject field. It can be understood that students in Science departments ($\bar{X}=2,41$) care more about who

their deskmates are and are more careful while choosing their deskmates. On the other hand, students from Social Sciences can be said to care less about choosing their deskmates.

Significant differences were found in PP scores between Special Skills subject field and both Social and Science subject fields in favor of the former one. The former group seems to spent more effort to learn and participate to the lessons compared to the latter.

In terms of total scores, significant differences were found between Science and Social subject fields in favor of the former and between Special Skills and Social subject fields in favor of the former. The mean scores indicate that compared to those at Social Sciences departments, students at Science and Special Skills subject fields are more aware of where they want to sit in classroom, care more about who their deskmates are and more actively participate to the lessons.

4.6. Analysis and comments about seating place variable: The results of the one-way ANOVA and LSD tests regarding the students' preferences by seating place variable were given in Table 8.

Table 8. Results of F Test Analysis According to Seating Place

Subscale	Seating place	N	\bar{X}	Sd	F	P	LSD
Personal Characteristics	Front	127	3,56	,634	3,662	,001	1-2, 1-3
	Back	118	3,40	,689			
	Middle	167	3,26	,642			
	Various	61	3,57	,595			4-3
	Changes acc. to lesson	64	3,40	,626			
	Changes acc. to instructor	19	3,57	,522			6-3
	Other	10	3,28	,737			
Preferred Deskmate	Total	566	3,42	,651			
	Front	127	2,25	,494			
	Back	118	2,27	,592			
	Middle	167	2,36	,598			
	Various	61	2,17	,606	1,841	,089	
	Changes acc. to lesson	64	2,27	,525			
	Changes acc. to instructor	19	2,50	,533			
Preferred Place	Other	10	2,02	,662			
	Total	566	2,28	,569			
	Front	127	4,32	,715			1-2, 1-3, 1-4, 1-5, 1-6, 1-7
	Back	118	2,67	,959			
	Middle	167	3,56	,808			3-2, 3-6
	Various	61	3,47	,880	41,889	,000	4-2
	Changes acc. to lesson	64	3,68	,621			5-2, 5-6
Total	Changes acc. to instructor	19	3,14	,891			6-2
	Other	10	3,40	1,264			7-2
	Total	566	3,53	,987			
	Front	127	3,02	,348	6,654	,000	1-2, 1-3, 1-4, 1-5, 1-7
	Back	118	2,72	,424			

Middle	167	2,86	,401	3-2
Various	61	2,86	,400	4-2
Changes acc. to lesson	64	2,88	,363	5-2
Changes acc. to instructor	19	2,97	,377	6-2, 6-7
Other	10	2,67	,292	
Total	566	2,87	,400	

Significant differences were found in terms of seating place between PC, PP subscale scores and total scores. The sources of the differences were tested using LSD test, which revealed the following results:

In the PC subscale, significant differences were found between students sitting at front and those sitting both at back and middle seats in favor of the former; between students sitting in various places and those sitting at middle seats in favor of the former; between students changing their place according to the instructor and those sitting at middle rows in favor of the former.

In the PP subscale, significant differences were found between students sitting at front rows and all the other groups in favor of the former; between students at middle seats and both those sitting at back rows and those changing place according to the instructor in favor of the former; between students sitting at various places and those sitting at middle rows in favor of the former; between students changing place according to lesson and both those at back rows and those changing place according to instructor in favor of the former; between those changing place according to instructor and those at back rows in favor of the former; and lastly between those who checked *other* and those sitting at back rows in favor of the former.

As for the total scale scores, significant differences were found between students sitting at front rows and all other groups other than those changing place according to the instructor in favor of the former; between those sitting at middle rows and those sitting at back rows in favor of the former; between those sitting at various rows and those sitting at back rows in favor of the former; between those changing place according to lesson and those sitting at back rows in favor of the former; and lastly between students changing place according to the instructor and both those sitting at back and those who checked *other* in favor of the former.

The highest mean score at PP subscale belonged to those sitting in front ($\bar{X} = 4,32$, very positive), while the lowest mean score belonged to those sitting at back ($\bar{X} = 2,67$, moderate).

The highest total mean score belonged to those sitting in front ($\bar{X} = 3,02$), while the lowest belonged to those who checked *other* and those sitting at back seats. Thus, students at front rows can be said to care the lessons more and be more willing to participate, while those at back rows care about the lesson less.

It was also intended to collect detailed data based on the students' answers to the open-ended questions about PP. The students who checked *other* in the PP subscale (%3,4) stressed the following reasons the most:

"I sit at front rows in lessons I have to listen to, while I sit somewhere away from teachers' attention in ordinary lessons."

"I sit somewhere teacher will not ask questions. I don't like participating to the lesson. I already participate to the lessons I like."

"I should either sit at front not to see anybody, or at back to see everybody."

"I sit at front in difficult lessons, while I sit at back in lessons I don't like or I already know."

"I've always wanted to sit at back rows, yet I've always made to sit at front rows."

"I prefer sitting somewhere teacher can notice me."

"I would like to sit at front, yet I've made to sit back due to my height."

"My mode for the day and relation with the teacher is important. If I don't have good rapport with the teacher I prefer sitting away."

"I prefer somewhere cool in summer and near the radiator in winter."

"...at the front in case of funny teachers, yet I sit at back rows if the teacher is boring and doesn't let me speak."

The answers by those changing place according to instructor and lesson and those who checked *other* imply that there are also reasons other than attention to the lesson, which is in agreement with the findings by Benedict & Hoag (2004).

Finally, the associations between the subscales were examined and the results are shown in Table 9.

Table 9. Correlations Between the Total and Subscale Scores

	2.PD	3.PP	4.Total
1.PC	-,044	,154**	,595**
2.PD		,005	,689**
3.PP			,461**

No association was found between PC and PD subscales, and between PD and PP subscales. The analysis also revealed significant correlations including a positive low correlation between PC and PP subscales ($r=.154$); a positive high correlation between PC subscale and the total scale ($r=.595$); a positive high correlation between PD subscale and the total scale ($r=.689$); a positive high correlation between PP subscale and the total scale ($r=.461$).

When the results are considered as a whole, students with higher levels of self-esteem can be said to care where they will sit more and make more conscious decisions.

5. Conclusions and Recommendations

The purpose of the study was to determine the students' preferences about the place to sit in teacher-centered (traditional) classrooms in terms of their personal characteristics and the characteristics they look for in their deskmates based on their perceptions. It was also intended to examine students' seating preferences according to such variables as gender, residence, parental educational background, their subject fields the place they sit at university.

It was found that those sitting at front rows care about the lesson more and are more willing to participate, while those sitting at back rows care about the lesson less; that female students care their seating place more than their deskmate and they prefer sitting at front rows; that students from cities have higher levels of positive self-esteem compared to those from villages and towns, and they sit at front rows; that students with high school graduate mothers have more positive self-esteem compared to those with illiterate and primary school graduate mothers, while surprisingly university graduation does not make any difference; and that though with exceptions, students sitting at back rows usually have less interest and motivation towards lessons.

Teachers can recognize their students based on the place they sit in classrooms with traditional seating arrangement. It is the instructors' responsibility to increase the academic achievements of the students at back rows with poor attention and motivation using suitable instructional techniques and materials based on their knowledge about the students. On the other hand, not all the students can sit at middle and front rows where participation is optimized, when the classroom is full. The instructors should remove the disadvantages of sitting at back rows thanks to better instructional approaches. Some possible recommendations can be using a rotating seating basis, walking around the back seats more frequently, and engaging the students at the back more with a positive discrimination.

Also, further researches can investigate the association between students' seating preferences and achievements. A similar study can be conducted including the parents' employment as a variable. The reasons why university graduate mothers do not make a difference in students' development can be

investigated. This study can be conducted on other elementary, secondary, and higher education institutions.

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