



## AN INVESTIGATION ON CONSTRUCTIVE LEARNING ENVIRONMENTS IN SECONDARY EDUCATION RELIGIOUS CULTURE AND ETHICS COURSES<sup>i</sup>

**Celal Büyük<sup>1</sup>,**  
**Hümeyra Veyis<sup>2ii</sup>**

<sup>1</sup>Prof. Dr.,

Ataturk University,

Faculty of Theology,

Turkey

<sup>2</sup>Teacher,

Erzurum Atatürk Vocational and

Technical Anatolian High School,

Turkey

### Abstract:

This research is aimed to determine which graduate constructivist learning environments are provided in religious culture and moral knowledge courses by making researches on student's perceptions. On the other way, students' views about constructivist learning environments who receive education at secondary education, their perception during courses, learning environment provided in religious culture and moral knowledge courses, and in which graduate constructivist learning environment specifications are formed are within the compass of this research's goals. In this research, a descriptive survey design was used. The studying universe of this research is high school students in Erzurum city center. The research was carried out with 365 students in five schools; Anatolian high school, science high school, imam hatip high school and vocational high school. We used the development of a scale on assessing constructivist learning environments as the data collection tool by taking the necessary official permission. The scale practiced on the determined sample was primarily computerized and the data was subjected to outlier analyze. In the process of searching for answers to the research we used t Test for Independent Sample, Analysis of Variance ANOVA and Kruskal Wallis H Test. Students' perceptions towards the education environment in religious culture and moral knowledge courses don't change respectively according to their sex and the classroom educative graduate in which they take education but on the other hand, it has been observed that this perception factor change distinguishably by their school and AGNO. In the result of the research, we observed that student's perception of

<sup>i</sup> This article was produced from the master's thesis entitled *A Review on Constructive Learning Environments in Secondary Education Religious Culture and Ethics Courses*.

<sup>ii</sup> Correspondence: email [celal.buyuk@atauni.edu.tr](mailto:celal.buyuk@atauni.edu.tr), [veyishum@gmail.com](mailto:veyishum@gmail.com)

constructivist learning environments in religious culture and moral knowledge courses is higher at science high school and social sciences high schools than the other school type. School and students educative succeeding graduate effect constructivist learning environments perception and so the cases in which constructivist learning environments perception is high are observed in the schools whose educative succeeding have a high level.

**Keywords:** constructivist learning environments, religious culture and moral knowledge, descriptive analysis

## 1. Introduction

As of 2005, constructivism appears as an important concept that has taken its place in the Turkish education system. The basis of this understanding is the progressive education philosophy. Constructivism is seen as the process of actively taking part in educational activities and constructing new information by questioning and researching under the guidance of the teacher. The main thing here is that the student constructs the knowledge and provides their own learning. According to Oktay (2001), it is extremely important to provide an education and learning environment in which the individual is responsible for his own learning and gains by questioning, examining, observing, interpreting and internalizing the subjects to be learned. It has been seen for a long time that these expectations have been tried to be met with the constructivist approach. The word construct is explained with meanings such as forming, forming, constructing and constructing. Words such as integrative, constructivist, constructivist, constructivist, constructivism, constructivist, constructivist, and construct in the mind are used in the Turkish literature for the name of constructivism (Tabanlı, 2008), which originally comes from the Latin verb "construere" in the sense of organizing and giving structure (Tabanlı, 2008). Based, 2008). The most important premise of choosing constructivism as a counterpart of constructivism in the research is the use of the concept of constructivism by the Ministry of National Education (MEB, 2010a, p. 9). Özden (1999) stated that constructivist theory is a mental process. Since the learning outcomes in constructivist learning cannot be predicted as in the behavioral approach, we can say that the teaching is not controlling, but process-based and has an encouraging feature that takes place under the guidance of the teacher.

The concepts of "constructivism" and "active learning" have been used simultaneously (Açıkgöz, 2004). The theoretical foundations of active learning are based on constructivism and the cognitive approach, which is the reflection of this approach to learning. Sönmez (1991) emphasized that the success of the constructivist approach is partly due to the problems faced by educators in the practice of behavioral education. The constructivist approach, which is the advocate and practitioner of student-centered learning, argues that learning activities and learning levels will be better by establishing

a bridge between previous knowledge and new knowledge. Therefore, students' previous experiences serve as a bridge to learning new information (Limon, 2001).

In the constructivist approach, the needs of students and other program elements are taken into consideration flexibly while determining the objectives. At the center of learning is the student. The teacher is a guide and organizes educational activities according to the student. The teacher considers the learner's prior knowledge in the teaching process (Sönmez, 1998). Learning does not happen by direct transfer of knowledge. (Millar, 1989). Therefore, the student has to construct the knowledge himself. Therefore, the constructivist approach gives importance to learning, not teaching, and sees learning as a process. The learner is an autonomous being with a will and purpose. Curiosity and experience are important in learning. In the constructivist approach, the process is looked at, not the result (Can, 2004). With traditional educational pathways, the teacher can impart knowledge or learners can acquire knowledge from books, the Internet, or other sources. But the process of perceiving knowledge is not the same as structuring knowledge. The effort to reach and possess the information and the structuring do not have the same feature. According to Brooks and Brooks (1993), the learner, who is trying to describe and explain the world, uses the rules and knowledge he has already created or creates new rules to explain the knowledge he perceives. In this context, structuring is the way of accessing learning and information, in which the learner is fully active, participates in the process with both mental efforts and motivational ways, and is involved. It is appreciated that transferring and teaching any information to a learner who has no desire or effort to learn can be defined as a difficult or even impossible case. There is no doubt that what is wanted to be conveyed to a learner who participates in the learning process with all his being and effort will be easier to reach. Jonassen, Peck, and Wilson (1999) state that in the constructivist approach, individuals who are conscious, creative, researching, investigating, knowing what, where and why they learned, creating their own technology and knowing the ways of accessing information, are necessary in this understanding. The purpose of the constructivist approach; is not to predetermine what the learner will do, but to give learners the opportunity to direct learning in line with their own desires and efforts through tools, materials and purposefully organized educational environment. The constructivist approach is emphasized in the religious culture and ethics curriculum developed in line with this idea (MEB, 2010b, p.10):

In the Religious Culture and Moral Knowledge Course Curriculum, approaches such as the constructivist approach, multiple intelligences, and student-centered learning were taken into account. According to the constructivist approach, activating prior knowledge, considering the level of development, communicating effectively, establishing meaning, application and evaluation are important concepts in the learning process. The constructivist approach, which is based on student-centered learning, focuses on student participation and teacher guidance in the learning process.

This study was inspired by the fact that there is no research that deals with the extent and how the constructivist approach is reflected in educational environments in

the context of religious culture and ethics courses. Today, when a student-centered education process is tried to be implemented, the extent to which this idea takes place within the scope of religious culture and ethics course is discussed in this research. In this context, "To what extent are constructivist learning environments created in secondary education religious culture and ethics courses?" The question is the problem sentence of this research. The sub-problems of the study are;

- A. Do the perceptions of constructivist learning environments in secondary school religious culture and ethics courses differ significantly according to the gender of the students?
  - B. Do the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differ significantly according to school types?
  - C. Do the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differ significantly according to the academic success of the students?
  - D. Do the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differ significantly according to the grade levels provided that the school types of the students remain the same?
- consists of questions.

## **2. Method**

### **2.1 Research Method**

This research was carried out with a descriptive scanning design. Descriptive survey research is defined as research in which the characteristics and attitudes of the subjects included in the research on certain subjects are determined in order to reach a general opinion about the universe in a universe consisting of a large number of elements (Gürbüz & Şahin 2016, p. 105). In this context, the level of constructivist learning environments created in secondary education religious culture and ethics courses and the change of these constructivist learning processes according to various variables were examined. In this context, during the research process, the change in the constructivist learning environments in secondary education religious culture and moral science courses according to school type, grade level, gender and average variables was examined in line with the research design.

### **2.2 Universe and Sample**

The study population of the research is all high school students in Erzurum central districts. In this context, it is planned to reach 380 students at a 95% confidence interval. In this direction, considering the missing data and parametric criteria analysis, a student waached 10% above the determined value. As a result of the analysis, answers to the research questions were sought with the data of 365 students who were determined to be suitable for the analysis.

### **2.3 Data Collection Tools**

In this study, the constructivist learning environments assessment scale developed by Arkün & Aşkar (2010) was used after obtaining the necessary permissions. The scale is a 7-point Likert-type measurement tool and has six sub-dimensions: student-centered, thought-provoking, collaborative, life-related, teaching and evaluation together and providing different perspectives. It was stated that the total variance explained in the scale was 66.65%, the Cronbach Alpha coefficient was .96, and the RMSEA value was 0.076.

During the research process, a personal information form was created in order to determine some demographic characteristics of the sample group. The information in this form, which was created to examine students' perceptions of constructivist learning environments, constitutes the independent variables of the research. Form; It was used to obtain information about the type of school, the grade of the students, the CGPA of the students, and the gender information.

### **2.4 Process and Researcher Role**

Since the research process includes a descriptive process, it requires data collection and analysis processes in the field. In this sense, the main role of the researcher is to determine the questions to be answered in the research, to collect and analyze data for these, and to contribute to scientific knowledge by interpreting the findings. In this context, the researcher fulfilled the functions of determining the problem situation of the research, establishing the purpose and importance processes, forming the research design by considering the theoretical basis in this direction, collecting and analyzing the data and forming comments. In the process, the researcher fulfilled the function of applying the necessary steps for the research to be carried out with scientific ethics and understanding, and also applied the procedures and suggestions deemed necessary in the context of the method selected, the measurement tool and the analyzes applied in the context of achieving the said objectives of the research and in line with the necessary feedbacks. has completed.

### **2.5 Analysis of Data**

The scales applied to the sample group studied during the research process were first transferred to SPSS in a computer environment and the data were first subjected to extreme value analysis. As a result of the analyzes made, the data of 15 participants were excluded from the data set because they had extreme values. With the completion of the extreme value analysis, the median, arithmetic mean, mode, z scores, skewness and kurtosis values were calculated to determine whether the normality condition was met for the parametric tests and it was found that the data had a normal distribution with these calculations (Büyüköztürk, 2011, p. 42).

### 3. Findings

A. "Do the perceptions of constructivist learning environments in secondary school religious culture and ethics courses differ significantly according to the gender of the students?" findings related to the sub-problem.

In order to determine whether the perceptions of constructivist learning environments in the secondary school religious culture and ethics course differ significantly according to the gender of the students, a t-test was conducted for independent samples and the findings are presented in Table 1. For the homogeneity of variances, which is an important condition of the t-test for independent samples, Levene's test was used and the student-centered sub-dimension was  $F=1.157, p>.05$ , the suggestive sub-dimension was  $F=.017, p>.05$ , and the cooperative sub-dimension was  $F=.087, p>.05$ ,  $F=.087, p>.05$  for the sub-dimension related to life,  $F=1.866, p>.05$  for the combination of teaching and assessment sub-dimension, and  $F=.541, p>.05$  for the different perspectives sub-dimension. found to provide.

**Table 1:** t-Test Findings for Gender Variable

	Variable	N	$\bar{X}$	Ss	t	p
Student Centered	Female	173	22.74	2.72	.325	.745
	Male	192	22.65	2.52		
Thought Provoking	Female	173	39.57	4.74	.052	.959
	Male	192	39.54	4.61		
Collaborative	Female	173	22.49	2.94	.278	.781
	Male	192	22.41	2.93		
Related to Life	Female	173	22.20	2.85	-.472	.637
	Male	192	22.34	2.85		
Collaboration of Teaching and Evaluation	Female	173	22.81	2.38	.386	.699
	Male	192	22.72	2.11		
Different Perceptions	Female	173	27.79	3.58	-1.040	.299
	Male	192	28.16	3.30		

When Table 1 is examined, as a result of the t-test for independent samples conducted to determine whether the perceptions of constructivist learning environments in the secondary school religious culture and ethics course differ significantly according to the gender of the students, the student-centered sub-dimension  $t_{363}=.325, p>.05$ , the suggestive sub-dimension  $t_{363}=.052, p>.05$ ,  $t_{363}=.278, p>.05$  for cooperative sub-dimension,  $t_{363}=-.472, p>.05$  for life-related sub-dimension,  $t_{363}=.386, p>.05$  for a combination of teaching and evaluation sub-dimension and different perspectives sub-dimension  $t_{363}=-1.040, p>.05$  did not differ significantly according to gender. As a result, it can be said that the gender variable does not affect the perception of the constructivist learning environment statistically.

B. "Do students' perceptions of constructivist learning environments differ significantly according to school types in secondary school religious culture and ethics courses?" findings related to the sub-problem.

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether students' perceptions of constructivist learning environments in secondary education religious culture and ethics courses differed significantly according to school types. However, as a result of the Levene test performed to determine the homogeneity of variances, which is an important prerequisite of ANOVA, the student-centered sub-dimension  $F=41.08$ ,  $p<.05$ , the suggestive sub-dimension  $F=22.85$ ,  $p<.05$ , the cooperative sub-dimension  $F=19.40$ ,  $p$ . It was found that  $<.05$ , sub-dimension  $F=19.03$ ,  $p<.05$ , sub-dimension of togetherness of teaching and assessment  $F=16.67$ ,  $p<.05$ , and sub-dimension of different perspectives  $F=22.17$ ,  $p<.05$  did not meet the requirement of homogeneity of variances. For this reason, the analysis was continued by performing the Kruskal Wallis H Test, which is the nonparametric equivalent of ANOVA, and the findings are presented in Table 1.

**Table 2:** Kruskal Wallis H Findings Regarding the School Type Variable

	School Type	N	Rank Avg.	sd	$\chi^2$	p	Difference
<b>Student Centered</b>	Science High School	115	212.53	4	35.872	.000	A-C
	Social Science High School	95	207.77				A-D
	Anatolian High School	50	129.55				A-E
	Imam Hatip High School	64	155.50				B-C
	Vocational High School	41	150.87				B-D B-E
<b>Thought Provoking</b>	Science High School	115	209.33	4	84.995	.000	A-C
	Social Science High School	95	238.23				A-D
	Anatolian High School	50	126.86				B-C
	Imam Hatip High School	64	103.25				B-D
	Vocational High School	41	174.15				B-E
<b>Collaborative</b>	Science High School	115	207.73	4	34.43	.000	A-C
	Social Science High School	95	211.81				A-D
	Anatolian High School	50	165.15				A-E
	Imam Hatip High School	64	142.05				B-C
	Vocational High School	41	132.55				B-D B-E
<b>Related to Life</b>	Science High School	115	220.81	4	78.62	.000	A-C
	Social Science High School	95	228.76				A-D
	Anatolian High School	50	134.95				A-E
	Imam Hatip High School	64	125.35				B-C
	Vocational High School	41	119.50				B-D B-E
<b>Collaboration of Teaching and Evaluation</b>	Science High School	115	203.42	4	33.72	.000	A-D
	Social Science High School	95	208.78				A-E
	Anatolian High School	50	186.30				B-D
	Imam Hatip High School	64	124.38				B-E
	Vocational High School	41	153.48				
<b>Different</b>	Science High School	115	209.23	4	75.50	.000	A-C

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Perceptions	Social Science High School	95	239.09				A-D
	Anatolian High School	50	134.36				A-E
	Imam Hatip High School	64	130.04				B-C
	Vocational High School	41	121.44				B-D B-E

**Note:** A: Science High School, B: Social Sciences High School, C: Anatolian High School, D: Imam Hatip High School, E: Vocational High School.

When Table 2 is examined, as a result of the Kruskal Wallis H test, which was conducted to determine whether students' perceptions of constructivist learning environments in secondary school religious culture and ethics courses differ significantly according to school types, the student-centered sub-dimension  $\chi^2=35.87$ ,  $sd=4$ ,  $p<.05$ , suggestive sub-dimension  $\chi^2=84.99$ ,  $sd=4$ ,  $p<.05$ , cooperative sub-dimension  $\chi^2=34.43$ ,  $sd=4$ ,  $p<.05$ , life-related sub-dimension  $\chi^2=78.62$ ,  $sd=4$ ,  $p<.05$ , the coexistence of teaching and assessment  $\chi^2=33.72$ ,  $sd=4$ ,  $p<.05$ , and different perspectives sub-dimension  $\chi^2=75.50$ ,  $sd=4$ ,  $p<.05$  were found to differ significantly according to school type. The Dunnett T3 test, which is preferred in cases where variance homogeneity could not be achieved from multiple comparison tests, was used to determine between which means the differences were found. The difference found in the sub-dimensions of student-centered, collaborative, life-related and different perspectives is between science high school and Anatolian high school, imam hatip high school and vocational high school students and in favor of science high school students upon examining the average rank; It has been seen that it is in favor of social sciences high school students between social sciences high school and Anatolian high school, imam hatip high school and vocational high school students, and by examining the mean rank. The difference found in the thought-provoking sub-dimension is between science high school, Anatolian high school and imam hatip high school students, and in favor of science high school students by examining the mean rank; It has been seen that it is in favor of social sciences high school students between social sciences high school and Anatolian high school, imam hatip high school and vocational high school students, and by examining the mean rank. In the sub-dimension of the unity of teaching and evaluation, it is seen that between science high school, imam hatip high school and vocational high school students, and when the averages are examined, it is in favor of science high school students, between social sciences high school and imam hatip high school and vocational high school students, and when the averages are examined, it is in favor of social sciences high school students.

C. "Do the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differ significantly according to the averages of the students?" findings related to the sub-problem.

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differed significantly compared to the students'



averages. However, as a result of the Levene test performed to determine the homogeneity of variances, which is an important prerequisite of ANOVA, the student-centered sub-dimension  $F=13.43$ ,  $p<.05$ , the suggestive sub-dimension  $F=13.91$ ,  $p<.05$ , the cooperative sub-dimension  $F=15.69$ ,  $p<.05$ . It was found that  $p<.05$ , the sub-dimension related to life  $F=4.93$ ,  $p<.05$ , the sub-dimension of togetherness of teaching and assessment  $F=3.33$ ,  $p<.05$ , and the sub-dimension of different perspectives  $F=11.37$ ,  $p<.05$  did not meet the homogeneity condition of variances. For this reason, the analysis was continued by performing the Kruskal Wallis H Test, which is the nonparametric equivalent of ANOVA, and the findings are presented in Table 3.

**Table 3:** Kruskal Wallis H Findings Regarding the Mean Variable

	Average	N	Rank Avg.	sd	$\chi^2$	p	Difference
<b>Student Centered</b>	39-50	6	175.50	4	25.721	.000	B-D B-E C-D C-E
	51-62	45	142.49				
	63-74	54	134.49				
	75-86	113	196.72				
	87-98	147	202.98				
<b>Thought Provoking</b>	39-50	6	201.00	4	45.640	.000	B-D B-E C-D C-E
	51-62	45	117.74				
	63-74	54	139.48				
	75-86	113	180.07				
	87-98	147	220.48				
<b>Collaborative</b>	39-50	6	200.50	4	30.825	.000	B-D B-E C-D C-E
	51-62	45	118.61				
	63-74	54	149.19				
	75-86	113	195.73				
	87-98	147	204.64				
<b>Related to Life</b>	39-50	6	159.08	4	48.965	.000	B-D B-E C-D C-E
	51-62	45	118.07				
	63-74	54	132.26				
	75-86	113	186.38				
	87-98	147	219.89				
<b>Collaboration of Teaching and Evaluation</b>	39-50	6	117.67	4	29.257	.000	B-D B-E C-E
	51-62	45	127.53				
	63-74	54	153.66				
	75-86	113	187.70				
	87-98	147	209.81				
<b>Different Perceptions</b>	39-50	6	83.58	4	74.690	.000	B-D B-E C-D C-E
	51-62	45	99.19				
	63-74	54	122.85				
	75-86	113	200.36				
	87-98	147	221.46				

**Note:** (A:39-50, B:51-62, C:63-74, D: 75-86, E:87-98)

When Table 3 is examined, as a result of the Kruskal Wallis H test conducted to determine whether the perceptions of constructivist learning environments in secondary school

religious culture and ethics courses differ significantly according to the averages of the students, the student-centered sub-dimension  $x^2=25,721$ ,  $sd= 4$ ,  $p<.05$ , the suggestive sub-dimension  $x^2. =45.640$ ,  $sd= 4$ ,  $p<.05$ , cooperative sub-dimension  $x^2=30.825$ ,  $sd= 4$ ,  $p<.05$ , life-related sub-dimension  $x^2=48.965$ ,  $sd= 4$ ,  $p<.05$ , combination of teaching and assessment  $x^2 =29.257$ ,  $sd= 4$ ,  $p<.05$ , and different perspectives sub-dimension were found to differ significantly according to the students' averages of  $x^2=74,690$ ,  $sd= 4$ ,  $p<.05$ . The Dunnet T3 test, which is preferred in cases where variance homogeneity could not be achieved from multiple comparison tests, was used to determine between which means the differences were found. The difference found in the sub-dimensions of student-centered, suggestive, collaborative, life-related, and different perspectives was between students with an average of 51-62 points, students with an average of 75-86 points, and students with an average of 87-98 points, and 51-62 points. it is against the students who have an average in the score range; It has been observed that students with an average in the range of 63-74 points, students with an average in the range of 75-86 points, and students with an average in the range of 87-98 points, and against the students with an average in the range of 63-74 points. On the other hand, in the sub-dimension of the unity of teaching and assessment, it was found that students with an average of 51-62 points, students with an average of 75-86 points, students with an average of 87-98 points, and students with an average of 51-62 points; It was seen that it was between the students with an average in the range of 63-74 points and the students with an average in the range of 87-98 points, and against the students with an average in the range of 63-74 points.

D. Findings related to the sub-problem "Does the perceptions of constructivist learning environments in secondary education religious culture and ethics courses differ significantly according to the grade levels provided that the school types of the students remain the same".

### **3.1 Comparison between Grade Levels of Science High School**

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in the religious culture and ethics courses of secondary school students studying in science high schools differ significantly according to the grade levels of the students. As a result of the Levene Test performed to determine whether the homogeneity of variances, which is an important condition of ANOVA, is achieved, the student-centered sub-dimension  $F=2.50$ ,  $p>.05$ , the suggestive sub-dimension  $F=2.36$ ,  $p>.05$ , the cooperative sub-dimension  $F=2.41$ ,  $p. >.05$ ,  $F=.404$ ,  $p>.05$  for life-related sub-dimension,  $F=.590$ ,  $p>.05$  for combination of teaching and assessment sub-dimension, and  $F=.849$ ,  $p>.05$  for different perspectives sub-dimension, homogeneity of variances found to meet the requirement. The findings from the ongoing analysis are presented in Table 4.

**Table 4:** ANOVA Findings for Comparing Grade Level of Science High School

	Grade Level	N	$\bar{X}$	Ss	sd	F	p	Difference
<b>Student Centered</b>	9th Grade	34	23.32	1.42	3/111	1.364	.258	
	10th Grade	29	23.86	1.40				
	11th Grade	31	23.38	1.66				
	12th Grade	21	23.95	1.16				
<b>Thought Provoking</b>	9th Grade	34	39.76	3.27	3/111	4.054	<b>.009</b>	A-B A-C
	10th Grade	29	41.96	2.66				
	11th Grade	31	41.70	2.13				
	12th Grade	21	41.52	3.14				
<b>Collaborative</b>	9th Grade	34	23.64	2.35	3/111	1.011	.391	
	10th Grade	29	22.96	1.95				
	11th Grade	31	23.74	1.80				
	12th Grade	21	23.09	2.14				
<b>Related to Life</b>	9th Grade	34	23.44	1.67	3/111	.512	.675	
	10th Grade	29	23.34	1.87				
	11th Grade	31	23.61	1.66				
	12th Grade	21	23.00	1.97				
<b>Collaboration of Teaching and Evaluation</b>	9th Grade	34	23.55	1.56	3/111	1.646	.183	
	10th Grade	29	22.72	1.99				
	11th Grade	31	23.06	1.63				
	12th Grade	21	23.57	1.59				
<b>Different Perceptions</b>	9th Grade	34	29.147	1.59	3/111	.169	.917	
	10th Grade	29	28.82	2.07				
	11th Grade	31	29.09	2.24				
	12th Grade	21	29.14	2.03				

**Note:** A: 9th Grade, B: 10. Grade, C: 11th Grade, D: 12. Grade.

When Table 4 is examined, as a result of ANOVA conducted to determine whether science high school students' perceptions of constructivist learning environments in religious culture and ethics courses differ significantly according to students' grade levels, it is found in student-centered sub-dimension ( $F(3,111)=1.364$ ,  $p>.05$ ), cooperative sub-dimension. ( $F(3,111)=1.011$ ,  $p>.05$ ), in the sub-dimension related to life ( $F(3,111)=.512$ ,  $p>.05$ ), the combination of teaching and evaluation ( $F(3,111)=1.646$ ,  $p>.05$ ) , different perspectives ( $F(3,111)=.169$ ,  $p>.05$ ) did not differ significantly, but in the suggestive sub-dimension ( $F(3,111)=4.054$ ,  $p<.05$ ) significant differentiation was found. Bonferroni test, one of the multiple comparison tests, was used to determine between which means the difference was found. As a result of the test, it was seen that the difference was between the 9th grade students and the 10th and 11th grade students, and it was against the 9th grade students. As a result, it can be said that the grade level in science high school is a variable that does not affect the student-centered, collaborative, life-related, combination of teaching and assessment and different perspectives dimensions, and that it significantly affects the thinking sub-dimension.

### 3.2 Comparison between Grade Levels of Social Sciences High School

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics courses of secondary school students studying at social sciences high school differ significantly according to the grade levels of the students. As a result of the Levene Test performed to determine whether the homogeneity of variances, which is an important condition of ANOVA, is achieved, the student-centered sub-dimension  $F=.796$ ,  $p>.05$ , the suggestive sub-dimension  $F=.663$ ,  $p>.05$ , the cooperative sub-dimension  $F=.233$ ,  $p>.05$ ,  $F=.828$ ,  $p>.05$  for life-related sub-dimension,  $F=.010$ ,  $p>.05$  for a combination of teaching and assessment sub-dimension, and  $F=1.540$ ,  $p>.05$  for different perspectives sub-dimension it was found that the variances met the homogeneity condition. The findings from the ongoing analysis are presented in Table 5.

**Table 5:** ANOVA Findings for Comparing Grade Level of Social Sciences High School

	Grade Level	N	$\bar{X}$	Ss	sd	F	p
<b>Student Centered</b>	9th Grade	24	23.00	1.93	3/91	.905	.441
	10th Grade	26	23.50	2.04			
	11th Grade	29	23.65	1.60			
	12th Grade	16	23.87	1.54			
<b>Thought Provoking</b>	9th Grade	24	41.37	2.87	3/91	.834	.479
	10th Grade	26	42.26	2.76			
	11th Grade	29	42.41	2.16			
	12th Grade	16	42.12	2.21			
<b>Collaborative</b>	9th Grade	24	22.91	1.55	3/91	2.021	.117
	10th Grade	26	23.80	1.74			
	11th Grade	29	23.65	1.67			
	12th Grade	16	22.81	1.79			
<b>Related to Life</b>	9th Grade	24	23.62	1.90	3/91	1.285	.284
	10th Grade	26	23.38	1.52			
	11th Grade	29	24.03	1.99			
	12th Grade	16	22.93	2.14			
<b>Collaboration of Teaching and Evaluation</b>	9th Grade	24	22.75	2.04	3/91	1.736	.165
	10th Grade	26	23.69	1.82			
	11th Grade	29	23.75	1.88			
	12th Grade	16	22.93	1.94			
<b>Different Perceptions</b>	9th Grade	24	29.04	2.13	3/91	1.893	.136
	10th Grade	26	29.76	2.26			
	11th Grade	29	30.34	1.58			
	12th Grade	16	30.12	2.33			

When Table 5 is examined, as a result of the ANOVA conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics courses in social sciences high school differ significantly according to their grade levels, the student-centered sub-dimension ( $F(3,91)=.905$ ,  $p>.05$ ) in the suggestive sub-dimension ( $F(3,91)=.834$ ,  $p>.05$ ), in the cooperative sub-dimension ( $F(3,91)=2.021$ ,  $p>.05$ ), in the life-related sub-dimension ( $F(3,91)= 1.285$ ,  $p>.05$ ), in the unity of teaching and

assessment sub-dimension ( $F(3.91)=1.736, p>.05$ ) and different perspectives ( $F(3.91)=1.893, p>.05$ ) sub-dimension No significant difference was found.

### 3.3 Comparison between Grade Levels of Anatolian High School

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in the religious culture and ethics courses of the secondary school students in Anatolian high school differ significantly according to the grade levels of the students. As a result of Levene Test performed to determine whether the homogeneity of variances, which is an important condition of ANOVA, is achieved, the student-centered sub-dimension  $F=.844, p>.05$ , the suggestive sub-dimension  $F=.630, p>.05$ , the cooperative sub-dimension  $F=.852, p>.05, F=.327, p>.05$  for the life-related sub-dimension,  $F=1.566, p>.05$  for a combination of teaching and assessment sub-dimension, and  $F=.241, p>.05$  for different perspectives sub-dimension It was found that the variances met the homogeneity condition. The findings from the ongoing analysis are presented in Table 6.

**Table 6:** ANOVA Findings for Comparing Grade Level of Anatolian High School

	Grade Level	N	$\bar{X}$	Ss	sd	F	p
<b>Student Centered</b>	9th Grade	12	20.08	2.81	3/46	1.197	.322
	10th Grade	16	21.18	2.94			
	11th Grade	12	20.83	3.32			
	12th Grade	10	22.60	3.65			
<b>Thought Provoking</b>	9th Grade	12	36.58	5.10	3/46	.707	.553
	10th Grade	16	34.93	6.60			
	11th Grade	12	38.16	5.62			
	12th Grade	10	36.60	5.58			
<b>Collaborative</b>	9th Grade	12	21.08	4.83	3/46	.147	.931
	10th Grade	16	21.68	3.97			
	11th Grade	12	22.16	3.63			
	12th Grade	10	21.50	3.59			
<b>Related to Life</b>	9th Grade	12	19.91	3.82	3/46	.476	.701
	10th Grade	16	20.93	3.43			
	11th Grade	12	21.33	4.11			
	12th Grade	10	19.70	4.44			
<b>Collaboration of Teaching and Evaluation</b>	9th Grade	12	22.16	4.26	3/46	.635	.597
	10th Grade	16	23.31	3.49			
	11th Grade	12	23.16	3.43			
	12th Grade	10	21.60	2.75			
<b>Different Perceptions</b>	9th Grade	12	26.33	4.75	3/46	2.432	.077
	10th Grade	16	23.87	3.70			
	11th Grade	12	27.91	4.05			
	12th Grade	10	27.10	4.48			

When Table 6 is examined, as a result of the ANOVA conducted to determine whether the perceptions of constructivist learning environments in the religious culture and ethics classes in Anatolian high school differ significantly according to the grade levels of the

students, in the student-centered sub-dimension ( $F(3,46)=1.197, p>.05$ ), the suggestive sub-dimension sub-dimension ( $F(3,46)=.707, p>.05$ ) in the cooperative sub-dimension ( $F(3,46)=.147, p>.05$ ), in the sub-dimension related to life ( $F(3,46)=.476, p>.05$ ), in the unity of teaching and assessment sub-dimension ( $F(3,46)=.635, p>.05$ ) and different perspectives ( $F(3,46)=2.432, p>.05$ ) It was found that there was no significant difference in size.

### 3.4 Comparison between Grade Levels of Imam Hatip High School

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics courses of secondary school students studying at Imam Hatip High School differ significantly according to the grade levels of the students. As a result of Levene Test performed to determine whether homogeneity of variances, which is an important condition of ANOVA, is provided, the suggestive sub-dimension  $F=.259, p>.05$ , the cooperative sub-dimension  $F=1.390, p>.05$ , the life-related sub-dimension  $F=1.897, p>.05$ , the unity of teaching and assessment sub-dimension  $F=1.039, p>.05$ , and the different perspectives sub-dimension  $F=1.796, p>.05$  met the homogeneity of variance condition, while the student-centered sub-dimension  $F=4.897, p<.05$  It was found that the variances did not satisfy the homogeneity condition. The analysis of the student-centered sub-dimension was continued with the Kruskal Wallis H Test, which is the nonparametric equivalent of ANOVA, and the analysis of the other dimensions was continued with ANOVA, and the findings are presented in Table 7 and Table 8.

**Table 7:** Kruskal Wallis H Findings for Comparing Grade Level of Imam Hatip High School

	Grade Level	N	Rank Avg.	sd	$\chi^2$	p
Student Centered	9th Grade	18	33.33		.525	.913
	10th Grade	11	35.50	3		
	11th Grade	16	30.91			
	12th Grade	19	31.32			

When Table 7 is examined, the Kruskal Wallis H test, which was conducted to determine whether the student-centered sub-dimension, which is the dimension of perceptions of constructivist learning environments in religious culture and ethics classes in imam hatip high schools, differs significantly according to the grade levels of the students, as a result of the student-centered sub-dimension  $\chi^2=.525, sd= 3, p>.05$  did not show a significant difference according to grade level. As a result, it can be said that the grade level of the students studying at the imam hatip high school is a variable that does not significantly affect the student-centered sub-dimension.

**Table 8: ANOVA Findings for Comparing Grade Level of Imam Hatip High School**

	Grade Level	N	$\bar{X}$	Ss	sd	F	p
<b>Thought Provoking</b>	9th Grade	18	34.27	5.34	3/60	.777	.603
	10th Grade	11	35.45	5.18			
	11th Grade	16	36.25	5.05			
	12th Grade	19	36.63	4.49			
<b>Collaborative</b>	9th Grade	18	20.50	2.74	3/60	.775	.512
	10th Grade	11	22.27	3.22			
	11th Grade	16	21.37	3.18			
	12th Grade	19	20.78	3.73			
<b>Related to Life</b>	9th Grade	18	20.66	3.74	3/60	.017	.997
	10th Grade	11	20.81	3.28			
	11th Grade	16	20.56	2.82			
	12th Grade	19	20.73	2.40			
<b>Collaboration of Teaching and Evaluation</b>	9th Grade	18	21.44	1.50	3/60	1.050	.377
	10th Grade	11	22.45	2.01			
	11th Grade	16	21.56	2.18			
	12th Grade	19	21.26	1.69			
<b>Different Perceptions</b>	9th Grade	18	26.00	2.42	3/60	.438	.726
	10th Grade	11	27.45	4.00			
	11th Grade	16	26.68	3.71			
	12th Grade	19	26.15	4.20			

When Table 8 is examined, the cooperative sub-dimension in the suggestive sub-dimension ( $F(3,60)=.777, p>.05$ ) was determined as a result of the ANOVA conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics classes in imam hatip high schools differed significantly according to the grade levels of the students. sub-dimension ( $F(3,60)=.775, p>.05$ ), sub-dimension related to life ( $F(3,60)=.017, p>.05$ ), togetherness of teaching and evaluation sub-dimension ( $F(3, p>.05) 60)=1.050, p>.05$ ) and different perspectives ( $F(3,60)=.438, p>.05$ ) sub-dimensions were not significantly different.

### 3.5 Comparison between Grade Levels of Vocational High School

A Single Factor Analysis of Variance (ANOVA) was conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics courses of secondary school students studying at vocational high schools differ significantly according to the grade levels of the students. As a result of the Levene Test performed to determine whether the homogeneity of variances, which is an important condition of ANOVA, is achieved, the student-centered sub-dimension  $F=.108, p>.05$ , the suggestive sub-dimension  $F=1.004, p>.05$ , the cooperative sub-dimension  $F=.895, p>.05$ ,  $F=1.790, p>.05$  for the life-related sub-dimension,  $F=.716, p>.05$  for the combination of teaching and assessment sub-dimension, and  $F=.199, p>.05$  for the different perspectives sub-dimension found to satisfy the homogeneity condition. The findings from the ongoing analysis are presented in Table 9.

**Table 9: ANOVA Findings for Comparing Grade Level of Vocational High School**

	Grade Level	N	$\bar{X}$	Ss	sd	F	p
<b>Student Centered</b>	9th Grade	10	20.90	3.51	3/37	.596	.622
	10th Grade	10	20.80	3.32			
	11th Grade	8	22.50	3.81			
	12th Grade	13	22.23	3.67			
<b>Thought Provoking</b>	9th Grade	10	38.30	5.41	3/37	.410	.747
	10th Grade	10	40.40	3.30			
	11th Grade	8	39.25	4.94			
	12th Grade	13	38.69	4.44			
<b>Collaborative</b>	9th Grade	10	20.70	4.02	3/37	.187	.905
	10th Grade	10	20.50	2.79			
	11th Grade	8	21.62	3.62			
	12th Grade	13	20.53	3.82			
<b>Related to Life</b>	9th Grade	10	20.40	3.47	3/37	1.841	.157
	10th Grade	10	19.40	2.01			
	11th Grade	8	21.50	2.56			
	12th Grade	13	21.69	1.97			
<b>Collaboration of Teaching and Evaluation</b>	9th Grade	10	22.00	2.40	3/37	1.751	.174
	10th Grade	10	23.30	1.49			
	11th Grade	8	21.87	2.10			
	12th Grade	13	21.46	1.80			
<b>Different Perceptions</b>	9th Grade	10	26.00	4.21	3/37	.171	.915
	10th Grade	10	24.70	4.80			
	11th Grade	8	25.50	4.00			
	12th Grade	13	25.61	3.77			

When Table 9 is examined, as a result of the ANOVA conducted to determine whether the perceptions of constructivist learning environments in religious culture and ethics courses in imam hatip high schools differ significantly according to the grade levels of the students, the student-centered sub-dimension ( $F(3,37)=.596, p>.05$ ) suggestive sub-dimension ( $F(3,37)=.410, p>.05$ ), cooperative sub-dimension ( $F(3,37)=.187, p>.05$ ), life-related sub-dimension ( $F(3,37) =1.841, p>.05$ ), in the sub-dimension of togetherness of teaching and assessment ( $F(3,37)=1.751, p>.05$ ) and different perspectives ( $F(3,37)=.171, p>.05$ ) It was found that there was no significant difference in the ) sub-dimension.

#### 4. Conclusion and Discussion

As a result of the findings, it was concluded that the gender variable did not affect the perception of the constructivist learning environment in the secondary school religious culture and ethics courses. It has been concluded that the type of school students attend is a variable that statistically significantly affects their perceptions of the constructivist learning environment in the secondary school religious culture and ethics course. According to this, the difference found in the sub-dimensions of student-centered, cooperative, life-related and different perspectives was in favor of science high school students when evaluated according to the school types of science high school and



Anatolian high school, imam hatip high school and vocational high school. It was observed that the constructivist learning environment perception of social sciences high school students was higher between social sciences high school and Anatolian high school, imam hatip high school and vocational high school students. It was concluded that the difference found in the suggestive sub-dimension was between science high school, Anatolian high school and imam hatip high school students, and upon examining the difference, it was in favor of science high school students. It has been seen that it is in favor of social sciences high school students between social sciences high school and Anatolian high school, imam hatip high school and vocational high school students, and by examining the average rank. In the sub-dimension of the unity of teaching and evaluation, it is found that it is in favor of the science high school students when the mean rank is examined; When the averages of social sciences high school, imam hatip high school and vocational high school students were examined, it was determined that they were in favor of social sciences high school students.

When we examine the constructivist learning environments of the students in the context of their academic success, it has been concluded that the success of the students is a variable that affects their perceptions of the constructivist learning environment in the secondary school religious culture and ethics course. Accordingly, when the situations with high academic achievement are examined in the sub-dimensions of student-centered, thought-provoking, collaborative, life-related, different perspectives, and the unity of teaching and assessment, it is concluded that success significantly increases constructivist learning environments. Constructivist learning environments perceptions in secondary education religious culture and ethics courses differ significantly according to grade levels, provided that school types remain the same. It has been determined that it is against the students of the upper class and in favor of the upper class students. In the science high school type of school, it can be said that the grade level is a variable that does not significantly affect the student-centered, cooperative, life-related, teaching and evaluation dimensions, and the dimensions of different perspectives, but significantly affects the thought-provoking sub-dimension. In social sciences, anatolian high school, imam hatip high school and vocational high school types, it was observed that grade level was a variable that did not significantly affect the dimensions of student-centered, thought-provoking, collaborative, life-related, unity of teaching and assessment, and different perspectives.

In this study, in which constructivist learning environments in secondary education religious culture and ethics courses were examined in the context of student perceptions, it was observed that the gender variable did not affect the perception of constructivist learning environment, and it was determined that the perception of the learning environment for the course was at the same level by female and male students. In the research conducted by Erdođan & Polat (2017) on the perceptions of constructivist learning environments in the sample of secondary school students, and in the constructivist learning environment studies conducted by Demirtaş, Ođuz, Türedi & Akbař (2015) for primary school teacher candidates, it was seen that the gender variable

did not affect the perception of constructivist learning environment. When we evaluate the result that the students' perceptions of constructivist learning environments differ significantly according to the types of schools, they study in secondary education religious culture and ethics courses, which the studies on the subject support when the literature is examined, the success status and student level are good, such as science high school, social science high school. It has been observed that the perception of constructivist learning environments is high in school types with high success. Accordingly, we can say that the perception of constructivist learning environment is high in schools with high success according to school types. Entwistle & Tait (1990), Trigwell & Prosser (1991) stated that students in learning environments where the association between the situation to be learned and pre-learning are made and the information is structured in the classroom environment are more successful academically. Accordingly, according to the findings obtained in our study, we can say that the organization of constructivist learning environments increases student achievement.

Based on the conclusion that students' perceptions of constructivist learning environment are affected by their existing academic levels, it has been observed that the environments in which successful students are present, regardless of school type, and the environments where religious culture and ethics lessons are taught affect the perception of constructivist learning environment. We can say that as students' AGNOs increase, their constructivist learning perceptions also increase. Based on this result, we can say that constructivist learning environments provide a learning environment that activates students, takes responsibility for their own learning, thinks, researches and questions, positively increases the success of participating students and significantly increases their perception of constructivist learning environment.

Based on the conclusion that there is a significant difference only in the suggestive sub-dimension of the students' perceptions of the constructivist learning environments in the secondary education religious culture and ethics courses, according to the grade variable, there is a difference between the 9th, 10th and 11th grade students and this difference is observed in the 11th grade students. found to be in favor of the students. We can say that the fact that this difference is seen only in the suggestive dimension in the context of the class variable may be due to the fact that the lesson was taught with activities for thinking skills in 11th grades within the framework of constructivist understanding.

In social sciences, Anatolian high school, imama hatip high school and vocational high school types, it was observed that the grade level variable was student-centered, thought-provoking, collaborative, related to life, the unity of teaching and assessment and different perspectives dimensions. We can say that the main reason for the result that the class level of the student does not affect the perception of the constructivist learning environment is that the lessons are taught in the same way and using the same learning environment in all classes.

### Conflict of Interest Statement

The authors declare no conflicts of interest.

### About the Authors

**Prof. Dr. Celal Büyük**, Ataturk University Faculty of Theology, Philosophy and Religious Sciences, Department of Philosophy of Religion. Email: [celal.buyuk@atauni.edu.tr](mailto:celal.buyuk@atauni.edu.tr)

**Hümevra Veyis**, graduate of Atatürk University, Institute of Educational Sciences. Religious culture and ethics teacher in a public school affiliated to the Ministry of National Education. Email: [veyishum@gmail.com](mailto:veyishum@gmail.com)

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