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An evaluation of cooperative learning applications according to teacher opinions

Una evaluación de las aplicaciones de aprendizaje cooperativo según las opiniones de los profesores

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Abstract
The purpose of this research is to evaluate the cooperative learning applications according to the opinions of teachers working at secondary schools, high schools and colleges under General Secondary Education Office (GSEO). The universe of the research consists of 1978 teachers in total who are working at secondary schools (497), high schools and colleges (1481). The sample consists of 728 teachers who were chosen with random sampling method at 37% ratio at lower layers determined with simple stratification method. The data were made using frequency (f), percentage (%), arithmetic mean ($\bar{X}$), Standard deviation (S), t-test, Variance Analysis (ANOVA), Post Hoc Tukey, Kruskal-Wallis and Mann Whitney-U tests with SPSS 16.0 package programme. At the end of the research teachers usually stated positive opinions at the border of "*I agree*" as regards the items directed towards the application of cooperative learning questionnaire. In this context, according to teachers it was concluded that cooperative learning applications could be used at secondary education stage, make contribution to the existing education process, improve problem-solving skills, social and psychological developments of students, reduce class education costs of institutions and decrease the workload of teachers.

Resumen
El propósito de esta investigación es evaluar las aplicaciones de aprendizaje cooperativo de acuerdo con las opiniones de los maestros que trabajan en escuelas secundarias, escuelas secundarias y colegios universitarios bajo la Oficina de Educación Secundaria General (GSEO). El universo de la investigación consta de 1978 profesores en total que trabajan en escuelas secundarias (497), escuelas secundarias y colegios (1481). La muestra consta de 728 maestros que fueron elegidos con un método de muestreo aleatorio en una proporción del 37% en capas más bajas determinado con un método de estratificación simple. Los datos se realizaron utilizando la frecuencia (f), el porcentaje (%), la media aritmética (X), la desviación estándar (S), la prueba t, el análisis de varianza (ANOVA), Post Hoc Tukey, Kruskal-Wallis y Mann Whitney-U Pruebas con el programa paquete SPSS 16.0. Al final de la investigación, los docentes usualmente expresaron opiniones positivas en la frontera de "*Estoy de acuerdo*" con respecto a los ítems dirigidos hacia la aplicación del cuestionario de aprendizaje cooperativo. En este contexto, según los docentes, se llegó a la conclusión de que las aplicaciones de aprendizaje cooperativo podrían utilizarse en la etapa de educación secundaria, contribuir al proceso educativo existente, mejorar las habilidades de resolución de problemas, los desarrollos sociales y psicológicos de los estudiantes, reducir los costos de educación en clase de las instituciones y Disminuir la carga de trabajo de los docentes.

Keywords
Cooperative learning; Teacher; Evaluation

Palabras clave
Aprendizaje cooperativo; Profesor; Evaluación

1. Introduction

In today's education system, in line with the differing needs of individual and the society with the change and development of the age, it is witnessed that different methods which place students to the centre, teach the individual how to reach information, improve their social skills, and ensure that their knowledge and skills are improved are being employed instead of traditional approaches which just transfer knowledge. One of these methods is cooperative learning method (Tuncer and Dikmen, 2017).

Cooperative learning method was defined by Smith (1996) as group studies where each group member takes individual responsibility in order to realise a common purpose which includes positive solidarity. The pattern of behaviour and knowledge expected from student is different in cooperative learning (Arnavut and Ozdamli, 2016). From the point of students, classroom is the tool to understand and explore the world and what is in it (Prichard, Bizo and Stratford, 2006; Abdullah and Shariff 2008). This learning environment is based on creation of a new product by students and their sharing opinions about and when necessary discussing this product (Uzunboylu and Hursen, 2011). During group studies, students develop different ways from each other with the applied strategies and problem-solving methods through decision-making, defining and helping each other and thus learn considerable information (Şimşek, Doymuş and Şimşek, 2008; Gutierez, 2017).

Wang (2012) claim that cooperative learning method application develops thinking abilities of students, creates an environment for critical thinking, makes contribution to analytical thinking abilities, ensures that students explain to each other their opinions during discussion, and improve their skills and experiences inside and outside class. Nevertheless, Byrd (2012) claims that it also allows for the students to improve their verbal communication skills.

Türkmen (2016) conducted a study in order to explore the opinions of elementary school class teachers and students as regards cooperative learning method and the directions made during application. Within this study he observed the classes of teachers and gathered comments from students. As a result, he explored that teachers were inadequate in terms of cooperative learning method and teacher interventions. The knowledge, skills and opinions of teachers is essential in the adoption and application of cooperative learning method.

An examination of the skills of 21st century shows that students are expected to share the responsibility for cooperative studies (Framework For 21st Century Learning, 2007; Keser, Uzunboylu & Ozdamli 2011; Fernández Álvarez, García Laborda, 2011; García Esteban & García Laborda, 2018).

Although there are individual studies which examined the impacts of cooperative studies in Northern Cyprus, the literature search did not show any comprehensive study on the opinions of teachers on the usage of cooperative applications. The literature mostly includes studies on the impact of cooperative learning on student achievement. For this reason, the question "*what are the evaluations of secondary school, high school and college teachers in Northern Cyprus as regards cooperative learning applications?*" represents the problem of this study.

1.1. Purpose

The purpose of this study is to evaluate the cooperative learning activities in Northern Cyprus according to the opinions of secondary school, high school and college teachers under General Secondary Education Office (GSEO). The following sub-purposes were determined in order to reach this goal:

1. What are the opinions of teachers as regards cooperative learning?
2. Is there any significant difference in the opinions of teachers on cooperative learning depending on the following demographic characteristics?
    a. gender
    b. education status

c. age group
d. nationality
e. type of school they are working
f. regions where school is located
g. professional seniority
h. branch
i. school grade and
j. receiving on-the-job training

2. Method

2.1. Research model

The research is a descriptive study using scanning model with the purpose of determining the opinions of teachers at secondary education office on cooperative learning. General scanning model is the scanning organizations conducted on the entire universe or a group of example or sample taken from the universe (Karasar, 2009). Descriptive studies define a given situation in an accurate and careful manner (Büyüköztürk et al., 2009).

2.1. Universe and sample

The universe of the research consisted of 1978 teachers at secondary schools (497), high schools and colleges (1481) under General Secondary Education Office of Northern Cyprus. The sample of the universe consists of 728 teachers who were chosen with random sampling method at 37% ratio at lower layers determined with simple stratification method. In the study, districts of Northern Cyprus (regions) were identified as sub-layers and, as it was not possible to reach the entire universe due to time and cost constraints, "*simple random sampling*" and "*stratified sampling*" method were used. Simple random sampling is the method with which each sample is given equal chance of being selected and the chosen units are included in the sample (Büyüköztürk et al., 2009).

Provided that each unit belongs to a single layer and no unit remains uncovered, when the universe is divided into sub-groups so that change within the layer is minimum (homogeneous), change between layers is maximum (heterogeneous) and sample is extracted from each layer separately and independently, this method is called stratified sampling (Büyüköztürk et al., 2009). Table 1 gives the universe of teachers and the sample group chosen with random sampling.

Table 1.
Universe belonging to teachers and the chosen sample group

	Nicosia		Famagusta		Kyrenia		Güzelyurt		İskele		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Universe	849	43	442	22	359	18	191	10	137	7	1978	100
Sample	339	44	153	20	115	15	101	13	63	8	771	39

Table 1 gives the sample of teachers created by random sampling method as 771 (39%). Seven data collection tools were not returned and 36 were not filled completely or had errors, for which reason they were excluded from the sample. As a result, the teacher sample was taken as 728 (37%).

2.2. Demographic characteristics of participants

Demographic characteristics of teachers were indicated and findings and comments as regards their opinions on cooperative learning were provided. Table 2 gives the frequency (f) and percentage (%) values of demographic characteristics of teachers.

Table 2.
of teachers according to their demographic characteristics

Demographic variable	**Teacher**	
Gender	**f**	**%**
Male	208	28,57
Female	520	71,43
Age	**f**	**%**
30 years and below	127	17,45
31-35 years	164	22,53
36-40 years	208	28,57
41-45 years	142	19,51
46 years and above	87	11,95
Nationality	**f**	**%**
Northern Cyprus	692	95,05
Republic of Turkey (TC)	16	2,20
Other	3	0,41
Northern Cyprus-Republic of Turkey	17	2,34
Education status	**f**	**%**
Undergraduate	627	86,13
Graduate	101	13,87
Professional seniority	**f**	**%**
1-5 years	57	7,83
6-10 years	142	19,51
11-15 years	205	28,16
16-20 years	199	27,34
21 years and above	125	17,17
Branch	**f**	**%**
Science-maths	170	23.35
Social sciences and literature	259	35.58
Foreign languages	123	16.90
Art – technic sciences – physical education	176	24.18
Regions where he/she works	**f**	**%**
Nicosia	329	45,19
Kyrenia	107	14,70
Famagusta	143	19,64
Güzelyurt	93	12,77
İskele	56	7,69
Teaching grade	**f**	**%**
Secondary school	228	31,32
High school	312	42,86
College	188	25,82
Participation at on-the-job training	**f**	**%**
Participant	200	27
Non-participant	528	73
Total	**728**	**100,0**

When table 2 is examined, it can be seen that the number of female teachers is higher compared to male teachers, the number of teachers at 31-40 age interval is higher, teachers who are citizens of Northern Cyprus are in majority, education status of teachers is undergraduate level, the demand for graduate education is not sufficient, majority of teachers had 11-20 years of experience, the number of teachers in verbal fields is higher compared to teachers in maths, arts and technical fields, most teachers work in the capital Nicosia region, teachers want to improve themselves and have positive opinions towards learning novel education techniques and methods.

2.2. Data collection tool and collection of data

Data collection tool of the study consists of 2 sections. The first section consists of "*personal information form*" consisting of 9 items with the purpose of gathering personal information of teachers. The form was prepared in order to determine the "*gender*", "*age*", "*nationality*", "*education status*", "*professional seniority*", "*branch*", "*participation at on-the-job training courses*" and "*region of duty*". In the second section, the "*Opinion survey on usage of cooperative learning method of teachers*" consisting of 48 items which was adapted from English to Turkish by Kara, Bicen and Uzunboylu (2009) to study on philosophy group teachers. The survey was applied to 20 teachers reporting to secondary education office in the scope of validity and reliability. In calculating the survey reliability coefficient, Cronbach Alpha test which is a method based on item variance was conducted and reliability level was found as .70. Then, scores arising from item analysis was examined and the 8 items which received low scores was excluded under the guidance of 2 educationists and improvements were made on the items. A questionnaire consisting of 40 items and 5 Likert type questions was made suitable for the target group.

2.3. Analysis and interpretation of data

SPSS 16.0 (Statistical Package for the Social Sciences) package programme was used in the statistical analysis of the data. In order to determine the hypothesis tests to be used in statistical analysis, Shapiro-Wilk (S-W) which is a normality test was employed so as to examine whether the data set showed normal distribution. According to K-S test results, it was found out that the data set showed normal distribution. Accordingly, parametric hypothesis tests were used in comparing the opinions of teachers on the questionnaire with independent variables.

Frequency tables were used in determining the demographic and professional characteristics of teachers. If the number of independent variables was two, t test was used. If the number of independent variables was more than two and variances were homogeneous, Variance Analysis (ANOVA) was employed. If statistically significant difference is found as a result of variance analysis, Post Hoc Tukey test was applied as an advanced analysis method in order to find the variable which is the origin of the difference.

As the variances of regions where teachers work is not homogeneous, Kruskal-Wallis test which is a non-parametric hypothesis test was used in comparing the questionnaire scores according to regions. If statistically significant difference is found as a result of Kruskal-Wallis test, Mann Whitney U test was applied as an advanced analysis method in order to find the variable which is the origin of the difference.

3. Findings and interpretations

This section includes the conclusions and interpretations as regards the findings in the direction of determined purposes.

3.1. Distribution of answers given by teachers to cooperative learning questionnaire

The distribution of answers given by teachers to cooperative learning survey and minimum and maximum item values as well as general mean values are given in table 3.

Table 3.
Distribution of Answers given by teachers to cooperative learning questionnaire

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree		
	%	%	%	%	%	$\overline{X}$	ss
1. When I use cooperative learning methods my students tend to deviate from their tasks.	21,86	27,13	13,23	21,46	16,33	3,37	1,37
2. Each teacher is able to successfully apply cooperative learning.	17,68	21,46	15,65	25,78	19,43	3,08	1,40
3. Material resources are needed to apply cooperative learning.	14,30	20,78	10,93	26,18	27,80	3,33	1,44
4. Competition is the best method which prepares students to real life.	15,65	20,24	13,50	30,09	20,51	3,59	1,26
5. Cooperative learning leaves successful students in the shadows.	30,09	43,72	11,47	8,77	5,94	3,03	1,41
6. Currently there is too much demand for change in education.	8,10	13,90	12,28	35,63	30,09	3,66	1,26
7. Cooperative learning is suitable for my education philosophy.	8,50	9,45	12,01	40,49	29,55	3,74	1,22
8. My students lack the qualifications needed for cooperative group study.	19,97	30,77	14,17	21,59	13,50	3,39	1,31
9. My success in cooperative learning depends on the support I receive from my teacher colleagues.	25,10	25,51	12,96	20,78	15,65	**2,77**	1,43
10. Using cooperative learning method can cause several disciplinary problems between students in my class.	19,97	31,04	12,01	22,40	14,57	3,42	1,32
11. Using cooperative learning methods ensured my progress in career.	22,94	20,38	17,68	23,62	15,38	**2,87**	1,39
12. One of the requirements for success in cooperative learning method is the support of school management.	6,34	9,04	6,34	39,81	38,46	3,95	1,18
13. Cooperative learning conflicts with the goals of parents.	22,94	35,76	16,60	16,19	8,50	3,24	1,31
14. Cooperative learning is a valuable teaching approach.	2,29	3,51	7,56	46,29	40,35	4,19	0,89
15. If the groups are homogeneous students can learn the material better.	4,05	8,10	9,72	45,34	32,79	3,95	1,06
16. During the employment of cooperative learning method several students can expect the project to be prepared by other group members.	7,56	11,20	12,82	41,84	26,59	3,69	1,20
17. Cooperative learning is suitable for 1st level grades.	12,01	14,84	19,43	32,52	21,19	3,36	1,30
18. It is impossible to apply cooperative learning method without special materials.	18,76	27,40	14,84	22,40	16,60	**2,91**	1,38
19. Cooperative learning puts too much emphasis on the improvement of social aspects of students.	9,18	18,35	16,19	31,98	24,29	3,80	1,10
20. Being in interaction in cooperative learning improves the social aspects of students.	2,56	4,45	5,13	48,85	39,00	4,17	0,91
21. It is impossible to evaluate students fairly with cooperative learning method.	22,13	33,60	17,00	17,95	9,31	3,27	1,30
22. There is too little time to prepare students for working effectively in groups.	13,63	19,16	8,50	28,07	30,63	3,80	1,26
23. There are so many students in my classroom that it is not possible to implement	14,17	21,73	7,56	31,58	24,97	3,75	1,24

	cooperative learning effectively.							
24.	Using cooperative learning method makes contribution to the friendship relations between students.	1,75	2,70	3,37	46,69	45,48	**4,32**	0,82
25.	Cooperative learning develops social aspects of students.	1,48	2,16	3,51	50,20	42,65	**4,30**	0,77
26.	Equal responsibility is given to each group member in cooperative learning.	4,05	10,80	10,12	43,05	31,98	3,88	1,10
27.	Cooperative learning can be performed in a student-centred manner.	2,16	2,83	8,10	46,56	40,35	4,20	0,87
28.	Using cooperative learning increases the positive attitudes of students towards teachers.	2,02	2,43	7,29	49,93	38,33	4,20	0,84
29.	Cooperative learning facilitates the learning of students at lower levels.	4,45	7,29	13,77	44,67	29,82	3,88	1,06
30.	Students in the classroom possess the qualifications needed for cooperative group work.	14,98	19,16	17,95	28,34	19,57	3,18	1,35
31.	Cooperative learning is a valuable teaching approach.	2,56	2,29	6,75	46,02	42,38	4,23	0,87
32.	Students can perform studies in small groups with cooperative learning.	1,08	2,83	6,07	51,96	38,06	**4,23**	0,78
33.	Cooperative learning creates a suitable environment for the creation of supporting learning products.	1,75	2,16	8,23	52,23	35,63	4,18	0,81
34.	In cooperative learning group members are responsible not only for their own learning but also the learning of their friends.	3,37	6,34	8,91	47,23	34,14	4,02	0,99
35.	Cooperative learning puts too much responsibility on students.	8,50	14,57	12,42	38,60	25,91	3,88	1,07
36.	Cooperative learning can act as a guide for the learning of students.	2,97	3,51	6,88	50,07	36,57	4,14	0,91
37.	Preparation and application of cooperative learning method takes too much time.	13,90	27,26	16,60	24,43	17,81	3,60	1,20
38.	Cooperative learning can leave successful students in the shadows.	21,86	31,85	18,49	17,68	10,12	3,26	1,31
39.	Applying cooperative learning steals away too many class hours.	18,22	27,94	13,63	22,67	17,54	3,48	1,30
40.	Cooperative learning is an easily applicable method.	14,57	24,02	17,68	26,05	17,68	3,08	1,33

When table 3 is examined, it is seen that teachers thought that cooperative learning increased social relations between students, improved friendship relations, that cooperative learning could be applied in classroom environment and that the method was really valuable; it is also noticeable that they think that they have self-confidence that they will be successful in cooperative learning, that they thought that the development related to their careers were not relevant to cooperative learning and that they thought that cooperative learning could be applied without using a special tool or instrument. Table 4 gives the general mean scores of the answers given by teachers to cooperative learning questionnaire.

Table 4.
Definitive statistics of answers given by teachers to cooperative learning questionnaire

	N	$\overline{X}$	**sd**	**Min.**	**Max.**
Cooperative learning questionnaire	728	3,51	0,33	2,50	4,43

When table 4 is examined, it is found out that teachers agreed to the cooperative learning questionnaire at the ratio of 3.51. In this context, teachers agreed that cooperative learning applications would make contribution to teaching process.

3.2. Comparison of opinions of teachers as regards cooperative learning according to their demographic characteristics

In this section the tables, findings and comments as regards comparison of opinions of teachers as regards cooperative learning according to their demographic characteristics are provided.

3.2.1. Comparison of opinions of teachers as regards cooperative learning according to their gender and education status

T test results as regards comparison of mean scores obtained by teachers covered by the study from cooperative learning questionnaire according to their gender and education status are given in table 5.

Table 5.
T test results as regards comparison of cooperative learning questionnaire scores of teachers according to their gender and education status

Demographic characteristics	n	$\overline{X}$	sd	t	p
Gender					
Male	208	3,49	0,33	-1,06	0,29
Female	520	3,52	0,33		
Education status					
Undergraduate	627	3,52	0,34	1,82	0,07
Graduate	101	3,45	0,31		

An examination of table 5 shows that there is no statistically significant difference between mean scores obtained by teachers covered by the study from cooperative learning questionnaire according to their gender and education status [t=-1,06, p>0,05]. The opinions of female and male teachers as regards the questionnaire are similar.

Likewise, when the scores obtained by teachers from cooperative learning questionnaire are examined according to their education status, it has been found out that the difference between mean scores obtained by teachers with undergraduate and graduate degrees from the questionnaire was statistically insignificant [t=1,82, p>0,05].

3.2.2. Comparison of opinions of teachers as regards cooperative learning according to their age group and nationality

ANOVA results as regards comparison of mean scores obtained by teachers from cooperative learning questionnaire according to their age group and nationality are given in table 6. In addition, Tukey test was used as variances were homogeneous.

Table 6.
Variance analysis (ANOVA) results as regards the comparison of cooperative learning questionnaire scores of teachers according to their age group and nationality

Demographic characteristics	n	$\overline{X}$	sd	Min.	Maks.	F	p	Tukey
Age group								
30 years and below	127	3,52	0,31	2,63	4,18	3,84	0,00*	2-3
31-35 years	164	3,44	0,33	2,60	4,30			
36-40 years	208	3,57	0,34	2,55	4,43			
41-45 years	142	3,48	0,32	2,50	4,20			
46 years and above	87	3,53	0,36	2,83	4,35			
Nationality**								
Northern Cyprus	692	3,51	0,33	2,55	4,43	2,23	0,11	
TC (Republic of Turkey)	16	3,59	0,27	3,18	4,13			
Northern Cyprus -TC	17	3,36	0,34	2,50	3,83			

**p<0,05 , **"other" option was not included in the analysis.*

When table 6 is examined, it is found out that there is statistically significant difference between mean scores obtained by teachers covered by the study from cooperative learning questionnaire according to their age group [F(df)= 3,84; p<0,05]. This difference is caused by the teachers in 31-35 age group and 36-40 age group. teachers in 31-35 age group received 3,44±0,33 points from the questionnaire which is lower compared to teachers in 36-40 age group ($\overline{x} = 3{,}57$). As the other option was n=3, it was not included in the analysis so that it would not affect the result accordingly, it can be seen that teachers in 36-40 age group at schools under secondary education office had a more positive stance towards cooperative learning.

3.2.3. Comparison of opinions of teachers as regards cooperative learning according to their type of school

The comparison of secondary school-high school and college-science high school where the teachers worked is given in table 7.

Table 7.
T Test results as regards the comparison of cooperative learning questionnaire scores of teachers according to their type of school

School type	n	$\overline{X}$	ss	t	p
Regular secondary school-high school	514	3,50	0,33	-1,18	0,24
College-science high school	214	3,53	0,33		

When table 7 is examined, it is seen that there is no statistically significant difference between opinions of teachers covered about cooperative learning questionnaire according to their type of school [t= -1,18, p>0,05].

3.2.4. Comparison of opinions of teachers as regards cooperative learning according to the region they are working

Table 8 gives the results on Nicosia, Kyrenia, Famagusta, Güzelyurt and İskele regions where the teachers worked.

Table 8.
Kruskal Wallis Test Results as regards the comparison of cooperative learning questionnaire scores of teachers according to the region they work

Region	n	Rank mean value	χ^2	p	U
Nicosia	329	352,29	15,05	0,00*	1-4
Kyrenia	107	372,43			3-4
Famagusta	143	370,76			3-5
Güzelyurt	93	427,73			
İskele	56	300,11			

**p<0,05*

When table 8 is examined, it was found out as a result of Ksuskal Wallis Test that distributions were not homogeneous. Mann Whitney U test was conducted to compare regions with each other on an individual basis. In the end, there is difference between opinions of teacher son cooperative learning in Nicosia-Güzelyurt, Famagusta-Güzelyurt and Famagusta-İskele. Accordingly, teachers working at Nicosia region at schools under secondary education office have more positive opinions on cooperative learning compared to teachers in Güzelyurt region, and that teachers in Famagusta region provided more positive opinion compared to teachers in Güzelyurt and İskele regions.

3.2.5. Comparison of opinions of teachers as regards cooperative learning according to the professional seniority, branch and level of school of teachers

Anova results as regards cooperative learning according to their professional seniority, branch and school level is given in table 9.

Table 9.
Variance Analysis (ANOVA) results as regards the comparison of cooperative learning questionnaire scores of teachers according to professional seniority, branch and level of school of teachers

	n	$\overline{X}$	sd	Min.	Max.	F	p	Tukey
Professional seniority								
5 years and below	57	3,48	0,33	2,65	4,18	1,26	0,28	
6-10 years	142	3,46	0,33	2,60	4,43			
11-15 years	205	3,52	0,32	2,55	4,30			
16-20 years	199	3,52	0,33	2,50	4,25			
21 years and above	125	3,54	0,36	2,83	4,35			
Branch								
Science studies - maths	170	3,48	0,35	2,50	4,35	0,85	0,47	
Social studies - literature	259	3,53	0,32	2,55	4,43			
Foreign languages	123	3,52	0,33	2,60	4,30			
Arts-technical knowledge-physical education	176	3,51	0,34	2,60	4,18			
School level								
Secondary school	228	3,44	0,34	2,60	4,35	7,36	0,00*	1-2
High school	312	3,55	0,32	2,55	4,30			1-3
College	188	3,52	0,33	2,50	4,43			

**p<0,05*

When table 9 is examined, it is seen that there is no statistically significant difference between opinions of teachers on cooperative learning according to their seniority [F(df)=1,26; p>0,05]

and branch [F(df)=0,85; p>0,05]. However, it is found out that there is significant difference according to school level. Tukey test was conducted in order to determine the source of this difference and it was found out that there is difference between secondary school-high school and secondary school-college levels. Accordingly, it is observed that teachers working at secondary schools under secondary school office have more positive views about cooperative learning compared to teachers working at high schools and colleges.

3.2.6. Comparison of opinions of teachers as regards cooperative learning according to their participation at on-the-job training courses on cooperative learning

Test results as regards cooperative learning of teachers according to their participation at on-the-job training courses are given in table 10.

Table 10.
T Test results as regards the comparison of cooperative learning questionnaire scores of teachers according to their participation at on-the-job training courses on cooperative learning

Participation at on-the-job training	n	$\overline{X}$	sd	t	p
Participants	200	3,44	0,32	-3,73	0,00*
Non-participants	528	3,54	0,33		

**p<0,05*

When table 10 is examined, it was concluded that the opinions of teachers who participate and do not participate at on-the-job training courses as regards were positive cooperative learning, but the opinions of teachers who receive don-the-job training provided slightly higher approval [t= -3,73, p<0,05]. Accordingly, it is observed that the teachers working at schools under secondary education office who participated at on-the-job training provided more positive opinions on cooperative learning and that on-the-job training courses were effective.

4. Conclusions and recommendations

In this study, the opinions of teachers working at schools under general secondary education level on cooperative learning were evaluated. In this context it was concluded that the opinions of teachers on cooperative learning applications were positive and similar according to their gender.

Likewise, the opinions of teachers with undergraduate and graduate degrees on cooperative learning applications are also positive and similar. In addition, the opinions of teachers working at secondary schools, high schools and colleges on cooperative learning applications are also positive and similar.

Another conclusion is that teachers in 36-40 age interval have more positive views towards cooperative learning. It is found out that the teachers in Nicosia region working at schools under secondary education office have more positive views towards cooperative learning compared to teachers at Güzelyurt region and that teachers working in Famagusta region have more positive views on cooperative learning according to teachers in Güzelyurt and İskele regions.

The opinions of teachers on cooperative learning are positive and similar according to their seniority and branch. However, it is concluded that teachers working at secondary schools have more positive views on cooperative learning compared to teachers working at high schools and colleges.

The opinions of teachers who receive and do not receive on-the-job training are positive on cooperative learning; however, it is concluded that teachers who received courses provided slightly more positive views. It is found out that all teachers provided their opinion as "*I agree*" at 3.51 ratio to cooperative learning questionnaire.

In this context, teachers provided positive opinion that cooperative learning applications would make contribution to education process. When the answers given by teachers to the applied questionnaire are examined, the opinions that cooperative learning improved social relations between students, improved theirs friendship relations, that cooperative learning could be applied to students in class environment and that the method was really valuable became evident. In addition, it is noticeable that teachers have self-confidence in that they could be successful in cooperative learning, believed that the developments related to their career were not relevant to cooperative learning and thought that cooperative learning could be applied without special tools and instruments.

Contrary to these results, Kara, Bicen and Uzunboylu (2009) conducted a study in order to determine the opinions of 38 philosophy group teachers in Northern Cyprus on cooperative learning method and found out that there was a neutral attitude towards the application of cooperative learning. This situation showed that teachers did not have much information on this method.

There are parallel studies in the literature on these conclusions. Arslan and Zengin (2016) examined the impact of cooperative learning method and traditional learning method on the scientific and social skills of university science studies teachers in laboratory classes and determined that "*together learning technique*" which is a cooperative learning method technique had positive impact on scientific and social skills. Likewise, Aydın and Alakuş (2009, 66) stated a parallel opinion by expressing in their study that cooperative leaning method had important contributions to development of cognitive field, that this method ensured that social skills are developed, anxiety is eliminated and classes and school were more liked. Recommendations are provided according to the conclusions of the study:

- Cooperative learning environments must be increased and used in several classes. however, teachers need on-the-job training programmes conducted by experts so that teachers can implement cooperative learning techniques.
- On-the-job training courses must be organized on cooperative learning and it must be emphasised in these training activities that cooperative learning is more comprehensive than a group study.

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