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Values Education Processes in Turkish Elementary Schools: A Multiple Case Study

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ABSTRACT

Due to the comprehensive nature of the values education process, multi-method investigations taking all stakeholders into account is of great importance. In this study, it is aimed to conduct an in-depth examination, on the effective values education programs being implemented in a private and a public secondary level educational institution in Turkey; and to compare and contrast the two cases, and to assess several indicators the processes in terms of output behaviors and attitudes. Characteristics and the efficiency of values education processes in the institutions were examined through teacher, student and parent interviews and self-report quantitative scales. The values of education processes offered by the educational institutions were examined in terms of students' value attitudes levels, and their self-report appraisals of the school climate. Also, the data on the values education competency of these institutions and the institutional culture based on teacher reports were collected through self-report questionnaires. Data were analyzed with respective procedures and the results were integratively discussed within the scope of the relevant literature. It has been seen that the values education in these schools with various unresolved issues and inadequacies, have the potential to reveal tangible results. Foremost contribution of the present study is envisaged to shed light on the values education processes and potential outcomes of these processes in Turkish schools.

Keywords:
Values education, character education, multiple case study

1.Introduction

Berkowitz and Bier (2005) emphasized character education to have been a practice throughout history yet to not have been addressed sufficiently in terms of science; they stated that programs that empirically show effectiveness need to be given priority while selecting effective character education programs. In this context, evaluating, monitoring, and critiquing the processes of values education using scientific standards is an inevitable necessity. The main characteristics in the process of values education are school climate and the prerequisites of school staff working as character trainers and evaluating the degree to which students clearly show good values (the 11 principle of character education, see Lickona, 1996). At the same time, providing and evaluating the validity of scientific applications is also a necessity. Examining values education studies as a holistic process that concerns all members of the school system may make significant contributions regarding values education processes.

The dissemination of phenomena in quickly transforming social life such as the shaking of the family institution, which has been accepted as the traditional morality teacher for children, the tendency toward violence that has spread through the effect of negative role models who negatively impact the character of youth, inappropriate sexual behaviors, decreased social responsibility, and self-harm have been observed in

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many societies, and this situation has adversely affected the well-being of individuals and societies psychologically and morally. Values education practices in schools have gained increasing importance for preventing these negative phenomena and at the same time for having new generations gain shared moral values such as respect, responsibility, honesty, sensitivity, and citizenship.

Literature on values education processes in Turkey is comprised of studies testing effectiveness of certain values education interventions (see Dereli-İman, 2014; Katılmış, Ekşi, & Öztürk, 2011) or those mainly relied on opinions regarding values education from teachers (see Kaymakcan & Meydan, 2011; Kurtdede-Fidan, 2009; Meydan & Bahçe, 2010; Yalar & Yanpar-Yelken, 2011). This case study intends an in-depth examination of the values education programs applied in private and state educational institutions that provide middle school-level education by way of student, teacher, and parent interviews and document analyses, it intends to examine both school types within themselves and comparatively in terms of the outcomes related to values acquisition and school climate. By doing so, the present study may present a holistic notion of processes and potential outcomes of values education procedures and address the gap in the previous literature. Studies performed using multiple methods and with broad participation for examining the effectiveness of values education programs, which have gained increasing importance in Turkey in recent years and which are held compulsory by the Ministry of National Education in institutional-level schools, and for examining values education studies performed in this context would make significant contributions to the field by illuminating the important points about the processes of values education. In addition, providing contributions to revealing the strong and clear aspects of development would be attempted by describing current values education practices and addressing the available practices holistically. This study is envisaged as being the first in Turkey with tis respect.

The aim of the present study is to examine what type of values education practices are performed in schools and how administrative processes function within the context of each school type itself. Differences between schools are covered by measuring evaluations of students' levels of positive values and in relation to their school climate. As a result of the multi-dimensional investigation, hopefully, the current situation may be developed with respect to competence levels, as well as recommendations based on these. The experiences and evaluations that parents, students, teachers, and administrators possess concerning this program is examined. The most important of the basic theoretical frameworks referenced at this point is the 11 principle of character education, which was formulated by Lickona (1996). Although the "values education" is the mostly utilized framework for defining practices in Turkey, character education model has been evaluated as being suitable for understanding applications in Turkey as a holistic approach (Meydan, 2014) and providing a framework related to evaluations and taking into account academic content, extracurricular activities, and institutional culture (Ekşi, 2003). In other words, this study intends to descriptively analyze two allegedly successful schools with respect to their procedures and outcomes regarding values education with reference to the character education framework.

2. Method

2.1. Research Model

The values education process is a holistic process concerning all members of the school system. For this reason, receiving evaluations of the schools' teachers, students, and parents is required, as well as a multi-layered examination investigating the effect that values levels and school climate have on students. Therefore, this research aims to comparatively examine qualitative and quantitative data. Thus, the scientific research approach and design of the study can be defined as a case study. Although the research design has quantitative and qualitative patterns (Johnson, Onwuegbuzie, & Turner, 2007), classifying it as a case study would be correct because it aims for an in-depth and multi-dimensional investigation of current real-life situations. Performing an analysis on a limited case also is counted among the basic qualities of case studies. The quantitative methods design in this research was resorted to as the triangulation strategy. Multiple information sources and units of analysis have been determined in this study, a multi-dimensional case study that discusses multiple cases as the units of analysis (Creswell, 2013).

The purposive sampling method has been used while determining the schools to be examined. Schools have been selected that have values education practices at the student, teacher, administrator or school level and whose values education processes have been given importance at the planning, implementation, and

administration in supervision levels. Two schools, one being private and one a public school from the Anatolian side of Istanbul were chosen based on recommendations of officials from District National Education Directorate. The officials recommended schools based on their academic achievements, low levels of disciplinary problems, their endeavors relevant to values education such as contribution to charity activities and relevant composition contests and having sufficient levels of physical facilities and sufficient number of staff and their anecdotal evidences. Schools were contacted and allowed the research to be conducted through informed consent. After necessary permissions, two studies, one with qualitative design and one with quantitative design were implemented.

2.2. Participants

Study 1

The first quantitative study aimed to descriptively and comparatively analyze the students and teachers of both schools by themselves in terms of outcomes related to values education, values acquisition, and school climate. Students' descriptions of moral maturity and statements related to school climate and descriptions of teachers' statements about the school's character education and school culture are examined, as well as whether a differentiation exists between school types.

Study group: A total of 799 students participated in the quantitative phase. Of the students, 357 are girls (54.7%) and 437 are boys; 587 are from public schools (73.5%), and 212 are private school students. Their ages range from 10 to 14. Of the participants, 23 have been removed from the data for randomly or incompletely filling out the measuring instruments. These participants have not been included in the analyses. Of the 55 teachers, 30 work in public schools (54.5%) and 25 in private schools; 38 are women (69%). Of the teachers, two have been removed from the participant group for incompletely filling out the measurement tools. These participants have not been included in the analyses.

2.3. Data collection tools

Demographic form: This form gathered demographic data related to the students and teachers and aimed to gather information such as that related to gender, age, grade, perceived income level group, perceived level of success, perceived attitudes of parents, and parents' educational status. A briefing was aimed at informing the data collection process that addressed the participants and was directed at providing informed consent.

School Climate Scale: The School Climate Scale, developed by Çalık and Kurt (2010), was be used for the purpose of measuring students' perceptions and attitudes related to school climate. In the Likert-type evaluation of the scale, 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, and 5 = Always. The scale has reverse-scored items. The 22-item scale has three sub-dimensions: (1) Supportive teacher behaviors (8 items), (2) Focus on success (4 items), and (3) Safe learning environment and positive peer interactions (10 items).

In the scale's reliability and validity study performed by Çalık and Kurt (2010), Cronbach's alpha values for the sub-scales are .79, .77, and .85, and .81 for the whole scale. According to the results from the confirmatory factor analysis, the fit levels were acceptable (X^2 = 703.51, *SD* = 203, $p < .001$, X^2 / *SD* = 3.47; *GFI* = .88; *RMSEA* = .072; *CFI* = .94; *AGFI* = .85).

Moral Maturity Scale: The scale, developed by Dilmaç (1999), was used to measure students' levels related to human values weighted for the values of justice and respect. The scale consists of 66 items and assesses using a 4-point evaluation with 1 = Never is true, 2 = Rarely true, 3 = Often true, and 4 = Always true. Negative statements on the scale are reverse scored. The Spearman-Brown coefficient and Cronbach's alpha, which have been calculated for internal consistency in examining the reliability and validity, are .66 and .73. All items in the discrimination analysis were found to significantly discriminate (at either the $p < .01$ or $< .05$ levels).

Character Education Competence in Schools Scale (CECSS): The CECSS is a 9-point Likert-type scale developed by Acat and Aslan (2011) for the purpose of examining the character education competence of schools according to the statements of teachers, students, and parents; responses are scored from 0 (Never) to 9 (Always). The item-total correlation coefficients for the scale have values between .52 and .76. The results of the *t*-test, performed for discrimination analysis of the items included in the scale, are significant for all test items at the level of $p < .01$. Factor loadings for the 33 items on the final form of the scale range from .50 to .83.

Cronbach's alpha of internal consistency for the scale's total score is .96 and ranges between .86 and .92 for the coefficients on the sub-scales.

School Culture Scale: The School Culture Scale, developed by Terzi (2005), was used for the purpose of analyzing teachers' perceptions on school culture. The scale consists of 29 items based on a 5-point Likert evaluation (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Usually, 5 = Always). The exploratory factor analysis determined the scale to have a 4-factor structure, and these factors explain 50.97% of the total variance. Cronbach's alpha of internal consistency is .84 for the entire scale and .88, .82, .76, and .74 for the sub-dimensions of support culture, success culture, bureaucratic culture, and mission culture, respectively.

Process: This study used self-report scales that can be applied with pen and paper. Measuring tools containing the School Climate Scale (22 items; Çalık & Kurt, 2010) and Moral Maturity Scale (Dilmaç, 1999) forms were applied to the students and data collection tools containing the teacher form of the Character Education Competence Scale in Schools Scale (CECSS; Acat & Aslan, 2011) and the School Culture Scale (Terzi, 2005) were applied to the teachers. Average item scores have been obtained by dividing the total scores by the number of items in order to more easily understand the scales' scores in the descriptive results.

The participants' informed consent was received when filling the scales and voluntary participation was provided. Analysis has been provided by transferring the data obtained from the scales to an electronic environment; various descriptive statistics and comparisons have been made. Data have been analyzed using descriptive statistics and, according to the case for meeting parametric test assumptions, to the t-test, ANOVA, and Pearson correlations for parametric tests and to the Mann-Whitey U-test, Kruskal-Wallis test, and Spearman correlations for non-parametric tests.

2.4. Data Analysis

Although the skewness values for students' moral maturity scores comply with the normal distribution criteria for all variables, analyses related to the variables have been done using non-parametric methods due to value for focus on success from the school climate scale exceeding the acceptable limits for kurtosis values. The analyses related to the other variables have used parametric analysis methods.

The School Climate Scale, developed by Çalık and Kurt (2010), was used for the purpose of measuring the perceptions and attitudes related to school climate of middle-school students in 5th, 6th, 7th, and 8th grades. Table 1 provides the average item scores separately for the school climate score levels of public and private schools, and the results from the *t*-test and Mann-Whitney *U*-test regarding whether or not significant differences exist statistically between the schools. Significant differences have been found in favor of public schools in terms of focus on success, supportive teacher behaviors, and overall school climate scores and in favor of private schools in terms of safe learning environment.

Table 1. Descriptive statistics for students' school climate and moral maturity scores and the differences between public and private schools

	$\bar{\chi}$	SD	Public (n = 587)	Private (n = 212)	t	U
Supportive Teacher Behaviors	3.54	.64	3.61 ± 0.62	3.32 ± 0.64	5.70**	-
Focus on Success	3.84	.43	3.89 ± 0.39	3.74 ± 0.53	-	51,456.5**
Safe Environment	2.85	.41	2.82 ± 0.42	2.93 ± 0.39	-3.20*	-
Overall School Climate	3.28	.27	3.54 ± 0.28	3.21 ± 0.48	3.84**	-
Moral Maturity	3.48	.39	3.56 ± 0.29	3.23 ± 0.49	9.325**	-

* $p < .01$. ** $p < .001$

Teachers' statements related to competence in the school's character education processes and about the dimensions related to school culture have been descriptively and comparatively analyzed. Analyses have been made using parametric methods because the scores fit the criteria for normal distribution. Table 2 provides the average item scores related to public and private schools' separate perceptions on character education competence, average item scores for their separate perceptions about school culture, and *t*-test results on whether any significant differences exist statistically between the schools.

Table 2. Descriptive statistics for teachers' CECSS and school culture scores and the differences between public and private schools

	$\bar{x}$	SD	Public (n = 30)			Private (n = 25)			t
Planning & Implementation	7.54	1.41	8.08	±	1.24	6.89	±	1.34	3.41**
Interaction	7.28	1.50	8.08	±	1.15	6.33	±	1.32	5.26***
Psychosocial Environment	8,00	1.08	8.29	±	1.00	7.66	±	1.09	2.218*
Stakeholder Participation	7.27	1.68	7.77	±	1.64	6.68	±	1.55	2.524*
Evaluation	6.99	1.81	7.34	±	1.96	6.57	±	1.53	1.602
CECSS Total	7.42	1.35	7.94	±	1.29	6.80	±	1.17	3.415**
Support Culture	3.72	0.86	3.92	±	0.94	3.47	±	0.68	1.996
Success Culture	3.84	0.62	4.09	±	0.54	3.55	±	0.59	3.573**
Bureaucratic Culture	3.46	0.89	3.65	±	1.04	3.23	±	0.62	1.789
Mission Culture	4.36	0.52	4.44	±	0.57	4.27	±	0.44	1.271

* p < .05; ** p < .01. *** p < .001; Note: Higher values show higher levels for the relevant area.

According to the results in Table 2, significant differences are seen in favor of public schools in terms of Planning and Implementation, Interaction, Psychosocial Environment, Stakeholder Participation, and overall CECSS scores and Success Culture scores. No significant difference is seen in terms of Evaluation, Support Culture, Bureaucratic Culture, or Mission Culture scores.

Study 2: The purpose of Study 2 is to evaluate the characteristics of values education applied in school over the views of teachers, students, and parents regarding its effectiveness. This study intends to enrich and compare the findings obtained in the quantitative phase.

Method: The qualitative section of the research project was a case study intended to acquire in-depth information related to one or more than one individual. The research examines the experiences and views of teachers, students, and parents related to the values education processes applied in schools. In this respect, the research can be defined as a multiple case study (Güler, Halıcıoğlu, & Taşğın, 2013). In analyzing these views, priority was given to the contents related to the values education processes in particular. According to another classification made by Yin (1984; see Yıldırım & Şimşek, 2005) in this respect, the study can also be considered as a nested single-case study. According to this definition, evaluations on the values education processes applied in schools form one unit of general analysis and the views of students, parents, and teachers form sub-analysis units.

Study group: The sampling method can be said to carry the characteristics of maximum diversity sampling, a purposive sampling method (Yıldırım & Şimşek, 2005). One parent from the private schools was excluded from the analyses upon understanding that the student had graduated, one parent from the private schools was excluded from the analyses for being a foreigner whose Turkish was insufficient, and one teacher again from the public schools was excluded from the analyses because of having to leave quickly during the interview. As such, the research has analyzed the interviews performed with 15 people from private schools, including five students, six teachers (one being an administrator), and four parents, and 16 people from public schools, including six students, six teachers (one being an administrator), and four parents. Due to the important roles of administrators in terms of the values education processes, interviews were made with one teaching administrator from each of the two schools (Ekşi & Okudan, 2011). Excerpts of the participants' attributes are presented in brackets that have their school type, participant group, gender, and age information, as in this example: [Public, Teacher, M, 28].

Data collection tools: We conducted semi-structured interviews with the teachers, students, and parents in the study. The interviews included structured probes, to counter misunderstood terms. Interactions sourcing from the nature of the interviews also lead to additional questions. Audio recordings have been made in the interviews by requesting permission and making the necessary explanations. Because the data were made in the form of semi-structured interviews, an interview-questions template containing the questions to be asked in the interviews and information on the probes was prepared specially for the student, teacher, and parent groups. Questions were formed based on expert feedback.

Process: Informed consent was obtained from the participants. Anonymity was guaranteed for the interview data. The audio recordings from the interviews were transcribed and we conducted content analysis on the transcriptions. Because examination of these nested cases was done for effectiveness and efficiency in this study, subjecting the cases to one-way analysis was the most appealing strategy (Creswell, 2013). We prepared interview guides for the students, parents, and teachers based on the 11 principles of character education. We shared the interview guides with three experts with experience with and knowledge about the topics of qualitative research and values education. We used the package program MAXQDA in organizing the analysis of the data.

3. Findings

Methods used in values education. The first question and probes concentrated on the methods utilized in values education. The methods reported as being used in class were: using visual materials (f = 12), being a model (f = 8), transferring values (f = 8), correcting behaviors (f = 7), caregiving (f = 4), developing perspective (f = 3), guidance (f = 2), giving advice (f = 2), and presentations (f = 1).

> *So, in fact, the teacher's role is important because the students look at the model of our footwear, so to speak. Hey teacher, today you're wearing different shoes, or how should I know you're even wearing a hairpin, they even notice that. Being a role model is very important in a sense, but it is not enough by itself.* [Private, Teacher, Female, 45]

> *We have several communications with the students in a way that these give them perspective and on the topic of directing behaviors, shows them the ones that are actually proper. Namely, we're attempting to perform various counseling and guidance for them.* [Private, Teacher, Female, 37]

> *I think that, by showing extra sacrifices, actually seeing each student as an individual, and relating to their issues, they (teachers) make serious contributions to values education.* [Public, Administrator, Male, 30]

Outside of class, assistance activities (f = 9), field trips (f = 5), social responsibility projects (f = 4), cooperation with family (f = 2), trying to read books (f = 2), extracurricular activities (f = 2), preparing bulletin boards (f = 2), and religious activities (f = 2) have been mentioned. These are the following statements from the participants on practices related to these activities:

> … *They go to the nursing home. They read stories to the elderly.* [Public, Student, Female, 12]

> *We try to help our disabled friends as much as possible.* [Private, Student, Female,12]

> *We have so many social projects*. [Private, Parent, Female, 40]

> …*some schools' needs are met. In this school, every grade has its own project. In line with this, they are on their way.* [Private, Parent, Female, 42]

Target values. We analyzed target values in terms of values education by using probes to examine the answers students, teachers, and parents gave on the characteristics of good humans and well-educated students. In their descriptions of values, the high frequency with which the value of success was stated in all groups is worth considering. Aside from values having similar rankings in almost all groups, remarkable differences are also found among groups. For example, the frequency of codes was zero (f = 0) in private schools related to values expressed as being cultured and having goodwill, generosity, optimism, self-development, openness to development, frugality, modernity and being law-abiding and sensitive to society. Whereas in public schools, the codes for adherence to religious values, justice, anger control, communication skills, and mercy were never used. Table 3 provides the code frequencies grouped according to values categories, and Table 4 gives the top five prioritized values according to the groups.

Table 3. Target values according to values categories

	Public Student	Public Parent	Public Teacher	Private Student	Private Parent	Private Teacher	Student	Teacher	Parent	Public	Private	Total
Personal-Moral Values	9	6	8	9	8	10	17	18	15	22	28	50
Social Values	1	0	6	7	7	9	13	16	1	13	17	30
Success	1	2	8	9	0	1	17	1	3	10	11	21
Skills	1	2	3	5	4	4	8	8	3	9	10	19
Personal Development	0	1	4	0	1	0	4	1	1	6	0	6
Total	12	11	29	30	20	24	59	44	23	60	66	126

Table 4. *Top five values prioritized according to group*

	Public Parent	Public Student	Public Teacher	Priv. Parent	Private Student	Private Teacher	Parent	Studnt	Teacher	Public	Private	General
1	Success	Success	Charity	Nationl Loyalty	Respect	Respect	Nationl Loyalty	Success	Respect	Success	Success	Success
2	Morality	Charity	Nationl Loyalty	Relig. Loyalty	Morality	Empathy	Success	Honesty	Emp.thy	Charity	Relig. Loyalty	Charity
3	National Loyalty	Honesty	Empathy	Success	Empathy	Morality	Morality	Charity	Nation. Loyalty	Honesty	Honesty	Honesty
4	Con-science	Being cultured	Honesty	Being moral	Adding to Society	Adding to Society	Con-science	Hard working	Being moral	Nationl Loyalty	Respect	Nationl Loyalty
5	Being cultured	Hard working	Morality	Con-science	Relig. Loyalty	Relig. Loyalty	Relig. Loyalty	Relig. Loyalty	Charity	Being cultured	Charity	Relig. Loyalty

In relation to compatibility among stakeholders regarding values, one participant stated an incompatible case could be seen.

> *…of course it is not valid for everyone, because everyone unfortunately doesn't have the same level or perspective. We have even experienced this with the parents. A value that concerns you may not be their concern; it may not be important to them.* [Public, Teacher, Male, 40]

Six participants, all from private schools, also clearly expressed agreement about values. For example:

> *I am satisfied with developments up to now. All in all, being together with families who have the same thoughts and views as families similar to ours is important for us. Of course, the children's upbringing, namely having their teachers be this way, is important.* [Private, Parent, Female, age unknown]

> *So, like the things I've said. They expect me to be someone who conforms to religion. Again, they expect me to be someone who is complacent in the same way.* [Private, Student, Male, 12]

Regarding values education studies, students and also the themes that occur as the given examples are important in terms of analyzing how the targeted values are addressed in practice. Table 5 provides the themes associated with the practice examples.

Table 5. *The themes on examples for values education practices*

	Public	Private	Total		Public	Private	Total
Monotheism	0	1	1	Chastity	0	1	1
Environmental Sensitivity	4	0	4	Affection	2	1	3
Justice	0	1	1	Worship	0	3	3
Tolerance	1	0	1	Caring for the elderly	0	1	1
Tolerating kids	0	1	1	Parental respect	0	1	1
Modern life	1	0	1	Patience	0	1	1
National values	3	0	3	Anti-Capitalism (anti-materialism)	0	1	1
Important days	2	0	2	Frugality	0	1	1
Friendship	1	1	2	Religious content	0	2	2
Respect	0	1	1	Nature	0	1	1
Kemalism	1	0	1	Repentance	0	1	1
Decency	0	4	4	Responsibility	1	0	1
Cleanliness	0	1	1	Citizenship	1	0	1
Honesty	2	1	3	Internet literacy	0	2	2
Charity	1	1	2				

In relation to determining the values to be given in values education, this has been stated as often being determined centrally in public schools and often locally and situationally in private schools.

> *I look at the needs, and do work towards them, either on an individual basis or working as such collectively.* [Private, Teacher, Female, 35]

> *So, as I've said, we have the Values Education Commission. Consider the kitchen section of the work a commission formed of religious culture teachers. They talk about these, what can be done, at the beginning of the year. As a result, the files and presentations I mentioned earlier are being prepared. In the process here, how they are given to the classes at specific periods is happening through the mediation of the teachers.* [Private, Teacher (Administrator and Assistant Manager), Male, 38]

> *… It comes from the National Education. Already there is a topic every month. For example, November was affection. Each month has different activities. Here these disciplines assist this. The technology design teachers prepared beautiful billboards with the students here. They are exhibited on the school's first floor. Actually, every month studies are performed in the context of values education as much as come from me*. [Public, Teacher, Male, 28]

> *We never had the chance before (to determine values) because it came to us as a monthly work schedule.* [Public, Teacher, Male, 40]

The linkage between academic contents and values. The participants also had many important things to share in terms of the relationship of values education with academic content. Ten teachers stated the curriculum and other education overlap or could overlap. Two teachers complained of the decrease in attention and the time required for splitting the extreme academic workload and expectations into areas like values education. Six participants also stated the curriculum and values education had discrete processes and are difficult to address together.

> *Now let's speak quite clearly. Now we have the problem of exams. I participate in more upper classes. Maybe we can do this more comfortably in the lower grades, in 5th and 6th grades, but we have exams on our agenda in the 7th and 8th grades. If I say we're doing something very planned, I'd be lying. However, we know improvisation in class, namely a social environment in class.* [Private, Teacher, Female, 45]

> *How can I add to my own lesson? My class teaches language because it's an English class. I'm always trying to teach through stories. You can also use things while explaining the story. For example, by making sentences relevant with values education or related to this on the points where we think that children have a problem, you are both making sentences in a foreign language and telling them something.* [Private, Teacher, Female, 35]

> *I simulate fair play in team games. I mean in sports for example, while allowing children to adjust to sports, they don't need to persecute each other but to be accepting when losing a sport and to be ambitious when you need to win; I think this is also a part of values education. Learning to lose, the ambition of winning, self-confidence. I think that physical education contributes to values education in this respect…* [Public, Teacher, Male, 31]

Opinions related to school climate. The participants' opinions related to school climate are generally positive. Participants both in public and in private schools are pleased with their institutions. Participants in both groups also often mentioned the warmth of the environment in the institution. Participants in both schools frequently likened it to the family and generally used more positive phrases. They expressed havıng few problems and when there are problems, they are easily resolved.

> *everyone is like a family because of the spiritual feelings and sense of moral education we experience so very intertwined*. [Private, Parent, Female, 34]
>
> *The environment primarily is a beautiful, warm, and sincere one.* [Private, Student, Female, 14]
>
> *We have a beautiful relationship with our administrators. There's a warm environment*. [Private, Teacher, Female, 45]
>
> *The teachers are very good. They communicate with the children.* [Public, Parent, Female, 40]
>
> *I feel good, I am very happy while coming to school.* [Public, Student, Female, 11]
>
> *My relationships with my teachers are very good, but you know, about the lessons, namely in terms of opinions, again you know we don't have a relationship that goes to friendship but other than that we have a very good relationship in class and so on.* [Public, Student, Female, 14]
>
> *Yeah, like I said of course, the environment is safe according to him, thanks to our manager. Whether the children or the teachers, they can protect their levels. I suppose it also comes from the manager.* [Public, Parent, Female, 37]

Participation to values education. *Many participants clearly mentioned harmony among the personnel as being part of the processes related to values education. When examining participation in values education processes and what has been done in terms of awareness, parents and students stated that their knowledge about values education is insufficient (f = 11). While no mention was made in public schools of NGO support, private schools mentioned collaboration having been done with NGOs. In both institutions, participants mentioned having greater harmony among staff, behaving sensitively on moral and developmental issues, and participating in the values education processes. In both schools, parents mention contributing financially to the values education processes.*

> *Whether the management, school staff, other friends or school mates, employees, or official friends, namely all of us here are a family, and all of us clearly support one another on this. In other words, everyone carries the weight together, such that they do activities as much as possible. This also makes some happy, you see, obviously.* [Public, Teacher, Male, 28]
>
> *In terms of values education, the administration supports us. So, when we tell them the things we need, they try to provide us with them. There are contributions in this sense. Within ourselves, when someone has need of help, one of the staff or whatever happens, the whole school is united. They do whatever can be done. In this way the school has solidarity. Teachers, staff, administrators, sometimes there's really no distinction.* [Private, Teacher, Female, 26]
>
> *Namely, here I sometimes go with them as the parent in me. I'm helping. I'm observing. In other words, sometimes I can be called because I am the class mother, because I'm also the class mother. Seeing such things is pleasant to us. It's going beautifully.* [Private, Parent, Female, 42]
>
> *We just have financial contributions*. [Prıvate, Parent, Female, age unknown]
>
> *When telling my mother and father, sometimes mom will do something here. She's given money. She's helped.* [Public, Student, Male, 14]
>
> *We have charity events. That's when they come. My mother has come*. [Private, Student, Female, 13]
>
> *We do all our work together here, from the PTA to the school principal. When we have to have the PTA, the school supports us until the end*. [Public, Teacher, Female, 47]
>
> *So it's like this, for example. The one who provides organizing with the NGOs are the ones who have relationships there. We always benefit from the support of parents there in the case of contact with the Parent Teacher Association.* [Private, Teacher (Assistant Mgr.), Male, 38]

In the answers to questions about students taking initiative in the values education processes, private school students are seen given greater initiative. In terms of behaviorification, themes reveal similar frequencies. In public schools, some teachers complained that students did not cooperate enough.

> *So, I joined the environmental club. Our class's backyard was pretty dirty. We cleaned it. Look here, I've helped disabled friends a few times. Like that.* [Public, Student, Female, 12]

Once there were a few students from Tunisia who came to school. We took gifts over to them. Just before that. We ate food with them, we introduced them, and so on. We met them like that. It was really beautiful... [Private, Student, Male, 12]

They never run from their duties. For example, the children are enthusiastic when work has to be done related to values education. [Public, Teacher, Female, 47]

Sometimes they're in the middle of your personal business… The charity fair is after, it shares its proceeds or children collect if there is food aid. The children do the packaging themselves. If it's goods, clothing, or toys assistance, the children in fact organize all of these. The teacher just gives directions or guides them. [Private, Teacher (Administrator, Asst. Mgr.), Male, 38]

The students should clearly be more inclined to values education. [Public, Teacher (Administrator), Male, 30]

Generally, the students don't really want it, they in fact see something I give extra as a burden. Others like it so much. [Public, Teacher, Male, 40]

Discussion and Conclusion

The present study aimed to provide a descriptive and comparative notion of values education processes in schools that are alleged to be successful in terms of academic achievement and values education. The findings can be of interest for future research and practice in Turkey and similar contexts as they are informative of what is going on in these schools. However, there are points to be raised out of these findings.

Students, parents, and some teachers are seen to perceive values education processes in the context of protecting religious faith and worship, national identity, and traditions. However, parents are seen to trust the school staff on the topic of the nature and function of the process alongside what they contribute to values education processes in many schools on matters such as material assistance and permission. Parents' trust in school has an impact on the processes of deciding to choose the school and in values education and related processes. However, the qualitative findings indicated low parental involvement in the decision-making processes. How to increase parental participation and what can be done in order to appropriately develop parents' own attitudes towards the values education process should be discussed by considering the unique conditions of school climate.

Teachers with duties related to the administration and character education are seen to be informed about values education in general and the values being addressed; however, other teachers, especially those newer to the institution, are seen to have insufficient knowledge about values education processes outside of the values education classes that are provided together implicit in the dimension of the size and academic content. Training can be provided to personnel on these issues, and readings emphasizing the direction of the process can be recommended.

Our research is in line with course of research that has shown effectiveness of values education interventions. Izgar and Beyhan (2015) in a study with randomized controlled trial design has shown that a specific intervention program of values education improved democratic attitudes and behaviors of 8th graders. Tahiroğlu, Yıldırım and Çetin (2010) similarly, has shown effectiveness of an environmental values education intervention on fostering positive environmental attitudes. With respect to the qualitative findings, Yıldırım (2009) has found that class teachers prioritized patriotism in values education. Our findings also indicated that teachers in state schools and private schools prioritized "national loyalty" as a similar notion to patriotism as a value that is stressed in the values education process.

When comparing the effective values education practices outlined by Berkowitz (2011), strategies and methods such as helping one another, being a role model, guidance, and caregiving are seen to be used in the two schools. Although not explicitly stated, an emphasis on values education in the context of school is seen implicitly in private school. Trust and honesty were frequently emphasized. Imposing high expectations are also at the forefront in both schools. Debating moral dilemmas was not seen to have been applied. Professional development, although not explicitly addressed in this study, is seen particularly important in terms of teachers in private schools. Family and community support were observed more in private schools compared to public schools.

Although differences are seen to favor public schools in the study's quantitative findings, values education processes in private schools are seen to be carried out more in accordance with the principles of character education (Lickona, 1996). This situation can also be explained by the bias toward social desirability in the

quantitative data. This study has attempted to shed light on how to carry out values education in the two schools in Turkey, which claim to give importance to values education. Due to the inconsistency between qualitative and quantitative data and the purely descriptive nature of the study, making casual inferences or determining which applications are more effective is not possible. In addition, although both schools are prominent among similar schools in terms of the emphasis they make on academic success and values education, families obviously also have different physical conditions, personal opportunities, and socioeconomic levels. Approaching comparisons carefully is necessary in this context. Future studies made on more longitudinal, experimental, or varied qualitative patterns can be beneficial in terms of applications in Turkey.

The examination system and educational administrative system currently in Turkey prioritize academic achievement and have simply become a matter of survival. When considering institutions to be one of the private educational institutions with intense competition, academic success as the dominant criterion is also inevitable. The programs, which are filled with obligatory academic content, take up a large percentage of students' energy and attention; processes such as affective development and values acquisition are pushed to secondary positions unintentionally. This issue has also been expressed by some teachers and administrators in the interviews we performed within the scope of our study. A significant majority of the students interviewed in the study stated being successful in the future before many other values.

Increasing studies in the field on character development, alongside academic content and its emphasis related to this issue, are advisable as much as the current legislation and institutional conditions allow for this in the place of the weekly schedule. Blending academic content with values content, especially in classes such as Turkish and social studies courses, have indispensable importance in terms of values education processes. The content of values education should be discussed in groups on providing it together with academic content; opportunities where teachers can share and develop the practices, they do in this field should be formed and, if available, developed. For example, discussion and sharing groups can be formed on a voluntary basis by creating closed online forums apart from some other bodies at school in other groups and in the administration. These types of studies should take into account what they will bring to teachers, and these issues should not contribute to having teachers, whose endeavors require intense effort and labor on these types of issues, see them as a secondary or additional workload but as the fundamental task by alleviating their other workloads when necessary. These types of amendments that are reflected onto the rights of personnel carry the opportunity for teachers to do these applications professionally and keep them safe from the risk of occupational burnout.

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My Homeland: Kyrgyzstan Bishkek Secondary School Students' Opinions About Homeland

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ABSTRACT

Homeland is generally the land where one person was born and grew upand also it is a broad concept that includes language, history, culture and family ties as well as being the land that a nation freely lives on. Homeland is not only a physical space, but a strong association of cultures, arts assets, and language, religion and common past together. In this study, it was tried to determine the views of the middle school students living in the Kyrgyz Republic, whose mother or father is a Turkish citizen. This study was conducted with156 students studying in, the Republic of Turkey Ministry of National Education Kyrgyzstan Bishkek Middle School and in Imam Hatip Secondary School. This school, which is connected to the Republic of Turkey Ministry of National Education and mostly chıldren contınued who are the citizens of the Republic of Turkey. In this descriptive survey model, the data were obtained from the open-ended questionnaire asked to the students. In the analysis of the data, content analysis was used. 109 students participated in the survey stated that they see Turkey as the homeland. Students were determined Kyrgyzstan and Russia as a country after Turkey. 4 themes and 9 sub-themes were formed in the direction of the students' thinking about the concept of "homeland". In the research, each theme related to students 'responses was examined separately, and some students' thoughts were also included and interpreted.

Keywords:[1]
Homeland, belonging, Turkey, Kyrgyzstan

1. Introduction

"Homeland", which is used in the Turkish dictionary of the Turkish Language Institution as synonymous with the word "yurt", does not have a single definition (TDK, 2020). However, when looking at the definitions in different Turkish dictionaries, in general, homeland is a land where a person is born and raised, and where a nation lives freely, but it also contains a wide concept that includes language, history, culture and family ties (Akar, 2019; Doğan, 1981).

In this context, if the concept of "homeland" is considered only as land, it can be identified with the concept of "country", which will not be sufficient to explain the homeland. Because when it is said as a country, only a material place with legal facts comes to mind. However, the homeland contains a more comprehensive meaning that includes the values and blessings that reveal the spiritual wealth of the country (Özkan & Taşkın, 2014). Because national values connect individuals in a society and with the development of these values, the integration of the society is ensured. All values such as common culture, language, history, and flag representing the nation carry the "homeland" far beyond just a piece of land (Karaçanta, 2013). Below are the meanings of the concept of homeland, although it is a sacred piece of land.

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> Homeland is not only a material space, a village, a town and a city, but also an idea that includes spiritual values within the space. Let us repeat that, on the one hand, they are social institutions such as language, religion and historical memories. Spiritual and social common beings such as national art and culture; like national works and monuments, it is a sacred destiny. On the other hand, they are the highest civil and moral values such as citizen liberty, security, honor and inner peace. Defending the homeland does not mean not only; not leaving the country's lands, villages, towns and cities under the feet of the enemy; it is also to protect this sacred nature and these high national and spiritual values. To love the homeland and to be embellished with a sense of patriotism is not only to love and attach to the interests and wealth on the territory of the country, but also to love these national values and powers (Başgil, 1947).

As can be understood from the explanation above, the homeland is not only a geographical concept, it is a reality that changes depending on historical conditions and is a result of the constantly developing historical process. So much so that; Homeland includes memories, dignity and honor, shared feelings, reflects the flag, images and symbols of the past (Golia, Vamvakidou & Traianou, 2009). It takes a long time for a nation to accept a geography as a homeland. In this process, the events that remain in the memories such as disasters, holidays, victories and common memories that the society experiences accelerate the formation of the citizenship of that geography (Erdal, 2009).

Identity, Belonging and The Concept of Homeland

The concept of homeland offers together the consciousness of bringing identity and belonging to individuals. Identity can be defined as "the individual or group defining itself and positioning itself by making comparisons with other peers" (cited from Bilgin, 2007, Ermağan, 2013). When national-cultural identity is mentioned, the identity shaped by the information in the human identity card is meant. Smith (1988) lists, the basic features of national identity; as a common historical land, common historical memory, a common mass public culture, a binding system of rights and duties for all individuals, and a common economy (cited. Ermağan, 2013).

Identification is difficult to identify in people who encounter different cultures and identities. Because, it is seen that people who encounter different cultures and identities question who they are and where they belong in time and search for a new identity. As a result, they either adopt or reject the environment they migrated to (Güleç & Sancak, 2009; cited. Ermağan, 2013). According to Smith (1991), the concept of cultural identity, which is variable, varies depending on who we live with and where we live. According to the explanation of Dixon and Durrheim (2000), identity depends on "where we live now and where we have been, where we come from" (cited. Murphy and Laugharne, 2013). It can be said that cultural identity is formed with concepts such as environment, time and belonging. The concept of homeland, which does not consist only of geography, but whose sacredness is attributed to the concept of belonging with material and spiritual values, directly implies the identity.

"Belonging" is the individual's sense of belonging to the soil, environment, society, school, friends, family etc. the and the feeling of being a part of it. Therefore, belonging is an important concept brought by the identity formation process. The sense of belonging to a place depends on the ability of the person to establish the field of sovereignty in that environment, to form the privacy area and to be comfortable in the environment in which he is located. In other words, the meaning that a person attributes to the environment they live in is the main factor that determines one's sense of belonging to that environment (Güleç & Sancak, 2009).

Proshansky (1978) defines "place identity" as "a complex phenomenon, which is determined by expectations, preferences, feelings and values, and that unites the identity of the place and the person in its relations with the environment and other people". The concepts of "place identity" and "location loyalty" are fundamentally different concepts that need to be evaluated together. For example, a person may like to live somewhere and be happy with the human relationships there and decide to stay there, feel loyal to that place; but he may not see this place as part of his identity. Another may not have a high level of commitment to where he lives and may feel belong to another place. Dixon and Durrheim (2000) stated that the sense of commitment and belonging to space is "a collective formation of mutual interaction between individuals, identities and spaces" (Şeker, Sirkeci & Yüceşahin, 2015, p.81). In this study, the opinions of the middle school students who live in the Republic of Kyrgyzstan and their parents are Turkish citizens. Bishkek secondary school which is connected to the Republic of Turkey Ministry of Education, is a school where

mostly the children of citizens of the Republic of Turkey are educated. Purpose of this study, the opinions of childs' whose one of the mothers or fathers is Turkish citizens and residing in the Republic of Kyrgyzstan about "Homeland" were determined.

2. Methodology

2.1.Research Design

This research is a descriptive research. Descriptive research; it tries to describe and explain what events, objects, assets, institutions, groups and various fields are. In this way, it is possible to understand and group them well and their relationships are determined (Kaptan, 1998). In addition to the features of observation, recording, detecting relationships between events, science has the characteristics of making generalizations on the controlled unchanged principles. In other words, the depiction function of science is at the forefront (Yıldırım & Şimşek, 2006). In this study, the opinions of childs' whose one of the mothers or fathers is Turkish citizens and residing in the Republic of Kyrgyzstan about "Homeland" were determined.

2.2.Research Group

A total of 156 students living in Kyrgyzstan's capital, Bishkek, and educated in the Republic of Turkey Ministry of National Education and Secondary School in Bishkek Imam Hatip Middle School participated in this study.

Table 1. Research group

Grade	Girl	Boy	Total
	f	f	f
5th grade	17	19	36
İmam Hatip 5th grade	13	13	26
6th grade	19	13	32
7 th grade	19	14	33
8 th grade	9	20	29
Total	77	79	156

As it can be seen in Table 1, 50.6% of the students participating in the study are boys and 49.4% are girls. 16.6% of the students participating in the study are Bishkek Imam Hatip Secondary School students.

Table 2. Mother and father nationality

Nationality	Mother		Father	
	f	%	f	%
Turkish	85	54,4	145	93
Kyrgyz	40	25,6	5	3
Russian	16	10	0	0
AğhiskaTurks	4	3	4	3
Others	11	7	2	1
Total	156	100	156	100

When the nationality of the parents of the students participating in the study is analyzed, it is seen that most of the parents are Turkish, but 25.6% of the mothers are Kyrgyz, 10% are Russian, 3% are Ağhiska Turks and 7% are other nationalities. In case of fathers' nationality, it is seen that there are 3% Kyrgyz and Ağhiska Turks.

Table 3. *Time spent, mother tongue, place of birth*

Time spent in Kyrgyzstan		Mother tongue		Place of birth	
	f		f		f
less than 1 year	21	Turkish	73	Turkey	77
1-3 years	25	Kyrgyz	1	Kyrgyzstan	68
4-6 years	26	Russian	9	Russia	2
7 years and more	84	Others	2	Others	9
Since birth	59	two native languages	57	Total	156
Total	156	three native languages	14		

It is understood that more than half of the students participating in the research have lived in Kyrgyzstan for 7 years and more. In other words, it can be said that more than half of the students participating in the study started their education life in Kyrgyzstan.

It is seen that 73 of the students participating in the study see Turkish as their mother tongue, only 1 of them adopt Kyrgyz language and 57 think that they have two mother tongue. Since Kyrgyz is the main language in Kyrgyzstan and Russian is the official language, it is seen that the number of people who consider these three languages together with Turkish is 14. Turkey also participated in the research of 77 students, 68 Kyrgyzstan, Russia and 2 to 9 were born in other countries.

2.3.Collection of Data

In this study, a questionnaire form based on open-ended questions developed by the researchers was used to determine the views of Bishkek secondary school and Imam Hatip Secondary School students on the concept of "Homeland".

In the first questionnaire form; 4 questions were included to determine students' views on the concept of homeland, but the survey form was evaluated by a faculty member and a social scientist living in Bishkek and a social scientist, apart from the researchers.

What do you think "homeland" means?

What makes you happy in your homeland?

Where is your homeland? It has been transformed into a form consisting of three questions, in which students are asked to write their thoughts. The duration of their answers to the questionnaire forms distributed to students varied between 20 and 35 minutes.

2.4.Data Analysis

In this study, content analysis technique was used to evaluate the data obtained. The main purpose in content analysis is to reach the concepts and relationships that can explain the collected data. The basic process in content analysis is to gather similar data within the framework of certain concepts and themes and to organize and interpret them in a way that the reader can understand (Yıldırım & Şimşek, 2006). The research data were first read in detail by the researchers and a social scientist, then the coding phase was started. The codes obtained are listed and the consistency between the coding of the researchers is examined. At this stage, the coding reliability formula of Miles and Huberman (1994), "Reliability = [Consensus / (Consensus + Disagreement)] X 100"), the consistency value was determined as 79%. Following this process, the analysis of the study data was completed by bringing the researchers together to create categories and sub-categories.

3. Findings

In this section, the theme created in the light of the data obtained from students and sub-dimensions related to these themes are given. After the content analysis, 4 themes and 9 sub-dimensions were created. These themes are; Physical Loyalty, Emotional (Spiritual) Loyalty, Language and Religion.

The location is determined as (Perceived Homeland). Below, each theme is tried to be analyzed by directly including student views.

Table 4. Physical loyalty

Themes	Sub themes	Codes	f
Physical Loyalty	Motherland	Place of birth	38
		Home	26
		Nest	3
		Sand	6
		Food	8
	Historical Identity	Mosque	3
		Martyr	9
		Historical monuments	7
		Flag	2
	Living Place	School	3
		Natural beauties	19
		Hygiene	6
		Greenbelt	4
		Living town	16
		Regularity	4
		Product quality	2

According to the findings obtained in the research, there were three sub-themes and sixteen different codes in these themes. While the students explained the concept of "homeland", they often used the word "hometown". One student made the statement, "I think home is the place that man knows as his hometown" (S120). The expression "Homeland is the place where we were born and raised" (S47) is one of the most used expressions. One student, on the other hand, gave an opposing opinion on this matter and said, *"Our homeland is the place that makes us happy it is not important to be the place where we were born. For example, I was born in Turkey, but Turkey does not make me happy. It is my homeland, but it doesn't matter much when I'm not happy in it (T60) has written*. This student is experiencing 3 months in Kyrgyzstan, in other words, new arrival from Turkey, 14 year old 8th grade student that may indicate that he has some adaptation problems.

Some students have tried to explain the homeland of a nation based on the fact that people from the same family live in the same house under one roof. In this context, a total of 29 students preferred the words *"home" and "nest" in their answers. One student used the expression "Homeland is my home for me"* (S68). 15-year-old student since he was born and live in Kyrgyzstan, although until now has never been to Turkey if Turkey have written these words for his adopted homeland is striking. In addition, while some students talk about their homeland, they talk about the food unique to their country. At this point, meals can be said to be part of a common culture that connects people of the same homeland.

7 students emphasized historical artifacts regarding the concept of homeland. One student said, *"Historical artifacts, sculptures, mosques; I am really more happy when I look at them"* (Ö63). While writing their ideas about the concept of "Homeland", they associated with martyrs, their ancestors and the flag, and explained how important these were to see a place as their homeland. They stated that it was the homeland that established the bond with their ancestors. Regarding this subject, one student said *"Homeland is the place where our ancestors sacrificed for us"* (S121), while another student said, *"Homeland is where our martyrs entered the ground. There are historical artifacts in my country"* (S61). An 8th grade student who has been living in Kyrgyzstan for 3 years has explained his love of homeland with these words: *"I think the most important thing that a person has is homeland. How can you not love something that has been written epics and poems and martyred for him?"* (Ö86). In general, while students were telling their homeland, their love and aspirations towards it, they established a relationship with historical ties, and pointed to the importance of these ties in seeing a place as a homeland.

7 different codes were created by the researchers depending on the "living space" sub-theme. Among these, the code with the highest frequency is considered as "natural beauties". While 19 students talked about their homeland, they pointed about their natural beauty, while 4 students talked about their green areas and forests. 12 year old student living in Kyrgyzstan since birth, *"My homeland is Turkey. It is a place covered with lush green beauty. I enjoy exploring a new place every day there"* (P56). A 13-year-old Turkish student who sees Kyrgyzstan as her homeland said, *"My homeland is Kyrgyzstan, I love Kyrgyzstan because the weather is very nice and snowing here"* (S154). In this theme, again, 16 students associated the homeland with their city. The

"living place" code is also one of the codes with the highest frequency. In this context, students defined the homeland as their homeland and also where they spent their childhood.

Table 5. Emotional (spiritual) loyalty

Themes	Sub themes	Codes	f
Emotional (Spiritual) Loyalty	Relatives and friendships	Family (Uncle, aunt, cousin etc.)	70
		Friends	18
	Values	Freedom	5
		Cooperation	6
		Unity	4
		Sincerity	2
		Serenity	5
		Fidelity	4
		Love	8
		Confidence	5
		Self-reliance	4
		Pride	4
		Happiness	3
		Hospitality	2
		Respect	3
		Justice	3
		Yearning (longing, hometown smell)	21
		holiday	3
		Wedding	2
		Birthday	3
	Belonging	Belonging	6
		Don't sacrifice your life	4

In this theme, the sub-theme with the highest frequency has been determined as "Relatives and Friends". A total of 88 students talked about having a good time with their relatives or friends there while writing their feelings and thoughts about the homeland. A Turkish student who started to live in Bishkek 3 weeks ago said, *"When I say homeland, I think of Karaman, my grandmother, my aunts, my aunts, my cousins, my uncles. First of all, they come to my mind"* (S67) and expresses his longing. Another student stated that *"I will be happier when I live in my homeland and when I have my cousins with me"*.

The students participating in the research have associated the concept of Homeland with many values such as "freedom", "solidarity", "unity and togetherness". During the content analysis process, a total of 18 codes were created by the researchers within the "Values" sub-theme. The most frequently used expressions are related to "yearning (longing, hometown smell)". In the research, while 7 participants did not express their opinions, only 26 participants considered Kyrgyzstan as a home; 10 participants wrote both Kyrgyzstan and Turkey together as they saw their homeland. In this context, it can be said that a great majority of students have to live separately from their homeland and therefore feel a sense of longing. As a matter of fact, the frequency of the "longing" code is higher than the other values as 21. A student who lives in Bishkek since birth *"I miss everything to Turkey. From the soil to the air"* (S137) expresses the feeling of longing. Another student expressed his feelings in the following way*: "When I stepped into Turkey everything is changing, I'd love to grow there, live tand die there. There is not a particular reason that I changed when I came to Turkey, that emotion and feeling is a different one."* (S105). In their responses, 4 students explained the smell of the streets and the air of their homeland and stated that the smell is different from where they live now.

The statements of the students participating in the research include many other values such as love, happiness, unity and togetherness, trust, peace, tolerance and hospitality. A Turkish student who has been living in Bishkek since she was born expressed her feelings with the statement "What I am happiest in my homeland is that they love, respect and tolerate, they always laugh, I love my homeland". Another 14-year-old student said, *"Homeland is where unity and solidarity are achieved. Because if there is no togetherness, people cannot understand each other in that environment."* (S72) stated the importance of unity and togetherness. Eight of the participant students stated that they remember holidays, birthday celebrations and weddings when they say homeland, and that they are happy with their families on these special days. This shows that the

concept of Homeland is more than just a piece of land, it is a complex phenomenon related to everything experienced, shared, felt. Trust and peace are among the values that students include. 10 of the students used these values while expressing their feelings in their homeland. A 14-year-old Turkish student living in Kyrgyzstan for 2 years said, *"Just as you feel safe with your mother and father, you will feel so in your homeland. I am peaceful and happy in my homeland. I feel safe"* (S85). When we look at the total frequency of the "Values" sub-theme, we can say that while 87 students expressed their feelings and thoughts about the concept of homeland, they associated it with various values. This shows that there is a close connection between the perception of "Homeland" and our values.

Another concept encountered in the expressions of students is belonging. The feeling of belonging to somewhere, to the city and to the country was used to explain the concept of "Homeland". The frequency of the codes created depending on the sub-theme of "belonging" is 10. While some students explain the concept of Homeland, they talk about sacrificing their lives, spending everything for their homeland without blinking. A student says, "Homeland is where you were born, you will even give your life without fear" (S80).

Table 6. Language and religion

Themes	Sub themes	Codes	f
Language	Language	Turkish	17
		Kyrgyz	3
		Russian	2
Religion	Religion	Adhan sound	2
		Religion factor	4

One of the most striking findings from the results obtained in the research is the emphasis of students on the subject of mother tongue. The common view in the statements is the speaking of their native language, where people see it as their homeland. At this point, it has been stated that there are conveniences in terms of communication between people and solution of problems. It is explained how free and comfortable a person feels when communicating in his native language. If we include a few student opinions at this point; *"What makes me happy in my homeland is that everyone knows Turkish. This is the homeland for me because everyone knows Turkish and I can share their problems"* (S77); *"The thing that makes me happiest in my homeland is the place where I love to see people who speak the same language and understand me when I go out on the street"* (S78); *"Being together with people who speak the same language that makes me happy in my homeland and the texts you see when you look around are the same as your language"* (S74). A student who associate the language problem and the sense of belonging, *"I can be excluded in the place I live sometimes because I was a foreigner, and when I spoke Turkish here when outdoors, people also looking at me very different, but I think there are not such exclusions in Turkey."* (S132) has been found in the form of a statement. The language problem is mostly seen in students who were born in their home country and then came to Kyrgyzstan to live. Another theme created by the researchers in the light of the data obtained from students is "religion". The frequency of the codes linked to this theme is only 6. At this point, it can be said that the concept of religion did not take much place in the students' explanations of the concept of "Homeland". The fact that a large part of the population is Muslim in Kyrgyzstan, that people from different religions live in the country and that the state does not have a negative attitude towards these people's living their own religion may have been effective in this result. A 14-year-old Turkish student said, "The wonderful adhan voices that make me happy in my homeland. My heart beats faster as I hear the adhan." This student, who has lived in Kyrgyzstan for 1.5 years, stated that he had lived in Azerbaijan for 5 years before. Another Turkish students who came from Turkey to Kyrgyzstan 1.5 months ago was used that prase "Homeland means = Muslim = it means Turkey".

Table 7. The location is determined as (Perceived Homeland)

Themes	Codes	f
Perceived Homeland	Turkey	109
	Kyrgyzstan	26
	Turkey-Kyrgyzstan	10
	Russia	1
	Others	3

The participants were asked the question of where they saw as their homeland. In the face of this question, the data obtained from the students were created under the theme "Homeland as a perceived place" and the codes created related to this theme. 149 of 156 students who participated in the study answered this question, 7 students did not express their opinions. 109 students as Turkey, 26 students as Kyrgyzstan, 10 students both Turkey and Kyrgyzstan, 1 student as Russia and 3 of them admitted other countries as their homeland country. One student used the expression *"My mother is Kyrgyz, my father is Turkish, my homeland is everywhere and I do not discriminate"* (S121). Another 11 years old student living in Kyrgyzstan for 6 years said, *"My homeland is Turkey, but now I embraced Kyrgyzstan after many years, in the same way,"*. Saying these he means when the period of separation from the homeland get longer, you get used to the place where you live and adopted the place. At this point, the common features of those who wrote that they have two homelands are remarkable. These students are students who have been living in Kyrgyzstan for a long time since they were born, but are not citizens of Kyrgyzstan; or because these students' mother and father are from different nationalities, they say they have two homelands. Also, when we look at the results, the students who comes soon to Kyrgyzstan accept Turkey as the homeland.

4.Discussion, Conclusion and Recommendations

In this study, the data obtained from secondary school students were tried to be explained under four themes. First of all, the students who participated in the research were asked the question of where they saw their homeland and the answers to this question were interpreted under the theme of "Homeland as a perceived place". 149 of 156 students who participated in the study answered this question, 7 students did not express their opinions. 109 students as Turkey, 26 students as Kyrgyzstan, 10 students both Turkey and Kyrgyzstan, 1 student as Russia and 3 of them admitted other countries as their homeland country. Based on the findings in this theme; The majority of students surveyed said that they said that they see Turkey as a country. The main features and explanations in the perceptions of the homeland are explained under three other themes.

The first of these themes and the concept that students identify with the concept of homeland the most is the theme of "Physical Commitment". Students stated that in order for a place to be perceived as a homeland, this place should be a "place to live". In this respect, students consider the places where they were born, where they live as a family and where they spend their routines as their homeland. This research has similar characteristics with Özkan and Taşkın's (2014) study on "homeland". In Özkan and Taşkın studies, the metaphor studies they conducted with secondary school students about the homeland and the findings obtained in the themes of Space-Place Area are similar. In the dimensions of "Historical Identity and Living Space" located in the sub-dimensions of the "Physical Commitment" theme, the concept of homeland is associated with historical places, places of residence, historical monuments and places of worship. These findings show similarities with the importance attributed to the place of birth, family, and the place of culture, which is regarded as his hometown and place of residence, in studies on the love of homeland and identity formation by Şarşembiyeva (2015) and Murphy & Laugharne (2013). Similarly, it can be said that Gömleksiz and Öner (2016) are similar to the explanations made on the sources of home and family metaphors that they obtained in their metaphor study on secondary school students about their homeland. Demirbaş, Dikmenli and Gafa (2018) show similarities with the findings they try to explain the homeland with the theme of original loyalty in their study with Syrians under temporary protection. Golia, Vamvakidou & Traianou (2009) evaluated the pictures of children attending kindergarten in Greece about the concept of homeland in which they express the homeland as the Greek flag; they also expressed their homeland with the flags of their own country (Albania, Armenia, Bulgaria and Romania) among children from different nationalities who participated in the same study and lived in Greece. In this study, the flag emerges as one of the important features in the perception of homeland.

One of the themes in which students' views on the perception of the homeland are mostly gathered is the theme of "Emotional Commitment". In this theme, students regard their family and relatives as their "homeland", their warm relationship with them, their relationships based on solidarity, love and trust, and their association on national and religious days as the most important factor in the perception of "homeland". These data obtained are; supports the ideas Baştan (1947), (Arık, 1969), Sözer and Özkan's (2013); about the homeland "Homeland is not only a material place, village, town and city; it is also an idea that includes the assets in the space. These assets are composed of language, religion and historical memories." Similarly,

Erdal (2006) and Karaçanta (2013) show similarity with the idea that historical and cultural elements in the perception of the homeland are influential.

It shows that the findings obtained in the theme of "Language and Religion" in the research are effective on students' perception of homeland. It has been observed that the place called students homeland is the place where the mother tongue is spoken comfortably, and that self-expression and easy communication are effective on the perception of the homeland. It also shows that religion, and especially religious symbols, and a religious symbol that is heard every day in daily life, have an effect on the perception of the country. However, in this study, the fact that the students participating in the study are bilingual and that their mothers or fathers have a different identity makes this situation more special. While these data especially support the views of Başgil (1947), (Arık, 1969) and Sözer and Özkan (2013) about the country, the language concept of language use in the study titled "Ethnic and Religious Identity Perceptions of Turkish Immigrants in France" by Akıncı (2014) the result that it has an important effect on; While 85.5% of the first generation immigrants feel Turkish, it is thought that this rate is determined as 65.5% in the second generation immigrants, and language is an important factor in the perception of the country. At the same time, Erol (2018) has similar features with the study in which language explains the effects of language on the formation of the nation, therefore, on identity and homeland perception.

Based on the data obtained in this research; By working on students and family elders of different age groups living abroad; similar and different aspects between their views can be analyzed. The language used in the family, frequency of visits to Turkey and kinship and relations between the perception of homeland are searchable. The perception of homeland among the generational differences of immigrant Turkish families can be explored. New research can be designed through the pictures that children draw and the metaphors they produce.

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Computational Thinking Skills of Turkish and Indian Teacher Candidates: A Comparative Study

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ABSTRACT

The aim of this study is to compare computational thinking skills of teacher candidates who are educated in Turkey and India. For this purpose, 555 male and 212 female who are students in the Faculty of Education at a University in Turkey and, 239 male and 493 female who are students in Faculty of Education at University of Madras in India. Within the scope of the research, the "computer thinking skill levels scale" developed by Korkmaz, Çakır and Özden (2017) to measure the computer thinking skills of university students in Turkey was used. The scale consists of 29 items and five factors. The Cronbach alpha of Scale' Turkish form is .822 and, Indian form is .769. Mean, standard deviation, t-test and ANOVA analyses were run on the collected data. According to the results, computational thinking skills of Indian teacher candidates are generally quite high, whereas Turkish teacher candidates are moderately high, and in both groups the students' highest level in term of factors is creativity, and the lowest one is problem-solving skill.

Keywords:[1]
Computational thinking; teacher training; cultural and social implications

1. Introduction

Technological advancements have swept up the interests of individuals in the society. All spheres of a human life are now centered with a computer or an application of computer science. People now ask questions related to three drivers - science, technology and society (Wing, 2006). Millennial generation children are exposed to computers in their early ages. Moreover, these children are not afraid to play and explore new things with technology. To capture this skill formally researchers and educators needed a tool. Bundy (2007) claims that a person who tries to understand the fast moving 21st century is obliged to understand the computational thinking (CT) first.

Jeanette Wing (2006) in a seminal paper described CT as a way of "solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science." CT has an analytical approach to understand computability, intelligence, the mind and human behaviour. It also includes concepts such as analysis, demonstration and modelling (Kormaz, Çakir & Özden, 2017). Individuals' opportunity to access and share information has led them to resolving the problems of the hectic world. This trait of resolving problems is a subject of computational thinking skills (Wing, Henderson, Hazzan, & Cortina, 2005; Wing, 2006; Guzdial, 2008). There are limited number of studies that measures digital age skills. It is a concealed fact, to measure how much of digital age skills like computational thinking skills is present in the millennial generation. Educators and researchers these days finds it necessary to study the concepts of computational thinking in schools. They focus on teaching learning process in schools with computer

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programming exercises. Educational researchers sometimes referred twenty first century skills as computational thinking. Such activities to teach CT skills comprises of activities like strings or physical movements and logic cards that help the student learn computer science concepts. However, there is lack of studies from the pedagogical practices or pre-service teachers' instructional method that will help in students' computational thinking. CT research in Indian context is also native. There is lack of empirical evidence on the measurement of the umbrella factors of computational thinking in India.

1.1. Review of Literature

The first concepts of computational thinking detailed that students could improve procedural thinking through programming. Later, after many years the concept of computational thinking was developed into a field of study by Wing (2006). Her research argued that computational thinking is a fundamental skill that students learn and recommended that the training for students should be implemented in the early school years. This skill will help students to streamline things into a process and solve complex problems. Currently, there is no one unanimous definition of computational thinking. However, researchers have accepted that computational thinking is a thought process that includes various elements of critical thinking, generalization, abstraction, algorithmic thinking and detection and correction of errors. Another study defines computational thinking skill as a problem-solving skill that helps to initially understand what the problem is and then thinking of the solutions (Curzon, 2015). In a recent study of use of technology tools, researchers have found that students of 21st century prefer mobile devices than the traditional tools.

Recently, The International Society for Technology in Education (ISTE, 2015) defined computational thinking as a common reflection of creativity, algorithmic thinking, critical thinking, problem solving, cooperative thinking and communication skills. Thus, from earlier researches we can see that the factors mentioned in ISTE definition are the skills are the ones that are discussed most in the case of computational thinking skills. Korkmaz and others (2017) have also checked the validity and reliability of these factors in a study of computational thinking skills. The factors are mentioned as below:

a) *Creative thinking* – Creative thinking is one of the prominent skills of the new age that helps in gaining new insights in many areas such as technology, manufacturing, art, science and many more. Creativity is also considered as a competency-based skill to encounter the complex world (Wang, Schneider & Valacich, 2015). Maor (2017) in his research has mentioned that creative thinking is essential for the teachers to develop their abilities technology in an innovative method.

b) *Algorithmic thinking* – Brown (2015) defined algorithmic thinking as a skill of understanding, applying and assessing producing algorithms. To be an algorithmic thinker understanding and assessing the situation is crucial. An algorithmic thinker will be meticulous and determined in completing the tasks. Studies suggests that algorithmic thinking is the most appropriate way to solve the problem systematically and hence also called as systematic thinking (Yadav, Mayfield, Zhou, Hambrusch & Korb, 2014; Yadav, Stepheson & Hong, 2017).

c) *Critical thinking* – With the prevailing traditional style of education system we observe that it is rote learning is insufficient meet the human power of the information age (Kormaz et al., 2017). Literature supports that critical thinking is a must for the educators in order to achieve a desired skill (Qing, Jing & Yan, 2010). On experimenting computational thinking on preservice teachers, critical thinking was incorporated with computational thinking. A study conducted by Bower and Falkner (2015) concluded that preservice teachers associate computational thinking with critical thinking. Hence, critical thinking can be considered as a crucial component of computational thinking.

d) *Problem solving* – Technology advancements and computer science have brought enormous insights on solving human inquiries. The digital generation students learn how to think and solve problems bringing in computational processes (Barr & Stephenson, 2011). Wing (2011) redefined computational thinking as the "thoughtful processes involved in formulating problems and their solutions so that the solutions are represented in a form that can be effectively carried out by an information-processing agent".

e) *Cooperativity* – Researchers have defined as a group or cooperative learning where the students help each other to learn an academic subject (Johnson, Johnson and Smith, 2007). For the students of the information age peer learning is a method for academic success and establishing social relations. A study conducted

on students using coding shows that cooperativity was an active means in problem solving and interaction among students (Standl, 2016).

f) *Communication Skills* – According to ISTE (2015), computational thinking in an individual is used for algorithmic thinking and problem solving only when the individual cooperates with the environment. Computational thinking is expected to happen when there is a healthy communication and cooperativity is high. Communication skills are important in teaching profession. It checks the educators' power to perform their job. Teachers will be able to share their resources and transfer their knowledge with good communication skills.

1.2. Computational thinking and teacher education

In recent years, the curriculum in schools are undertaking a redesign by embracing computational thinking considering it essential for students. Advancement in computer and mobile technology has changed the learning interests of students. Bundy (2007) posited that computational thinking is important for understanding concepts in every field by the method of algorithmic thinking and problem solving. There are studies that proves the positive relationship of computational thinking and students' academic performance (Doleck, Bazelais, Lemay, Saxena and Basnet, 2017). The supprt systems in educational instituitions should also be aware of the consequences of computational thinking training for students. Teachers are expected to incorporate computational thinking into the teaching and learning practices (Yadav et al., 2014). Teachers and preservice teachers can be provided with oppurtunities online to reinforce their abiities in computational thinking (Yadav, Hong & Stephenson, 2016). Studies shows that students from different background using their analytical and problem-solving skills to solve task in their introductory computer science papers (Lewandowski, Bouvier, McCartney, Sanders & Simon, 2007). Similarly, a study conducted by Hambrusch and colleagues (2009) found that teaching computational thinking in undergraduate science programme significantly improves students' attitude and interest. Understanding the impact of computational thinking in the academic performance of the students of various ages, it is important for the pre-service teachers to inculcate the skill in themselves and further implement them in the classroom teaching. This study will help to understand the computational thinking skills that both Turkish and Indian teacher candidates have.

Problem question in research "What are the computational thinking skills levels of Turkish and Indian teacher candidates?" determined as. In addition, answers were sought for the sub-problems given below.

a) What are the computational thinking skills levels of Turkish and Indian teacher candidates in general?

b) Is there a significant difference between Turkish and Indian teacher candidates' computational thinking skills?

c) Is there a gender difference between the level of computational thinking skills of Turkish and Indian teacher candidates?

d) Is there a significant difference between the level of computational thinking skills of Turkish and Indian teacher candidates according to departments?

e) Is there a significant difference between computational thinking skill levels of Turkish and Indian teacher candidates according to grade levels?

2. Method

2.1. Research Design

This study was carried out in the descriptive survey method. In this study, computational thinking skill levels of teacher candidates who are studying in Turkey and India have been tried to be described comparatively.

2.2. Participants

The participants of the study consist of 555 male and 212 female who are students in the Faculty of Education at a University in Turkey. 239 male and 493 female who are students in Faculty of Education at University of Madras, India. The distribution of teacher candidates by Country, Department and class levels is summarized in Table1.

Table 1. Distribution of the working group by country, department and class

			First grade	Second grade	Third grade	Fourth grade	Total
Science Ed.	Country	India	42	41	53	28	164
		Turkey	25	36	37	40	138
	Total		67	77	90	68	302
Math. Ed.	Country	India	41	70	53	34	198
		Turkey	47	47	61	41	196
	Total		88	117	114	75	394
Language Ed.	Country	India	33	56	56	39	184
		Turkey	79	82	72	51	284
	Total		112	138	128	90	468
Social Science Ed.	Country	India	35	56	57	38	186
		Turkey	34	37	36	42	149
	Total		69	93	93	80	335

2.3. Measuring Tool

In the scope of the study, the computational thinking skill scale was designed by Korkmaz, Çakır and Özden (2017) to measure the computational thinking skills of university students in Turkey. The scale consists of 29 items and five factors. The validity and reliability study of the scale was carried out separately in two different study groups, one consisting of faculty of education and faculty of engineering students and the other composed of students studying in the faculty of science and literature, faculty of theology and faculty of health sciences. The factors on the scale, the number of items and the internal consistency coefficients are summarized in Table 2.

Table 2. Reliability analysis results considering the whole of the scale and its factors for undergraduate students

Factors	Number of items	Cronbach's Alpha
Creativity	8	.843
Algorithmic Thinking	6	.869
Cooperativity	4	.865
Critical Thinking	5	.784
Problem Solving	6	.727
Total	29	.822

For Indian teacher candidates, the English form of the same scale was used. Exploratory factor analysis was carried out to investigate whether the English form of the scale is valid and reliable in Indian culture. In order to test the structure validity of Computational Thinking Scale, Kaiser-Meyer-Oklin (KMO) and Bartlett tests were first performed and KMO= 0.851; Bartlett Test value was $\chi 2$= 12605.310 SD=406 (p=0.000). Within the framework of these values, it is understood that factor analysis can be done on 29 item scale. It has been determined that the factor loads of 29 items are between 0.250 and 0.694 without being subjected to rotation (unrotated). The reliability level of the scale was tested through the Cronbach Alpha internal consistency coefficient. The factors on the scale, the number of items and the internal consistency coefficients are summarized in Table 3.

Table 3. Reliability analysis results for Indian teacher candidates

Factors	Number of items	Cronbach's Alpha
Creativity	8	.642
Algorithmic Thinking	6	.853
Cooperativity	4	.813
Critical Thinking	5	.678
Problem Solving	6	.803
Total	29	.769

Table 3 shows the internal consistency coefficient for the whole scale is 0.769. In terms of factors, internal consistency coefficients vary between 0.642 and 0.853, and internal consistency coefficients for Creativity and Critical Thinking factors are less than 0.70.

3. Results

The descriptive results of the computational thinking skills of Turkish and Indian teacher candidates are summarized in Table 4.

Table 4. Students' computational thinking skill levels

	Factors	N	$\bar{X}$	SD	Low		Medium		High	
Indian	Creativity (C)	732	77.0	9.9	7	1.0	101	13.8	624	85.2
	Algorithmic Thinking (A)		69.8	13.3	75	10.2	217	29.6	440	60.1
	Cooperativity (O)		78.5	13.3	22	3.0	124	16.9	586	80.1
	Critical Thinking (T)		75.7	11.4	13	1.8	129	17.6	590	80.6
	Problem Solving (P)		66.5	14.5	111	15.2	234	32.0	387	52.9
	Computational Thinking Levels		73.3	6.4	1	0.1	112	15.3	619	84.6
Turkish	Creativity (C)	767	83.1	10.4	10	1.3	33	4.3	724	94.4
	Algorithmic Thinking (A)		59.6	20.7	285	37.2	189	24.6	293	38.2
	Cooperativity (O)		73.4	19.5	105	13.7	163	21.3	499	65.1
	Critical Thinking (T)		70.6	14.7	65	8.5	230	26.5	499	65.1
	Problem Solving (P)		47.6	15.7	488	63.6	204	26.6	75	9.8
	Computational Thinking Levels		67.4	8.5	21	2.7	357	46.5	389	50.7

As shown in Table 3, computational thinking skills scores of Indian teacher candidates range from 49 to 91; average is $\bar{X}$=73.3. It is observed that 84.6% of these teacher candidates have high skill levels, 15.3% have moderate level and only 0.1% have low level. When we look at the factors, it is observed that the factor with the highest mean is cooperativity ($\bar{X}$ =78.5) and the factors with the lowest mean is problem solving ($\bar{X}$ =66.5). On the other hand, it is observed that the highest level of skill in the group is creativity (85.2%) and the lowest level is problem solving (52.9%). According to this, it was found that the students' computational thinking skills were quite high in general and the highest factor is creativity and the lowest one is problem solving.

As for Turkish teacher candidates, it is observed that the computer thinking skills scores range from 37 to 94 and the mean is $\bar{X}$=67.4. It is observed that 50.7% of these teacher candidates have a high level of skills and 46.5% have a moderate level and 2.7% have a low level. It was observed that the highest mean of the factors was Creativity ($\bar{X}$ =83.1) and the lowest mean of the factors was Problem Solving ($\bar{X}$ =47.6). It was observed that the highest level of skills in the group was Creativity (94.4%) and the lowest level in the group was Problem Solving" (9.8%). According to this, it can be said that the Turkish teacher candidates' computational thinking skills are generally moderate, and the students' highest-level skills are Creativity and the lowest ones are Problem Solving. In comparison, it is observed that the computer-based thinking skills levels of Indian teacher candidates are higher than Turkish teacher candidates in terms of total scores. In terms of factors, it is observed that the skill levels of Indian teacher candidates are higher than those of Turkish teacher candidates in terms of all other factors except the creativity factor. In terms of creativity, it is observed that the higher the skill levels of teacher candidates. It can be said that the level of computational thinking skills is higher than the level of Turkish teacher candidates except for the Creativity factor of Indian teacher candidates.

Table 5. Differences between Indian and Turkish teacher candidates' computational thinking skills

Factors		N	$\bar{X}$	Sd	t	df	P
Creativity (C)	Indian	732	77.0	9.9	-11.511	1497	.000
	Turkish	767	83.1	10.4			
Algorithmic Thinking (A)	Indian	732	69.8	13.3	11.295		.000
	Turkish	767	59.6	20.7			
Cooperativity (O)	Indian	732	78.5	13.3	5.846		.000
	Turkish	767	73.4	19.5			
Critical Thinking (T)	Indian	732	75.7	11.4	7.578		.000
	Turkish	767	70.6	14.7			
Problem Solving (P)	Indian	732	66.5	14.5	24.128		.000
	Turkish	767	47.6	15.7			
Computational Thinking Levels	Indian	732	73.3	6.42	15.161		.000
	Turkish	767	67,4	8,5			

As shown in Table 5, there is a significant difference in terms of both factors (Creativity: $t_{(2-1497)}$=-11.511.161; p<0.001, Algorithmic Thinking: $t_{(2-1497)}$=11,295; p<0.001, Cooperativity: $t_{(2-1497)}$=5,846; p<0.001, Critical Thinking: $t_{(2-1497)}$=7.578; p<0.001, Problem Solving: $t_{(2-1497)}$=24.128; p<0.001 and total score ($t_{(2-1497)}$ = 15.161; p<0.001). When the mean scores are examined, it is observed that differentiation in factor of creativity is in favor of Turkish teacher candidates. In terms of other factors and total scores, it is seen that the Indian teacher candidates are in favor. It can be said that computational thinking skill levels of Indian teacher candidates are significantly higher than Turkish teacher candidates in terms of all the factors and total score except creativity. On the other hand, it can be said that Turkish teacher candidates' skill levels are significantly higher in terms of creativity.

The results of the differences between computational thinking skill levels of teacher candidates according to gender are summarized in Table 6.

Table 6. Differences between computational thinking skill levels of teacher candidates according to gender

	Factors		N	$\bar{X}$	Sd	t	df	p
Indian	Creativity (C)	Male	239	77.2	9.7	.298	730	.767
		Female	493	76.9	10.1			
	Algorithmic Thinking (A)	Male	239	68.5	13.8	-1.788		.074
		Female	493	70.4	13.1			
	Cooperativity (O)	Male	239	77.9	12.9	-.727		.468
		Female	493	78.7	13.5			
	Critical Thinking (T)	Male	239	76.2	10.6	.698		.485
		Female	493	75.5	11.8			
	Problem Solving (P)	Male	239	67.9	13.9	1.973		.049
		Female	493	65.7	14.8			
	Computational Thinking Levels	Male	239	73.4	6.1	.289		.772
		Female	493	73.3	6.6			
Turkish	Creativity (C)	Male	555	83.3	10.6	.906	765	.365
		Female	212	82.5	9.9			
	Algorithmic Thinking (A)	Male	555	60.2	20.8	1.313		.189
		Female	212	58.0	20.4			
	Cooperativity (O)	Male	555	73.4	19.9	-.122		.903
		Female	212	73.6	18.3			
	Critical Thinking (T)	Male	555	70.2	15.1	-1.036		.301
		Female	212	71.5	13.8			
	Problem Solving (P)	Male	555	46.2	14.7	-4.129		.000
		Female	212	51.4	17.4			
	Computational Thinking Levels	Male	555	67.2	8.3	-.919		.358
		Female	212	67.9	8.9			

Table 6 shows that there is no significant difference between Indian male and female teacher candidates in terms of both total scores and all factors. When Turkish teacher candidates are examined, it is seen that there is no significant difference between female and male pre-service teachers in terms of all factors and total score except for problem solving. However, there is a significant difference between Turkish female teacher candidates and male teacher candidates in favor of female teacher candidates in problem solving factor ($t_{(2-1497)}$=-2,4129); p<0.001). According to this result, it is possible to say that the problem-solving skills of Turkish female teacher candidates are significantly higher than Turkish male teacher candidates, and that both Indian and Turkish teacher candidates are similar to computational thinking skills. In terms of gender, the findings regarding the differentiation between the computational thinking skills levels of Turkish and Indian teacher candidates are summarized in Table 7.

Table 7. Gender Differences between Indian and Turkish teacher candidates' Computational Thinking Skills

	Factors		N	$\bar{X}$	Sd	t	df	p
Males	Creativity (C)	India	239	77.2	9.7	-7.649	792	.000
		Turkey	555	83.3	10.6			
	Algorithmic Thinking (A)	India	239	68.5	13.8	5.68		.000
		Turkey	555	60.2	20.8			
	Cooperativity (O)	India	239	77.9	12.9	3.281		.001

		Turkey	555	73.4	19.9			
	Critical Thinking (T)	India	239	76.2	10.6	5.535		.000
		Turkey	555	70.2	15.1			
	Problem Solving (P)	India	239	67.9	13.9	19.449		.000
		Turkey	555	46.2	14.7			
	Computational Thinking Levels	India	239	73.4	6.1	10.385		.000
		Turkey	555	67.2	8.3			
Females	Creativity (C)	India	493	76.9	10.1	-6.777	703	.000
		Turkey	212	82.5	9.9			
	Algorithmic Thinking (A)	India	493	70.4	13.0	9.676		.000
		Turkey	212	58.0	20.4			
	Cooperativity (O)	India	493	78.7	13.5	1.174		.000
		Turkey	212	73.6	18.3			
	Critical Thinking (T)	India	493	75.5	11.8	3.991		.000
		Turkey	212	71.5	13.8			
	Problem Solving (P)	India	493	65.7	14.8	11.214		.000
		Turkey	212	51.4	17.4			
	Computational Thinking Levels	India	493	73.3	6.6	8.926		.000
		Turkey	212	67.9	8.9			

Table 7 shows that female Turkish teacher candidates have significantly higher Creativity skills than male teachers candidates (male: ($t_{(2-792)}$ = - 7.649; p <0.001, Female: ($t_{(2-703)}$ = -6.777; p<0.001) On the other hand, when the other factors and total scores are examined, it is seen that computational thinking skills of Indian teacher candidates are significantly higher than Turkish teacher candidates. While the Creativity skill of the pre-service teachers is significantly higher, it can be said that the Indian female and male teacher candidates are significantly higher than the other skill levels and total scores of computational thinking skills. Table 8 summarizes the findings related to the level of computational thinking of Turkish and Indian teacher candidates according to the departments.

Table 8. Indian and Turkish teachers' computational thinking levels according to departments

		India			**Turkey**		
Factors	**Departments**	**N**	**$\bar{X}$**	**Sd**	**N**	**$\bar{X}$**	**Sd**
Creativity (C)	Science	164	77.9	9.9	138	84.4	9.5
	Math	198	75.8	9.7	196	82.4	9.6
	Language	184	77.4	10.1	284	82.6	11.7
	Social Science	186	77.1	10.2	149	83.6	9.8
Algorithmic Thinking (A)	Science	164	67.9	13.7	138	70.4	14.8
	Math	198	72.6	10.9	196	75.5	12.8
	Language	184	70.9	13.5	284	48.1	18.8
	Social Science	186	67.3	14.3	149	50.7	18.5
Cooperativity (O)	Science	164	80.5	13.2	138	76.1	18.8
	Math	198	76.4	13.7	196	71.8	18.6
	Language	184	78.5	13.8	284	73.1	20.5
	Social Science	186	78.8	12.1	149	73.9	19.2
Critical Thinking (T)	Science	164	76.8	11.7	138	74.7	11.9
	Math	198	75.5	12.2	196	71.5	13.3
	Language	184	75.3	10.9	284	68.4	16.4
	Social Science	186	75.5	10.9	149	69.7	14.7
Problem Solving (P)	Science	164	63.4	15.5	138	46.5	15.9
	Math	198	69.6	13.9	196	43.1	13.5
	Language	184	67.1	13.5	284	50.7	16.5
	Social Science	186	65.3	14.6	149	48.7	15.3
Computational Thinking Levels	Science	164	72.9	6.7	138	70.8	7.2
	Math	198	73.9	6.1	196	69.5	7.1
	Language	184	73.7	6.2	284	65.1	9.4
	Social Science	186	72.5	6.7	149	65.8	7.8

In Table 8, the mean score of Turkish and Indian teacher candidates of computational thinking skills are examined separately, the level of skills of Turkish and Indian teacher candidates are very close to each other

for all departments in terms of creativity. It is observed that the skill levels of Indian and Turkish teacher candidates differ in all departments in term of algorithmic thinking. In Cooperative Learning, it is observed that the skill levels of Indian and Turkish teacher candidates differ in all departments, and in both groups the skill levels of science teacher candidates are higher than the other departments. Critical thinking skill levels of teacher candidates in terms of Indian close to each other and differed in terms of the skill level of Turkish teacher candidates. In both groups, it is observed that science education teacher candidates' skill levels are higher than others. It is observed that the skill levels of Indian and Turkish teacher candidates differ from all departments in terms of Problem Solving. In terms of computational thinking total scores, it is observed that the level of skills of Indian teacher candidates is close to each other But Turkish teacher candidates in language education and social studies education departments are lower than other departments.

On the other hand, comparing Turkish and Indian teacher candidates, in all departments, the level of creativity skills of Turkish teacher candidates is higher. It is observed that Turkish teacher candidates in science education and mathematics education departments have higher Algorithmic Thinking skill levels compared to Indian students. According to the language education and social studies education departments, the Algorithmic Thinking skill levels of Turkish teacher candidates are very low compared to Indian teacher candidates. In all departments, the Cooperative Learning, Critical Thinking and Problem-Solving skills levels of Turkish teacher candidates are lower. However, the Problem-Solving skill levels of teacher candidates in both groups are quite low compared to other skill levels. In general, in all departments, it is observed that Turkish teacher candidates have lower computational thinking skills compared to the Indian teacher candidates. The results of ANOVA test related to whether these differentiations is meaningful are summarized in Table 9.

Table 9. The effects of departments on Indian and Turkish teachers' candidates' computational thinking skill levels

	Factors		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**LSD**
India	Creativity (C)	Bet.G.	427.536	3	142.512	1.441	.230	---
		Wit. G.	71994.211	728	98.893			
		Tot.	72421.747	731				
	Algorithmic Thinking (A)	Bet.G.	3545.176	3	1181.725	6.851	.000	Between Social Science, Science and Math, language
		Wit. G.	125568.531	728	172.484			
		Tot.	129113.707	731				
	Cooperativity (O)	Bet.G.	1551.535	3	517.178	2.950	.032	Between Science and Math
		Wit. G.	127615.268	728	175.296			
		Tot.	129166.803	731				
	Critical Thinking (T)	Bet.G.	221.088	3	73.696	.562	.640	---
		Wit. G.	95458.628	728	131.124			
		Tot.	95679.716	731				
	Problem Solving (P)	Bet.G.	3749.745	3	1249.915	6.065	.000	Between Science and Math, Language
		Wit. G.	150030.628	728	206.086			
		Tot.	153780.373	731				
	Computational Thinking Levels	Bet.G.	212.255	3	70.752	1.719	. 162	---
		Wit. G.	29957.649	728	41.151			
		Tot.	30169.904	731				
Turkey	Creativity (C)	Bet.G.	440.629	3	146.876	1.353	.256	---
		Wit. G.	82846.740	763	108.580			
		Tot.	83287.370	766				
	Algorithmic Thinking (A)	Bet.G.	114822.039	3	38274.013	136.67	.000	Between Science, Math and Social science, Language
		Wit. G.	213672.181	763	280.042			
		Tot.	328494.220	766				
	Cooperativity (O)	Bet.G.	1629.249	3	543.083	1.432	.232	---
		Wit. G.	289461.886	763	379.373			
		Tot.	291091.134	766				
	Critical Thinking (T)	Bet.G.	3983.570	3	1327.857	6.231	.000	Between Science, Social Science and Language
		Wit. G.	162587.360	763	213.090			
		Tot.	166570.931	766				

Problem Solving (P)	Bet.G.	7187.755	3	2395.918	10.074	.000	Between all departments
	Wit. G.	181469.698	763	237.837			
	Tot.	188657.453	766				
Computational Thinking Levels	Bet.G.	4306.912	3	1435.637	21.476	.000	Between Science, Math and Social science, Language
	Wit. G.	51005.789	763	66.849			
	Tot.	55312.701	766				

Table 9 shows that there is a significant difference on Algorithmic Thinking ($F_{(3-728)}$=6,851; p<0.01), Cooperativity ($F_{(3-728)}$=2,950; p<0.01) and Problem Solving ($F_{(3-728)}$=6,065; p<0.01) skills between departments of Indian teacher candidates. According to the results of LSD test, teacher candidates of mathematics and language education have significantly higher Algorithmic Thinking skill levels compared to teacher candidates in social sciences and science education departments. It is observed that Cooperative skill levels of teacher candidates in science education are significantly higher than those of teacher candidates in mathematics education. Problem Solving skill levels of teacher candidates who have been educated in mathematics and language education are significantly higher than those of teacher candidates in Science Education departments.

Table 9 shows that there is a significant difference on the Algorithmic Thinking ($f_{(3-763)}$=136,672; p<0.01), Critical Thinking($f_{(3-763)}$=6,231; p<0.01), Problem Solving ($f_{(3-763)}$=10,074; p<0.01) and total score ($F_{(3-763)}$=21,476; p<0.01) skills between departments of Turkish teacher candidates. The results of the LSD test show that the level of Algorithmic Thinking skill levels of teacher candidates in science and mathematics departments are significantly higher than teacher candidates in social studies and language education departments. Critical thinking skill levels of teacher candidates in science education department are significantly higher than teacher candidates in social studies and language education departments. Teacher candidates in science and language education departments have higher Problem-Solving skill levels than those in mathematics and social studies education departments, while teacher candidates in Language Education Department have the highest level. It is observed that the level of skills of teachers in science and mathematics education in terms of total score of computational thinking is significantly higher than teacher candidates in language and social studies education. Table 10 summarizes the findings related to the level of computational thinking of Turkish and Indian teacher candidates according to the grade levels.

Table 10. Indian and Turkish teachers' computational thinking levels according to grade levels

		India			**Turkey**		
Factors	**Grade**	**N**	**$\bar{X}$**	**Sd**	**N**	**$\bar{X}$**	**Sd**
Creativity (C)	1.	151	77.57	10.5	185	81.5	11.1
	2.	223	77.21	9.9	202	82.7	9.8
	3.	219	77.53	9.5	206	83.4	10.6
	4.	139	75.20	10.1	174	84.7	10.1
Algorithmic Thinking (A)	1.	151	68.12	12.9	185	56.9	20.8
	2.	223	70.46	12.6	202	60.8	20.3
	3.	219	70.33	13.2	206	58.5	19.6
	4.	139	69.69	14.7	174	62.2	22.1
Cooperativity (O)	1.	151	77.42	13.2	185	74.8	20.7
	2.	223	79.06	13.7	202	72.9	19.8
	3.	219	79.06	13.4	206	73.9	18.3
	4.	139	77.81	12.5	174	71.8	19.3
Critical Thinking (T)	1.	151	74.38	11.9	185	69.1	15.1
	2.	223	75.91	12.1	202	69.9	15.3
	3.	219	76.47	11.1	206	71.3	13.9
	4.	139	75.80	10.2	174	71.9	14.7
Problem Solving (P)	1.	151	65.83	14.6	185	48.4	16.9
	2.	223	66.55	14.5	202	47.2	15.9
	3.	219	66.30	13.9	206	47.1	15.4
	4.	139	67.27	15.6	174	47.8	14.5
Computational Thinking Levels	1.	151	72.61	6.9	185	66.6	9.4
	2.	223	73.64	5.9	202	67.3	7.8
	3.	219	73.75	6.3	206	67.4	8.5
	4.	139	72.88	6.6	174	68.5	8.2

In Table 10, computational thinking skills of both Indian and Turkish teacher candidates are examined according to class levels, although there are small differences in both total scores and factors, it is observed that they are similar in general. In comparison, it is observed that Turkish teacher candidates at all class levels are higher than Indian teacher candidates at all class levels in terms of Creativity factor. However, in terms of other factors and total scores, it is observed that the level of skills of Indian teacher candidates at all grade levels is quite high among Turkish teacher candidates. The results of the analysis of variance about whether this differentiation is significant are summarized in Table 11.

Table 11. The effects of grade levels on Indian and Turkish teachers' candidates' computational thinking skills

	Factors		Sum of Squares	df	Mean Square	F	Sig.	LSD
India	Creativity (C)	Bet.G.	572.053	3	190.684	1.932	.123	---
		Wit. G.	71849.694	728	98.695			
		Tot.	72421.747	731				
	Algorithmic Thinking (A)	Bet.G.	586.851	3	195.617	1.108	.345	---
		Wit. G.	128526.856	728	176.548			
		Tot.	129113.707	731				
	Cooperativity (O)	Bet.G.	382.985	3	127.662	.722	.539	---
		Wit. G.	128783.818	728	176.901			
		Tot.	129166.803	731				
	Critical Thinking (T)	Bet.G.	402.816	3	134.272	1.026	.380	---
		Wit. G.	95276.900	728	130.875			
		Tot.	95679.716	731				
	Problem Solving (P)	Bet.G.	157.890	3	52.630	.249	.862	---
		Wit. G.	153622.484	728	211.020			
		Tot.	153780.373	731				
	Computational Thinking Levels	Bet.G.	164.908	3	54.969	1.334	.262	-
		Wit. G.	30004.996	728	41.216			
		Tot.	30169.904	731				
Turkey	Creativity (C)	Bet.G.	979.852	3	326.617	3.028	.029	Between 1st and 4th grade
		Wit. G.	82307.517	763	107.874			
		Tot.	83287.370	766				
	Algorithmic Thinking (A)	Bet.G.	3092.077	3	1030.692	2.417	.051	Between 1st and 4th grade
		Wit. G.	325402.143	763	426.477			
		Tot.	328494.220	766				
	Cooperativity (O)	Bet.G.	892.833	3	297.611	.782	.504	---
		Wit. G.	290198.301	763	380.339			
		Tot.	291091.134	766				
	Critical Thinking (T)	Bet.G.	890.093	3	296.698	1.366	.252	---
		Wit. G.	165680.838	763	217.144			
		Tot.	166570.931	766				
	Problem Solving (P)	Bet.G.	239.244	3	79.748	.323	.809	---
		Wit. G.	188418.210	763	246.944			
		Tot.	188657.453	766				
	Computational Thinking Levels	Bet.G.	329.759	3	109.920	1.525	.207	---
		Wit. G.	54982.942	763	72.062			
		Tot.	55312.701	766				

When Table 11 is examined, it is observed that there is no significant difference in terms of both the total scores of the Indian teacher candidates and the factors in terms of the class level. According to this, it can be said that the schools where they study have no meaningful contribution to computational thinking skills of Indian teacher candidates. When Turkish teacher candidates were examined, it was found that there was a significant difference on the skills of Creativity ($F_{(3-763)} = 3,028$; $p < 0,01$) and Algorithmic Thinking (F (3-763) = 2,417; $p < 0,01$) between grade levels. According to the LSD test results, it is observed that the skill levels of the 4th grade students are significantly higher than the first-grade students in terms of both factors.

4. Conclusion and Discussion

In general, computational thinking skills of Indian teacher candidates are quite high, while Turkish teacher candidates are moderate. In both groups, the students' highest level of skills in terms of factors is creativity and the lowest one is problem solving. In general, the lowest mean score of the students is the algorithmic thinking and problem-solving skills the highest skill is the cooperativity. In comparison, computational thinking skills levels of Indian teacher candidates are significantly higher than Turkish teacher candidates in terms of all factors except creativity. On the other hand, in terms of creativity, the skill levels of Turkish teacher candidates are significantly higher than their counterparts. This can be interpreted as the fact that Turkish students are more imaginative in terms of creativity, but at other skill levels Indian students are better than Turkish students.

This finding is consistent with the literature. For example, the results of the study by Yağcı (2018) indicated that high school students consider their computational thinking skills to be sufficient at a medium level. There is limited research in the field of computational thinking. However, it is possible to come across a lot of research on the basic skills that are directly related to computational thinking. By examining these skills, it can get an idea about students' computational thinking skills. Mathematical performances of eighth grade Turkish students in a TIMSS-R conducted by Dogan and Tatsuoka (2008) were evaluated and they stated that Turkish students comparatively with American students did not perform well when asked them to deal with uncertainty, derive rules and generalize from cases, to construct answers as opposed to selecting an answer from given alternatives, and to read and understand suggestions that require logical thinking. In another study conducted by Kanbay, Aslan, Işık and Kılıç (2013) on nursing students, it was determined that students' critical thinking tendency scores were at a moderate level and there was no difference between the students' critical thinking and problem-solving skills scores. Moreover, as the critical thinking points increased, problem solving skills increased and critical thinking and problem-solving skills were not different according to gender.

As discussed in the introduction, the authors could not find much study on the level of computational thinking in Indian students. Computational thinking studies conducted in India by Shyamala et al. (2017) and Soman, Kumar, Soumya, and Shajeesh (2012) suggest that the Indian students have preferably high computational thinking skills, but they need to be trained hands on to develop the skill. Authors could not find any specific study which measured the level of creativity, problem solving, algorithmic thinking, communication skills, cooperativity or critical thinking skill. This study will contribute toward theoretical aspects of computational thinking pertaining to Indian context.

Turkish female teacher candidates' problem-solving skills are significantly higher than Turkish male teacher candidates. Apart from that, both Indian and Turkish teacher candidates' computer thinking skills are similar in terms of gender. In comparison, Turkish female and male pre-service teachers have significantly higher Creativity skills, while Indian female and male pre-service teachers have significantly higher scores on other skill levels and computer thinking. When the related literature is examined; in a study by Atmatzidou and Demetriadis (2016), it was concluded that women's computer thinking skills were higher than males. In contrast, the study by Orton et al. (2016) found that men have high computer thinking skills. According to the research by Tümkaya, Aybek and Aldağ (2009), it was found that there is not a significant difference either in problem solving skills or in critical thinking disposition based on gender. This result is in line with previous research which found gender to be an insignificant variable in terms of university students' critical thinking dispositions (Kawashima & Shiomi, 2007)

Algorithmic Thinking skill levels of Indian teacher candidates in mathematics and language education departments are significantly higher than in social studies and science education departments. Cooperativity skill levels of Indian teacher candidates in science education departments are significantly higher than in mathematics education. Indian teacher candidates in mathematics and language education departments have significantly higher problem-solving skill levels than those in science education departments. There are no significant differences in terms of other factors and total score of computational thinking. Shyamala, Shunmuga Velayutham and Parameswaran (2017) in their research have given programming education to students by using Scratch and Raptor applications. After applications, the students' computational thinking and problem-solving skills were measured. According to result, the students observed that the education provided increases computational thinking, problem solving skills and motivation towards the lesson.

Similarly, Jaipal-Jamani and Angeli (2017) in the experimental study conducted by primary school teacher candidates on robotic self-efficacy and computational thinking skills, they found that students' self-efficacy and computational thinking skills were significantly influenced by the experimental process. These research results show that successful results can be achieved when students are given appropriate education to improve their thinking skills. It is possible to say that the main source of the difference between the departments is to include the contents of the students' thinking skills.

Algorithmic Thinking skill levels of Turkish teacher candidates in mathematics and science education departments are significantly higher than in social studies and language education departments. Critical Thinking skill levels of teacher candidates in science education departments are significantly higher than in social studies and language education departments. Problem Solving is a differentiation between all the sections in terms of skill levels. The teacher candidates in science and language education departments are significantly higher in the problem-solving skill levels, then mathematics and social studies education departments. The highest skill level of this factor is the teacher candidates in the language education department. In terms of the total score of computational thinking, the skill levels of teacher candidates in science and mathematics education are significantly higher than the teacher candidates in the department of language and social studies education. This situation can be interpreted that the students are related to the department they study. In the literature, there are studies in which the relationship between logical mathematical intelligence and mathematics academic achievement are stated (Barcelos & Silveira, 2012). It can be thought that programs applied in mathematics, science education departments significantly contribute to students' computer thinking skill levels significantly more than other departments. Indeed, in a study by Korkmaz et al. (2015) found similar results. In a study conducted by Yadav, Gretter, Good and McLean (2017) about computational thinking skills for prospective teachers who are not previously familiar with information technologies, he states that prospective teachers have superficial computational thinking skills. However, at the end of the education given, they determined that there are developments in Problem Solving skills, Logical Thinking and Computational thinking skills.

In comparison to Turkish and Indian teacher candidates, the Creativity levels of Turkish teacher candidates are higher in all departments. The algorithmic Thinking skill levels of Turkish teacher candidates in science education and mathematics education departments are higher than those of Indian students. On the other hand, according to the language education and social studies education departments, the Algorithmic Thinking skill levels of Turkish teacher candidates are very low compared to Indian teacher candidates. In all departments, the Cooperative Learning, Critical Thinking and problem-solving skills levels of Turkish teacher candidates are lower than those of Indian teacher candidates. In terms of total points, Turkish teacher candidates in all departments have lower computational thinking skills levels.

The skill levels of Indian teacher candidates are not different in terms of grade levels. Accordingly, it can be said that there is no meaningful contribution of the teacher's candidates in India to the computational thinking skill levels. The schools where Turkish teacher candidates are educated contribute positively to Creativity and Algorithmic Thinking skills and do not contribute positively to other skill levels and total points. Compared to the Creativity factor, Turkish teacher candidates' skills levels at all grade levels are higher than those of Indian teacher candidates. On the other hand, the skill levels of Indian pre-service teachers in all grade levels in terms of other factors and total scores were higher than those of Turkish teacher candidates.

As a result of the research, it is seen that teacher candidates studying in both countries have a certain level of computational thinking, critical thinking and problem-solving skills. In addition, differences were found between the two countries due to different effects. In order to develop such skills, different applications can be developed and included in educational settings. For example, Wang et al. (2013) developed a computer-based application to improve computational thinking in a study. They have grasped the effect of the practice on teacher candidates. They also determined that the system prepared as a result of the research was effective on the teacher candidates' skills. On the other hand, Çiftci, Çengel and Paf (2018) found a significant positive relationship between the students' thinking skills and reflective thinking skills in problem solving. In this context, it is possible to say that different applications made in order to develop students' thinking skills in the implementation of training programs in India and Turkey. These different applications show that, while

developing students' creativity skills in Turkey has developed other sub factor skills level in India. In this context, it can be suggested to integrate the implementations which are thought to contribute to the computational thinking skills of students in Turkish teacher training programs by examining teacher training programs applied in India.

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Communication Skills and Time Management as the Predictors of Student Motivation

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ABSTRACT

This study examines free time management and communication skills as the predictors of university students' motivation. The study sample includes 610 undergraduate students in a variety of programs. Of the 610 students, 441 are female, 169 are male, and the mean age is 20.1 years. Their GPA averages range from 1.83 to 3.96 on a 4.0 scale. Data collection tools included three instruments. The relationship between university students' communication skills, free time management, and motivation levels are determined using correlation analysis and multiple regression analysis. The findings show that there are positive and meaningful relationships between students' motivation and the subscales of communication skills and free time management. These subscales include goal setting and technique, free time attitude, scheduling, evaluating, respect, ability of expression, desire, democratic attitude, value, and obstacles. In addition, a regression analysis shows that students' motivation is predicted by their free time management and communication skills.

Keywords:
Motivation, communication skills, free time management, higher education

1. Introduction

Organizations are evaluated based on the quality of their products, customer satisfaction, and professional attitude. In that sense, all the organizations have certain missions to accomplish. As one these organizations, schools take serious measures to comply with their mission and vision statements. They recognize and understand the importance of creating a positive school climate that motivates all school members to achieve targeted goals. Based on the objectives of the educational institutions, students need to be encouraged and motivated in order to establish set goals for accomplishment. To increase student motivation, school administrators and teachers must be willing to spend a great amount of time and energy to enhance the effectiveness and efficiency of educational delivery system.

There are several approaches that may increase student motivation. These approaches include but are not limited to making the learning activities interesting, promoting a growth mindset, developing meaningful relationships, creating a learning community, establishing high expectations, and being able to inspire students. Putting these factors aside, helping students with their communication skills and teaching them on how to beneficially manage their free time may have a positive impact on their motivation as well.

There are several learning theories focusing on explaining the motivation of students. However, it seems difficult to locate a specific theoretical framework in order to explain the concept of motivation (Yenilmez & Çemrek, 2008). Basically, most of the theories stress the patterns of motivation through the acts of rewards and punishments of the students within the school settings. Wentzel and Wigfield (2007) suggested that improving student motivation would also affect their social competencies and academic performance. In line with this

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argument, this study employs social cognitive theory (SCT) and self-determination theory (SDT) to explain the effects of different variables on student motivation. Social Cognitive Theory (SCT) was used to explain how motivational factors have any associations with students' social competencies. The theory explains that learning takes place in social contexts in which the reciprocal interaction of the human, environment, and behavior is inevitable (Bandura, 1989). With that in mind, learning how to improve the communication skills and manage free time may increase the motivation level of the students. ın addition, a theory of motivation, namely self-determination theory (SDT) was also employed to explain the effects of communication skills and free time management on student motivation. This theory is a contemporary one as researchers use to determine how factors in social contexts support or undermine a person's motivation (Kahn et al., 2002).

1.1. Motivation

The concept of motivation includes an inner state of human being that channels and directs behaviors towards targeted goals (Musaazi, 2006). Gardner (1985) explained that motivation involves effort, aims, attaining goals, and behaviors towards tasks. Motivation has goal seeking acts and a desire for achievement (Ames & Ames, 1989; Oxford & Shearin, 1994). It is the most influential of all factors that enables students to make choices which will eventually affect their performances at the end (Francis et al., 2004; Keller, 1983). The existence of motivation comes with instigated and sustained goal-oriented tasks (Pintrich & Schunk, 2002). Motivation is considered as an internal force arouses and maintains behaviors over the time (Thokildsen, Nicholls, Bates, Brankis, & DeBott, 2002; Woolfolk, 2004; Yorks, 1976).

Many factors affect student motivation in schools. Some of these factors include poverty, social disadvantages, family situations, poor conditions in schools, and lack of some personal skills (Robinson, 2017). Educational researchers and practitioners state that the most critical factor for student achievement is motivation (Maulana, Opdenakker, den Brok, & Bosker, 2011; Orhan Özen, 2017). From this perspective, schools and educational leaders need to pay more attention to the factors of motivation to establish a concrete base for student learning and achievement (Dörnyei & Ushioda, 2011; Slavin, 2013; Wang & Eccles, 2013; Yazıcı, 2012).

Robinson (2017) suggested that improving student motivation was possible through improving the quality of education system. The evidence of quality education is viable when students learn how to establish a control system over their life. If they know how to have strong peer interactions and wisely use their free time (Opdenakker, Maulana, & den Brok, 2012), their level of motivation may increase. Having said that, educational leaders have to know what types factors have either positive or negative effects on students' motivation (Deniz, Avşaroğlu, & Fidan, 2006; Ünal & Gürsel, 2015).

There are certain things, behaviors, or approaches that diminish student motivation (Kearney, Plax, Hays, & Ivey, 1991). Lack of communication, disrespectful criticism, lack of sensitivity, bias, verbal abuse, lack of feedback and time management, and negative attitudes towards students decrease student motivation in the classroom (Gorham & Christophel, 1992). Gorham and Millette (1997) emphasized that teachers' poor communication skills with their students result in low student motivation. (Yan, 2009). Lamb (2017) pointed out that ignoring students' identity, not looking friendly, providing monotonous learning activities, and not setting appropriate learning goals and clear instructions (Ünal, 2012), reduce motivation among students. Lack of communication between teachers and students may turn learning activities into the monotonous ones, thus reducing their level of motivation (Ünal & Gürsel, 2015).

On the other hand, some behaviors occurring in the learning settings may have a positive impact on student motivation. An effective communication between teachers and students will help students perform well with higher levels of motivation (Passini, Molinari, & Speltini, 2015). Student motivation is related to teachers, who are able to create a positive atmosphere and become a role model (Erben Keçici, Beyhan, & Sönmez Ektem, 2013). In a study, Dörnyei (2001) found that the enthusiasm of the teachers, their commitment and expectations to the learning of the students, and their relationships have an association with their students' motivation. Even ways of teaching may affect student motivation. Lamb and Wedel (2014) explained that innovation in teaching methodology increased the motivation of Indonesian students than Chinese ones. In addition, Zhang (2007) found that the deterioration of students' motivation in the USA, Japan, and Germany was more associated with teacher behavior than the one in China. As a result, exploring the motivation to learn, skills and knowledge required to be successful in school life, helping them maintain their motivation (Gorham & Millette, 1997; Rehman & Haider, 2013; Slavin, 2013).

1.2. Communication Skills

There are different definitions of the concept of communication in the literature. Oskay (1993) told that the word communication refers to being socialized and togetherness. Budak (2005) stressed that it meant knowledge, symbols, signs, and behaviors. Köknel (2005) said that communication is the process of information coming through a channel. It is related to its functions which are very effective in the socialization process (Gürgen, 1997). It is necessary for establishing relationships and obtaining new knowledge.

Effective communication is a crucial element that helps students to engage in many activities (Ntoumanis, Quested, Reeve, & Cheon, 2018). Stakeholders in education must be aware of the fact that communication failures in the schools may create deficiencies in student motivation and learning (Dökmen, 2002). This situation occurs due to lack of a common language between students and teachers, or students' peers. As a matter of fact, students need to establish good communication skills to avoid such problems. Communication skill is of great importance in establishing a correct and effective communication, eliminating or reducing communication conflicts (Akvardar et al, 2005). It is related to students' speaking, writing, reading, listening, and thinking skills (Oya, Manalo, & Greenwood, 2004).

In his study, Ceyhan (2006) found that communication skills include answering questions by reflecting the speaker's emotions and thoughts, asking open questions that are not directing, responding correctly to messages, being willing to listen, making eye contact, concentrating on understanding, and giving correct feedback. Some of these may be considered as verbal or non-verbal skills (Cunningham, 1977; Maletasta & Izard, 1987; Minskoff, 1980). When students know how to use both skills, they would be able to ask effective questions, make summaries, and make sense of what is taught in the classroom, thus increasing their performance towards learning (Korkut, 1996).

In a study, Korkut (2005) found that students who have effective communication skills feel more enthusiastic towards communicating with their peers in social settings. Yüksel-Şahin (1997), in an experimental study, looked at the change in the communication skills of university students and found that those with such skills are more inclined to participating in personal interactions and activities. Researchers (Işık, 1993; Özgit, 1991) suggest that communication skills may be taught to students by school administrators or teachers as they can increase student engagement and motivation (Demirci, 2002). Parents and educational leaders need to know that teaching communication skills to students at younger ages would be more beneficial than teaching such skills to those with older ages (Berglund, Eriksson, & Westerlund, 2005). Similarly, Malatesta and Izard (1987) found that people at younger ages are more motivated and successful in analyzing the codes of communication than the older ones.

1.3. Time Management

The concept of time has been defined in many ways (Üstün, Kalkavan, & Demirel, 2016). Time cannot be perceived by human senses and it includes philosophical, psychological, and sociological dimensions (Bayramlı, 2017). Time can be expressed as an abstract concept (Kıngır, 2007) as it is an uninterrupted process in which events come from past to present and follow each other to the future (Smith, 2000). Time also means the perceptions of human being based on the events that occur consecutively (Gürbüz & Aydın, 2012). Time is a true treasure that is presented to people and necessary to know its value well. That is why a successful management of time becomes an imperative for everyone. Making good use of time puts our lives in balance or helps us identify the source of the imbalance. Being aware of using time is the key to continually improving the way we work and produce (Ağduman, 2014).

Although using time efficiently is a skill that everyone needs, many people will not have this skill and will have to settle for less than what they can do throughout their lives (Jones, 2000). This situation brings in the question of whether people are able to manage their free time or not. Tezcan (1994) describes free time as people getting rid of all necessities or burdens and voluntarily dealing with an activity. It takes place when individual is absolutely independent and free. Godbey (1999) defined the concept of free time as the time period that one can use freely without being exposed to the physical and cultural influence of external factors. According to Samdahl (2016), free time is a special definition of a situation as it is not earned, but it can be processed and lived. In addition, Zelinski (2004) defined free time as the time required to achieve the necessary things in our life. These definitions demonstrate and claim the importance of free time management.

Studies on free time management have been conducted by researchers since 1960s to emphasis importance of this situation. However, most people seem not to be aware of the importance of how they should use their free time (Hickerson & Beggs, 2007). Shaikh and Deschamps (2006) found that most of the students did not use their free time efficiently to keep up with their daily chores. Mannel and Kleiber (1997) pointed out that free time management is a behavioral strategy required to overcome the factors that limit the leisure time due to the insufficiency of existing time. Therefore, Goll, Charlesworth, Scior, and Stott (2015) stated that using free time effectively may be considered as a sign for wisdom.

In a study conducted on undergraduate students, Wang (2019) found that students who know how to manage and wisely use their free time are not easily bored. Studies show that students are bored due to lack of not knowing how to use their free time may be involved in unwanted situations. Some of these include extreme and addictive behaviors and substance use (Biolcati, Mancini, & Trombini, 2018; Weybright, Caldwell, Ram, Smith, & Wegner, 2015). Another study found that students with lack of free time management skills are prone to wasting their valuable time on useless tasks (Hickerson & Beggs, 2007). Therefore, the stakeholder needs to create opportunities for students to learn how to efficiently use their free time. Caldwell, Baldwin, Walls, and Smith (2004) found that after participating in a training that taught time management, students were able to participate into more arousing activities. Theoretically, such assumptions are in line with the framework that different variables may affect motivation (Bandura, 1989).

Based on the literature review above, there are some indications showing the relationship of students' motivation with their time management and communication skills. The literature suggests that students, who poorly manage their time are prone to comply with the assignments and responsibilities on time and that is why they may feel less enthusiastic to engage and communicate with their friends (Biolcati et al., 2018; Caldwell et al., 2004; Hickerson & Beggs, 2007; Weybright et al., 2015). Research also indicates that the existence of useful time management skills would increase students' motivation, performance, and academic outcomes (Elias, Ping, & Abdullah, 2011; Karaman & Watson, 2017; Watson & Watson, 2016). However, there is lack of research showing students' communication skills and free time management as the predictors of their motivation particularly in the context of Turkey. Knowing about such factors may help educators, students, and other stakeholders in education to be aware of the things that affect the level of motivation. Thus, the study has attempted to reveal the predictor roles of communication skills and free time management in such context and aimed to make a contribution to the current literature. In that sense this research poses two hypotheses: *(i)* Free time management and communication skills are positively associated with motivation. *(ii)* Free time management and communication skills are the predictors of motivation.

2. Method

2.1. Design

This study was designed as a correlational research. Its first goal includes examining the relationship among students' time management, communication skills, and motivation. Secondly, the study is aimed to determine the predictor roles of time management and communication skills on undergraduate students' motivation.

2.2. Research Sample

The study included 610 undergraduate students; 441 were female and 169 were male (Table 1). The participants were determined using a convenient sampling method. It took place at a university located at Western Black Sea Region in Turkey. The teacher candidates were enrolled in six different education programs; Turkish education (n = 137), school counseling (n = 180), science education (n = 44), elementary education (n = 109), special education (n = 60), and pre-school (n = 80). There were 218 freshmen, 122 sophomore, 176 junior, and 94 senior students in the study. The student GPAs ranged from 1.83 to 3.96 on a 4.0 scale.

Table 1. Frequency and Percent Distributions of Various Features of the Participants

Features		1	2	3	4	5	6	Total
Gender		Male	Female					
	n	169	441					610
	%	27.7	72.3					100
Grades		Freshman	Sophomore	Junior	Senior			
	n	218	122	176	94			610
	%	35.7	20.0	28.9	15.4			100
Program		Turkish Education	School Counseling	Science Education	Elementary Education	Special Education	Pre-School	
	n	137	180	44	109	60	80	610
	%	22.5	29.5	7.2	17.9	9.8	13.1	100

2.4. Data Collection Tools

For data collection, three instruments were used in the study. The instruments included The Free Time Management Scale (FTMS), the Communication Skills Scale (CSS), and the Academic Motivation Scale (AMS). Each scale was used to find any associations available between free time management, communication skills, and motivation.

The Free Time Management Scale (FTMS) was first developed by Wei-Ching Wang, Chin-Hsung Kao, Tzung-Cheng Huan, Chung-Chi Wu (2011). It was then adapted to Turkish language by Akgül and Karaküçük (2015). The scale is consisted of 15 items and four subscales. The dimensions of the instrument were called free time attitude (six items), scheduling (six items), goal setting and technique (six items), and evaluating (three items). The FTMS is a 5-point Likert scale (from 1 = absolutely disagree to 5 = absolutely agree). Akgül and Karaküçük (2015) measured the reliability coefficients of the instrument. They found Cronbach alpha coefficient as .81 for goal setting and technique, .79 for free time attitude, .73 for scheduling, and .71 for evaluating. Researchers also found the reliability coefficients for overall instrument as .83. As for this study, alpha internal consistency reliability coefficient was found to be .80 for the overall scale. It was also measured for the subscales and was found to be .79 for goal setting and technique, .77 for free time attitude, .81 for scheduling, and .79 for evaluating. In addition, the researcher used Confirmatory Factor Analysis (CFA) to confirm the structure of the scale. The findings from CFA confirmed that the model for the structure was acceptable (x^2= 244.759, df= 89, x^2 /sd= 2.750, GFI= .91, AGFI= .90, RMSEA= .061, CFI=.90, SRMR= .032, TLI= .92).

Secondly, the Communication Skills Scale (CSS) was used for data collection. This 5-point Likert scale (from 1 = absolutely disagree to 5 = absolutely agree) was developed by Karagöz and Kösterelioğlu (2008). The construct included 25 items with six subscales. The subscales were called respect (five items), ability of expression (five items), desire (four items), democratic attitude (three items), value (four items), and obstacles (four items). Researchers found the instrument's Cronbach alpha coefficient as .88. In this study, the instrument's Cronbach alpha coefficient was measured as .86. As for its subscales, the internal consistency coefficients respectively were α=88, α=.93, α=86, α=.90, α=.89, and α=.88 for respect, ability of expression, desire, democratic attitude, value, and obstacles. Also, CFA was carried out for this research group as well and it was seen that structure of the scale was confirmed for this research (x^2= 528.613, sd= 248, x^2 /sd= 2.131, GFI= .93, AGFI= .92, RMSEA= .044, CFI=.94, SRMR= .039, TLI= .90).

The final instrument used in this study was called the Academic Motivation Scale (AMS). The scale was developed by Gömleksiz and Serhatlıoğlu (2014). The scale included 28 items and seven subscales. However, in the study, the researcher only took the overall scale into account to determine the relationships between free time management, communication skills, and motivation. After the instrument was constructed, the Cronbach's alpha reliability coefficient for the overall scale was calculated to be .87. On the other hand, for the current study, the alpha internal consistency reliability coefficient for overall instrument was measured as .89. The researcher of this study also confirmed the model of the construct through CFA. The results suggested that that the model for this construct was acceptable (x^2= 1427.286, df= 371, x^2 /sd= 3.847, GFI= .90, AGFI= .91, RMSEA= .077, CFI=.91, SRMR= .044, TLI= .91).

2.5. Data Analysis

After the necessary permissions were obtained from the department of ethics, the data collection tools were used to gather data from the participants. Before research took in place, pre-study folders were formed to collect information about the participants' identification numbers, ages, grade levels, and GPA scores. Students were informed about the purpose of the study in which they voluntarily participated. To ensure confidentiality, all the folders were kept in locked cabinets.

In addition, the tests of normality and homogeneity were conducted before addressing the assumptions of multiple regression. For the normality, Kolmogorov- Smirnov test was employed and the test results ($p > .05$) showed that the assumptions of normality were met. For homogeneity, Levene's test was conducted, and the findings ensured the homogeneity of variances. As the study participants were consisted of from six different programs and four levels, an ANCOVA test was employed to ensure that all groups were equivalent. After conducting ANCOVA, the results indicated that the groups were equivalent as the findings from these tests suggested that all assumptions were met ($p > .05$). In addition, the Mahalanobis distance was used to examine the outliers. Tabachnick and Fidell (2001) define an outlier as an observed case that demonstrates abnormal distance from the majority of values in a sample from a population. The same researchers suggested that a case is an outlier which involves a value of D^2, which is .001 or less. According to such approach, three of the cases were labeled as outliers and then deleted. Moreover, in determining multicollinearity, Variance inflation factors (VIF) were used (Tabachnick and Fidell, 2001). The VIF indicated values less than 10 suggesting that there was no severe multicollinearity in the study. After all of the assumptions were met, a multiple regression analysis, which included a forward selection was conducted. In the study, the independent variables were the subscales of free time management and communication skills, and the dependent variable was motivation.

For data analysis, SPSS 20.0 was used. In order to test both Hypothesis 1 and Hypothesis 2, correlation analysis and multiple regression analysis were employed. For testing Hypothesis 1, Pearson's correlation analyses were used to determine the relationships between free time management, communication skills, and motivation levels of the participants. In regard to testing Hypothesis 2, a multiple regression analysis was used to find out about the predictive role of free time management and communication skills on motivation.

3. Findings

In this study, the variables such as internal consistency coefficients, means, and inter correlations are shown in Table 2.

Table 2. Descriptive Statistics, Alphas, and Inter-Correlations of the Variables

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Goal setting and technique	1										
2. Free time attitude	,25[a]	1									
3. Scheduling	,29[a]	,16[a]	1								
4. Evaluating	,72[a]	,18[a]	,17[a]	1							
5. Respect	,23[a]	,11[a]	,12[a]	,18[a]	1						
6. Ability of expression	,23[a]	,17[a]	,11[a]	,15[a]	,76[a]	1					
7. Desire	,20[a]	,11[a]	,13[a]	,11[a]	,74[a]	,77[a]	1				
8. Democratic attitude	,20[a]	,10[a]	,12[a]	,13[a]	,69[a]	,68[a]	,67[a]	1			
9. Value	,19[a]	,09[b]	,07	,17[a]	,75[a]	,74[a]	,71[a]	,72[a]	1		
10. Obstacles	-,03	,07	,09[b]	-,08[b]	,30[a]	,33[a]	,34[a]	,23[a]	,30[a]	1	
11. Motivation	,33[a]	,15[a]	,12[a]	,26[a]	,41[a]	,40[a]	,36[a]	,34[a]	,37[a]	,20[a]	1
Mean	3,33	3,91	3,76	2,99	3,49	3,64	3,76	3,61	3,55	4,24	3,65
Cronbach's a	,73	,82	,71	,81	,70	,65	,68	,75	,74	,72	,54

Note. a: $p < .01$.; b: $p < .05$.

Based on the findings on Table 2, respect ($r = .41$, $p < .01$) and ability of expression ($r = .40$, $p < .01$) had a positive and meaningful relationship with motivation at medium level. Goal setting and technique ($r = .33$, $p < .01$), evaluating ($r = .26$, $p < .01$), desire ($r = .36$, $p < .01$), democratic attitude ($r = .34$, $p < .01$), value ($r = .37$, $p < .01$), and obstacles ($r = .20$, $p < .01$) had a positive and weak relationship with motivation. The findings also indicated that Free time attitude ($r = .15$, $p < .01$) and Scheduling ($r = .12$, $p < .01$) had a positive and quite weak relationship with motivation.

In order to determine the predictors of motivation, a regression analysis was performed. The results of the analysis showed that the significant predictors of motivation included the subscales such as goal setting and technique ($p < .05$), respect ($p < .05$), ability of expression ($p < .05$), and obstacles ($p < .05$). On the other hand, as seen in Table 3, free time attitude ($p > .05$), scheduling ($p > .05$), evaluating ($p > .05$), desire ($p > .05$), democratic attitude ($p > .05$), and value ($p > .05$) did not significantly predict motivation. As soon as the analysis of this test was done, a multiple regression analysis was performed using the forward model as a type of stepwise regression. This model was used in order to start adding from the most significant predictor to the least significant predictor in the regression model.

Table 3. Summary of Linear Regression Analysis for Variables Predicting Motivation

Variables	B	Standard error of B	Beta	t	p
(Constant)	1,57	,18		8,77	,00
Goal setting and technique	,15	,04	,21	3,89	,00
Free time attitude	,02	,02	,03	1,02	,30
Scheduling	-,01	,02	-,01	-,09	,92
Evaluating	,03	,03	,05	1,08	,28
Respect	,12	,05	,16	2,53	,01
Ability of expression	,09	,05	,11	1,70	,04
Desire	,01	,05	,01	,11	,91
Democratic attitude	,01	,04	,01	,26	,78
Value	,05	,04	,07	1,15	,24
Obstacles	,07	,02	,09	2,56	,01

Note. $p < .05$.

The results in Table 3 were analyzed in order to determine subscales that explain motivation. For that purpose, respect was entered in the equation first, accounting for 16.9% of the variance in predicting motivation (R^2= .170, adjusted R^2 = .169, $F_{1,608}$ = 124.728, $p < .01$). Second, Goal setting and technique was entered accounting for an additional 6.1% variance (R^2= .062, adjusted R^2 = .061, $F_{2,607}$ = 91.845, $p < .01$). Third, ability of expression was entered accounting for an additional 1.2% variance (R^2= .014, adjusted R^2 = .012, $F_{3,606}$ = 65.781, $p < .01$). Lastly, obstacles were entered, accounting for an additional .7% variance (R^2= .170, adjusted R^2 = .007, $F_{4,605}$ = 51.534, $p < .01$).

Table 4. Summary of Multiple Regression Analysis for Variables Predicting Motivation

Model	Variables	B	Standard error of B	Beta	t*
Model 1	(Constant)	2,53	,10		24,63
	Respect	,32	,02	,41	11,16
Model 2	(Constant)	2,05	,12		17,10
	Respect	,27	,02	,35	9,66
	Goal setting and technique	,19	,02	,25	7,00
Model 3	(Constant)	1,89	,12		14,82
	Respect	,17	,04	,21	3,97
	Goal setting and technique	,18	,02	,24	6,74
	Ability of expression	,15	,04	,18	3,27
Model 4	(Constant)	1,66	,15		10,74
	Respect	,15	,04	,20	3,70
	Goal setting and technique	,19	,02	,25	7,06
	Ability of expression	,13	,04	,15	2,80
	Obstacles	,07	,02	,09	2,62

* $p < .01$.

The initial regression model included factors including goal setting and technique, free time attitude, scheduling, evaluating, respect, ability of expression, desire, democratic attitude, value, and obstacles. However, the final regression design included only respect, goal setting and technique, ability of expression, and obstacles (Table 4). The final model did not include free time attitude, scheduling, evaluating, desire, democratic attitude, and value as they were not statistically significant factors. The significant factors including respect, goal setting and technique, ability of expression, and obstacles were able to predict the variances of motivation by 24.9%. In the final model it was also evident that the value of the standardized beta

coefficient was found to be significant for respect (β= .20, $p < .01$), goal setting and technique (β= .25, $p < .01$), ability of expression (β= .15, $p < .01$), and obstacles (β= .09, $p < .01$).

4. Discussion, Conclusion and Recommendations

In this research, firstly, the relationship between university students' communication skills, free time management, and motivation levels were examined. The findings suggested that there were positive and meaningful relationships between communication skills, free time management, and motivation of the students. In the study, the subscales of free time management included goal setting and technique, free time attitude, scheduling, and evaluating. On the other hand, the subscales of communication skills were respect, ability of expression, desire, democratic attitude, value, and obstacles.

The study results showed that the relationships between motivation and other variables such as respect and ability of expression were at medium level. Akvardar et al. (2005) found similar results in their study. They found that people with effective communication skills were good at eliminating communication conflicts. Individuals, who know how to respectfully speak and listen the others are motivated to develop their interpersonal relationships in the society (Oya et al., 2004). It may be inferred that when people they are listened and paid serious attention with respect, they would feel more enthusiastic and motivated to take initiatives in certain tasks. The findings of the study also demonstrated that the relationships between motivation and desire, democratic attitude, value, and obstacles were at weak level. Even though the relationships between these variables were significant, they seemed to be at quite weak levels. Ceyhan (2006) contends that people, who are not spending enough efforts to understand and make eye contact while communicating with others may fail to provide correct feedbacks on issues they discuss. This situation may leave a disappointing remark on creating motivation among them (Cunningham, 1977; Maletasta & Izard, 1987; Minskoff, 1980). This may even result in decreasing student performance and achievement in the class (Korkut, 1996).

The study findings indicated that the motivation level of the students had significantly weak relationships with goal setting and technique, free time attitude, scheduling, and evaluating as well. This relationship is found to be positive. In line with this, Ağduman (2014) found that people, who are aware of the importance of their free time are inclined and motivated to keep their life in balance. Conversely, those who lack to understand the value of their free time are doomed to avoid dealing with their necessities or burdens Tezcan (1994). Supporting this idea, students may feel reluctant to participate in learning activities in the classroom when they mainly waste their valuable times on unnecessary things rather than doing their homework, participating in team work tasks, and engaging in meaningful community events (Biolcati et al., 2018; Weybright et al., 2015). Educators need to realize that students get more motivated when they actually know how to make use of most of their free time (Deniz et al., 2006; Godbey, 1999; Jones, 2000; Ünal & Gürsel, 2015). That is why they would feel obliged to achieve the necessary things in their life (Zelinski, 2004).

In the second part of this research, the predictive role of free time management and communication skills on motivation was investigated. The findings showed that both free time management and communication skills of the students were able to predict their level of motivation. Having said that as a subscale of free time management; goal setting and technique and as the subscales of communication skills; respect, ability of expression, and obstacles were the predictors of motivation. This situation is in line with both social cognitive theory (SCT) and self-determination theory (SDT). The theories explain that environmental factors have effects on motivation (Bandura, 1989; Kahn et al., 2002; Wentzel & Wigfield, 2007; Yenilmez & Çemrek, 2008). Confirming that the factors of free time management and communication skills in the study explained students' motivation.

Variables such as respect, ability of expression, and obstacles were the dimensions of communication skills that were able to explain the variances of student motivation by %18.8. This finding is parallel to the findings of Opdenakker et al. (2012) that there is an association between setting strong communication skills and wisely using free time, thus increasing the level of motivation. Such results confirm that students who know how to make their free time beneficial and wisely communicate would feel powerful and motivated to take care of things on time and take certain responsibilities. However, when individuals fail to properly manage their time and communicate with other without respectful criticism, hardly would they find a ground for motivation

(Gorham & Christophel, 1992; Kearney et al., 1991). Similarly, Gorham and Millette (1997) found that poor communication skills between teachers and students would end up with decreased student motivation.

On the other hand, goal setting and technique as a dimension of free time management explained the variances of student motivation by %6.1. This finding suggests that being motivated is related to planning things ahead. Parallel to this finding, Lamb (2017) found that not setting appropriate goals in life may reduce individuals' level of motivation. Such result shows that people need to understand the value of free time to accomplish things (Hickerson & Beggs, 2007). Researchers (Goll et al., 2015) indicated that effective use of free time meant as signs for wisdom. Students without skills and knowledge of how to logically use their free time would have difficult times to deal with daily tasks (Mannel & Kleiber, 1997; Wang, 2019). This similar to the findings of Shaikh and Deschamps (2006) as they contend that students lacking skills of managing their free time may fall behind in their daily chores.

In conclusion, the study findings showed that there was a relationship between students' communication skills, free time management, and motivation levels. In addition, they suggested that some of the factors associated with communication skills and free time management of students were the predictors of motivation. Focusing on the success of their schools, the administrators need to teach students how to manage their free time. School leaders should also create opportunities and environments for students to improve their communication skills. Considering that free time management and communication skills increase the motivation of students, it will be beneficial to students that school administrators, teachers, and parents should have enough knowledge about such factors. For that matter it is recommended that the Ministry of National Education must ensure that this deficiency is eliminated with in-service training courses for all school leaders.

This study includes some limitations and suggestions. First, as the number of the participants was low for this study, the number of teacher candidates may be increased to increase the generalizability of this research. Second limitation includes the fact that the participants were only from a public university. The ones from the private universities should be included in the study as well in order to make comparative analysis between the public and private sector. As for suggestions; in addition to examining the relationship of student motivation with free time management and communication skills, concepts such as school climate and culture, organizational leadership, students' self-efficacy, teacher autonomy, and burnout can be studied as well. In addition, as this research was carried out using quantitative methods, both qualitative or mixed methods may be used to conduct research not just at higher education level, but also at pre-school, elementary school, and high school level.

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The Effects of Argumentation-Based Teaching Approach on Students' Critical Thinking Disposition and Argumentation Skills: "Population in Our Country Unit"

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ABSTRACT

As there are limited studies examining relationships between argumentation-based teaching approach and critical thinking and argumentation skills in social studies, the aim of this study was to examine the effects of argumentation-based teaching approach on students' critical thinking disposition and argumentation skills, and the relationship between students' argumentation skills and critical thinking disposition. We used a quasi-experimental design with pretest-posttest equivalent control groups. The participants of this study were 94 seventh grade students from three different classrooms in a middle school in Erzurum district of Turkey. We utilized University of Florida Engagement, Maturity and Innovativeness Critical Thinking Disposition Instrument (UF/EMICTDI) to identify students' critical thinking disposition and argumentation activities to document students' argumentation skills. We used one-way ANOVA and multiple comparisons Tukey tests to analyze the data obtained via the UF/EMICTDI, correlation and regression analysis to investigate the relationships between students' argumentation skills and critical thinking disposition. Argumentation Evaluation Rubric was used in order to evaluate the arguments that the students formed. Results showed that there was no statistically significant difference between students' pre-test critical thinking disposition scores in the experimental and control groups but there was a statistically significant difference between students' post-test critical thinking disposition scores. Additionally, we observed that students' argumentation skills enhanced throughout the study, there was a statistically significant positive relationship between students' argumentation skills and critical thinking disposition, and argumentation skills variable was the predictor of critical thinking disposition. We recommend future research studies to examine the effects of the argumentation-based science learning approach on different higher-order thinking skills. Additionally, in social studies classes, similar activities employed in this study on "Population in Our Country" unit can be used in teaching different topics/units in order to improve students' argumentation skills.

Keywords:
Argumentation, argumentation-based teaching, argumentation skill, critical thinking disposition,

1. Introduction

Argumentation, derived from the Latin word of "argumentum," is a verbal, social, and rational activity to demonstrate the acceptability of one or more proposed arguments by using evidence to prove or refute the arguments (Rigotti & Morasso, 2009; van Eemeren, Grootendorst & Henkemans, 2002). While the argument

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is the reasons for supporting a claim (Walton, 2006), argumentation is a process of discussion between individuals with different perspectives (Osborne, Erduran & Simon, 2004a; Sampson & Clark, 2008). In such an argumentation process, individuals need to have high-level thinking skills in order to develop high-level thinking on a particular topic. One of these skills is critical thinking skill that enables individuals to think at high levels. Critical thinking is a complex form of high-level thinking that involves the use of different thinking skills and attitudes (Doğanay, 2013). Critical thinking consists of two interrelated dimensions, "skill" and "disposition." Critical thinking skill is the ability of a person to think through a mental effort for a problem, whereas the disposition is an individual's willingness to think critically (Zhang, 2003). Facione (1990), who stated that critical thinking, contains a number of skills and disposition, classified critical thinking disposition as analyticity, self-confidence, curiosity, cognitive maturity, open-mindedness, systematic, and seeking truth. He also classified the skills and sub-skills of critical thinking as follows:

Table 1. Critical thinking skills

Skills	***Sub-Skills***
Interpretation	Categorization Decoding significance Clarifying meaning
Analysis	Examining ideas Identifying arguments Analyzing arguments
Evaluation	Assessing claims Assessing arguments
Inference	Querying evidence Conjecturing alternatives Drawing conclusions
Explanation	Stating results Justifying procedures Presenting arguments
Self-regulation	Self-examination Self-correction

Even if individuals acquire these skills, they may not be able to use them effectively under necessary conditions. Individuals with these skills should have the prerequisite disposition for critical thinking to be able to use their critical thinking skills effectively (Ertaş, 2012; Facione, 1990; Seferoğlu & Akbıyık, 2006). Developing prerequisite disposition for critical thinking can be achieved by employing learning approaches that enable the creation of appropriate learning environments to support this disposition. Recently, one of the learning environments allowing students to develop critical thinking skills by using their critical thinking disposition effectively is the learning environments where researchers used argumentation-based teaching (ABT) approach, which has been widely utilized in science education (Antiliou, 2012; Chin & Osborne, 2008; Driver, Newton & Osborne, 2000; Lai, 2011; Nussbaum, 2008). The ABT approach is an instructional approach whereby questions are asked, ideas are put forward, criticized, evaluated, claims are compared and arguments are formed using evidence to support the claims in order to obtain more detailed information about a subject (Akkuş, Günel & Hand, 2007). This approach provides students with an appropriate learning environment for meaningful learning and argument generation through inquiry. Research studies in argumentation frequently emphasized that argumentation requiring individuals to use high-level thinking skills is an effective approach in teaching high-level thinking skills such as critical thinking, problem-solving, decision making, and scientific thinking (Antiliou, 2012; Çakan-Akkaş, 2017; Demiral & Çepni, 2018; Hsieh, 2005; Kana, 2013; Nussbaum & Sinatra, 2003; Nussbaum, Winsor, Aqui & Polyquin, 2007; Sevgi & Şahin, 2017; Şahin, 2016; Torun, 2015; van Aufschnaiter, Erduran, Osborne & Simon, 2008).

Nussbaum (2002), who stated that the use of the argumentation in lessons is effective in developing students' high-level thinking skills, stressed that the development of students' argumentation skills is an important element in increasing their ability to use these skills and their capacity of high-level thinking for understanding social issues. Additionally, researchers found that presenting "language of thinking" in the classroom is critical in order to give students mental and intellectual habits related to thinking, and

continuous exposure to the language of argumentation through terms such as justification, cause, inference, evidence, theory, and hypothesis, leads students to the responsibilities and values of critical analysis (Tishman & Perkins, 1997; Nussbaum, 2002). Lai (2011) examined the impact of critical thinking on argumentation process and indicated that critical thinking contains analyzing arguments, making deductions by using deductive and inductive methods, judging or evaluating, decision making, and problem-solving skills. Some researchers underlined the significance of argumentation skills and suggested that individuals with argumentation skills should have critical thinking skills (Mirza & Perret-Clermont, 2009).

Students' critical thinking skills, which are effective in the development of argumentation skills, enable students to evaluate the validity and strength of each argument component in the argumentation process. Researchers indicated that individuals having critical thinking skills use information better and defend their information more effectively against others in the process of argumentation (Chowning, Griswold, Kovarik & Collins, 2012; Freeley & Steinberg, 2013; Torun, 2015).

Research on the use of ABT approach in learning environments indicated that students' levels of utilization in the argumentation process is limited, students' argument production skills are not at the desired level, and efforts in the development of students' argumentation skills are limited (Crowell & Kuhn, 2012; Newton, Driver & Osborne, 1999; Weinstock, Neuman & Glassner, 2006). In this sense, scholars considered that use of the ABT approach requiring use of evidence could be useful in social studies, especially in topics where students have dilemmas. One of the main objectives of the social studies course is to cultivate active citizens who are in harmony with the social and natural environment they live in and take responsibility from the local to the global scale for solutions. For this purpose "teaching based on social issues can be achieved by proposing different views, presenting opposing views for different interpretations of the same data by different people, and enabling students to mobilize their views on dilemma or actions to solve problems" (Yapıcıoğlu & Kaptan, 2018, p. 41). In this context, initiating in-class discussions and debates can improve students' assumptions, arguments, and ideas for contradictory situations about the related topics presented to them (Newton, Driver & Osborne, 1999), let them realize discrepancies in their ideas, help them use the scientific language, and enhance their conceptual understanding levels. As a matter of fact, 2005 Turkish social studies curriculum included learning outcomes for students to acquire high-level thinking skills (e.g., critical thinking, creative thinking, problem-solving, decision making, and making inferences). The importance of using current and controversial subjects in the classroom environment by using different methods of discussion is often emphasized in the teaching of these skills (Ministry of National Education [MoNE], 2005). Additionally, the 2018 social studies teaching program included "use of evidence" skills in addition to the high-level thinking skills and indicated these skills as required in the program (MoNE, 2018). In this context, researchers noted that the use of the ABT approach in social studies course could be useful for students to learn the targeted knowledge with cause-effect relationships in solving different problems and use their high-level thinking skills effectively. In addition, it can be said that the ABT approach, which enables students to formulate their ideas and arguments by questioning many issues/ideas that require decision-making and critical thinking, provides a learning environment appropriate to the nature of social studies. In recent years, science has been seen as a social process in forming information structures that include assumptions. Observations and experimental results are not sufficient to prove the claims. The claims are based on an argumentation process that makes it possible to make connections between the assumptions and the evidence of scientists (Newton, Driver & Osborne, 1999).

The subjects discussed in the social studies which also constitute the content of social sciences are more relative, controversial, and open to change than the laws of nature in the positive sciences; therefore, it is suitable for questioning and producing different and high quality arguments (Demir, 2017; Torun & Şahin, 2016). In other words, social studies are a suitable course for the use of argumentation as it helps students questioning, thinking, researching, and directing to make right decisions, suggesting, and suggestive course (Demir, 2017). In a research, Oğuz-Haçat and Demir (2016) showed the relevance of the ABT approach to the teaching of the topics in social studies. Torun (2015) determined that the ABT approach was effective in the students' argumentation and decision-making skills. In this context, we thought that this research contributes to the literature by examining the relationship between students' critical thinking disposition and argumentation skills in seventh grade social studies. In this study, therefore, we aimed to investigate the

relationship between students' critical thinking disposition and argumentation skills by examining the effects of the ABT approach on students' critical thinking disposition and argumentation skills. For this research, we sought the following research questions:

i. Is there any significant effect of ABT approach on students' critical thinking disposition?

ii. Is there any positive effect of ABT approach on students' argumentation skills?

iii. Is there any relationship between students' critical thinking disposition and their level of argumentation skills?

2. Method

2.1. Research Design

In this study, we used a quasi-experimental design with pre-test and post-test equivalent control groups. Experimental designs are a type of research method that attempts to influence a variable and examines cause-effect relationships between variables. The most important feature of the experimental design is the manipulation of the independent variable (Fraenkel, Wallen & Hyun, 2012; McMillan & Schumacher, 2014). The most significant difference between experimental design and quasi-experimental design is that there is no random assignment of groups in the quasi-experimental design (Creswell, 2012).

In this study, we did no random assignment of participants to determine for experimental and control groups since we used available groups for the study. We randomly assigned the available groups to be experimental or control groups. In the determination of the groups, we considered students' pretest of the academic achievement test scores to make sure that experimental and control groups were equivalent. Thus, we designed the study using the quasi-experimental design with pretest-posttest equivalent control groups.

2.2. Participants

We carried out this study with 94 seventh grade students purposefully drawn from three different classrooms of a middle school during 2017 Fall and 2018 Spring semesters in Erzurum, Turkey. That is, we employed such criteria for critical sampling since pre-test scores and class size to assign equivalently control and experimental groups. We designated one of the classes as the experimental group (EG; n = 33) in which we implemented the ABT approach, two other classrooms as control group 1 (CG1; n = 30) and control group 2 (CG2; n = 31) in which students learned the subjects via traditional teaching approaches (in order to increase the reliability of the study, two control groups were used and the teacher of the course participated in the classes as observers in the EG and CG1 during the actual implementation). Table 2 presents the demographic data of the participants in the study.

Table 2. Demographic data of the participants

Groups	Gender	Frequency	Percentage (%)
EG	Male	18	38.3
	Female	15	31.9
CG1	Male	18	38.3
	Female	12	25.5
CG2	Male	11	23.4
	Female	20	42.6
Total		94	100

2.3. Data Collection Tools

We used the University of Florida Engagement, Maturity and Innovativeness Critical Thinking Disposition Instrument (UF/EMICTDI UF/EMICTDI to measure students' critical thinking disposition. Ertaş (2012) conducted a validity and reliability study of this instrument to adapt to Turkish. The instrument consists of 25 items with three factors, including Participation (11 items), Cognitive Maturity (7 items), and Innovation (7 items). The instrument was arranged in 5-point Likert type with Strongly Disagree (1 point), Disagree (2 points), Undecided (3 points), Agree (4 points), Strongly agree (5 points) scales. In the adapted version of the

instrument, the internal consistency coefficient was found .87 for the participation factor, .70 for the cognitive maturity factor, .72 for the innovation factor, and .91 for the overall scale.

In order to determine the applicability, validity, and reliability of the UF/EMICTDI at middle school level, a researcher in this study applied this instrument to a total of 395 students at sixth, seventh, and eighth grades. Then, confirmatory factor analysis (CFA) was performed to examine the construct validity of the instrument. We utilized fit indices to demonstrate the adequacy of the tested model. The fit indices showed that the three-dimensional structure in the original form of the instrument was confirmed in the sample of middle school students. Table 3 shows the results of the CFA.

Table 3. *Results of the CFA*

Statistics/Index	Value
X^2 Compliance Test	686.65(SD= 272, p= 0.00)
X^2/ SD	2.52
RMSEA	.062
St. RMR	0.052
RMR	0.060
PGFI	.73
AGFI	.85
NNFI	.96
NFI	.94
RFI	.93
CFI	.96
IFI	.96
GFI	.88

Figure 1 shows factor loads related to the three-dimensional model obtained from the CFA.

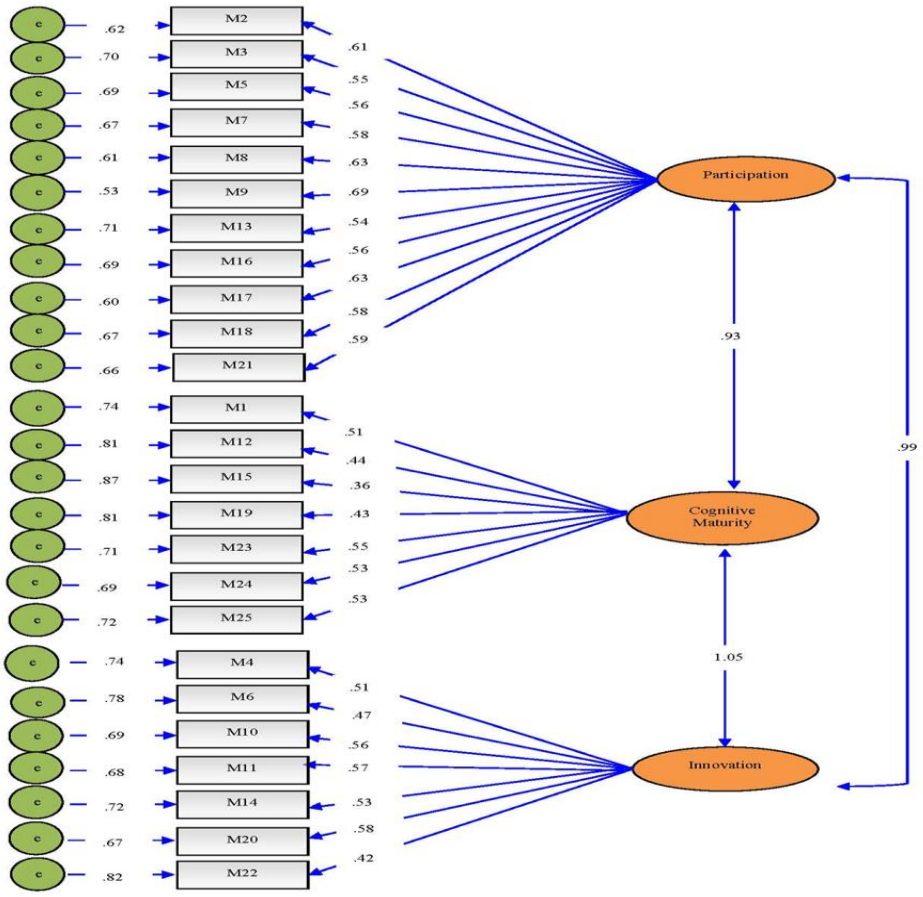

Figure 1. Factor loads from the CFA for the UF/EMICTDI

In the interpretation of the CFA results, as suggested in the related literature we considered that the factor load of the expected size to be included in the scale was over .30 in order to remain on the scale (Büyüköztürk, 2010; Seçer, 2015). As seen in Figure 12, the factor loadings for the Participation factor ranged between .54 and .69, the factor loads for the Cognitive Maturity factor ranged between .36 and .55, and between .42 and .58 for the Innovation factor. The results of the fit indices [932 / SD=2.52, RMSEA = .062, SRMR = .052, NFI = .94, NNFI = .96, CFI = .96, IFI = .96, RFI = .93, GFI = .88, AGFI = .85, PGFI = .73] indicated that 25 items of the original form of the UF/EMICTDI and three-factor structure confirmed. Acceptable fit values for GFI, CFI, NFI, RFI, IFI, AGFI indices are 0.90, and the perfect fit value is 0.95, while the acceptable fit value for RMSEA index is 0.08, the perfect fit value is 0.05. (Bayram, 2011; Brown & Cudeck, 1993; Meydan & Şeşen, 2015; Seçer, 2015; Şimşek, 2007).

After obtaining the construct validity of the scale by using the CFA, we calculated Cronbach alpha internal consistency coefficient for the UF/EMICTDI to find the reliability of the measurements obtained for this study. In the related literature, experts recommended having at least .70 value as a criterion for the reliability coefficient (Pallant, 2005; Tezbaşaran, 1997). However, the reliability coefficient above .60 can be sufficient for the reliability of the measurements in the scales with a low number of items (Sipahi, Yurtkoru & Çinko, 2010). This is because the internal consistency coefficient of Cronbach alpha is significantly affected by the number of items in the scale and increases as the number of items grows (Urbina, 2004). In this context, the calculated Cronbach alpha coefficient value of .91 showed that the UF/EMICTDI was a reliable measurement tool in the middle school sample. Table 4 presents the Cronbach alpha coefficients calculated in this study for the UF/EMICTDI.

Table 4. Reliability coefficients of the UF/EMICTDI

Scale/ Factor	Number of Items	Cronbach Alfa
Participation	11	.85
Cognitive maturity	7	.67
Innovation	7	.71
Overall (UF/EMICTDI)	25	.91

2.4. Argumentation Evaluation Rubric

During the research process, we used an argumentation evaluation rubric developed by Erduran, Simon and Osborne (2004) to evaluate students' arguments that students created in the argumentation activities. The developers of the rubric considered the argument evaluation criteria in Toulmin's argument model and graded the levels of arguments as Level 1, Level 2, Level 3, Level 4, and Level 5. Table 5 shows the components and levels of the arguments in detail in the argumentation evaluation rubric developed by Erduran, Simon and Osborne (2004).

Table 5. Argumentation evaluation rubric

Argumentation Level	**Argumentation Content / Component**
Level 1	A simple claim or a simple claim to a counterclaim.
Level 2	A simple claim with another claim, data, warrants, or backings; but does not contain rebuttals.
Level 3	Claim/s and counterclaim/s with data, warrant, backings, and weak rebuttals.
Level 4	Claim/s, data, warrant, backings with a clear rebuttal.
Level 5	Claim/s, data, warrant, backings, more than one rebuttal.

2.5. Design of Material Guideline and Implementation Process

The ADDIE instructional design was used in order to design the material guide and implementation process in a planned way. The ADDIE instructional design model consists of analysis, design, development, implementation, and evaluation steps (Akkoyunlu, Altun & Yılmaz-Soylu, 2008; Ocak, 2011; Şimşek, 2009). The procedures performed based on the ADDIE instructional design model steps are explained below.

Analysis: We conducted a literature review to obtain an understanding of what the ABT approach is and how it is implemented. Then, we determined the study group and the related unit.

Design: We designed activities (i.e., Expressions Table, Competing Theories in Cartoons, Stories, Competing Ideas, Competing Theories, Prediction-Observation-Explaining, News, Concept Maps Consisting of Student Ideas) to be used in the teaching of the related unit (Toulmin, 2003).

Development: We developed the ABT approach activities to enable students to gain different perspectives, create their own ideas, defend their own ideas, produce alternative ideas, use high-level thinking skills, and develop effective discussion skills.

Implementation: We did the implementation step by doing preliminary preparation as a pilot implementation and actual implementation in order to carry out the research without any problem.

Evaluation: During the research process, each step of the analysis, design, development, and implementation steps has been continuously evaluated and asked for expert opinions. Based on the received feedback, we made necessary corrections and moved to the next step.

Figure 2 illustrates the exemplary argumentation activity prepared for the implementation process of the ABT approach.

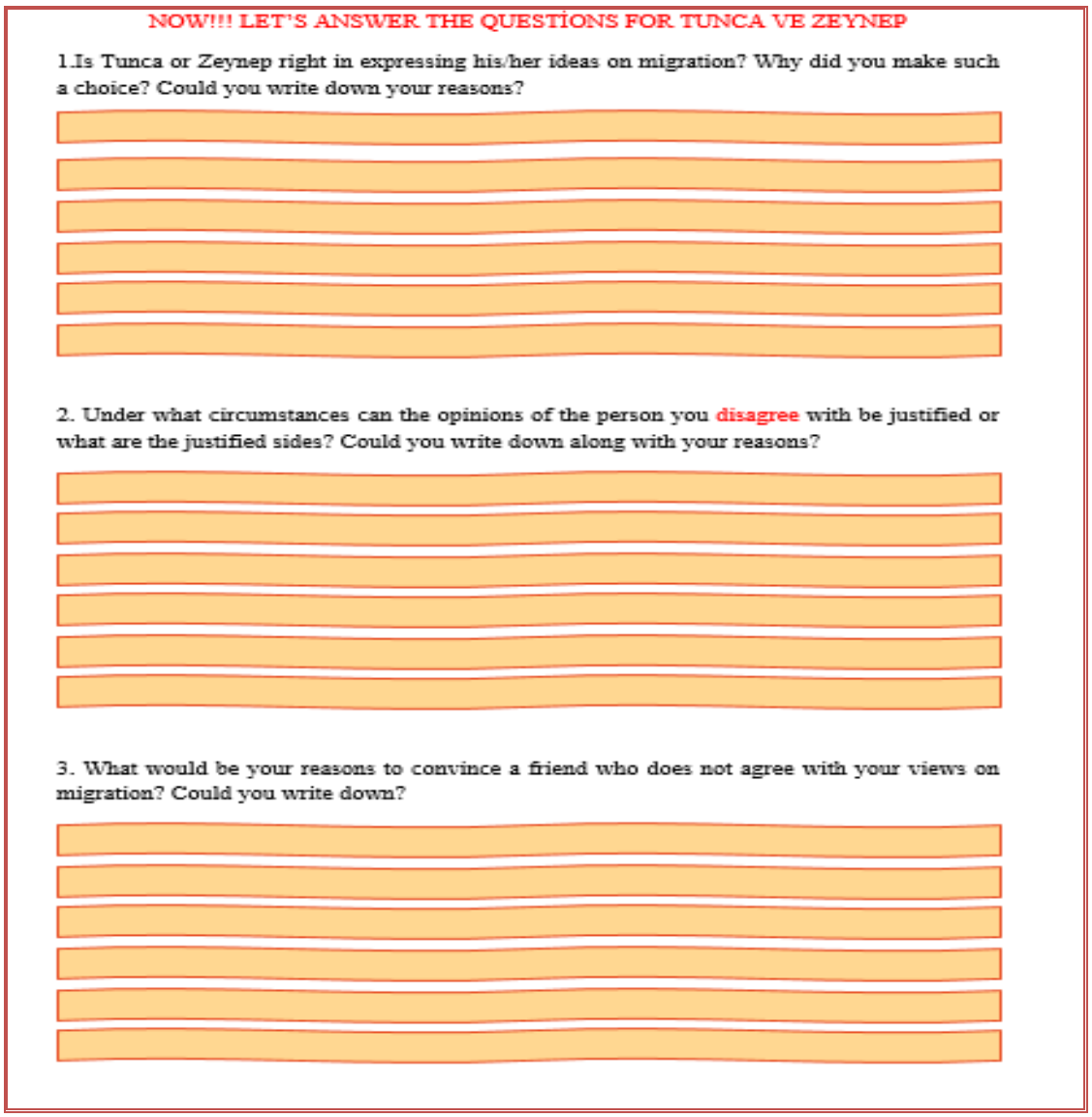

Figure 2. Exemplary argumentation activity

2.6. Implementation Process

2.6. 1. Pilot Implementation

We carried out a pilot implementation study with 60 students studying in two different classrooms of a middle school in the spring semester of 2017 in Yakutiye-Erzurum district of Turkey. First, we instructed the social studies teacher of two classrooms about the ABT approach and provided a teacher guideline explaining how to implement the ABT approach in the course. Afterward, we carried out the exemplary argumentation activities with students in the first week (3 lesson hours) in order to familiarize the students with the ABT approach. As of the second week, pilot implementation of the activities was initiated. The pilot implementation process took eight weeks (24 lessons). All activities prepared for the actual implementation were piloted. As a result of the pilot implementation, we determined deficiencies in the implementation process and prepared activities, identified unclear questions, made necessary corrections before the actual implementation, and got the activities ready for actual implementation. Figure 3 shows some pictures from the pilot implementation process.

Figure 3. Pictures from the pilot implementation process

2.6.2. Actual Implementation

We conducted the actual implementation of the study with 94 students studying in three different classrooms of a middle school located in Yakutiye-Erzurum district of Turkey in the fall semester of 2017. The actual implementation process took 3 hours per week and lasted in 8 weeks in the experimental group (EG) and control groups (CG1 and CG2). In the EG, the subjects were taught with the ABT approach. In the CG1 and CG2, the subjects were taught without the ABT approach. A researcher of this study taught the EG and CG1 and the social studies teacher taught the KG2. Figure 4 shows the actual implementation process.

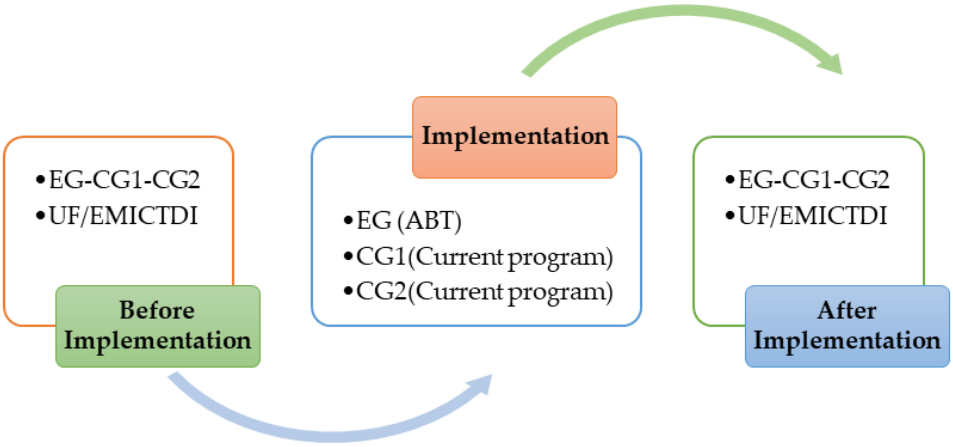

Figure 4. The actual implementation processes

Experimental group course process

The teaching of the targeted unit was carried out in the EG by using the ABT approach. In order for the implementation process to be carried out regularly, we prepared a weekly lesson plan that contained the subjects of the targeted unit and activities used in the teaching of these subjects. A researcher in this study implemented the activities prepared in accordance with the objectives of the "Population in Our Country" unit in the EG for 3 lessons per week in 8 weeks, as planned in the Teacher Material Guideline. The teacher material guideline consisted of two parts. In the first part of the guideline, the ABT approach is explained in general, and, the activities of ABT approach and the actions to be performed in order to effectively teach the unit with ABT approach are explained in details in the second part of the guideline. We designated the first and last week of the implementation process for pre- and post-tests, and 6 weeks for the teaching of the targeted unit. A copy of the weekly lesson plan is outlined in Table 6.

Table 6. Weekly lesson plan

Week	Subject	Activity
1	Informing students about purpose of the research.	Pre-test
2	***Places We Live in*** Population Distribution of population Factors affecting the distribution of population	Concept cartoon (ABT) Interpretation of maps Concept map (ABT)
3	***Characteristics of Our Population*** Census Population growth	Concept cartoon (ABT) Table & chart interpretation
4	Distribution of population by age groups Distribution of population by gender Ratio of working population, Literacy rate Rural-urban population	Competing theories (ABT) Predict-observe-explain (ABT) Expressions table (ABT)
5	***Migration in our Country*** Migration and causes of migration	Concept cartoon (ABT) A migration story
6	Results of migration Types of migration	Competing ideas (ABT) Concept cartoon (ABT)
7	***Our Rights and Freedom*** Freedom of settlement and travel Employment and education rights	Concept cartoon (ABT) News (ABT) Crossword
8	Overall evaluation	Post-test

In the EG, the course process was organized based on the steps of the 5E model (i.e., Engage, Explore, Explain, Elaborate, and Evaluate) in order to be able to implement the ABT approach in an effective and planned manner. Before starting eight weeks long actual implementation of the unit in the EG, sample argumentation activities were carried out with students for 3 weeks (9 lesson hours) to familiarize students with the ABT approach course process and let students see the issues to be considered in creating arguments. Then, we divided students into small groups with five students in each group and provided a student material guideline that contained activities prepared for students to use during the implementation process. After teaching how to create arguments and making necessary preparations, we started teaching the subjects of the targeted unit by using the ABT approach. Before starting the teaching, first of all, an activity called "*Mysterious Event*" was held to attract students' attention and motivate them in argumentation. Afterward, the teaching of subjects was started by following the teacher material guideline that was prepared based on the steps of the 5E model. In the EG, a sample lesson process prepared using ABT approach in teaching related subjects is given in Appendix 1.

While argumentation activities were carried out in teaching subjects, we ensured that the students first formed and wrote down their arguments. Then, we asked each student to share her/his arguments with other group members, defend her/his arguments using argument components, and persuade other group members who raised different claim/s. Once each group finished creating their arguments, we asked each group to select a group reporter and share their agreed arguments to other groups in the classroom. Finally, small group discussions were held to let students defend and discuss their different claims of the groups in the classroom. Figure 5 shows some pictures from the actual implementation.

Figure 5. Pictures from the actual implementation.

Control group course process

In the control groups, the teaching of the targeted unit was done without using a different teaching approach by following the current social studies program. A researcher in this study taught in the CG1 and the social studies teacher taught in the CG2. After completing instructions of the subjects, teachers asked questions to students in control groups whether they understood the subjects and had questions about any part about the subjects and did necessary explanations when needed. Then, questions related to the subjects were solved together with the students and the teaching of the subjects was completed. Teachers asked students to get prepared for the next topic. The teaching of targeted subjects was done in the same way every week and the teaching of the "Population in Our Country" unit was completed.

2.7. Data Analysis

2.7. 1. Analysis of data collected with the UF/EMICTDI

We used SPSS 24.0 package program to analyze the data obtained with the UF/EMICTDI as pre- and post-tests to determine and compare students' critical thinking disposition in the EG, CG1, and CG2. The highest score that can be obtained from the UF/EMICTDI is 125 and the lowest score is 25. As the data of UF/EMICTDI showed a normal distribution, we used descriptive statistics and one-way ANOVA test (as parametric tests) to identify whether there was any statistically significant difference between the groups. When the result of the one-way ANOVA analysis revealed a significant difference between the groups, we used Tukey test as one of multiple comparison post-hoc tests since the variances of the groups were equal and the number of students in each group was close. We also calculated the effect size value (η^2) to determine the effect of the ABT approach implementation. The effect size (η^2) shows the amount of total variance in a dependent variable by evaluating the reliability of the relationship between an independent variable and dependent variable. Literature on effect size indicated that the eta square value ranges between 0.00 and 1.00, and the effect size between 0.01 and 0.06 is small, between 0.06 and 0.14 is medium, 0.14 and above is large effect size (Can, 2017; Green & Salkind, 2005; Pallant, 2005).

2.7.2. Analysis of the ABT approach activities

In the analysis of the ABT approach activities, firstly written students' arguments created through the activities (concept cartoons, competing theories, competing ideas, a migration story, predict-observe-explain, and news activity) enabling students to produce written arguments were evaluated individually by identifying the argument components (i.e., claim, data, warrant, backing, and rebuttal) of the written arguments. (This process was done separately for each student activity in the experimental group and in order to ensure reliability, the activities were re-evaluated by researchers two weeks later). Then, we asked two faculty members, who were researchers in the ABT approach field, to examine students' argumentative statements and indicate which of the argument component each student statement represented. After two faculty member researchers completed their individual examinations, other field experts examined the student statements and final decisions were made for each student statement indicating which argument components were determined in each argumentative statement. Next, we calculated reliability by using Miles and Huberman's formula (Miles & Huberman, 2016) [i.e., (Reliability = consensus number / (total number of consensus + number of disagreements)] for the consensus and disagreements between the faculty member researchers and field experts. According to the related literature (e.g., Miles & Huberman, 2016), 90% agreement level between experts and researchers' examinations is demanded. In this study, we detected 95% agreement between researchers and experts. After determining the quality and number of argument components of the students' statements, we analyzed students' argumentative statements via the argumentation evaluation rubric to identify students' argumentation levels. We scored students' argumentative statements (i.e., level 1 = 1 point, level 2 = 2 points, level 3 = 3 points, level 4 = 4 points, and Level 5 = 5 points) and calculated the total argument score of each student. In order to track the weekly development of each student during the implementation, we assigned a code (e.g., S1, S2, S3…S33) to each student in the EG. We made no changes and/or corrections in the students' argumentative statements and evaluated them as stated by students. In the evaluation of argumentation, we used concept cartoon, prediction-observation-explanation, competing theories, a migration story, competing ideas, and news activities, while we used expression table and concept map activities to enable students to think in the cause-

effect relationship in the ABT environment and familiarize students with argumentation-based environments.

We provided examples below showing students' arguments with their levels from different activities during the implementation.

Example of Level 1 Argument

> *S-18 The population is a collection of people living in a certain area. I think that the population does not occur at a specific time* ***(claim)****.*

The student of S-18 only stated his argument about the concept of population. The student did not use warrant, data, rebuttal, and backing to support his claim. Analysis of the S-18 student's argument is shown in Figure 6.

Figure 6. Analysis of the S-18 student's argument

Example of Level 2 Argument

> *S-17 With the censuses, not only the number of population but also the characteristics of the population are determined* **(claim)** *because with the census the state learns about the status and information of the population characteristics (gender, age, rural-urban) in a residential area. According to the learned results, the state makes planning and takes the necessary steps in necessary subjects* **(warrant)**. *For example, the needs of Istanbul, which is crowded, and the needs of Erzurum are not the same* **(data)**. *The census is also important in determining the needs of the country and planning of the future. In addition, with the census, population growth and population growth rate are also determined* **(backing)**.

The student of S-17 stated his argument about the population concept and supported his claim by using warrant, data, and backing. However, he did not use a weak or clear rebuttal that showed the conditions in which his claim might be invalid. The analysis of the S-17 student's argument is presented in Figure 7.

Figure 7. Analysis of the S-17 student's argument

Example of Level 3 Argument

> *S-3 In my opinion, Boserup, whose views are expressed by Arda, is right* **(claim)** *because technology is constantly developing at an unbelievable pace. With this development, food can be grown in a short period of time and result in more annual yield, and since transportation, education, and health will occur within better circumstances there will be no problems with the increase in the population growth* **(warrant)**. *For example, as one of the most developed countries, the US has a big population and is a well-developed country* **(data)**. *But if the birth rate decreases and the death rate increases, this view can be reversed* **(rebuttal)**. *Population growth means new people; new people means new ideas means new technologies. Therefore, there will be no problem in population growth* **(backing)**.

The student of S-3 stated his claim about population increase. The student supported his claim by using warrant, data, and backing. He indicated the circumstance that his claim might be invalid by using a weak rebuttal. Figure 8 shows the analysis of the S-3 student's argument.

Figure 8. Analysis of the S-3 student's argument

Example of Level 4 Argument

> *S-1 I think Zeynep is right* **(claim)**. *Uncontrolled migrations bring problems like an imbalance in the distribution of population, unemployment, loss of qualified people, etc. because high population decreases the service power in education and health areas. Unemployment occurs due to the decrease in qualified people, which reduces the number of the working population* **(warrant)**. *As a result of uncontrolled migration from villages to cities, agriculture and animal husbandry in the villages are reduced. With this, people cannot meet their nutritional needs, the imports increase, and product prices rise. This adversely affects the economy of the state* **(backing)**. *If the immigration region is travel zone, my decision may change because the negativity of temporary migrations for 3-5 days does not cause permanent problems (unemployment, education, distorted urbanization, etc.)* **(Rebuttal)**.

The student of S-1 indicated her claim and then tried to prove her claim by using a warrant and backing. She then described the circumstance in which her claim might be invalid by using a clear rebuttal. Figure 9 illustrates the analysis of the S-1 student's argument.

Figure 9. Analysis of the S-1 student's argument

Example of Level 5 Argument

> *S-28 I find the practices of Hungary correct* **(claim)** *because as Syrian refugees continue to migrate to countries, the country's problems will continue to increase. Each of the people migrating from outside has needs such as shelter, nutrition, and work. When they cannot achieve these needs, there will be chaos, unrest, and disagreements in the country. Therefore, I find Hungary's practices more appropriate* **(warrant)**. *The number of refugees is increasing day by day in our country. As far as I can see in the news, there are now over 3 million refugees in our country. Turkey spends 5.3 billion liras for refugees* **(data)**. *I think Hungary's decision is more accurate in terms of the security of our country, but no one can be taken away from the freedom of settlement and traveling. In this case, Turkey could be right* **(rebuttal)**. *If we do signed agreements with the refugees coming to our country and allow them to stay in our country based on certain rules, make rearrangements that they should return to their country again when the problems in their country are solved, then I can find Turkey's policy correct* **(rebuttal)**. *If immigration to countries continues to take place without any measures, the problems of the country in economic, health, transportation, and education fields keep increasing. This causes some unrest in the country. The unrest in the country will cause both physical and moral damages. Our country will gradually transform into chaos. This will adversely affect the development plans of the country and reduce the defense power of the country. With the fall of defense power, the safety of citizens will be at risk. Of course, refugees also have some rights, but taking into account the country's future plans, some measures should be taken, and more planned works should be done* **(backing)**.

The student of S-28 explained her claim by using data and warrant and strengthened her claim with backing. She defined the circumstance in which her claim might be invalid by using more than one rebuttal. Figure 10 demonstrates the analysis of the S-28 student's argument.

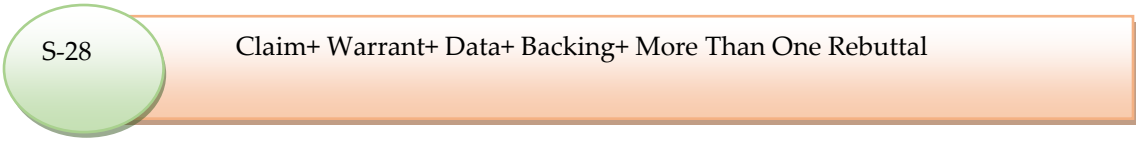

Figure 10. Analysis of the S-28 student's argument

2.7.3. Analysis of the relationship between students' argumentation skills and critical thinking disposition

We used correlation analysis to determine the relationship between the students' argumentation skills and critical thinking disposition. After determination of the relationship between the variables, we run simple linear regression analysis to document whether the argumentation skill was the predictor of critical thinking disposition. In calculating the relationship between the argumentation skills and critical thinking disposition, we utilized the total scores obtained from the UF/EMICTDI and students' total argumentation from the argumentation activities. The correlation coefficient has been interpreted in various ways by different researchers. In this study, we modeled the related literature (Green & Salkind, 2005; Pallant, 2005) in the interpretation of the correlation coefficient (r), and considered the r when it was between .10 and .29 as small, .30 and .49 as moderate, and .50 and 1.0 as large correlation.

3. Findings

3.1. Findings on the Effects of the ABT Approach on Students' Critical Thinking Disposition

In order to investigate the effects of ABT approach on students' critical thinking disposition, we used the UF/EMICTDI as pre- and post-tests in the experimental and control groups.

3.1.1. Findings of the UF/EMICTDI pre-test

We used one-way ANOVA as an appropriate parametric test since the data obtained from the pre-test of the UF/EMICTDI displayed normal distribution overall and each factor of the scale. Table 6 shows descriptive statistics of the UF/EMICTDI pre-test and Table 7 presents the results of the one-way ANOVA test in the pre-test.

Table 7. *Descriptive statistics of the UF/EMICTDI pre-test results*

Groups	**N**	$\overline{X}$	**SD**
EG	33	99.03	19.05
CG1	30	92.90	16.41
CG2	31	91.87	19.39
Total	94	94.71	18.45

As seen in Table 7, the descriptive statistics of the data obtained from the pre-test of the UF/EMICTDI documented that the mean score of the EG was the highest while the mean scores of the CG1 and CG2 groups were close to each other. We utilized one-way ANOVA analysis to uncover whether the differences between the mean scores of the groups were statistically significant. Table 8 shows the results obtained from the one-way ANOVA analysis.

Table 8. The UF/EMICTDI pre-test one-way ANOVA results

Groups	Sum of Squares	df	Mean Square	F	p
Between Groups	964.091	2	482.046		
Within Groups	30715.154	91	337.529	1.428	.24
Total	31679.245	93			

Results of one-way ANOVA analysis indicated that there was no statistically significant difference between the groups in terms of critical thinking disposition based on the data obtained from the UF/EMICTDI applied to students before beginning the implementation [$F_{(2, 91)} = 1.428$, $p = 0.24$ *(p>05)*].

3.1.2. Findings of the UF/EMICTDI post-test

We used one-way ANOVA as an appropriate parametric test since the data obtained from the post-test of the UF/EMICTDI revealed normal distribution in all groups. Table 8 displays descriptive statistics of the UF/EMICTDI post-test and Table 9 depicts the results of the one-way ANOVA test in the post-test.

Table 9. Descriptive statistics of the UF/EMICTDI post-test results

Groups	N	$\overline{X}$	SD
EG	33	107.93	14.97

CG1	30	94.96	19.78
CG2	31	93.12	19.87

As shown in Table 9, the descriptive statistics of the data obtained from the post-test of the UF/EMICTDI elucidated that the mean score of the EG was the highest while the mean scores of the CG1 and CG2 groups were close to each other. We used one-way ANOVA analysis to investigate whether the differences between the mean scores of the groups were statistically significant. Table 10 shows the results obtained from the one-way ANOVA analysis.

Table 10. The UF/EMICTDI post-test one-way ANOVA results

Groups	Sum of Squares	df	Mean Square	F	p
Between Groups	4825.625	2	2412.813	7.313	.00
Within Groups	30024.587	91	329.941		
Total	34850.213	93			

As seen in Table 10, results of the UF/EMICTDI post-test detected that there was a statistically significant difference between post-test scores of the groups, [$F_{(2, 91)} = 7.313$, $p = 0.00$ *(p<.01)]*. We calculated the effect size value (Eta squared) as $\eta^2 = 0.13$ and this value indicated a moderate effect. In order to determine which groups were in favor of this difference, we used the Tukey test for post-hoc tests since the variances were distributed homogeneously and differences between group numbers were not high. Table 11 illustrates the results of multiple comparisons Tukey test.

Table 11. Experimental and control groups multiple comparison Tukey test results

Groups	Compared Groups	Mean Difference	Std. Error	p
EG	CG1	12.97273*	4.58216	.01
	CG2	16.42326*	4.54329	00
CG1	EG	-12.97273*	4.58216	.01
	CG2	3.45054	4.65202	.73
CG2	EG	-16.42326	4.54329	.00
	CG1	-3.45054	4.65202	.73

* p <0.05 level shows the group in favor of the significant difference.

When we reviewed the results of multiple comparison Tukey test between the experimental and control groups, we found that the significant difference between EG and CG1, EG and CG2 in the post-test were in favor of the EG. We found no statistical difference between CG1 and CG2. Figure 11 displays the pre- and post-test mean scores of the groups for critical thinking disposition.

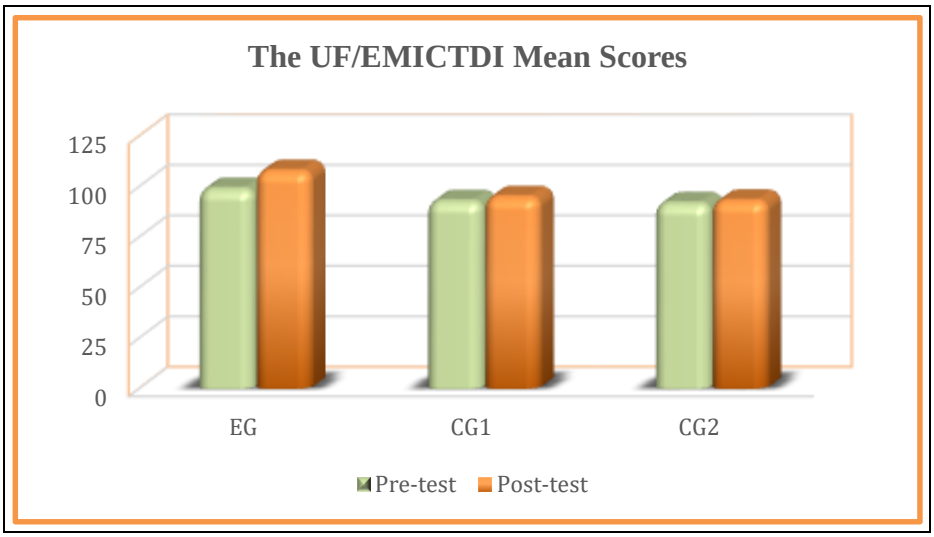

Figure 11. The UF/EMICTDI pre- and post-test mean scores of groups

When we compared the pre-test and post-test average scores of the groups, we observed that the mean scores of the critical thinking disposition of EG, CG1, and CG2 increased.

3.2. Findings on the Effects of the ABT Approach on Students' Argumentation Skills

In order to find out the effects of the ABT approach on students' argumentation skills, we provided argumentation activities for students in the EG. Table 12 and Figure 12 illustrate the number of arguments and level of arguments that students created in the activities during the implementation (6 weeks long).

Table 12. The number and level of arguments students created during the implementation

Week			Level 1 (f)	Level 2 (f)	Level 3 (f)	Level 4 (f)	Level 5 (f)
Week 1	Activity 1	Concept cartoon	16	11	5	1	0
Week 2	Activity 2	Concept cartoon	13	17	0	3	0
Week 3	Activity 3	Competing theories	9	10	10	3	1
	Activity 4	Predict-observe-explain	8	24	0	0	1
Week 4	Activity 5	Concept cartoon	3	30	0	0	0
	Activity 6	A migration story	0	12	4	12	5
Week 5	Activity 7	Competing ideas	1	13	0	19	0
Week 6	Activity 8	Concept cartoon	7	26	0	0	0
	Activity 9	News	0	7	0	14	12

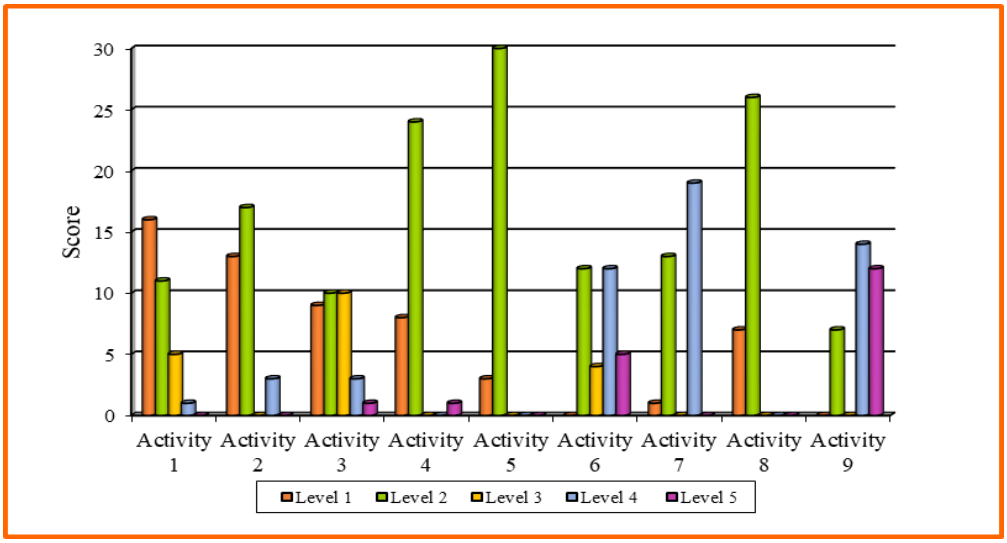

Figure 12. The levels of arguments students created during the implementation

Results indicated that students created more arguments at Level 1 and Level 2 during the first weeks of the implementation process and it is noteworthy that created arguments at these levels were during the "Concept Cartoon" activities. We found that students did not create any Level 3 arguments in 6 activities out of 9 activities, and they created more Level 4 and Level 5 arguments in the last weeks. This can suggest that students were able to create better quality arguments as the activities proceeded.

3.3. Findings on the Relationship Between Students' Argumentation Skills and Critical Thinking Disposition

We calculated the correlation coefficient to determine whether there was a significant relationship between students' argumentation skills and critical thinking disposition. Table 13 shows the relationship between students' argumentation skills and critical thinking disposition.

Table 13. The relationship between argumentation skills and critical thinking disposition

	Critical Thinking Disposition	Argumentation Skills
Critical Thinking Disposition	1	.583**
		.000
	33	33
Argumentation Skills	.583**	1
	.000	
	33	33

** Correlation significance level 0.01

As seen in Table 13, there was a positive significant relationship between students' argumentation skills and critical thinking disposition (r = .583, p <0.01). Figure 13 shows the relationship between students' critical thinking disposition and argumentation skills.

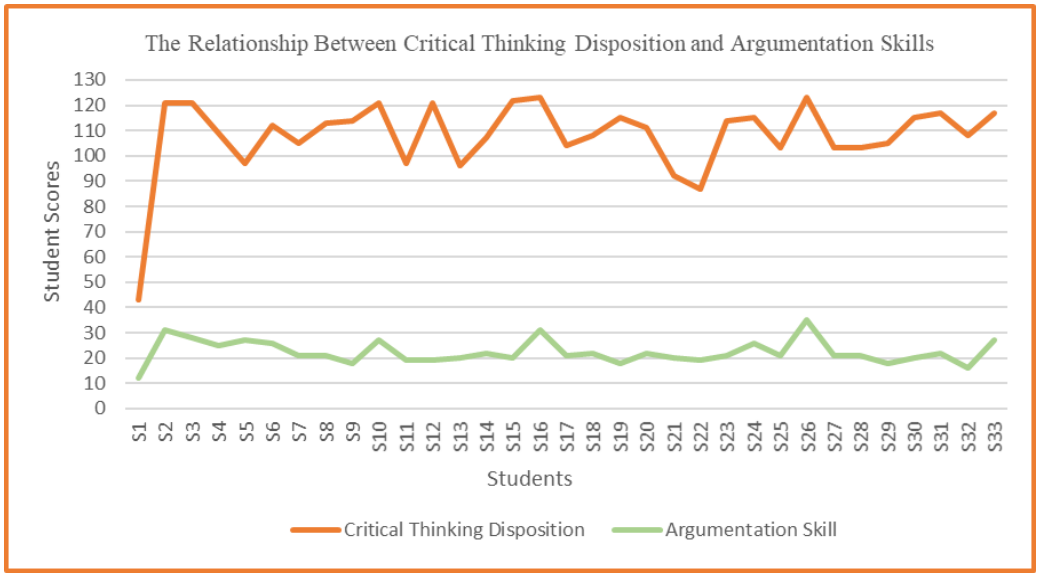

Figure13. The relationship between critical thinking disposition and argumentation skills

When we examined the relationship between students' critical thinking disposition and argumentation skills, we observed that students who had high ability to create arguments also showed a high level of critical thinking disposition (Figure 13).

We used simple linear regression analysis to determine the power of argumentation skills to predict critical thinking disposition. Table 14 shows the result of the simple linear regression analysis.

Table 14. Results of simple linear regression analysis between critical thinking disposition and argumentation skills level

Variable	B	SE_B	β	t	p
Constant	66.623	10.551		6.314	.000
Argumentation skills	1.850	.463	.583	4.000	.000
n= 30, R= .583, R^2= .340, F= 15.999, p< .01					

As seen in Table 14, there was a statistically significant relationship between argument skill and critical thinking disposition *(R= .583, R^2= .340)*, and the argumentation skills variable was found to be the predictor of critical thinking disposition *(F= 15.999, p< .01)*. The argumentation skills explained 34% of the change in the critical thinking disposition. The significant predictor of the main predictor variable *(B = 1.850)* showed that the argumentation skills variable was a significant predictor (p <.01).

4. Discussion, Conclusion and Recommendations

We examined students' critical thinking disposition by applying the UF/EMICTDI scale in this study. Before the implementation, we identified that students' critical thinking disposition scores were close to each other and there was no significant difference between the UF/EMICTDI scores (Table 5, Table 6). After the implementation, however, we documented that the UF/EMICTDI mean scores of the students in the experimental group, in which we used the ABT (Argumentation-Based Teaching) approach, were higher than the mean scores of the students in the control groups and there was a significant difference in favor of the experimental group (Table 7, Table 8). This result is parallel with the results of the previous studies in the related literature (Çakan-Akkaş, 2017; Eyceyurt-Türk, 2017; Hsieh, 2005; Lai, 2011; Kunsch, Schnarr & van Tyle, 2014; Sevgi & Şahin, 2017; Şahin, 2016; Tonus, 2012; Tüzün, 2016). In the previous studies, researchers generally examined the effects of the ABT approach on critical thinking skills rather than the effects of the ABT approach on critical thinking disposition that is a prerequisite for critical thinking. However, there were

also some studies that showed that the effects of the ABT approach on critical thinking disposition were not positive (Koçak, 2014). The positive effects of the ABT approach on students' critical thinking disposition can be explained by providing opportunities such as thinking, reasoning, decision making with interpretation, addressing the information with different aspects, reflecting ideas better, and learning by inquiry in the learning environments prepared in accordance with this approach.

We used various activities to determine students' argumentation levels, analyzed students' arguments that they created during the activities, and identified their argumentation levels in this research. When we examined the levels of the arguments throughout the implementation process, we observed that the students' argumentation levels were lower in the first three weeks of the implementation and higher in the following weeks. As a result of the study, we detected that students' argumentation levels showed a positive increase from the first week of the implementation to the last week, and the students' argumentation skills enhanced. At the first weeks of the implementation, the majority of students created simple arguments consisting of simple claims, simple claims with data, warrant, or backing. In the following weeks, the students created better quality arguments consisting of weak, clear, and multiple rebuttals. The reason for the low level of arguments students created in the first weeks could be their limited classroom practice in argumentation and their limited knowledge of this approach. This result is similar with the results of the previous research in the related literature (Anagün & Atalay, 2016; Crowell & Kuhn, 2012; Çetin, Kutluca & Kaya, 2014; Dawson & Venville, 2010; Erduran, Simon & Osborne, 2004; Karışan, 2011; Kuhn & Udell, 2003; Maloney & Simon, 2006; Nussbaum & Edwards, 2011; Öztürk, 2013; Topcu & Atabey, 2017; Torun, 2015; Wissinger, 2012; Zohar & Nemet, 2002). In the study conducted by Torun (2015), it was found that the levels of the arguments formed by students were lower in the first two activities, higher in the last three activities, and it was found that the levels of the students' arguments increased from the first activity to the last activity. Similarly, Wissinger (2012) examined students' arguments on three controversial topics in history in the social studies course by using first source documents, argumentation discussions, and controversial/critical article writing data collection techniques in an experimental study. Wissinger (2012) observed that the experimental group learned argument schemes, asked critical questions during the discussion, and students' levels of the argument increased. Erduran, Simon and Osborne (2004) aimed to increase use of teachers' argumentation and improve students' argumentation skills, and they found that the quality of students' arguments improved as a result of two years teacher development. In their study, Çetin, Kutluca and Kaya (2014) encountered students' argumentation levels with collected data through scenarios. As a result, they noted increases in the level of students' arguments. Nussbaum and Edwards (2011) explored critical questions and complementary, rebuttal argument strategies as an approach to teaching critical thinking. The experimental group, as a whole, successfully created remarkable critical solutions, especially in evaluating values and producing practical and creative solutions. The common emphasis in many studies on this subject is that the argumentation-based courses increase the number, level, and quality of students' arguments and develop their argumentation skills in a positive way (Demir, 2017).

In this study, it was seen that presenting claims and some data to students in the process, making discussions about contradictory situations, and discussing individually created arguments with friends increased students' argumentation levels. Additionally, we thought that the continuation of argumentation-based activities for six weeks and encouraging students to form arguments in the courses during this period contributed positively to the students' ability to form arguments. As stated in the related literature, it is not possible to improve students' argumentation skills in the classroom environments in a short time and that it may be beneficial to repeat these skills at different times in order to acquire and transform them into behavior (Torun, 2017). Additionally, we observed that students' small group discussions had a positive effect on increasing students' levels of argumentation skills. Since students discussed their ideas in the group work, they had opportunities to gain new views and perspectives on their ideas. We thought that peer learning within the scope of social learning theory could also contribute to the increases in argumentation skill levels. For example, in their research study, Cavlazoglu and Stuessy (2018) documented that working in groups and interactions within groups enhanced participants' argumentation skill levels. In this research, we observed that students' argumentation levels were lower in the concept cartoon activity used in the introduction phase of each lesson, and students' argumentation levels were higher in the news, competing ideas, a migration story, competing theories, and prediction-observation-explanation activities respectively when students' argumentation levels evaluated in terms of effectiveness. The reason for this could be the

provided opportunities to create arguments easier, reflect ideas better, and make more comments in the activities.

We found that there was a positive relationship between argumentation skills and critical thinking disposition, and the argumentation skills variable was the predictor of critical thinking disposition in this study. Based on this finding, we can state that students who have high argumentation skills also have high critical thinking disposition and use their critical thinking skills more effectively. In this sense, Andrews (2015) indicated that critical thinking and argumentation were closely related. Karadeniz (2016) stated that the ability to create arguments was a characteristic of the students with high-level thinking skills. Tüzün (2016) showed that students' development of argument creation skills contributed to students' development of critical thinking skills. Demiral and Çepni (2018) suggested that students needed to improve critical thinking skills to increase argumentation skills to higher levels. Nussbaum (2008) revealed that effective argumentation skills were crucial in decisions making and critical thinking at different levels. In the activities of "competing theories" and "news events involving different practices for migrants" used in this research, students were asked to look at the ideas, situations, and opinions presented to them from different perspectives and provide reasons to support the claims they created or defended. Besides, during the activities students were asked questions such as (a) Why do you think this way?, (b) How do you convince a person who doesn't think like you?, and (c) Do your opinions apply in all cases? They were allowed to discuss with their friends about conflicting/uncompromising issues given in the activities. It can be said that these questions and discussions contributed to the students gaining habits of thinking such as approaching, questioning, making their own decisions with a different point of view, and developing critical thinking tendencies. As stated in the related literature, in developing students' critical thinking and problem solving skills, it is important that students (a) support their claims/ideas in different subjects by using claims, data, warrant, backing, and rebuttal components of the argumentation process, and (b) create refutation ideas about situations where their claims are invalid. Additionally, using such activities in all courses is vital in achieving the desired level of these skills (Karamustafaoğlu, 2018).

Based on the results of this study, considering the ABT approach as effective in improving students' critical thinking disposition and accordingly in critical thinking skills, we suggest future researches about the effects of this approach on different higher-order thinking skills (e.g., problem-solving and creative thinking) in social studies. Argumentation can be used to develop critical thinking skills in different areas of social studies (environmental issues, global connections where global problems are examined). In addition, studies that examine the effect of ABT approach on students' academic achievement in social studies education can be carried out with students at different grade levels. In this study, it was seen that the claims given to contradictory arguments and some data were presented to the students and their argumentation skills increased. In this context, it is important to include controversial topics in the course, to encourage students to formulate arguments, data, justifications and rebutters on the subject discussed individually or in groups, and to include activities based on argumentation in learning environments in order to develop the students' argumentation skills. In addition, if students do not have sufficient experience in making arguments, the activities prepared for this purpose may not produce the desired effect. Thus, it is important to give importance to pilot studies in order to determine the experiences of the working group and the difficulties that may be experienced in the implementation of the activities based on argumentation and to take measures to reduce the possible problems in practice. However, some studies can be conducted to reveal the differences between individual and group argumentation.

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Appendix 1. Sample Course Process

UNIT: POPULATION IN OUR COUNTRY

Course Title: Social Studies

Grade: 7

Course Hours: 3

Subject: Migration

Concepts: Migration, settlement, unemployment, urbanization, transportation, tax, environment and environmental pollution, and natural resources

Learning Outcome: Students will discuss the reasons and results of migration through case studies.

- Students are expected to learn by questioning the reasons and results of migration in our country.

Implementation Process

Engage

The 'concept caricature' activity, which is one of the argumentation-based teaching activities that explain the concept of migration, is conducted in order to find out what students know about the concept of migration. The aim of this activity is to enable students to comprehend the concept of migration correctly.

Explore

The 'migration story' activity, which is one of the argumentation-based teaching activities, is conducted so that students can comprehend the reasons and results of migration through discussion.

Explain

Upon asking the students to discuss migration as well as its reasons and types based on their prior knowledge in the introduction and exploration part, the teacher gives detailed explanations about migration, its reasons and types. After explaining what the concept of migration is, the teacher states that migration takes place in different ways according to where and for how long it takes place, and the types of migration are explained in detail. Afterwards, the teacher makes further and detailed explanations by emphasizing that there are various reasons of migration, including economic, social, political and natural reasons. After making sure that the reasons of migration are understood by the students, the teacher makes more detailed explanations about the consequences of migration, emphasizing the fact that internal migration (in places of immigration and emigration) and external migration have different results.

Elaborate

After making sure that students fully understand the concept of migration, its causes and consequences and its types at this stage, the teacher conducts the activity of 'ideas are competing', which is one of the argumentation activities that will enable students to discuss the phenomenon of migration. In this activity, students are asked to state which of the given expressions they agree with and to explain why they think so, and to describe their opinions with their reasons.

Evaluate

A concept map activity, which is one of the argumentation activities, is conducted in order to make a general revision of the subject for students, and to determine the level of their understanding related to the concepts and relationships between concepts. After the students complete the activity, they are asked to discuss their answers with their group mates. Finally, the teacher makes a general assessment to complete the teaching of the subject.

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The Metaphoric Perceptions of the Prospective Turkish Language and Literature Teachers, Taking Pedagogical Formation Education about "Bilingualism"

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ABSTRACT

The concept of bilingualism is gaining prominence in our daily lives due to political and social reasons. The fact that bilingualism has become an undeniable fact requires investigation of it in educational sciences. How prospective teachers perceive the concept of bilingualism will fill a gap in the literature in terms of understanding educational practices. In this context, the purpose of this study is to determine the perceptions of the Turkish language and literature teacher candidates who have received formation education about the concept of "bilingualism" through metaphors. About 92 Turkish language and literature teacher candidates, studying at Çukurova University, form the research group of the study, for which qualitative research design is adopted. As a data collection tool, each student was given a guidance note with the expression of "bilingualism is like… because…" and the blanks in this guidance note were asked to be filled in. The metaphors obtained in the study were collected in different categories. Content analysis technique was used to analyze the data. According to the results of the research, it was determined that Turkish language and literature teacher candidates who received formation education had positive perceptions about the concept of bilingualism in a total of 12 concept categories.

Keywords:[2]
Pedagogical formation, bilingualism, metaphor, Turkish language and literature teacher candidates

1. Introduction

Bilingualism is a concept that has existed throughout history due to political and social reasons and its importance has increased gradually day by day in association with the globalizing of the world. Bilingualism, which is the English word, is formed by the combination of the two words "bi" in Latin and "lingualism" meaning linguistics. Bilingualism is a mixed psychological and sociocultural behavior and has multidimensional aspects (Butler & Hakuta, 2004). In the updated Turkish dictionary of Turkish Language Agency (TDK) (2020), bilingualism is defined as "being bilingual". In the TDK Geographical Terms Dictionary (1980), "speaking in more than one language among the citizens of the same state" is called bilingualism. Although there are different opinions about what bilingualism is and who should be called bilingual, it is generally deemed sufficient for an individual to be bilingual to speak two languages. As can be seen, speaking and listening skills of the person's four basic language skills are considered sufficient for practical communication. The speed, which is undeniable in today's world where education, health, entertainment and economy have reached a global dimension, creates an intense interaction and thus makes communication the most important element.

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The fact that "language" is the structure that carries this communication makes it almost compulsory to learn languages other than the mother language. Akkaya and Aydın (2019, p. 91) mentions that bilingualism is considered as a popular quality that is growing day by day. Approximately two-thirds of the world's population today is bilingual (Institute for Learning and Brain Sciences UW). Consequently, as in the example of the European Union, the concepts of bilingualism and multilingualism in the international dimension have gained prominence in education and have even influenced educational policies.

Teachers conducting educational services in accordance with the purpose of education are also the main subjects that lead the society (Battal, 2003). It is also teachers who form or portray the perspective of students, who are the target audience of education, towards bilingual individuals and being bilingual. The Turkish language and literature course of secondary education (9th, 10th, 11th and 12th grades) equips the students with many knowledge, skills and attitudes such as the beauty and subtleties of Turkish, which are specified under the special objectives of the curriculum and the field-specific skills. Consequently, this course has an important position on the Turkish language and literature teachers, language phenomenon and awareness of bilingualism. In this context, it is also important to investigate the perceptions of Turkish language and literature teacher candidates on bilingualism. Because what the concept of bilingualism means in the eyes of prospective teachers and what kind of meaning it evokes will contribute to the perception of the prospective teachers' perspective after starting their profession.

In this study, the metaphorical perceptions of Turkish language and literature teacher candidates on bilingualism were quantified. The word metaphor is derived from the root of the Greek *metapherein* (Aytan, 2014). *Meta* means to change and *pherein* means to carry (Levine, 2005, p. 172). In the contemporary Turkish dictionary (2020), the word metaphor means figurative and has transferred from the French word *métaphore* to our language. According to Eraslan (2011, pp. 3-4), the concept of metaphor in our language has been used in the form of "*benzetmeler, eğretilemeler, istiareler and mecazlar*". This etymological structure shows the feature of metaphor to reconcept a phenomenon or an object, to connect and express it with different perspectives. The truth is that if one of the concepts is well known, it will be easier to explain the other (Tamimi, 2005, p. 30). In other words, metaphor is the process of establishing a link between the information in the mind that allows to perceive and understand one subject from the perspective of another subject (Eraslan, 2011, p. 4). Contrary to popular belief, metaphor is not only a philosophy and literature term, it also carries an educational and psychological mission. According to Saban (2004, p. 132) "Metaphors provide an opportunity for educators to make comparisons between two things, to draw attention to the similarities between two things, or to explain something by substituting it with other things". Enabling the reflection of a certain mental scheme on another mental scheme by establishing a relationship between two dissimilar situations makes the concept of metaphor powerful as a mental model (Saban, 2008, p. 424).

This research was designed to find clues about how Turkish language and literature teacher candidates perceive the concept of bilingualism. According to the previous researches in literature, there are some studies about the concept of metaphor conducted on different subjects related to Turkish language and literature teachers and teacher candidates. Some of the prevailing studies are; Yazıcı's (2012) "Metaphors about the 'literature' of candidate teachers graduated from the Department of Turkish Language and Literature", Kahya's (2018) "Analysis of Prospective Turkish Language and Literature Teachers' Perceptions on the Concept of 'Literature Teacher' Through Metaphor", Özdaş and Çakmak (2018) "Metaphoric Perceptions of Teacher Candidates Regarding Teaching Practice", Aydın's (2018) "Macedonian bilingual Turkish teachers' metaphorical perceptions of Turkish Language", Pilav's (2018) "Perceptions of Turkish Language and Literature Teachers on Writing Skills" Yılmaz and Çakmak's (2016) "The Views of Turkish Language and Literature Teacher Candidates About Nature of the Course, Special Teaching Methods, in the Peadgogical Formation Education Program" and Özdemir, Tulumcu and Idi Tulumcu (2019) "Turkish and Turkish Language and "Perceptions of Literature Teacher Candidates Towards the Teaching Profession". However, there is no metaphor study on bilingualism about Turkish language and literature teachers and teacher candidates. It has been contemplated that this study will contribute to the field by revealing the perceptions and thoughts of Turkish language and literature teacher candidates who receive formation education about the concept of bilingualism.

The primary purpose of the study is to determine the perceptions of the Turkish language literature teacher candidates who have received formation education about the concept of bilingualism. In this context, the

views of 92 Turkish language and literature teacher candidates who received formation training at Çukurova University on the concept of bilingualism were investigated. The problem statement of the research was determined as *"What are the metaphorical perceptions of the Turkish language literature teacher candidates who receive formation education about the concept of bilingualism?"*

2. Method

2.1. Research Model

In this study, which aims to find out the opinions of Turkish language and literature teacher candidates who attend Pedagogical Formation Education on bilingualism concept, phenomenological model is applied. In a phenomenological research that focuses on the life experiences of people,(Merriam 2013) the main point is on how people perceive a phenomenon, how they decsribe it, what they think about it, how they judge it, how they remember it, how they interpret it, and how they talk about it with others. (Patton, 2014) In this study, since Turkish language and literature teachers' opinions about bilingualism concept based on their experiences are optained, phenomenological model is used.

2.2. Research Group

The research group of this article consists of 92 Turkish language and literature teacher candidates who are studying in Çukurova University. Of the candidates, 48 is woman and 44 is man. Both the opportunity to reach the candidates and the sufficient number of students were effective in choosing Cukurova University.

2.3. Data Collection

The data were collected by the researcher using a metaphor form. In order to collect data in the study, prospective teachers were asked to answer the question "*Bilingualism is like… because…".* According to Saban (2008), the concept of "*like*" is used to more clearly evoke the connection between the subject of the metaphor and the source of the metaphor in the metaphor studies. With the concept of "*because*", it is expected to constitute a rationale or a logical basis for the metaphors produced by students. Then, after explaining what metaphor means, students should be informed about the purpose of this study.

2.4. Data Analysis

Based on the metaphors expressed by the prospective teachers, codes and categories were determined. Content analysis method was used in evaluating the data. The main purpose in content analysis is to reach the concepts and relationships in which the collected data can be explained. Data similar to each other are brought together logically and interpreted clearly (Yıldırım & Şimşek, 2008, p. 227). The forms filled out by the prospective teachers were carefully examined, the metaphors created by the candidates were listed, and the listed metaphors were divided into groups. In order to ensure the reliability of the study, the metaphors were conceptually ranked by categories by two researchers except the author. Afterwards, the categories were determined by considering the justifications of the metaphors. Later, these categories were matched and combined.

3. Findings

In this section, the metaphors formed by the students training formation education about the concept of bilingualism at Çukurova University were conceptually categorized and analyzed. Quotations were taken from sentences related to the generated metaphors.

Table 1. The Metaphors Developed by Students for Bilingualism and the Number and Percentage of Students Representing Them

Code	Name of the Metaphor	Student Representing Metaphor		Code	Name of the Metaphor	Student Representing Metaphor	
		(f)	(%)			(f)	(%)
1	Branches of a tree	1	1,09	38	Two different countries	1	1,09
2	Two branches of a tree	1	1,09	39	Two eyes	1	1,09
3	Mind games	1	1,09	40	Two people	6	6,52
4	Gold	2	2,17	41	Two fruiting trees	1	1,09
5	Subtitle	1	1,09	42	Two countries	1	1,09
6	Key	1	1,09	43	Encounter with a second color	1	1,09
7	Car and key	1	1,09	44	Twin	1	1,09
8	Stay in between	1	1,09	45	Human	1	1,09
9	Aromatic	1	1,09	46	Human perspective	1	1,09
10	Mirror	2	2,17	47	Confusion	1	1,09
11	Spice	1	1,09	48	Chaos	1	1,09
12	Parents of the individual	1	1,09	49	Complicated feeling	1	1,09
13	Idle talk	1	1,09	50	Profit	1	1,09
14	Nightingale	1	1,09	51	Cat	1	1,09
15	Heaven and hell	1	1,09	52	Stuttering	1	1,09
16	Muddy water	1	1,09	53	Guide	1	1,09
17	Diversity	1	1,09	54	Person	1	1,09
18	Plural living	1	1,09	55	Coin	1	1,09
19	Multilingualism	1	1,09	56	Greengrocer	1	1,09
20	Garbage	1	1,09	57	Logic	1	1,09
21	Ocean	1	1,09	58	Profession	1	1,09
22	World	1	1,09	59	Organ	1	1,09
23	Marbled	1	1,09	60	Game	1	1,09
24	Economic	1	1,09	61	Self confidence	1	1,09
25	Sun	1	1,09	62	Raw food	1	1,09
26	Pregnancy	1	1,09	63	Color	1	1,09
27	Life	1	1,09	64	Black and white	1	1,09
28	Treasure	1	1,09	65	Problem	1	1,09
29	Need	1	1,09	66	Water	3	3,26
30	Two separate people	1	1,09	67	Spoiled	1	1,09
31	Two separate personality	1	1,09	68	Password	1	1,09
32	Two headed giant	1	1,09	69	Soil and water	1	1,09
33	Double headedness	1	1,09	70	Creativity	1	1,09
34	Two selves	1	1,09	71	Life	1	1,09
35	Bilingual	1	1,09	72	Substitute	1	1,09
36	Two worlds	2	2,17	73	A new person	1	1,09
37	Two different people	3	3,26	74	Prosperity	7	7,60
	Total					**92**	**100**

About 74 different metaphors were produced by 92 participants regarding the concept of "bilingualism" (Table 1). It is apparent that the most developed major metaphors are “Prosperity”, “two people” and “water”.

Table 2. Conceptual Categories Created by Students' Metaphors Regarding Bilingualism

Metaphor Categories	(f)	(%)
Being Diverse / Rich	25	27,18
Being Beneficial / Needed	17	18,48
Facilitating Communication	13	14,13
Creating Confusion and Causing Conflicts	11	11,96
Creating Difference and Innovative	9	9,78
Complementing each other	6	6,52
Causing Damage	3	3,26
Being Distinguished	2	2,17
Guiding / Shedding Light	2	2,17
Developing Mind	2	2,17
Entertaining	1	1,09
Being Unique by Itself	1	1,09
Total	**92**	**100**

As seen in Table 2, the metaphors produced by the participants were divided into 12 conceptual categories. The category represented by the most metaphor is the "Being Diverse / Rich " category; The categories represented by the least metaphor are "Entertaining" and "Being Unique by Itself" categories.

Table 3. Metaphors Regarding the "Being Diverse / Rich" category

Metaphor Name	(f)	(%)	Metaphor Name	(f)	(%)
Two people	5	20	Two selves	1	4
Prosperity	5	20	Two different people	1	4
Aromatic	1	4	Two different countries	1	4
Mirror	1	4	Two countries	1	4
Spice	1	4	Human	1	4
Diversity	1	4	Person	1	4
Live in plural	1	4	Greengrocer	1	4
World	1	4	Color	1	4
Pregnancy	1	4			
Total				**25**	**100**

In this category, there are 17 different metaphors developed by 25 participants (27.18%). It is the category that is represented by the most metaphors. The main metaphors developed in this category are the metaphors of "two people and prosperity". Participants stated that bilingual individuals have more than one culture and language, resulting in a fact that bilingualism is a diversity or prosperity for individuals.

Some of the participants' expressions that make up this category are given below:

> *"Bilingualism is like a world, because it is a diversity and a door with windows of opportunities. Being bilingual is being in different cultures. "*
>
> *"Bilingualism is like a greengrocer, because it contains wealth."*
>
> *"Bilingualism is like two different countries, because it contains as much culture as the language it knows."*

Table 4. Metaphors Regarding "Being Beneficial / Needed" Category"

Metaphor Name	(f)	(%)	Metaphor Name	(f)	(%)
Water	3	17,66	Profit	1	5,88
Prosperity	2	11,78	Cat	1	5,88
Key	1	5,88	Profession	1	5,88
Economic	1	5,88	Organ	1	5,88
Treasure	1	5,88	Self confidence	1	5,88
Need	1	5,88	Life	1	5,88
Two fruiting trees	1	5,88	Substitute	1	5,88
Total				**17**	**100**

In this category, there are 14 different metaphors created by 17 participants (18.48%). "Water, Prosperity and key" are some of the metaphors created. Metaphors expressing that bilingualism is a need for people and that

it provides material or moral benefits to people have been developed by the participants. Additionally, bilingualism has been stated as an important status in achieving success and increasing self-confidence.

Some of the expressions of the participants creating this category are given below:

"Bilingualism is like water, because it enables people to continue their existence."

"Bilingualism is like a tree bearing two fruits, because sometimes a single fruit does not feed a person, bilingualism is a necessity for me, and it is always good to know more than one language."

"Bilingualism is like self-confidence, because a bilingual person becomes more successful in life with increased self-confidence."

Table 5. Metaphors Regarding the Category Facilitating Communication

Metaphor Name	(f)	(%)	Metaphor Name	(f)	(%)
Parents of the individual	1	7.69	Bilingual	1	7.69
Nightingale	1	7.69	Two eyes	1	7.69
Heaven and hell	1	7.69	Two people	1	7.69
Multilingualism	1	7.69	Coin	1	7.69
Ocean	1	7.69	Password	1	7.69
Marbled	1	7.69	A new person	1	7.69
Life	1	7.69			
Total				**13**	**100**

In this category, there are 13 metaphors created by 13 participants (14.13%). "Nightingale, marbling and ocean" are some of the metaphors created. Participants developed metaphors, indicating that bilingualism enables people to express themselves in different languages and facilitates communication with other people. However, it was stated that bilingual individuals also have the opportunity to communicate with more than one community that has the same language.

Some of the expressions of the participants creating this category are given below:

"Bilingualism is like an ocean, because the ease of self-expression is like an unlimited ocean."

"Bilingualism is like a new person, because every language brings an agreement with a new person."

Table 6. Metaphors Regarding "Creating Confusion and Causing Conflicts" Category

Metaphor Name	(f)	(%)	Metaphor Name	(f)	(%)
Mind game	1	9,09	Confusion	1	9,09
Stay in between	1	9,09	Complexity	1	9,09
Idle talk	1	9,09	Complicated feeling	1	9,09
Muddy water	1	9,09	Stuttering	1	9,09
Double headedness	1	9,09	Problem	1	9,09
Twin	1	9,09			
Total				**11**	**100**

In this category, there are 11 metaphors created by 11 participants (11.96%). "Mind game, double headedness, twin and idle talk" are some of the metaphors created. The participants stated that bilingualism causes problems in communication, confuses two languages with each other and makes communication difficult, thus causing incomprehensibility.

Some of the expressions of the participants creating this category are given below:

"Bilingualism is like a mind game, because learning two languages is difficult to try not to confuse the two. "

"Bilingualism is like double headedness, because what you mean may not be clearly understood. "

"Bilingualism is like a twin, because it mixes them."

Table 7. Metaphors Regarding the "Creating Difference and Innovative" Category

Metaphor Name	(f)	(%)	Metaphor Name	(f)	(%)
Two different people	2	22,22	Two worlds	1	11,11
Mirror	1	11,11	Encounter with a second color	1	11,11
Two separate people	1	11,11	Human perspective	1	11,11
Two separate personality	1	11,11	Creativity	1	11,11
		Total		**9**	**100**

In this category, there are 8 different metaphors formed by 9 participants (9.78%). "Two different people, mirrors and two worlds" are some of the metaphors that have been created. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like two different people, because you can change it with a second language while people dominate a limited area with a language they know. Two languages mean two people in the same body."

"Bilingualism is like a mirror, because when you look in front of you it seems like there are two people."

"Bilingualism is like two different people, because different feelings arise with the ideas of two people."

Table 8. *Metaphors Regarding "Complementing Each Other" Category*

Metaphor Name	(f)	(%)
Black and white	1	16,66
Soil and water	1	16,66
Car and key	1	16,66
Branches of a tree	1	16,66
Two branches of a tree	1	16,66
Two headed giants	1	16,66
Total	**6**	**100**

In this category, there are 6 metaphors created by 6 participants (6.52%). "Black and white, earth and water, two-headed giant" are some of the metaphors created. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like black and White, because they are opposite concepts but compatible."

"Bilingualism is like land and water, because it feeds each other."

"Bilingualism is like a car and a key, because they complement each other."

Table 9. Metaphors Regarding the "Causing Damage" Category

Metaphor Name	(f)	(%)
Garbage	1	33.33
Raw food	1	33.33
Spoiled	1	33.33
Total	**3**	**100**

In this category, there are 3 metaphors created by 3 participants (3.26%). "Garbage, raw food and spoiled" are metaphors created. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like garbage, because it makes you sick."

"Bilingualism is like raw food, because it does not taste."

"Bilingualism is like the spoiled, because it has an answer to everything."

Table 10. Metaphors Regarding the "Being Distinguished" Category

Metaphor Name	(f)	(%)
Gold	2	100
Total	**2**	**100**

In this category, there is 1 metaphor created by 2 participants (2.17%). The metaphor in this category is the gold metaphor. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like gold, because it is valuable."

"Bilingualism is like gold, because it never loses value."

Table 11. Metaphors Regarding the "Guiding / Shedding Light" Category

Metaphor Name	(f)	(%)
Sun	1	50
Guide	1	50
Total	**2**	**100**

In this category, there are 2 metaphors created by 2 participants (2.17%). The metaphors in this category are the "sun and guide" metaphors. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like the sun, because it enlightens people better. "

"Bilingualism is like a guide, because when you go somewhere you may lose your direction, yet the guide shows the way out."

Table 12. Metaphors Regarding the "Developing Mind" Category

Metaphor Name	(f)	(%)
Subtitle	1	50
Logic	1	50
Total	**2**	**100**

In this category, there are 2 metaphors created by 2 participants (2.17%). The metaphors in this category are "subtitle and logic" metaphors. Some of the expressions of the participants creating this category are given below:

"Bilingualism is like subtitles. While watching a movie, translating it, adjusting the synchronization, and coordinating yourself improves the brain skills more. "

"Bilingualism is like logic, because it both thinks and speaks. "

Table 13. Metaphors Regarding the "Entertaining" Category

Metaphor Name	(f)	(%)
Game	1	100
Total	**1**	**100**

In this category, there is one metaphor created by one participant (1.09%). The metaphor in this category is the "game" metaphor. The participant statement that makes up this category is given below:

"Bilingualism is like a game, because it's fun. "

Table 14. Metaphors Regarding The "Being Unique to Itself" Category

Metaphor Name	(f)	(%)
Two worlds	1	100
Total	**1**	**100**

In this category, there is one metaphor created by one participant (1.09%). The metaphor in this category is the "two worlds" metaphor. The participant statement that makes up this category is given below:

"Bilingualism is like two worlds, because it has its own characteristics."

4.Discussion, Conclusion and Recommendations

In this study, the perceptions of Turkish language and literature teacher candidates who are studying at Çukurova University about bilingualism were determined. In this respect, the Turkish language and literature teacher candidates were asked the question in the form of "*Bilingualism is like… because…"* and metaphors presenting their perceptions of bilingualism were received. Based on the metaphors developed by Turkish language and literature teacher candidates regarding the concept of bilingualism, the following 12 categories have been determined:

1. Being Diverse / Rich One

2. Being Beneficial / Needed
3. Facilitating Communication
4. Creating Confusion and Causing Conflicts
5. Creating Difference and Innovative
6. Complementing Each Other
7. Causing Damage
8. Being Distinguished
9. Guiding / Shedding Light
10. Developing Mind
11. Entertaining
12. Being Unique to Itself

Prospective teachers developed 74 metaphors that were classified and divided into 12 categories. The wide range of metaphors that Prospective teachers present about bilingualism can be expressed as attributing very different meanings to bilingualism.

When the conceptual categories were examined, it was seen that the participants who developed metaphors about bilingualism mostly chose metaphors that were included in the concept area "Being Diverse / Rich" with 27.18%. The high rate of this category shows that bilingualism is a concept that is generally seen as valuable and rich in the mental world of the individual and society. Language and culture are two elements that show a parallel movement and development (Güvenç, 1999, p. 108). In this context, bilingualism enriches the society and enables the development and diversification of social culture through language. Bilingualism is the concept of interculturalism formed and embedded in the individual. For this reason, bilingualism enables people from different cultures to share feelings and thoughts and to develop an understanding of international respect and tolerance.

About 18.48% of the Turkish language and literature candidates participating in the study preferred the "Being Beneficial / Needed" conceptual category by using metaphors such as "water, prosperity, key and need". In this context, bilingualism is seen as a necessity benefiting its speakers. As one prospective student stated, “Bilingualism is like water, because it enables people to continue their existence.", bilingualism has become essential in today's world like water. Knowing a second language in a globalizing world emerges as a necessity in many areas such as economy, health and education.

Around 14.13% of the participants preferred the concept area of "Facilitating Communication" by using metaphors such as "two eyes, marbling and ocean". The answers given at this point show that bilingualism plays a role that positively affects communication and interaction between individuals and facilitates the establishment of a proper communication environment. Knowing a second language changes the individual's approach on subject and object and internalizes cognitive differences. In this context, bilinguals are in an advantageous position in terms of distinguishing similarities and differences in communication between individuals and conducting communication on a proper basis. Bilinguals show higher performance in cognitive flexibility, one of the cognitive features, than monolinguals (Karslı & Karakelle, 2018, p. 175). The reactions, perspectives and alternatives that individuals develop for the problems they encounter, reveal his cognitive flexibility. Specifically, cognitive flexibility, which is related to the cognitive dimension of the individual, facilitates the life of the individual in challenging situations and is effective in solving the problem by finding options from these challenging situations (Akçay Özcan & Kıran Esen, 2016, p. 3).

Nearly 11.96% of the participants preferred the concept area of "Causing Confusion and Conflicts" by using metaphors such as "staying in between, mind game and double-headedness". Despite the fact that bilingual individuals speak both languages, they have not undergone a sufficiently good education process in both languages and are deficient in two languages, causing them to be defined as semilingual. According to Baker (2001, p. 8), bilinguals who show a lack of proficiency in both languages can be defined as "semi-lingual". In such cases, a process may occur in which the individual moves back and forth between the rules of the two languages. Thus, as the participants stated in their metaphors, the situation of “on the horns of a dilemma” of the participants may be experienced.

Almost 9.78% of the participants preferred the concept of "Creating Difference and Innovative" by using metaphors such as "two different people, creativity and two worlds". Based on the Wittgenstein's (2016)

statement of "*The limits of my language are the limits of my world",* it can be inferred that bilingualism expands the mental world of the individual. Alternatively, it may also be stated that a bilingual individual experiences two different worlds of two different languages together, and this situation makes him different.

Approximately 6.52% of the participants preferred the concept area of "Complementing Each Other" by using metaphors with different names. Bilingualism is the case when a language with two different structures and formations/design appears together in the individual. The fact that bilingual individuals go back and forth between the concepts of the two languages they speak shows that they establish a transparent structure between the two languages. Bilingual individuals benefit two languages while expressing their feelings and thoughts. In this case, using two languages together is the basis of bilingual individuals in expression. In short, the two languages used in bilingual individuals are in a structure that complements each other.

About 3.26% of the participants preferred the concept category of "Causing Damage" using metaphors with different names. Along with multilingualism, one of the most spoken linguistics topics in the world is bilingualism. Although there are positive opinions around the world about bilingualism and acquiring a second language, the presence of metaphors in our study in which bilingualism is seen as a damaging concept is a valuable data for our understanding of different views in society. It may be the starting point of these metaphors that a second language will damage the mother language and thus cause cultural changes.

Nearly 2.17% of the participants preferred the "Being Distinguished" concept category using metaphors with different names. They stated that bilingualism is always a valuable concept based on the gold metaphor. At the same rate, the participants used metaphors with different names included in the concept of "Guiding / Shedding Light", based on the fact that the individual can use two languages everywhere and they are guiding. In addition, 2.17% of the participants preferred metaphors that fall into the "Developing Mind" concept, emphasizing the structure of bilingualism that develops the mental world of the individual.

While 1.09% of the participants preferred the "Entertaining" concept area using the "game" metaphor, the same percentage of the participants pointed out that bilingualism is a different linguistic phenomenon by using the "two worlds" metaphor and preferred the "Being Unique by Itself" concept category.

Language that enriches the mental world of the individual and facilitates communication; reveals differences in terms of individual level with each of its features and similarities in cross-cultural dimension. The concept of bilingualism develops in that dimensions. Different research needs to be conducted in many areas, from the impact of bilingualism on the individual to its impact on society. The opinions of teachers, who are the sculptors of the society so to speak, about bilingualism will also characterize the perspective of bilingualism in society. In this context, it is essential to know the differences between monolingual and bilingual teachers' perceptions of bilingualism and its effects on their education approach. It is thought that such studies will contribute to bilingualism related research and educational sciences in our country.

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Investigation of Prospective Science Teachers' Understandings on Ergastic Substances with the Semantic Mappings*

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ABSTRACT

The aim of this study was investigated of prospective science teachers' understandings on ergastic substances with the semantic mappings. This study was phenomenological research method. 38 prospective science teachers in the science teaching department of a public university participated in the research. The prospective science teachers were asked to prepare the semantic mappings about Ergastic Substances. In this study, student products are 36 semantic mappings prepared by the prospective science teachers. The semantic mappings were analyzed content analysis method. According to the findings obtained from the research, it can be said that in the semantic mapping, the prospective science teachers used most of concepts related to Ergastic Substances in the experiments. Additionally, it can be said that conducting experiments and preparing the semantic mappings have important contributions to the teaching, researching and associating of concepts. In order to eliminate the difficulties, intervals applications at different times will contribute to the literature instead of one-off applications. According to the results of 36 semantic mapping prepared by the prospective science teachers, a semantic mapping containing 6 groups and 140 concepts was formed.

Keywords:
Conceptual investigation, ergastic substances, science education, semantic mappings

1. Introduction

Ergastic Substances are the general name given to lifeless substances, which are formed as a result of physiological activities in plant cells as residuum or substitute products (Algan & Toker, 2004). Ergastic substances are products of metabolism (Idu & Onyibe, 2011) and represent waste products, which are solid and secondary (Simon & Nayyagam, 2018). Ergastic substances are present in the fruit wall, cortex, and vascular parenchyma of the stem and of the petiole but in the root, except in the cortex near the origin of secondary roots, they are practically absent (Scott, 1941).

Ergastic Substances consist of coloring agents, carbohydrates, proteins, fats, glycosides, saponins, tannins, resins and balsams, rubber, alkaloids and crystals subtopics (Algan & Toker, 2004). The most common are calcium oxalate crystals (Nwachukwu & Edeoga, 2006) and accumulate crystallize into salts such as calcium oxalate, calcium carbonate and calcium sulfate (Efe, 2000). In particular, the detection of crystals, protein and starch grains are taxonomic, thus benefiting society by classifying plant species (Nwachukwu & Edeoga, 2006). In addition, carbohydrates, proteins, fats have a unique position in human nutrition requirement (Omoigui & Aromose, 2012). In this context, the handling of ergastic substances is necessary to understand

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the importance of organisms and life, as well as the relationships of biology. For this reason, the subject of ergastic substance should be learned at the level of concepts effectively.

An effective science education is possible by the meaningful learning of knowledge at the level of concepts rather than by memorization (Gödek, Polat & Kaya, 2018). Concepts in science that involve complex and interrelated concepts should be organized to form coherent information structures (Koponen & Pehkonen, 2010). According to Fitzgerald, Elmore, Kung and Stennen (2017), various researches have revealed that individuals have learned many concepts, especially more complex ones, by establishing relationships between concepts (by forming networks). One of the two-dimensional visual tools demonstrating the relationships between concepts by showing the names and properties of concepts and how they are used by students are a semantic mapping (İnel-Ekici, 2014). Semantic mappings are also seen as an approach for constructing the relationships and visual representations of conceptual categories (Dilek & Yürük, 2013).

In their research, Schwab and Cable (1982), recommend the implementation of the semantic mappings to students of all ages in science teaching. Semantic mappings help reaching a higher level of comprehension and thinking by using concepts, especially by grouping them and in this way regulating the structuring of the mind (Antonacci, 1991; Candan, 1998; Gödek, Polat & Kaya, 2018). They make learning more effective by providing a fun teaching process (Aktepe, Cepheci, Irmak & Palaz, 2017). In a study conducted by Avery, Baker and Gross (1997), it was concluded that the semantic mappings enable teachers and learners to understand the concepts and their experiences and they ensure the determination of learning levels according to individual differences. In the research conducted by Tuna (2013), it was found that the teaching performed using the semantic mappings method contributed more to the academic success of students compared to the direct instruction method. According to the literature, the semantic mappings are one of the tools used to identify alternative assessment and evaluation approaches and conceptual understandings that can be used in different age groups and different learning environments (Artun, 2018; Dilek & Yürük, 2013; İnel-Ekici, 2014).

In the literature on ergastic substances, it is seen that researches are carried out in the fields of biotechnology (Idu & Onyibe, 2011; Kolovrat, 2016), botany (Gill, Nyawuame, Aibangbee & Agho, 1991; Nwachukwu & Edeoga, 2006; Omonhinmin, Daramola & Idu, 2015; Scott, 1941) and medicine (Nayagam, 2015; Simon & Nayyagam, 2018). However, no studies on the subject were reached in the field of education. However, it is very important to investigate the researches on plants and plants that have a great place in human history in the field of education. Thus, following important developments in plant science and taking part in education will allow students to transfer the most up-to-date information to their social and economic life (Çelik, 2019). In addition, the presence of ergastic substances in many structures of plants and humans' most foods shows that it is very important in daily life. It can be said that ergastic substances, which we encounter in many areas of daily life, are among the subjects that should be emphasized in science education.

Considering importance and role of ergastic substances in daily life, it is understood that research on the subject should be carried out in the field of education as well. In addition, it is thought that investigating the prospective science teachers' understandings on ergastic substances will contribute greatly to the relevant area and will guide the research on this issue in the future. Accordingly, in this study, it is aimed to investigation of prospective science teachers' understandings on ergastic substances with the semantic mappings. An answer was sought to the following research question in line with this purpose.

What are the prospective science teachers' understandings on ergastic substances?

2. Method

2. 1. Research Design

The phenomenological research method focuses on how the phenomenon is perceived, depicted, judged, understood (Patton, 2014). In addition, the researchers who are the data source in the phenomenological research method are individuals who can reflect the phenomenon that is focused on the study outside (Yıldırım & Şimşek, 2011). The phenomenological research method of qualitative research method was used in this study because of prospective science teachers can reflect their understanding of this subject and the understandings in this subject are determined based with the semantic mappings.

2. 2. Research Sample

In the research, purposive sample method was used. The purposive is that the students on which the application is performed, are the prospective science teachers who take the course General Biology Laboratory-1. In line with this purpose, 38 prospective science teachers who were educated in second grade of the science teaching department of the faculty of education of a public university participated in the research. The prospective science teachers who participated in the research are 5 were male and 33 were female.

2. 3. Data Collection Method, Tool, and Analysis

Before collecting data in the study, information about the study was given and the prospective science teachers who volunteered were determined.

1. In the first week (2 hours), the prospective science teachers were given information about the semantic mappings and its characteristics and their samples were examined. In addition, experiments were determined about Ergastic Substances together with the prospective science teachers.
2. The experiments determined in the following week (4 hours) were conducted by the prospective science teachers in the laboratory environment. Information about the determined experiments by the prospective science teachers are given below.

Materials Used for Examination: Tomato, Carrot, Lemon, Potato, Bean, Rice, Rubber, Busy Lizzie and Begonia

Examination Environment: Water

Section Types: Scraping Method, Cross Section, Tangential Section, Longitudinal Section

Magnification Ratio: X10 and X40

Fabrication: The prospective science teachers have prepared slides using the appropriate sectioning method from the materials they brought, and they examined the Ergastic Substances. Slides were prepared by scraping method from tomato, carrot, potato, bean and rice plants. The substances examined were lycopene in tomato, carotene in carrot, starch grains and protein agents in potato, bean and rice. The matter of xantophyl was studied by taking a tangential section of lemon, the matter of raphide by taking a cross section from the stem of the web plate of the busy lizzie plant, druz by taking a cross section from the stem of the web plate of begonia, cystolith by cross-section from the leaf of the rubber plant and anthocyan and anthoxantin by the tangential section of the petals of the flower parts of begonia and busy lizzie plants.

3. At the end of the third week (2 hours), the prospective science teachers were asked to prepare the semantic mappings about Ergastic Substances.

In the study, the method of data collection based on the investigation was used as a method to collect data. Student products were used as a data collection tool in this method. In this research, student products are 36 semantic mappings prepared by the prospective science teachers. The prepared the semantic mappings were examined by two faculty members using content analysis method. Grouping and concepts used by the prospective science teachers in the semantic mappings were analyzed by creating themes and codes. The groupings were gathered under six themes, being "The Properties of Ergastic Substances", "The Locations of Ergastic Substances", "The Plants Containing Ergastic Substances", "The Examination of Ergastic Substances", "The Types of Ergastic Substances", and "Other Organic and Inorganic Substances". Data was given in frequency and percentage.

2.4. Limitations of Research

This research was conducted with the prospective science teachers who studied in the second year of the science teaching department of a public university. The results of this research cannot be generalized to prospective science teachers studying at other universities due to the limited qualitative research approach. Since this research investigates the prospective science teachers' conceptual understandings on ergastic substances, the results of the research are limited to the field of analysis. The prospective science teachers'

conceptual understanding on ergastic substances in this research is limited by the knowledge in the semantic mappings.

3. Findings

The findings regarding the content analysis of the groups of the semantic mapping of concepts, which the prospective science teachers prepared on ergastic substances were provided in Table 1.

Table 1. The groupings on ergastic substances

Themes	Codes	f	%
Properties of Ergastic Substances	Properties	5	2.99
	Some Ergastic Substances	3	1.80
	Color Substances	3	1.80
	Structures	2	1.20
	Groups	1	.60
	Basic Building Blocks	1	.60
	Total	**15**	**8.98**
Locations of Ergastic Substances	Location	18	10.78
	Found Substances	4	2.40
	Plants	4	2.40
	Organelle	2	1.20
	Cell	2	1.20
	Leaf	1	.60
	Epithelium	1	.60
	Vacuole Sap	1	.60
	Meristem Tissue	1	.60
	Total	**34**	**20.36**
The Plants Containing Ergastic Substances	Containing Ergastic Substances	7	4.19
	Plants	3	1.80
	Total	**10**	**5.99**
The Examination of Ergastic Substances	Examination Tools	4	2.40
	Object Examined	3	1.80
	Sectioning	2	1.20
	Total	**9**	**5.39**
Types of Ergastic Substances	Starch	14	8.38
	According to their shapes	11	6.59
	Protein	10	5.99
	Salt Crystals/Crystals/Crystal Sample	9	5.39
	Ergastic Substance Sample	8	4.79
	Types	7	4.19
	Hilum	4	2.40
	Counts	4	2.40
	Protein Grains	3	1.80
	Aleurone	2	1.20
	Total	**72**	**43.11**
Other Organic and Inorganic Substances	Carbohydrate	10	5.99
	Oils	10	5.99
	Organic Substances	4	2.40
	Inorganic Substances	3	1.80
	Total	**27**	**16.17**
In All	**Total**	**167**	**100.00**

When Table 1 was examined, 34 codes and 167 frequencies were determined according to the content analysis results of the groupings in the semantic mappings of concepts prepared by the prospective science teachers about Ergastic Substances. It can be said that the prospective science teachers made 34 different groupings for the subject of Ergastic Substances. The top two themes with the most codes were "*Types of Ergastic Substances" and "Locations of Ergastic Substances"*. The theme with the least code *was "The Plants*

Containing Ergastic Substances". The theme with the highest frequency was *"Types of Ergastic Substances"*. The theme with the least frequency was *"The Examination of Ergastic Substances"* and *"The Plants Containing Ergastic Substances"*. When the frequencies of the codes belonging to the themes are examined, it is observed that the code *"Location"* belonging to the theme of *"Locations of Ergastic Substances"* has the highest frequency (f=18).The codes *"Groups"* and *"Basic Building Blocks"* belonging to the theme of *"The Properties of Ergastic Substances"*; and the codes *"Leaf"*, *"Epithelium"*, *"Vacuole Sap" and "Meristem Tissue"* belonging to the theme of *"Locations of Ergastic Substances"* have the lowest frequency (f=1). The frequency values of the codes of the themes belonging to groupings of the prospective science teachers ranged among 1-18. It may be asserted that the prospective science teachers generally make different groupings from each other.

The results of the content analysis of the concepts in the semantic mappings of concepts prepared by the prospective science teachers about Ergastic Substances are given in Table 2, Table 3 and Table 4.

Table 2. "Types of Ergastic Substances" and "The Plants Containing Ergastic Substances" themes

Theme	Codes	f	%	Theme	Codes	f	%
Types of Ergastic Substances	Simple/Semi Compound/Compound	47	4.63	The Plants Containing Ergastic Substances	Rubber	29	2.85
	Centric/Eccentric	35	3.44		Begonia	23	2.26
	Oils/Streoid/ Phospholipid/Ester Bonds/Glycerol	34	3.35		Bean	23	2.26
	Hilum/Navel/Crack Hilum	34	3.35		Potatoes	23	2.26
	Protein/Peptide Bond	28	2.76		Busy Lizzie	22	2.17
	Starch	27	2.66		Rice	19	1.87
	Single/Double/Triple/Multiple	25	2.46		Wheat	9	.89
	Raphide	21	2.07		Corn	6	.59
	Cystolith	19	1.87		Plant	5	.49
	Druz	19	1.87		Barley	5	.49
	Resin	14	1.38		Jerusalem Artichoke	4	.39
	Oil Acid/Saturated/Unsaturated Fat	10	.98		Castor Oil	4	.39
	Aleurone	8	.79		Onion	3	.30
	Gum/Musilage	6	.59		Lily	3	.30
	Tannin	5	.49		Rose	2	.20
	Glycoside	5	.49		Clove	2	.20
	Alkaloid	5	.49		Flax Oil	2	.20
	Starch Ring	4	.39		Olive Oil	2	.20
	Balsam	3	.30		Cocoa Oil	2	.20
	Assimilation	3	.30		Linden	1	.10
	Anthocyanin/Flavonoid	3	.30		Orchid	1	.10
	Spare Starch	2	.20		Horse Chestnut	1	.10
	Anthoxanthin	2	.20		Blue Violet	1	.10
	Neutral Oil	1	.10				
	Inulin	1	.10				
	Storage Starch	1	.10				
	Total	**362**	**35.63**		**Total**	**192**	**18.90**

When Table 2 is examined it is observed that there are 26 codes and 362 frequencies of these codes, belonging to the theme *"Types of Ergastic Substances"*. In the theme *"Types of Ergastic Substances"* the prospective science teachers are observed mostly to include the concepts *"Simple/Semi Compound/Compound"*, *"Centric/Eccentric"*, *"Oils/Streoid/ Phospholipid/Ester Bonds/Glycerol"*, *"Hilum/Navel/Crack Hilum"*, *"Protein/Peptide Bond"*, *"Starch"*, *"Single/Double/Triple/Multiple"*, *"Raphide"*, *"Cystolith"*, *"Druz"* and *"Resin"* in their semantic mappings of concepts. The prospective science teachers are generally observed to write most of the concepts, which are and are not in the experiments they made on Ergastic Substances in the semantic mappings of concepts. Regarding the theme *"Types of Ergastic Substances"* the prospective science teachers are observed to give place to the concepts *"Spare Starch"*, *"Anthoxanthin"*, *"Neutral Oil"*, *"Inulin"* and *"Storage Starch"* the least. It is observed that there are 23 codes belonging to the theme *"The Plants Containing Ergastic Substances"*, and 192 frequencies of these codes. The prospective science teachers used concepts

"Rubber", *"Begonia"*, *"Bean"*, *"Potatoes"*, *"Busy Lizzie"* and *"Rice"* in the theme *"The Plants Containing Ergastic Substances"* in the prospective science teachers' semantic mapping. The prospective semantic mappings of the prospective science teachers were found 23 plants containing ergastic substances.

Table 3. The "Properties of Ergastic Substances" and "Examination of Ergastic Substances" themes

Theme	Codes	f	%	Theme	Codes	f	%
Properties of Ergastic Substances	Crystal	27	2.66	Examination of Ergastic Substances	Sectioning/Transverse/Longitudinal/Tangential	11	1.08
	Color Pigments	16	1.57		Microscope	6	.59
	Lifeless	10	.98		Microscope Slide	6	.59
	Metabolic Product/Nutrient	7	.69		Coverslip	6	.59
	Amorphous/Amorphous Structure	6	.59		Razor/Microcon	4	.39
	Photosynthesis	5	.49		Optics/Objective	3	.30
	Painted Substances	4	.39		Scraping	3	.30
	Waste Substance	4	.39		Micro/Macro/Fine Tuning	3	.30
	Solution	2	.20		Preparate /Preparation	2	.20
	Round/Oval	2	.20		Section Examine	1	.10
	Abundance	2	.20		Crush	1	.10
	Replacement Product	2	.20		Lugol	1	.10
	Colorless	1	.10				
	Metamorphic	1	.10				
	Complexity	1	.10				
	Storage	1	.10				
	Total	**91**	**8.96**		**Total**	**47**	**4.63**

When Table 3 is examined it is observed that there are 16 codes of the theme *"Properties of Ergastic Substances"* and 91 frequencies belonging to these codes. In the theme *"Properties of Ergastic Substances"* the prospective science teachers were mostly used concepts of *"Crystal"*, *"Color Pigments"* and *"Lifeless"* in their semantic mapping. The codes in the theme *"Properties of Ergastic Substances"* had frequency values among 1-7. It can be said that the prospective science teachers partially include the properties of Ergastic Substances in their semantic mapping. It was observed that there are 12 codes of the theme *"Examination of Ergastic Substances"*, and 47 frequencies belonging to these codes. The prospective science teachers mostly included concepts of *"Sectioning/Transverse/Longitudinal/Tangential"* in their semantic mapping. The code number belonging to the theme *"Examination of Ergastic Substances"* and frequency range of codes varied among 1-11.

Table 4. The "Locations of Ergastic Materials" and "Other Organic and Inorganic Substances" themes

Theme	Codes	f	%	Theme	Codes	f	%
Locations of Ergastic Materials	Seed/Seed Embryo Endosperm/Perisperm	15	1.48	Other Organic and Inorganic Substances	Carbohydrate	29	2.85
	Vacuole	15	1.48		Glucose	15	1.48
	Cytoplasm	14	1.38		Polysaccharide	9	.89
	Cell Wall	13	1.28		Oxygen	8	.79
	Root	12	1.18		Cellulose	6	.59
	Stem	11	1.08		Fructose	6	.59
	Leaf/Leaf Stalk	11	1.08		Maltose	6	.59
	Cell/Plant Cell	11	1.08		Saccharose	6	.59
	Fruit	10	.98		Hydrogen	6	.59
	Chloroplast/Granum	9	.89		Minerals	6	.59
	Leucoplast	8	.79		Nitrogen	5	.49
	Cellulary Juice	8	.79		Carbon	5	.49
	Amyloplast	6	.59		Sulphur	4	.39
	Plant	5	.49		Phosphor	4	.39
	Flower	4	.39		Monosaccharide	3	.30
	Ribosome	4	.39		Disaccharide	3	.30
	Rhizome	3	.30		Enzyme	3	.30
	DNA-RNA	2	.20		Acid	3	.30
	Epidermis	2	.20		Deoxyribose/Ribose	2	.20
	Tissue	2	.20		NAD/FAD	2	.20
	Organ	2	.20		ATP	2	.20
	Tuber	2	.20		Glycogen	1	.10
	Parenchyma	2	.20		Chitin	1	.10
	Cell Membrane	2	.20		Triose	1	.10
	Transmission Bundles	1	.10		Pentose	1	.10
	Mesophyll	1	.10		Hexose	1	.10
	Stoma	1	.10		Galactose	1	.10
	Peroxisome	1	.10		Lactose	1	.10
	Plastid	1	.10		Polymer	1	.10
					Carboxyl Group	1	.10
					Carbondioxyde	1	.10
					Water	1	.10
					Potassium Iodide	1	.10
					Alcohol	1	.10
	Total	**178**	**17.52**		**Total**	**146**	**14.37**

When Table 4 was examined it was observed that there were 29 codes belonging to the theme *"Locations of Ergastic Materials"*, and 178 frequencies of these codes. In the prospective science teachers' semantic mapping, they mostly included the concepts of *"Seed/Seed Embryo Endosperm/Perisperm"*, *"Vacuole"*, *"Cytoplasm"*, *"Cell Wall"*, *"Root"*, *"Stem"*, *"Leaf/Leaf Stalk"*, *"Cell/Plant Cell"*, and *"Fruit"* in the theme *"Locations of Ergastic Substances"*. When the frequencies of the mostly used concepts were examined, they were observed to vary among 10-15. It was observed that there are 34 codes and 146 frequencies belonging to these codes regarding the theme *"Other Organic and Inorganic Substances"*. In the theme of *"Other Organic and Inorganic Substances"*, the prospective science teachers used the concepts of *"Carbohydrate"* and *"Glucose"*. The prospective science teachers gave place to 34 different inorganic and organic substances belonging to the theme *"Other Organic and Inorganic Substances"*.

4. Discussion, Conclusion and Recommendations

The importance of concept teaching in science education has been constantly increasing from past to present. In this part, the conclusions and the causes of the findings obtained from this study, which was carried out with the aims of investigation of prospective science teachers' understandings on ergastic substances with the semantic mappings were included with a discussion of literature.

The prospective science teachers made groupings considering the types of Ergastic Substances and their location in plants (Table 1). It was observed that the codes mostly used by the prospective science teachers in the theme *"Types of Ergastic Substances"*, were generally the concepts in the experiments they made (Table 2). According to the findings obtained from the research, it can be said that in the semantic mapping, the prospective science teachers used most of the concepts related to Ergastic Substances in the experiments did this study. It may be due to the fact that the prospective science teachers conducted experiments on the subject of Ergastic Substances, saw the types of Ergastic Substances and their locations in plants by using microscope and that this process attracted attention. Ergastic Substances are a subject of biology. One of the most important elements when teaching biology subjects such as Ergastic Substances is material (Berck, 1999). It is important to use real objects and models as teaching materials and tools in teaching concepts (Clements, 1999; Fidan, 2008; Nalçacı & Ercoşkun, 2005; Ornstein & Lasley, 2000; Seferoğlu, 2015). The reasons why the use of real items and models as instructional materials and tools in the lessons are effective in learning are that they concretize, provide generalization, are interesting and provide permanent learning (Çelik, 2017; Kaya, 2006; Kelly, 2006; Selvi, 2008; Senemoğlu, 2001).

The prospective science teachers usedthe concepts of *"Oils/Steroid/Phospholipid/Ester Bonds/Glycerol"* in their semantic mapping. Besides, they included 23 different plants in the theme *"The Plants Containing Ergastic Substances"* (Table 2). Within the scope of the study, the prospective science teachers conducted the experiments using 9 plants. When the semantic mappings were examined, it was seen that the prospective science teachers included 14 different plants that they did not use in experiments. In other words, the concepts which were not included in the experiments were also included in the semantic mapping. This may be due to the fact that the prospective science teachers have designed and implemented all stages, including the stage of preparing experiments themselves (experiments and semantic mapping of concepts), that learning by doing and living was realized and that they needed to investigate different sources to be able to make designing. Conducting experiments activates the acquired knowledge, develops critical thinking, understanding science, processing and psychomotor skills, encourages students to conduct research, and enables students to transfer the information to his/her life and use it (Çepni & Ayvacı, 2006; Kesercioğlu, Balım, Öztürk & Çavaş, 2004; Yazıcı & Kurt, 2018). When the related literature was examined, it was seen that there were studies indicating that the prospective science teachers' designing experiments by conducting researches using different sources also contributed to their learning the concepts not included in the experiments (Alkan, 2013; Lowe, Newcombe & Stumpers, 2012; Olympiou & Zacharias, 2012).

In the semantic mapping formed by the prospective science teachers in the theme *"Other Organic and Inorganic Substances"*, it was seen that 34 different organic and inorganic substances exist with 146 frequency distributions (Table 4). According to the findings obtained, the prospective science teachers' including organic and inorganic substances in their semantic mapping this much suggests that they repeated the information they learned in previous lessons and that they could envisage it and it was foreseen that this situation would provide many benefits to the prospective science teachers. Revitalizing the previous knowledge in the mind enables the learning to become permanent and to learn the new knowledge better based on the previous knowledge (Güneş, 2007; Köksal & Atalay, 2016; Onan, 2012). Information processing includes short memory, emotional memory and long memory. In short memory, there are more operations in data processing compared to the other memories. The information received in the short-term memory is compared and associated with the information in the long-term memory (Arslan, 2008). It could be said that the prospective science teachers integrated the information contained in the long-term memory with the information contained in the short-term memory by establishing relationships between them while preparing the semantic mapping. There is a need for structures that represent large patterns of information in memory. Data structures that represent organized information patterns are called conceptual structures, frameworks, schemas. The schema is the basic framework used to organize information. Schema about the

words that make up a hypothesis allow us to assign different meanings to the sentence. In any case, the schema that is driven by the previous knowledge and meanings influences the way we behave. Many cognitive psychologists believe that schema is the key unit of the comprehension process. Information processing theorists describe the schema as a network of concepts, relationships, and processes in individuals' memories. These semantic mapping ensure the association of relationships, propositions, processes and the newly obtained information with the old ones. In this case, the above-mentioned proposition networks can be considered as sub-sets of schemas. Schemas also directly affect the process of remembering information. The more different schemas are created about information, the faster and easier it is to remember that information. Information does not disappear in long-term memory; but it can be lost. According to Schema Theory, new information is easier to remember if it is placed in a well-developed, appropriate schema (Senemoğlu, 2007). Information should be delivered to students through multiple channels. In the teaching process, not only auditory but also visual channels should be used. These and similar applications will help students form right schemas. The correct schemas formed within this framework will have a positive effect on the schemas that will be formed in subsequent learning (Onan, 2012).

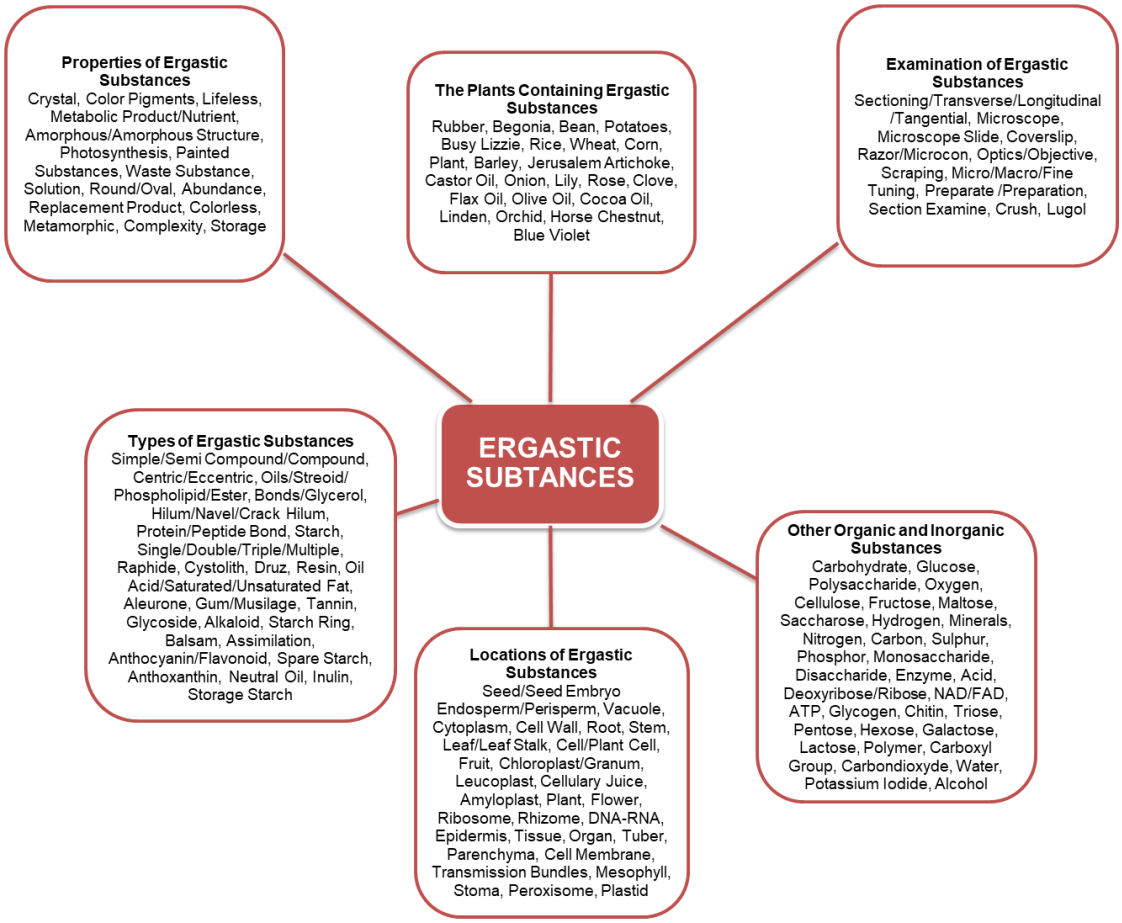
In this study, the prospective science teachers made the experiments and semantic mapping of concepts. While conducting the experiments, the prospective science teachers learned the concepts by processing information into short- and long-term memory. Regarding information that cannot be transferred to long term memory and is in the short-term memory, it may be asserted that they help its transfer to long term memory after preparing semantic mapping and finding the chance to repeat the subjects. In the process of processing information, mental functions predominantly occur in short-term memory. Short term memory has two types of information sources. Information comes from both sensory recording and long-term memory to short-term memory. For the information coming from sensory recording to be transferred from short-term memory to long-term memory, this information must be repeated mentally. Exercise based on repetition allows the information to be kept in short-term memory and the exercise based on assimilation allows the information to pass into long-term memory (Karakaş, 2000).

The prospective science teachers included the least *"Spare Starch"*, *"Anthoxanthin"*, *"Neutral Oil"*, *"Inulin" and "Storage Starch"* concepts in the theme "*Types of Ergastic Substances"* in the semantic mappings (Table 2). When the prospective science teachers examined the preparations, they prepared by tangential section from the petals of flowers under the microscope, they saw the anthoxantin substance. However, this concept was found to exist only in two semantic mapping of concepts. According to the findings of the research, it may be asserted that, while conducting experiments, the prospective science teachers did not fully learn some of the concepts or did not include them in the semantic mappings. It was seen that the prospective science teachersuse30 different places regarding the theme *"The Locations of Ergastic Substances"*, and that their number of repetitions is 178 (Table 4). According to the findings obtained from the research, it may be asserted that the prospective science teachers knew the locations of Ergastic Substances in plants but that they do not fully include them in semantic mappings. The codes mostly used by the prospective science teachersin the theme *"Properties of Ergastic Materials"*, were observed to be crystal structure, colored and lifeless. When the frequency values of colored and lifeless codes were examined, it was seen that they give very little space to these concepts except for the fact that Ergastic Substances were in crystal structure (Table 3). Regarding the properties of Ergastic Substances, explanations should be written in sentences. According to the findings obtained from the research, the fact that the prospective science teachers gave little spaces to the related concepts may be due to the fact that they do not know the definition of the concept completely or do not think that sentences can be included in the semantic mappings. In the study they conducted, Güneş, Dilek, Demir, Hoplan and Çelikoğlu (2010) stated that science teachers rarely use the semantic mappings of concepts in concept teaching. One of the main aims of science education and teaching is to teach the nature of knowledge with the concepts that are its building blocks (Kaya, 2010). The teaching of concepts should be attached more importance when conducting experiments.

According to the results obtained from the research, it can be said that conducting experiments and preparing the semantic mappings of concepts have important contributions to the teaching, researching and associating of concepts. When the related literature was examined, it was found that semantic mappings of concepts and experiments were effective in concept teaching and that their results showed parallelism with

the results of this study (Antonacci, 1991; Candan, 1998; Çepni & Ayvacı, 2006; Dilek & Yürük, 2013; Fitzgerald, Elmore, Kung & Stennen, 2017; Gödek, Polat & Kaya, 2018; Kesercioğlu, Balım, Öztürk & Çavaş, 2004; Lowe, Newcombe & Stumpers, 2012; Olympiou & Zacharias, 2012; Patrizi, Ice & Burgess, 2013; Reza & Azizah, 2019). According to the results of this research, it can be said that prospective science teachers have difficulties to prepare the semantic mappings. In order to eliminate the difficulties, intervals applications will contribute to the literature instead of one-off applications. It is thought that this study will also guide the similar studies, which will be performed in the long term.

According to the findings obtained from 36 semantic mappings prepared by the prospective science teachers on the subject of Ergastic Substances, a final semantic mapping was formed and given in Figure 1. According to the content analysis results of 36 semantic mappings prepared by the prospective science teachers, a semantic mapping containing 6 groups and 140 concepts was formed (Figure 1). The order of importance of the groups in the semantic mapping of concepts was *"Types of Ergastic Substances"*, *"The Plants Containing Ergastic Substances"*, *"Locations of Ergastic Substances"*, *"Other Organic and Inorganic Substances"*, *"Properties of Ergastic Substances" and "Examination of Ergastic Substances"* respectively. The semantic mappings in Figure 1 could be used as a guide material when teaching the subject of Ergastic Substances.



Simple/Semi Compound/Compound, Centric/Eccentric, Oils/Streoid/ Phospholipid/Ester, Bonds/Glycerol, Hilum/Navel/Crack Hilum, Protein/Peptide Bond, Starch, Single/Double/Triple/Multiple, Raphide, Cystolith, Druz, Resin, Oil Acid/Saturated/Unsaturated Fat, Aleurone, Gum/Musilage, Tannin, Glycoside, Alkaloid, Starch Ring, Balsam, Assimilation, Anthocyanin/Flavonoid, Spare Starch, Anthoxanthin, Neutral Oil, Inulin, Storage Starch, Rubber, Begonia, Bean, Potatoes, Busy Lizzie, Rice, Wheat, Corn, Plant, Barley, Jerusalem Artichoke, Castor Oil, Onion, Lily, Rose, Clove, Flax Oil, Olive Oil, Cocoa Oil, Linden, Orchid, Horse Chestnut, Blue Violet, Crystal, Color Pigments, Lifeless, Metabolic Product/Nutrient, Amorphous/Amorphous Structure, Photosynthesis, Painted Substances, Waste Substance, Solution, Round/Oval, Abundance, Replacement Product, Colorless, Metamorphic, Complexity, Storage, Sectioning/Transverse/Longitudinal/Tangential, Microscope, Microscope Slide, Coverslip, Razor/Microcon, Optics/Objective, Scraping, Micro/Macro/Fine Tuning, Preparate /Preparation, Section Examine, Crush, Lugol, Seed/Seed Embryo Endosperm/Perisperm, Vacuole, Cytoplasm, Cell Wall, Root, Stem, Leaf/Leaf Stalk, Cell/Plant Cell, Fruit, Chloroplast/Granum, Leucoplast, Cellulary Juice, Amyloplast, Plant, Flower, Ribosome, Rhizome, DNA-RNA, Epidermis, Tissue, Organ, Tuber, Parenchyma, Cell Membrane, Transmission Bundles, Mesophyll, Stoma, Peroxisome, Plastid, Carbohydrate, Glucose, Polysaccharide, Oxygen, Cellulose, Fructose, Maltose, Saccharose, Hydrogen, Minerals, Nitrogen, Carbon, Sulphur, Phosphor, Monosaccharide, Disaccharide, Enzyme, Acid, Deoxyribose/Ribose, NAD/FAD, ATP, Glycogen, Chitin, Triose, Pentose, Hexose, Galactose, Lactose, Polymer, Carboxyl Group, Carbondioxyde, Water, Potassium Iodide, Alcohol

Figure 1. A final semantic mapping of concepts in Ergastic substances

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The First Attempt to Establish an Accreditation System in Turkish Teacher Training History*

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ABSTRACT

The present study aimed to investigate the process of the establishment of the first accreditation system in teacher training in Turkish history. The study was designed with the phenomenology method, a qualitative research design. The study group was determined with criterion sampling, a purposive sampling method. The study data were analyzed with descriptive method. The study findings demonstrated that the participants stated that the project scope and structure were adequate based on the basic components since it was sufficient for the current conditions, it included adequate manuals based on the standards, pilot schemes were conducted, it was a systematic approach, it included reporting activities, trained evaluators, included instructions and rules, and stated that the project was inadequate due to the lack of legislation, human resources, material shortcomings, and since it contradicted the reality about the quality and quantity of the faculties of education in Turkey, it was not beneficial for the faculties of educational sciences, it becomes static due to the obligation of the compliance with curricula, the lack of sufficient number of program developers, the presence of field educators, and the inadequacy of the project workers. The study findings revealed the following on the contribution of the project to the development of Turkish quality assurance: Self-evaluation, setting an example for other accreditation organizations, development of an infrastructure, at least promotion of the name, external evaluation, outcomes assessment, system control, and the foundation of EPDAD.

Keywords:
Accreditation, quality assurance, Turkey, teacher training

1. Introduction

Globalization led to movements of change and innovation in the field of education similar to several fields. Due these changes and transformations in the field of education, quality became an important requirement. Thus, nations prioritized quality in every field of education, especially accreditation research were conducted in education and accreditation systems were implemented in almost all countries in the world. The most important condition for development, progress and getting ahead of the developments in the present times is quality education. Thus, it is vital to train qualified teachers to provide a qualified education for the students. And qualified teachers are trained in a quality education process, especially during teacher training, which would significantly affect the qualification of the teachers. To assure quality, countries continue to implement quality assurance systems. According to Kis (2005), there are three main approaches (accreditation, evaluation and inspection) to establishing quality assurance. One of these approaches, accreditation, "is a method

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developed to assure the quality of programs and services offered in several countries and industries with a systematic approach.In higher education, accreditation is used *(i)* to improve the quality of education and instruction, and to continuously advance education with a systematic approach, *(ii)* to assure the quality of education and instruction, and *(iii)* to assure that the quality of education and instruction in higher education is consistent with certain standards" (EPDAD, 2016). Accreditation helps institutions and programs to determine whether an institution or program meets certain criteria, and whether the institution or program are acceptable (MACTE, 2016). Furthermore, accreditation entails the review of aneducational program or institution that follows specific quality standards based on predetermined quality criteria (Gitta, 2014). Generally, accreditation is the assessment of an institution's capacity to be assigned as a program or a university (Murray, 2000).

Accreditation should generally be conducted to ensure transparency and accountability of various programs (Chaiyaphumthanachok, Tangdhanakanond & Sujiva, 2016). Accreditation is required to train qualified, attentive and competent teachers (Murray, 2000). Accreditation is a key mechanism to assure the quality of preparatory courses in any profession. The primary function of accreditation is to ensure that the graduates of a particular program are qualified and competent professionally. Thus, accreditation could help improve the quality of the profession and development of the quality in pre-service education. By improving the quality, accreditation could be a positive and powerful instrument to raise the status of a profession. Implementation of an accreditation process for teacher training has the potential to strengthen the profession by providing clear guidelines on improving student acceptance standards in teacher training, improving the quality of teachers and school leaders, on introduction to the profession, and progress and career development (Ingvarson, Elliot, Kleinhenz,& McKenzie, 2006). Accreditation could also be considered as a means of improvement. When the standards are high and adequate for the mission of the institution and the process provides peer feedback, it is important to go through accreditation. An accredited university or accredited programs demonstrate that the institution is better than others (Grossman, Sands & Brittingham, 2010).An institution or program seeking accreditation should go through several steps determined by an accreditation body. These steps include a combination of various tasks; preparation of the facts that evidence the success of the institution or program, examination of these evidences and site visit. Accreditation is a trust-based, standards-based, evidence-based, judgement-based, peer-based process (Eaton, 2015).

The first quality assurance organization in higher education was established in the USA (Özer, Gür & Küçükcan, 2010; Buyuran, 2019; Aktan & Gencel, 2010). Higher education accreditation procedures of educational institutions and programs emerged as a non-governmental, peer reviewed instrument to provide a basic level of quality in the USA (MACTE, 2016). The accreditation system implemented inseveral countries was also influenced by the American system (Chaiyaphumthanachok, Tangdhanakanond & Sujiva, 2016). Accreditation was adopted by international institutions (UNESCO, World Bank, OECD) over time (Campos, 2004). In teacher training, the accreditation system practices were based on National Council for Accreditation of Teacher Education (NCATE) activities in 1954.All pioneering nations in accreditation were convinced about implementation between 1989 and 2004 (Wise, 2005). The accreditation process began in Turkey in 1998 with the research visit conducted by the Supreme Council of Higher Education (YOK) staff and academics to England and the United States (Grossman, Sands & Brittingham, 2010).In this process, standards were determined for the accreditation system. These standards included baseline, process and product standards. Then, evidences, indicators and rating scales were developed to measure and evaluate the developed standards (Kavak, 2007).

The initial efforts to develop the first accreditation system in Turkey were in teacher training. These efforts, which started in the 1990s, included the accreditation project for education faculties that was conducted in 1998 within the context of the YOK, World Bank and National Education Development pre-service teacher education project. The development of an accreditation system in education faculties, one of the most important studies conducted in the history of teacher training in Turkey, was started in 1998 and pilot schemes were conducted in various faculties but was not completed. However, despite the distance covered, it was not possible to maintain the initiative for many reasons. The views of the academicians who were involved in the project and witnessed the developments are important to determine the reasons. Thus, the aim of the present study was to determine the views of academicians, who were involved in the project and witnessed the

developments closely and employed in different departments in various universities, on the accreditation project. To conduct better accreditation implementations, the benefits that would be provided by past experiences would reduce the number of future mistakes in the process. Teacher training accreditation activities have been stagnant for a long period of time in Turkey. Thus, the studies conducted on this process could contribute significantly to current accreditation efforts and fill an important gap in the literature.

Literature review conducted on the accreditation studies in teacher training revealed that several studies were conducted on accreditation systems in various countries including Portugal (Campos, 2004), Thailand (Chaiyaphumthanachok, Tangdhanakanond, & Sujiv 2016), Turkey (Grossman, Sands & Brittingham, 2010), UK, USA, and Japan. Furthermore, different accreditation studies were conducted on accreditation reform in teacher training (Murray, 2000), accreditation policies (Ingvarson, Beavis & Kleinhenz, 2007), accreditation and accreditation experiences (Freeman, Simonsen, Briere, & Mac Suga-Gage, 2014; Vlasceanu, Grünberg & Parlea, 2007; Kavak, 1999; Uçar & Levent, 2017), scale development on perceptions towards accreditation (Semerci, 2017), the views of academicians on accreditation (Harvey, 2004), misunderstandings about accreditation (Murray, 2012), the review of national and international trends and applications in teacher training accreditation (Ingvarson, Elliott, Kleinhenz, & McKenzie, 2006; Yılmaz, 2016), and the benefits of accreditation and the problems experienced during the accreditation process (Türel & Altıntaş, 2018).However, there are no studies that aimed to determine the views of the participating academicians about the initial project conducted on teacher training accreditation in Turkish history. Thus, it was suggested that the present study would contribute to the literature. The present study was conducted to investigate the first accreditation system development experience in the history of teacher training in Turkey. Based on this general aim, the following research problems were identified: Was the education faculties accreditation project developed by YOK, the World Bank and National Education Development Project; *(i)*Aequate? *(ii)* Aequate based on basic content and structure? (iii) What are the strengths of the project? *(iii)*What are the weaknesses of the project? (iv) Did the project experience contribute to the development of quality assurance in Turkey?

2. Method

2.1. Research Design

The present study is a qualitative research. The process of establishing the first teacher training accreditation system in Turkish history was investigated with the phenomenology method, a qualitative research design, to investigate the topic in depth.

2.2. The Study Group

In the study, the participants were determined with the criterion sampling method, a purposive sampling method. Thus, the study participants included 8 individuals, 7 of which were involved in the accreditation project. All participants were academicians employed in different departments of education faculties in different universities. Descriptive data on the study participants are as follows:

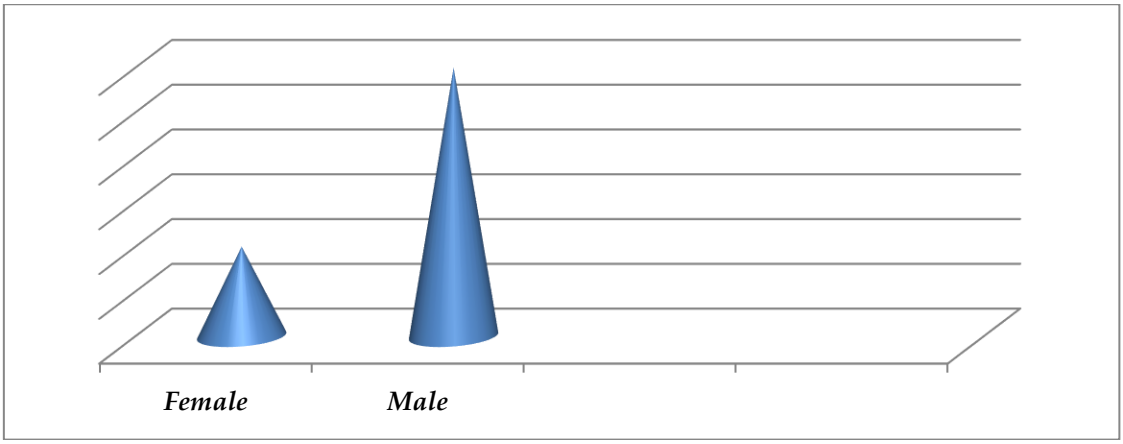

Figure 1. Distribution of the participants by gender

Figure 1 As seen in the figure above, the study group included 2 female, 6 male, a total of 8 participants.

Descriptive data on the departments of the participants are presented below:

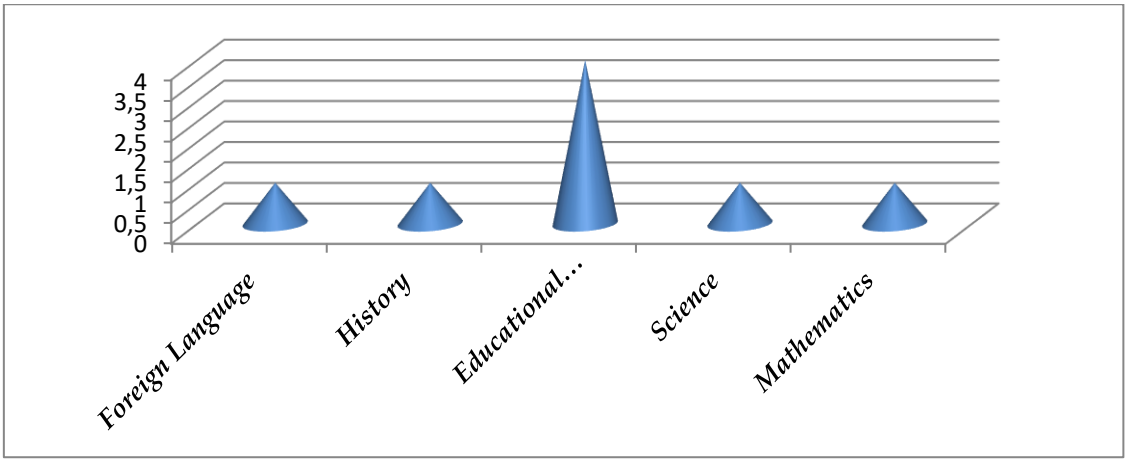

Figure 2. Distribution of the participants according to their departments

The review of the figure above demonstrated that 1 participant was employed in foreign language instruction department, 1 participant was employed in history instruction department,4participantswere employed in educational sciences department, 1 participant was employed in science instruction department, and 1 participant was employed in mathematics instruction department.

3.3. Data Collection and Analysis

The study data were collected with the interview method. Before the interviews, the authors developed the interview questions independently. The authors then combined and discussed about the questions they developed, and the interview form was finalized. The opinions of 3 experts, including 2 educational science professors and 1 field educator, were obtained to determine whether the final interview questions were suitable for the scope of the study and the final version of the interview form was determined based on the expert opinion.

The interviews were recorded after informed consent of the participants was obtained. Interviews lasted for an average of 15 - 20 minutes. Later, the interviews were transcribed.

The study data obtained were analyzed with descriptive analysis techniques. The analysis process included the following steps:

1st Step: Data Coding: In this stage, the data collected from the study participants were reviewed and codes were created for each sub-problem. Also, in this stage, the direct quote examples were selected during the classification of the data.

2nd Step: Development of themes and categories: The study data were analyzed with the descriptive analysis technique. The coded data were categorized under themes. Furthermore, direct quote examples were selected during this stage.

3rd Step: ***Description and interpretation of the findings***: In this stage, the code frequencies were determined based on the theme populations. Then, the concepts listed under the themes and frequencies of which were determined were defined and inferences were obtained with interpretations.

4. Findings

Based on the views of the participants regarding the question of whether the education faculties accreditation project developed by YOK / the World Bank / National Education Development Project was adequate, the following findings were obtained: Based on the views of the participants, 7 participants stated that the accreditation project was an adequate project, and 1 participant stated that the accreditation project was not an adequate project. The reasons stated by the participants who argued that the accreditation project was an adequate project are presented in Table 1.

Table 1. The reasons why the accreditation project was a timely project

Reason	*f*
The project should have been conducted before	2
It aimed to improve quality	2
Renovation of the curricula	2
The fact that compulsory education was extended to 8 years	1
Teacher training became a part of the YOK agenda	1
It was conducted to solve problems in teacher training	1
It expanded higher education	1
It was supported by MNE	1
The fact that YOK took incentive for quality	1

As seen in Table 1, the participants stated the reasons for the timeliness of the accreditation project as follows: The project should have been conducted before (f2), it aimed to improve quality (f2), renovation of the curricula (f2), the fact that compulsory education was extended to 8 years (f1) teacher training became a part of the YOK agenda (f1), it was conducted to solve problems in teacher training (f1), it expanded higher education (f1) and it was supported by MNE (f1).

Direct quotes from the participant interview are presented below:

> *"In 1998, a breakthrough was experienced in Turkish education. Compulsory education was extended to eight years. Education faculties and quality became a topic of discussion in higher education. Thus, in the first stage, a project was developed by YOK on the accreditation of education faculties. In other words, does education faculties train good teachers, what should be done for education faculties to train good teachers? In fact, the project was a very good project, a project that should have started earlier.* (Participant 2)

Table 2. The reasons why the accreditation project was not a timely project

Reasons	*f*
Nothing has been done since then	1
The education faculties were not mentally ready	1
The infrastructures of the education faculties were not ready	1

As seen in Table 2, one participant stated the following among as the reasons why the accreditation project was not an adequate project time wise: Nothing has been done since then (f1), the education faculties were not mentally ready (f1), the infrastructures of the education faculties were not ready (f1).

Direct quotes from the participant interview are presented below:

> *"Time showed if it was early or late. Because the fact that nothing has been done since then has actually shown that education faculties were not ready for the process at that time both mentally and due to their infrastructures. Thus, the study was very consistent, and the teacher training programs were revised, and it was attempted to implement a different perspective. Furthermore, the project intended to include both the internal and external supervision under control, and to include them in education faculties within a different process where the applications could assure quality. It was logical, but early."* (Participant 3)

Table 3. The reasons for the adequacy of the scope and structural components of the accreditation project

The reasons for the adequacy of basic components	*f*
It was adequate for the standards of the day	2
It included a standards handbook	2
Pilot schemes	2
Systematic structure	1
Reporting activities	1
Evaluator training	1
The presence of instructions	1
The presence of rules	1

As seen in Table 3, the following findings were obtained based on the views of the participants about the reasons why the scope and structure of the accreditation project was adequate: It was adequate for the standards of the day (f2), it included a standards handbook (f2), it included pilot schemes (f2), it has a systematic structure (f1), it included reporting activities (f1), it included evaluator training (f1), it included instructions (f1) and rules (f1).

Direct quotes from the participant interview are presented below:

> *"The review of the content of the current program based on the conditions of the day would show that these standards were adequate. But they are not adequate for today. They have already been revised at Anadolu University in Eskişehir. Thus, they were reviewed. But I think those standards should be revised and updated every year. Based on the conditions of the day, they were adequate. In other words, what we call a standard is based on the current conditions and should be revised when the conditions change."* (**Participant 1**)

Table 4. The reasons for the inadequacy of the scope and structural components of the accreditation project

The reasons for the inadequacy of basic components	***f***
Lack of adequate legislation	1
Lack of adequate human resources	1
Lack of material resources	1
Inconsistency with the quality and quantity of the Turkish faculties of education	1
It was detrimental for faculties of educational sciences	1
It becomes static due to the obligation to follow the master curricula	1
The lack of program developers	1
The presence of field educators	1
Inadequacy of project participants	1

As seen in the Table 4, the findings obtained based on the views of the participants about the reasons why the scope and structure of the accreditation project was in adequate were as follows: Lack of adequate legislation (f1), lack of adequate human resources (f1), lack of material resources (f1), inconsistency with the quality and quantity of the Turkish faculties of education (f1), it was detrimental for faculties of educational sciences (f1), it becomes static due to the obligation to follow the master curricula (f1), lack of program developers (f1), presence of field educators (f1), and inadequacy of project participants (f1).

Direct quotes from the participant interview are presented below:

> *"... the scoring system based on the evaluations had no sanction. In other words, YOK did not disaccredit a program as a result of these evaluations. Or did not reward a program. Because, there was no such legislation. When you establish an accreditation system, you need legislation, there was a lack of legislation on deciding whether to enroll students in those programs and to apply those sanctions. Plus, there was a lack of resources. There was a lack of both human and material resources. The only reason for the discontinuation of the work, that was, because we had a certain number of human resources, but it did not continue since there were no financial resources."* (Participant 1)

Table 5. The strengths of the accreditation project

The strengths of the project:	***f***
Availability of training abroad	2
Novelty of the concept	1
Improvements in other physical conditions	1
Systematization	1
Better screening	1
Quality assurance	1
The aim includes sustenance and permanence of that culture	1
The excellence of the possible technical document and reference set	1
The fact that it was a non-hasty teamwork	1
The presence of evaluation tables and rubrics	1
Its contribution to teacher training	1
Self-evaluation by the faculties	1
Program assessment	
Instructional collaboration between faculty members who were trained abroad	1
Instructions by an expert	1

Based on the Table 5, the findings obtained about the strengths of the accreditation project according to the participant views were as follows: Availability of training abroad (f2), novelty of the concept (f1), improvements in other physical conditions (f1), systematization (f1), better screening (f1), quality assurance (f1), the aim includes sustenance and permanence of that culture (f1), the excellence of the possible technical document and reference set (f1), the fact that it was a non-hasty teamwork (f1), the presence of evaluation

tables and rubrics (f1), its contribution to teacher training(f1) stated that the project is a strong project due to the faculties' self-evaluation (f1), program assessment (f1), instructional collaboration between faculty members who were trained abroad (f1), and instructions by an expert (f1).

Direct quotes from the participant interview are presented below:

> *"It is possible to say the following about the project's strengths; Barbara Brittingham, who was invited to Turkey for the project, has important work on the accreditation system in the United States and, until recently, she participated actively in active work conducted by the boards of management of the largest accreditation bodies in the United States. The project had found an individual who was an expert and brought to Turkey. Therefore, under her guidance, we conducted our work with her, and in fact, we prepared for it as a team of about 20 people then. I think the most important strength of the project was therefore finding someone exactly a specialist to respond to the needs of Turkey."* (Participant 8)

Table 6. The weaknesses of the accreditation project

The weaknesses of the project	**f**
Lack of an impartial independent evaluator	3
Lack of sustainability	3
Non-readiness of the faculties	2
Lack of supporting resources	2
Inconsistency with Turkish reality	1
Lack of infrastructure	1
Unfamiliarity of the concept in Turkey	1
Poor enforcement	1
Accreditation acceptance standards are determined by another organization	1
Low motivation in faculties of education	1
Insufficient promotion	1
Indecisiveness at YOK about accreditation	1
The fact that the team was not accredited	1
Inconsistent criteria in faculty selection	1
Inadequate knowledge among field professors	1
Lack of programmers	1
Lack of knowledge about the significance of teaching profession	1
Awareness of quality	1
The presence of pedagogical formation	1
Incomprehensibility of the concepts in the project	1

Based on the Table 6,on the weaknesses of the accreditation project, the following findings were obtained: Lack of an impartial independent evaluator (f3), lack of sustainability (f3), non-readiness of the faculties (f2), lack of supporting resources (f2), inconsistency with Turkish reality (f1), lack of infrastructure (f1), unfamiliarity of the concept in Turkey (f1), poor enforcement (f1), accreditation acceptance standards are determined by another organization (f1), low motivation in faculties of education (f1), insufficient promotion (f1) , indecisiveness at YOK about accreditation (f1), the fact that the team was not accredited (f1), inconsistent criteria in faculty selection (f1), inadequate knowledge among field professors (f1), lack of programmers (f1), lack of knowledge about the significance of teaching profession (f1), awareness of quality (f1), presence of pedagogical formation (f1), and incomprehensibility of the concepts in the project (f1).

Direct quotes from the participant interview are presented below:

> **Participant 1:***"... if you cannot achieve sustainability, you will not comply with the accreditation philosophy, that is, its unsustainability was its weakness. There were no supportive resources. But can the system be established, it could be established and improved, but it would not work only with the association or the devotion of certain people. Support from the state Higher Education Council, universities or independent units is required. These things would not work as an association or by the efforts of a few people."*

Table 7. The contributions of the accreditation project experience to the development of quality assurance in Turkey

Its contributions to the development of quality assurance	f
Self-evaluation	2
Providing an example for other accreditation bodies	2
Creating an infrastructure	2
Promotion of the concept of accreditation at the least	2
External evaluation	1
Providing a roadmap for the development process	1
Analysis of the outputs	1
System control	1
The fact that accredited programs will be mentioned in OSYM guidebook	1
Foundation of EPDAD	1

Based on the Table 7, the following findings were obtained on the contribution of the accreditation project experience to the development of quality assurance in Turkey based on the views of the participants: Self-evaluation (f2), Providing an example for other accreditation bodies (f2), creating an infrastructure (f2), Promotion of the concept of accreditation at the least (f2), external evaluation (f1), providing a roadmap for the development process (f1), analysis of the outputs (f1) system control (f1), the fact that accredited programs will be mentioned in OSYM guidebook (f1), and foundation of EPDAD (f1).

Direct quotes from the participant interview are presented below:

> *"As I said before, this was a first for Turkey, and then after the engineering faculties founded MUDEK, when I was there, the accreditation members of MUDEK were at the university where I worked and when (s) he asked me how did you do this work, I explained and have him (her) a copy of the book. It is not possible for me to know how much they benefitted from it, but ultimately, they found that such a thing existed while doing research on the internet and they came and asked us. How did you do it? So, it more or less was the first spark in Turkey or was exemplary for others, today almost all faculties in Turkey are in an effort to establish the accreditation system."*(Participant 8)

4.Discussion, Conclusion and Recommendations

The findings obtained in the present study conducted to investigate the system construction experience process in the first accreditation study in teacher training in Turkey included the following: On the timeliness of the accreditation project, 7 participants stated that it was timely and 1 participant stated that it was not. The participants mentioned the following as the reasons for the timeliness of the accreditation project: The project should have been conducted before, it aimed to improve quality, renovation of the curricula, the fact that compulsory education was extended to 8 years, teacher training became a part of the YOK agenda, it was conducted to solve problems in teacher training, it expanded higher education, and it was supported by MNE. According to YOK (2007), the increase in the number of students in higher education institutions during recent years and certain developments experienced in this process introduced the problem of "quality assurance" in all countries. As a result, accreditation systems have been established in several regions in the world. Thus, the most important reason behind the current global accreditation movements was the necessity of this application. For this reason, accreditation activities have become popular.

Only one participant stated that the accreditation project was not timely due to the fact that nothing has been done since then, the education faculties were not mentally ready, and the infrastructures of the education faculties were not adequate. According to Özer, Gür and Küçükcan (2010), any breakthrough in establishing a quality assurance system would add to the bureaucratic burden in higher education institutions when it is conducted without determining the status of the global education systems. If quality assurance is not internalized in the society, any steps taken to implement quality assurance would fail. According to Şişman (2009), like several countries, changes in education are developed by the administration. However, if the beneficiaries of the change are not included in the process and when the process does not produce solutions to their problems, it is not possible to get results from such an initiative. In this process, according to Yiğit (2017), academic and administrative staff in universities developed resistance due to the increasing bureaucratic burden in higher education institutions, leading to several problems. Thus, the analysis of the

accreditation practices conducted in this process would demonstrate that the faculties were not mentally ready. The fact that the application was an unknown concept since it was implemented for the first time in Turkey and the lack of accreditation infrastructure in the country led to a long stagnation in accreditation work.

The participants stated the following on the adequacy of the project based on the basic components of scope and structure: It was adequate for the standards of the day, it included a standards handbook, it included pilot schemes, it has a systematic structure, it included reporting activities, it included evaluator training, it included instructions and rules. Accreditation basically consists of standards. Standards determine the elements that the programs should possessor's accreditation in any higher education program. Reporting activities and training evaluators are also important elements in the accreditation process. The review of the first accreditation system attempts in Turkey based on the scope and structure would demonstrate that significant phases of the system such as establishing standards, reporting activities, evaluator training, and pilot schemes have been completed.

Based on the study findings, the participants stated the following on the inadequacy of the project based on the basic components of scope and structure: Lack of adequate legislation, lack of adequate human resources, lack of material resources, inconsistency with the quality and quantity of the Turkish faculties of education, it was detrimental for faculties of educational sciences, it becomes static due to the obligation to follow the master curricula, lack of program developers, presence of field educators, and inadequacy of project participants. According to Harvey (2004), accreditation is usually a political process. It is mainly associated with the change in authority. According to Doğan (1999), these practices are basically voluntary. However, the first application in Turkish teacher training accreditation became a bureaucratic structure, losing the principle of volunteerism. Also, the first accreditation attempt in Turkish educational history included certain philosophical and educational mistakes. The reason for this was that the countries that the application was modeled after were not fully understood. To state it more clearly, there were problems that arose from the fact that the global changes were not grasped adequately. Thus, the analysis of the project based on the basic components of scope and structure demonstrated that the lack of adequate number of project staff, financial problems, and the fact that the country was not ready for accreditation both mentally and financially were the major obstacles.

The findings obtained with the views of the participants on the strengths of the accreditation project are as follows: Availability of training abroad, novelty of the concept, improvements in other physical conditions, systematization, better screening, quality assurance, the aim includes sustenance and permanence of that culture, the excellence of the possible technical document and reference set, the fact that it was a non-hasty teamwork, the presence of evaluation tables and rubrics, its contribution to teacher training, the project is a strong project due to the faculties' self-evaluation, program assessment, instructional collaboration between faculty members who were trained abroad, and instructions by an expert. According to Türel and Altuntaş (2018), most faculties and universities in the world considered accreditation is important to improve the "brand value;" and thus, certain departments were more attractive to students. They also believed that it facilitated the employment opportunities for the graduates. The accreditation of the programs in universities reflects that the quality of these programs is assured and facilitates promotion of these programs. According to Grossman, Sands & Brittingham (2010), the initiative on accreditation in Turkish education faculties in 1998-2000 was a very important start. It is still important in establishing the national quality standards. Thus, in the first accreditation attempt in the history of Turkish education, the facts that training abroad was available, the project introduced several improvements in the country in several fields, ensured quality and standards, teamwork, training from experts, evaluation of the faculties and programs, and establishment of that culture were the strengths of the project.

The findings obtained about the weaknesses of the project were as follows: Lack of an impartial independent evaluator, lack of sustainability, non-readiness of the faculties, lack of supporting resources, inconsistency with Turkish reality, lack of infrastructure, unfamiliarity of the concept in Turkey, poor enforcement, accreditation acceptance standards are determined by another organization, low motivation in faculties of education, insufficient promotion, indecisiveness at YOK about accreditation, the fact that the team was not accredited, inconsistent criteria in faculty selection, inadequate knowledge among field professors, lack of programmers, lack of knowledge about the significance of teaching profession, awareness of quality, presence

of pedagogical formation, and incomprehensibility of the concepts in the project. The study findings demonstrated that the project had several weaknesses. According to Gür (2012), the review of the applications in other countries demonstrated that certain experiments were conducted initially to test the targeted changes. But the changes made in Turkey were transferred from Europe and directly implemented most of the time. The problem is the lack of preliminary analysis of the changes made in Turkey. In particular, there was a significant lack of analysis as to whether the quality assurance implementations conducted in other nations would be suitable for Turkey at that time. Thus, it could be concluded that this initiative was not adequate for the conditions of that period in Turkey. Furthermore, based on the present study findings, for successful implementation of accreditation in any country, individuals should first believe in the necessity of a quality culture. According to Gitta (2014), internal quality represents the essence of academic quality. Therefore, it is important for individuals to have a quality culture.

Based on the study findings, the following were determined about the contribution of the project to the development of Turkish quality assurance: Self-evaluation, providing an example for other accreditation bodies, creating an infrastructure, promotion of the concept of accreditation at the least, external evaluation, providing a roadmap for the development process, analysis of the outputs, system control, the fact that accredited programs will be mentioned in OSYM guidebook, and foundation of EPDAD. Accreditation has several benefits in education. These include transcription of all institutional procedures, setting standards, and updating programs. Only then, can any educational institution be administered based on the predetermined mission and vision (Türel &Altıntaş, 2018). Thus, accreditation contributes significantly to the development of quality assurance. Therefore, accreditation is a very important requirement for all higher education institutions.

The following could be recommended based on the study findings:

In the present study, the views of academicians involved in the accreditation process on the first accreditation attempts in teacher training in the history of Turkey were investigated. In future studies, current accreditation efforts could be investigated. For accreditation to develop as a culture in Turkey, perceptions of academicians towards the topic could be researched.

The study findings demonstrated that the faculties were not mentally ready for accreditation in those years. Further explanatory conferences and panels could be organized on accreditation in education faculties. The present study findings could assist current accreditation bodies in the determination of past mistakes and solve associated problems in the current organizations. Thus, the efficiency of the current accreditation organizations may be improved further.

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Examining the Experiences of Counselor Trainees towards Practices in Individual Counseling Practicum Course

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ABSTRACT

The aim of this study is to examine the experiences of the counseling trainees regarding the first practices they have carried out within the scope of Individual Counseling Practicum course. In the current study, phenomenological method based on qualitative approach was used. The sample group of the research consists of 20 participants who are senior students of the Counseling and Guidance undergraduate program and have completed their counseling practices. Data were collected through a semi-structured interview form and analyzed by inductive thematic analysis method. The experiences of the trainees were classified under 6 categories as a) the problems faced by trainees, b) the resources they use to solve their problems, c) their perceptions and experiences of their client's culture, d) contributions of the practices to them, e) their preferences for clients and f) the use of Culturally Sensitive Counseling course contents in counseling practices. The findings of the present study concluded that while the trainees were anxious due to the problems which they encountered during the practicum; they enjoyed many contributions of experiencing counseling. Based on the findings, some recommendations were made.

Keywords:[1]
Counselor trainees, counselor education, counselor supervision

1. Introduction

Counseling is a comprehensive aid profession that takes the interaction of the individual with the environment and the sociocultural structure, considering psychopathological dimension and crisis-healing factors (van Hesteren & Ivey, 1990). It is known that unconditional acceptance, empathy, and transparency are among the most basic skills required for this profession. In addition, Cormier and Hackney (2015) mention four counselor competencies becoming prominent in the 21st century: a) prioritizing the wellbeing of the client (virtue), b) developing cultural competence skills concerning client diversity, c) developing information processing and emotion regulation skills, and d) having high resilience in the face of both her/his own problems and the ones of his clients. These competencies seem to be important not only for professional development of counselors, but also for their personal development.

Education is considered as one of the most important steps in professional development of counselors. Counseling and Guidance undergraduate education is the initial and fundamental education pursued to be certified as a counselor in Turkey. In the program, which consists mainly of theoretical courses, the first course in which trainees demonstrate their counseling skills is the "Individual Counseling Practicum" course. In the final year, with the practices made within the scope of this course, trainees are expected to manage the counseling process by combining the theoretical knowledge they acquired in previous years with basic therapeutic skills. A study revealed that 12.8% of the counselors did not practice offering counseling within the scope of Individual Counseling Practicum course and 28.8% of them did not receive supervision (Pamuk

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& Yıldırım, 2016). In addition, most of the counselors stated that they did not receive any counseling/therapy or in-service training after their undergraduate education. This clearly demonstrates the importance of practices in undergraduate education, although being limited, in terms of experiencing counseling and developing therapeutic skills. Meydan's study (2015) concluded that senior trainees practicing counseling and the ones receiving supervision during the practices were better in distinguishing between effective and ineffective content and emotion reflection skills than the ones who did not practice and receive supervision, respectively.

Trainees practicing counseling may become anxious about themselves, their clients, the counseling process and their supervisors (Barbee et al., 2003; Özteke-Kozan, 2018). Cormier and Hackney (2015) classified the common concerns of inexperienced counselors into three categories: a) difficulties in dealing with personal problems, b) all situations causing anxiety in the counseling process, and c) problems in integrating theoretical knowledge into practice. In a qualitative research conducted by Şahin et al. (2019), the trainees who offer counseling reported that although they did not find themselves sufficient about using therapeutic skills, they were trying to improve themselves. Another study concluded that trainees who perceived themselves as sufficient in counseling practices have higher counseling self-efficacy (Bakioğlu & Türküm, 2019). According to Al-Darmaki's study (2004), after the first counseling practicum, trainees' counseling self-efficacy levels increase, and anxiety levels decrease. The trainees receiving regular supervision during the practicum perceive themselves more qualified in terms of counseling skills (Cashwell & Dooley, 2001).

A study examining the research on counselor education between the years 2000 and 2018 concluded that CG undergraduate education was perceived as insufficient due to the reasons such as high number of theoretical lessons, limited counseling practicum and inadequate supervision (Boyacı, 2018). Additionally, the fact that the CG programs includes mostly school-oriented (guidance) courses in Turkey (Ültanır, 2005) may cause the counseling dimension to be limited. As a matter of fact, Tuzgöl-Dost and Keklik (2012) found that the counselors consider themselves inadequate regarding implementing counseling theories into practice, issues related to special education, and working with clinical cases. Counselors can develop therapeutic skills as their education levels (Stein & Lambert, 1995) and practical experiences (Jennings & Skovholt, 1999) increase. Moreover, trainess' professional dispositions (see Korkut-Owen et al., 2014) and reasons for choosing the profession (see Saki, 2018) may affect their professional attitudes and counseling skills. Considering that counselors may be affected by many personal and professional factors, it becomes important to examine the professional development of inexperienced counselors. Therefore, the present study explores the senior CG students' experiences in the counseling process as inexperienced counselors. In this way, it is aimed to obtain in-depth information about the trainees' perceptions of their clients and the counseling process, the problems they encounter in this process, and their experiences of the client's similarities and differences. The results of the present study may contribute to the formulation and editing of the course content for all academicians in the CG undergraduate and graduate programs, especially for the lecturers of the Individual Counseling Practicum course. In addition, this study aims to increase the awareness of counselors about counseling skills and process. Moreover, the results of the current study may provide researchers for new research in the related literature. The research questions are given below: *(i)* How do trainees experience of being a counselor for the first time? *(ii)* How do trainees' personality traits and cultural structures reflect on counseling practices? *(iii)* How or in what way do counseling practices affect trainees?

2. Method

2. 1. Research Model

In the present study, based on the interpretative paradigm, the phenomenological method based on the qualitative approach was utilized. Using this method, it is aimed to gain insight over a phenomenon of which the individuals have awareness but desire to obtain more details through the experiences and perceptions pertaining to that specific phenomenon (Yıldırım & Şimşek, 2013, p. 78). In this study, the first counseling practices of the counselor trainees were considered as a phenomenon and it was aimed to obtain detailed information about their experiences in these practices.

2. 2. Participants

The sample group consisted of 20 senior CG students studying at Trabzon University and taking the Individual Counseling Practicum Course. Participants (P1, P2, …, P20) were selected using purposive sampling strategy. Purposeful sampling is the process of selecting accessible individuals who can contribute to the research with their experiences related to the researched phenomenon (Creswell, 2017, p. 108). In this context, 20 participants who have completed or are about to complete their practices within the scope of the Individual Counseling Practicum course and willing to participate in the research were included in the study. Half of the participants were female (n = 10), half of them were male (n = 10) and the average age was 21.9 years. Unlike the other 6 participants, 14 of the participants stated that they preferred to this program consciously and willingly.

2. 3. Data Collection

Semi-structured interview form was used as a data collection tool. In the first part of the form, there were questions regarding the demographic information of the participants. In the second part, some questions about trainees' reasons for choosing CG undergraduate program, experiences in counseling practices and client preferences were included. To examine whether the prepared questions were comprehensible and could elicit answers for the research questions, the assistance of two experts were sought. In addition to this, comprehensibility of the questions was tested by interviewing with two students who were not included in the research group (the pilot study). After the participants were informed about privacy and voice recording, the interviews were recorded using a smartphone.

2. 4. Data Analysis

Data obtained from the interviews were transcribed verbatim and analyzed according to thematic analysis method based on the inductive approach. Inductive thematic analysis can be defined as the process of coding the data without relying on preexisted codes, and creating themes (Braun & Clarke, 2006). Thematic analysis consists of six stages: 1) getting familiar with the research data by repeatedly reading them, b) creating the initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) preparing report (Braun & Clarke, 2006). In this context, data arising from the experiences of the participants regarding the counseling practices were analyzed, codes were generated, and themes were identified from the codes. The themes and the sub-themes were described by giving quotations from the interviews of the participants sufficiently.

2. 5. Qualification and Ethics in the Current Research

Validity in qualitative research means that the findings of the research are true and reflect what is happening, while reliability means that the findings are consistent with investigations repeated in different conditions by different researchers (Gibbs, 2007, p. 91). To ensure the validity of qualitative research, Creswell (2014) proposes that the findings should be shared with and confirmed by the participants. Accordingly, themes including quotations of each participant were presented to her/him and it was confirmed whether the findings reflect their experiences. Supporting research findings with direct quotations is also one of the strategies that enhance validity in qualitative research (Yıldırım & Şimşek, 2013). To ensure validity, the researchers also received help from an independent investigator at various stages of the study (see Creswell, 2014).

To ensure the reliability, the process from the description the demographic properties of the participants to the end of the analyses was explained in a comprehensible manner. Yıldırım and Şimşek (2013) suggest that it is very important to explain the analysis process in detail to ensure consistency with similar research. Also, as in this study, strategies such as making constant comparisons, taking notes, and reviewing transcripts continuously during coding increase the reliability of the analyses (Gibbs, 2007, p. 98). Another tool to ensure reliability is to confirm the clarity of the questions through pilot interviews.

In qualitative research, some ethical problems may arise at every stage, mostly in the data collection process (Creswell, 2017). In this study, in order to prevent possible ethical problems, participants were given comprehensive information about the purpose of the research, data collection process and the principles of confidentiality. The research was carried out with volunteers. Before the interview, the participants were also informed that the expressions which they used in the interviews would be omitted and not used as data if they

did not want these expressions to be exposed. In this way, it was observed that the participants expressed themselves comfortably.

3. Findings

In this section, the data obtained from the interviews about practicum experiences of the counseling trainees were classified under six categories. These are: a) the problems faced by trainees, b) the resources they use to solve these problems, c) their perceptions and experiences of their client's culture, d) contributions of the practices to them , e) their preferences for clients and f) the use of Culturally Sensitive Counseling course contents in counseling practices.

3. 1. First Category: Problems Faced During Practicum

The problems faced by the trainees in the Individual Counseling Practicum course and counseling practices were classified under three themes and summarized in Table 1.

Table 1. Problems that Trainees Faced During Practices

Themes	Sub-themes
Personal Problems	Being affected by client's problems (2) Reflecting personal problems to counseling (2)
Problems pertaining to Counseling	Finding clients (4) Arranging a time (4) Concerns about managing the session (8) Inadequate counseling skills (9)
Problems pertaining to Supervision	Lack of communicating with the supervisor (3) Negative attitudes of the supervisor (1) Audio-recording of the sessions (2)

As shown in Table 1, being affected by the client's problems, and reflecting personal problems to the counseling were the personal problems that the trainees encountered during their practices. The statements of P4 and P2 regarding these problems are as follows:

> *Of course, I had problems that I experienced. Sometimes I had to spare time for them and there were times that I wondered if I could manage the counseling. .... Would I reflect this (problem) to the client, would my client detect it? (P4).*

> *… a client with whom I pre-interviewed had lost his girlfriend and it (the pain) was very fresh, nearly a week. He talked about how he lost her and shared all the details. .... Another of my clients had gotten divorced. She talked about some of the things that her husband said about her, which also impressed me a lot, because there was severe psychological violence. And I had to refer these two ones (without starting to offer counseling) (P2).*

Four sub-themes were generated to describe the problems of the trainees regarding the counseling process: finding clients, arranging a time, concerns about managing the session, and inadequate counseling skills. Some trainees had problems starting with finding clients, which is the first stage of the course. P10 stated about his potential clients that *"There were various reactions such as 'I don't want to talk', 'How competent are you in this field?', 'What is your level?', 'You are also a student like me, how can you help me?"*. Another problem of the trainees related to the counseling process was to arrange a time and comply with that time. The statements of P17 on this matter are as follows: *"My male client came late sometimes, sometimes he wanted to postpone the session."*

About half of the trainees (n = 8) stated that they were worried about whether they could successfully carry out the counseling process. P1 made the following statements regarding himself through the counseling process:

> *For example, there was a state of panic brought by inexperience. Listening to the other person was also a problem. …. I had questions in my mind to ask. I was making a road map on the paper. Apart from that, according to what the client said, there were turnovers. It was a problem for me to go to those turnovers at first. When the client said something, I was having trouble changing the subject. …. There was also pressure on me like something… The person in front of me was waiting for something from me. .... When there was a silence, I had to break that silence. It was difficult… (P1).*

Apart from that, the trainees mentioned about the problems pertaining to demonstrating counseling skills:

> *Except for the things that I studied from the book and recommended by my instructor; situations that were not under my control arose. For example, while applying the "miracle question" technique, I asked my client to give a certain answer, (but) he repeatedly gave vague answers. As a result, I seemed to be exhausted for a short time (P7).*
>
> *My client's problem was being introverted, but when he came to me, he was very excited about telling things. He was talking vividly like living the things again. I was expecting him to finish his words, which was taking too long (P13).*
>
> *At the 7th and 8th sessions, he tried to bring problems other than our general topics. I had a hard time here and had to give advice. I didn't know what to do (P15).*
>
> *Clients sometimes do not do their homework. We (trainees) plan what we will do in the (following) session and have difficulty getting out of the plan because they do not do the homework we give (P16).*
>
> *The first sessions challenged me because I just met my client. I was tired of while I was looking for the problem and a way to solve it (P18).*

The problems of the trainees pertaining the supervision were lack of communicating with the supervisor, negative attitudes of the supervisor, and audio-recording of the sessions. P12 and P17 stated that they had difficulties since they almost never communicated with their supervisors, while P14 had problems due to the criticism of her supervisor. P14, expressed the effect of the critical language on her with the statements like:

> *Unfortunately, we did not get along with my supervisor. .... We met every week. He/she was constantly asking: 'Why are you doing this, why are you doing that?' (negative, critical statements) …. At least, if I must speak for myself, I couldn't say exactly what I wanted to say. What if he/she would get angry? (P14)*

P17 expressed the shortcomings caused by not being able to adequately communicate with his supervisor as follows:

> *It was one of the biggest problems I had that I received almost no feedback from my supervisor. .... I'm sure I made a lot of mistakes because there was no controlling and I didn't know this job... I may have given harm to my client (P17).*

Another problem during the supervision period was the uneasiness caused by the audio-recordings taken in the sessions both for the trainees and the clients:

> *Voice recording affects them (clients) a lot. It affects us, too, but we can forget about it after 2-3 sessions, but my clients were constantly focusing on the fact that their voices were being recorded, looking at the clock, (asking to me after the sessions that) 'Did I say something wrong, will your teacher be angry with you?' (P11).*
>
> *Maybe it would be better if there was no audio-recording. Because when I recorded (the session), I felt stressed. The instructor would also listen to this audio-recording and grade us, so I may have had difficulty at this point (P8).*

3. 2. Second Category: Resources Used to Solve the Problems

The resources used by the trainees to solve the problems that they faced during the practices are summarized in Table 2.

Table 2. Resources Used by the Trainees in Problem Solving

Themes	n
Supervisor	15
Scientific sources such as books and articles	13
Classmates	10
Counseling videos on YouTube	2

Most of the trainees (n = 15) received help from their supervisors to solve their problems during the practices. P1 mentioned the support he received from his supervisor as follows: *"… the advices of my supervisor .... It was very helpful to receive feedback like 'You could do that here; you could be more careful here' about the audio-record (while the supervisor listening to record)"*

Other than supervisor, the second most utilized sources of the trainees (n = 13) were the scientific sources such as books and articles. Moreover, half of the trainees (n = 10) examined their classmates' practices of counseling and/or consulted them about their own practices. Two trainees reported that they watched videos to improve their counseling skills. The statements of P11, who applied to many sources in this process, are as follows:

> *I also gave importance to the thoughts of my friends and sought advice from them: 'What would you do if you were me?' Some others had difficulty staying in focus like me. I read what I can do. I watched videos. When we met at Individual Counseling Practicum (course) meetings, my friends were sharing their opinions there, as well. It was also effective to explain myself (my problems). I told my instructor about these (problems). The feedback I received from him/her was also efficient, (otherwise) I may have had to leave (my client). I didn't want to harm the other person, wanted to do (achieve) (P11).*

3. 3. Third Category: Perceptions and Experiences of the Client Culture

The trainees' perceptions and experiences of their clients' culture consisted of 2 themes and a total of 4 sub-themes and are summarized in Table 3.

Table 3. Perceptions and Experiences of the Client Culture

Themes	Sub-themes
Cultural Similarities	Empathy (5)
	Trust (2)
Cultural Differences	Maintaining therapeutic relationship (2)
	Adjusting to the client's spoken language (3)

According to Table 3, the trainees stated that they could better understand the clients who have similar cultural background with them and that there was a relationship of trust between them depend on this similarity. The statements of the two trainees regarding these sub-themes are as follows:

> *While I was talking to my female client, (realized that) we both experienced the same situations. Thus, we understood each other better because we come from the same culture (P13).*

> *If you have a client from a different culture, he/she may not want to continue. It is easy to develop therapeutic relationship like this (refers the cultural similarity). We don't have any trust issues. …. You earn trust more easily in the same culture. …. When our accent is similar, I feel comfortable, too. …. For example, similar family structure... Thus, I feel more secure (P9).*

Half of the trainees (n = 10) reported that they had no cultural differences with their clients. Other trainees expressed the differences in religious beliefs or Turkish accent used by the clients. Trainees whose religious beliefs differed from their clients were concerned about the fact that the therapeutic relationship would be deteriorated. P4 mentioned her experiences as follows:

> *…. I think I inevitably indicated my religious belief in my clothing. I had problems with his perception of me. I thought 'Does he look at me with prejudice? Does he see me differently? Doesn't he disclose himself to me?' Of course, the things what he told me were wrong for me, but I came through (P4).*

The trainees quickly adapted to the differences in the Turkish accents of their clients. When P9 would reflect content to his client, he empathizes with his client by using his accent: *"When he said something, I reflected it in his own accent. I didn't find him strange, didn't judge him."*

3. 4. Fourth Category: Contributions of the Practices

Contributions of the practices within the scope of Individual Counseling Practicum course to the trainees consisted of 3 themes and a total of 8 sub-themes and are summarized in Table 4.

Table 4. Contributions of Practices to Trainees

Themes	Sub-themes
Contributions towards Gaining Experience	Opportunity to experience counseling (12) Increased self-reliance in being able to be succeed (8)
Contributions towards Counseling Skills	Putting theory into practice (4) Developing therapeutic relationship (2) The use of mimics (1) Realistic expectations (1)
Personal Contributions	Applying the information to the self (1) Loving the profession (1)

According to Table 4, the contribution of the practices towards gaining experience was to provide opportunity to experience counseling and to increase self-reliance in being able to be succeed. Examples of the trainees' statements regarding these gains are in below:

> *I already had the technical things (information). The method (theory and techniques) of therapy, how the environment should be, rules… But it was the first time to practice them. …. And it was a very educational process for me because I did this with a qualified supervisor (P1).*
>
> *In fact, this is the first time we've done. When I started these sessions, I was very worried about how it would be like. But as I said (before), I'm going to have the last session today and I'm not worried at all (P14).*
>
> *Initially, practicing seemed distant to us; by practicing counseling both we see our mistakes and seeing what we can do is creating a good effect, it promotes our self-confidence (P6).*

Contribution of counseling practices toward the use of techniques and skills included putting the theory into practice, developing therapeutic relationship, awareness of the use of mimic, and realistic expectations. Some of the statements of the trainees regarding these gains are given below:

> *No matter how much theory we see, it does not have much effect in practice without experience. As a matter of fact, we learned many things in the period for 3 years in terms of theories but seeing what I could do in practice and what I couldn't do, I could say, was worth those 3 years (P3).*
>
> *Every person is a different person. I learned to enter the world of that person and do healthy things in that world. I learned how difficult it is to establish intimacy but still very beautiful (P18).*
>
> *My face was facing the window. Her face was towards to me. I could see my face reflected the glass. At that moment, I focused on my own face while she was telling. .... I was not shedding tears, but my face was stiff. .... I told myself 'Is this my facial expression?' and I really realized the gestures and facial expressions. .... After that I started to pay attention to this. .... I chose a specific facial expression to myself in front of the mirror. I can say that I tried to use gestures and mimicry in that way while she was talking to me in the sessions anymore. We should not have high expectation. I learned this. You start (by saying) "I'll come through, everything will go very well. I will increase the score from 50 to 100 (on the rating scale)", but you notice that the situation is mediocre. .... It is impossible to raise a person who does not have significant background over 100 in a period of 8 weeks (P8).*

Finally, the personal contributions of the practices include two sub-themes: applying the information to the self and loving the profession. Statements of P4 who did not choose the profession willingly and of P11 regarding these sub-themes are as follows:

> *In fact, as I did not enroll to the department very consciously, I always thought during the training. "Am I really where I belong? But in counseling practices, I noticed that I have already liked the department (since before) or loved it later by help of the practices (P4).*
>
> *Sometimes I can experience the same things that the client report. .... I was telling myself that "You told these (to the client) but how good are you in this subject? What can you do?" .... When I thought about the things I read, and tried to put them into practice somehow, I noticed that I could succeed some things (P11).*

3. 5. Fifth Category: Trainee Preferences for Clients

The trainees' preferences for clients according to their current knowledge and competences consisted of 3 themes and a total of 15 sub-themes. Themes and sub-themes are presented in Table 5.

Table 5. Trainee Preferences for Clients According to Their Current Knowledge and Competences

Themes	Sub-themes
Desired Clients	Clients with mild problems (13) Clients whose field of problems are known by counselor (2) Clients having similar problems with counselor (2) Clients open to change (1) Clients being willing to solve problems (1)
Challenging Clients	Clients not taking responsibility (5) Clients with severe problems (4) Clients with experiences negatively affecting counselor (4) Clients having similar problems with counselor (3) Resisting clients (2) Conservative (1) Clients with a higher age difference with counselor (1)
Clients to whom trainees were prejudiced	Clients harming to or having a potential to harm people (8) LGBTIQA+ individuals (4) Clients with different religious (1)

According to Table 5, types of clients that the trainees show willingness to offer counseling were those a) with mild problems, b) whose field of problems are known by counselor, c) having similar problems with counselor, d) open to change and e) being willing to solve problems. Examples of trainees' statements about the desired clients are as follows:

… for conducting a good, healthy process in initial stages, simpler problems would be better for me (P3)

I can be more qualified and work more productive with issues of which I have awareness (P18).

I think I can work effectively with the troubles that I observed in myself. For example, focusing attention, sleep, (talking) in front of the crowd (P17).

I can work easily with people who want to change, are really disturbed by their problem, and assert their will to change it (P6).

I want him/her to have a certain degree of self-awareness; for example, to see the problem as a problem and want to take a step… (or) rather, I expect him/her to say that he/she really wants that (P5).

Types of clients that the trainees may have difficulty in offering counseling were those a) not taking responsibility, b) with severe problems, c) with experiences negatively affecting counselor, d) having similar problems with counselor, e) resisting, f) conservative, g) with a higher age difference with counselor. While clients having a similar problem with counselor were considered as an advantage by a trainee, some trainees considered it more a disadvantage. Examples of the trainees' views on types of clients they may have difficulty with are as follows:

In fact, clients who do not take responsibility are those constantly running away. .... You come to get help but expect everything from others. .... He/she must take responsibility so that I can build something on it (P8).

If I had a chance to choose, I would not choose clients suffering dramatic traumas because I don't think I could reach them enough. …. So, I think it can be difficult to understand them, to become aware of their feelings (P15).

I am an emotional person, too… I may approach them emotionally. …. I don't know how to direct myself on this subject. For example, if someone who are raped cries in front of me, I cry with her (P12).

When the person in front of me tells something that I also experienced... I cannot help him/her correctly for that moment. I may focus more on myself because I've had the same things. Maybe I can talk about myself (P11).

If the client is very resistant, I will have difficulty … (while) helping him/her to disclose himself/herself. I don't consider myself sufficient in this regard (P13).

A person, for example, is closed minded in point of religious beliefs, have restrictions with going to school, talking to the other people. I guess I couldn't proceed with that kind of clients. Or, a client that especially wants a counselor

of the same sex… When the counselor is the opposite sex, he/she shows resistance. I couldn't do with him/her (P16).

If I have an opportunity ... I would like my client to be the same age. .... I and a 40-50 year old or a mature person may approach an event differently. But I and a person of my age group may look through the same window. Except for problematic issues… (P1).

Types of clients to whom counselors might be prejudiced were those a) harming to or having a potential to harm people, b) being LGBTIQA+ and c) with different religious. Some of the trainee views on these situations are given below:

Of course, this is ultimately psychological aid, but I don't think that I will be understanding to a person who killed a woman, a girl. …. When a terrorist, a traitor, who killed my soldier or police, sits in front of me, different events might come to my mind. I feel bad at that moment (in the situations he mentioned) (P7).

Probably in terms of some (sexual, religious) choices (I may have difficulty) … Not about accepting them (such clients), sure… I just don't think I can help them significantly. Sometimes it is difficult to break prejudices. I probably accept them, but I don't know how far I can get through it within my mind (P15).

Both culturally and socially, since we are not directed like this, it can be difficult for me to work with people whose sexual orientation is different (P10).

3. 6. Sixth Category: Use of Culturally Sensitive Counseling (CSC) Course Content in Practices

Half of the trainees (n = 10) stated that they did not benefit from the information they acquired in CSC course since they did not encounter with clients having different cultures. The statements of P7 in this regard are as follows:

My clients were not the clients having very opposite of and different culture from mine. For example, while instructing this course, our teacher was asking: "Would you offer counseling to an Atheist person? Or to a lesbian?" He would ask such crucial questions. .... Since my clients are not very different from my culture, I cannot say that I applied culturally sensitive counseling here (P7).

The other half of the trainees stated that they used the information they acquired in CSC course. The statements of some trainees are given below:

First of all, last year, our teacher emphasized that we should not put the other person in certain stereotypes when we commence (counseling). When a client sits in front of us… Without approaching his/her gender, language, religion, race, dressing style with prejudice… Just because he/she is his/her own self… (He taught that) we need to feel and know that the client needs help, and to help him/her at that point. There were times we encountered certain things that were not in line with our thoughts, beliefs, or perspective of life, but we did not reflect them to the client thanks to the content we received in this course (P10).

In this course, we received training on gaining flexibility towards different ideas. It was useful in the context of empathy and/or how to behave if the clients react to my ideas (P12).

…. The problems of my two clients, both the female and the male, were similar but both were completely different characters. …. My male client was a more closed person than my female client. I tried to see both objectively and to approach them with the same attitude. .... After all, different cultures, different people, different experiences, different personalities, that is what we learned most in this course (P15).

4. Discussion, Conclusion and Recommendations

The findings obtained from this research, examining the experiences of the counselor trainees for the first counseling practices within the scope of Individual Counseling Practicum course, were gathered under six categories. Regarding the problems faced during the practicum, three themes were formulated: "personal problems", "problems pertaining to counseling" and "problems pertaining to supervision". Being affected by client's problem and reflecting personal problems to counseling were personal problems of the trainees. Finding clients, arranging a time, concerns about managing the session and inadequate counseling skills were the problems that the trainees encountered in counseling process. The problems of the trainees regarding the supervision are lack of communicating with the supervisor, negative attitudes of the supervisor and audio-

recording of the sessions. These results seem to be consistent with previous research (Büyükgöze-Kavas, 2011; Hill et al., 2007; Meydan, 2019; Meydan & Denizli, 2015; Özteke-Kozan, 2018). The results are also in line with the second phase of Rønnestad and Skovholt's (2003) therapist/counselor development model: beginning student phase. This phase was defined as a period in which trainees making their first practices are excited as well as intense anxiety. Rønnestad and Skovholt suggest that trainees may be affected by many factors, from personal problems to counseling skills, from their peers to supervisors in this phase.

Trainees received the most help from their supervisors to solve problems they encountered in counseling practices. This was followed by scientific sources, classmates of the trainees and counseling videos on YouTube, respectively. In a study conducted by Orlinksky et al. (2001) with approximately five thousand counselors, the counselors considered formal supervision as one of the most important factors in their career development. Besides, they reported that personal experiences, consultation with colleagues, receiving therapy trainings and reading sources about the cases were also effective. Hence, it might be thought that the trainees use similar resources with counselors to solve their problems and to improve themselves during the course.

Half of the trainees indicated that they did not encounter with clients with different cultural background. Therefore, they did not utilize the information that they learned in CSC course in their practices, while the other half stated that they benefited. Trainees having similar cultural background to their clients think that they can understand their clients better and that their clients trust them more. On the other hand, different aspects of the trainees from their clients were religious beliefs and the Turkish accent they used. Trainees with religious differences with their clients were worried about that these differences would harm the therapeutic relationship. In terms of differences in colloquial language, trainees tried to adjust themselves to their clients. A possible explanation for these results might be that the trainees try to not harm to the therapeutic relationship due to the differences and to empathize with their clients. As a matter of fact, a study conducted on counselor trainees revealed that cognitive and affective empathy and openness to experience (one of the personality dimensions) are significant predictors of cultural sensitivity (Aydın & Şahin, 2017).

Contributions of the counseling practices to the trainees were classified under three themes. Their contributions towards gaining experience were opportunity to experience counseling and increased self-reliance in being able to be succeed. Secondly, their contributions towards counseling skills were putting theory into practice, developing therapeutic relationship, the use of mimics and realistic expectations. Finally, personal contributions of the practices were applying the information to the self and loving the profession. These results support previous research regarding the gains of counselor trainees in the first practices (Hill et al., 2007; Howard et al., 2006; Schwing et al., 2011). A study examining the opinions of trainees' first clients demonstrated that trainees were able to develop therapeutic relationship and to use basic therapeutic skills (Kurtyılmaz et al., 2019). Therefore, it might be said that the trainees have learned to manage the counseling process at the basic level, even if they encounter various problems that caused anxiety during the period.

In this study, trainees reported that when they consider their existing knowledge and competencies at the end of the practicum, they would prefer clients- with mild problems, whose field of problems are known by counselor, having similar problems with counselor, open to change or being willing to solve problems. On the other side, they thought they might have difficulty while working with clients- not taking responsibility, with severe problems (abusing/abused, with antisocial personality disorder, etc.), with experiences negatively affecting the counselor, having similar problems with counselor, showing resistance, conservative or with a higher age difference with counselor. These results are in line with the third phase of Rønnestad and Skovholt's (2003) therapist/counselor development model: advanced student phase. In this phase, counselors, who started to practice professionally, are significantly lack of information, avoid making mistakes and thus take no risks; also, they need supervision and consultation. In this respect, it might be said that the trainees want to choose types of clients that they can work more easily and encounter fewer obstacles in the first years after graduation because they are inexperienced.

Having a similar problem with the client was perceived as an advantage for some trainees in terms of understanding and helping the client better. However, some trainees were hesitant about how to help their clients for the problems that they cannot solve in their own lives. Some others were worried about being negatively affected by the clients' experiences because of evoking their own problems. Hill et al. (2007) found

that inexperienced counselors, who identified with their clients or had similar feelings, experienced problems in carrying out the counseling process. There were some trainees stating that they would not prefer to offer counseling the clients a) being LGBTIQA+, b) with different religious beliefs, or c) inflicting or having a potential to harm to people (abusive, antisocial) as they may feel prejudiced towards them. Research indicate that various methods and trainings increase the cultural sensitivity of CG undergraduate students (Aydın, 2014; Cates et al., 2007; Kağnıcı, 2011) and generate increased awareness and knowledge to LGBTIQA+ individuals (Kağnıcı, 2015; Toplu-Demirtaş & Akçabozan-Kayabol, 2018). On the other hand, considering that trainees cannot control their negative feelings, especially against individuals who have committed severe offenses such as sexual abuse; as a requirement of professional counseling (Prikhidko & Swank, 2018), emotion regulation skills become prominent.

The present study has demonstrated that trainees had some negative experiences during the semester within the scope of Individual Counseling Practicum course, but they took responsibility for their clients and prioritized their well-being. Considering their inexperience, the trainees think working with clients having mild problems after graduation. It is concluded that the trainees are aware of their current situation and have realistic expectations. However, the fact that they do not want to work with clients being resilient and lacking responsibility shows that they have low awareness of the fact that they should be able to cope with such clients due to the nature of counseling profession.

The findings of the present study indicate that supervisor support seems the most crucial factor in Individual Counseling course both for development of trainees and for protecting clients from possible harm. However, there are some problems about providing supervision in Turkey. The high number of students and the low number of faculty members are among the factors keeping supervision inadequate. It is considered that arrangements for this course are important for the professional development of the trainees. In addition, it is recommended that faculty members raise awareness of and motivate trainees to improve themselves by receiving specific therapy trainings after graduation. Finally, it is thought that new research on counseling practices and supervision will provide ideas for improving existing practices and developing an accredited counseling practicum course.

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The Mediating Role of Cognitive Flexibility in the Effect of Empathic Tendency on Teacher Professionalism

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ABSTRACT

The aim of the study was to determine whether cognitive flexibility had a mediating role in the effect of empathic tendencies of physical education and sports teachers on their professionalism. Empathic Tendency, Teacher Professionalism and Cognitive Flexibility Scales were used in the study with personal information form. A total of 283 physical education and sports teachers, 85 (30%) female and 198 (70%) male, voluntarily participated in the study. In the analysis of data, The Shapiro-Wilk normality test was used to determine if data set had a normal distribution or not. Kaiser-Mayer-Olkin (KMO) coefficient and Bartlett test were used to determine the suitability of the data for factor analysis. The theoretically created model was tested with a structural equation model. In the study, descriptive statistics were used in order to determine the average scores obtained from the scales. AMOS and SPSS package programs were used for analysis of data set. It was determined that the participants' Empathic Tendency, Professionalism and Cognitive Flexibility levels were high. Also, all variables were determined to had a significant correlation between each other. It was determined that all variables positively affected each other, empathic tendency predicted both cognitive flexibility and teacher professionalism at certain rates (40%-28%), and cognitive flexibility had a mediating role in the relationship between empathic tendency and teacher professionalism. As a result, multifaceted and effective studies that will increase the empathic tendency and cognitive flexibility levels should be carried out.

Keywords:
Emphatic tendency, cognitive flexibility, teacher professionalism, sports

1. Introduction

Educational institutions can be defined as places that act as an intermediary in the transfer of knowledge, skills, behavior and values to future generations by teachers, and in this context, individuals are educated and raised (Kaçay, 2015). The social contribution of sports and sports activities to create a young, dynamic and healthy generation cannot be ignored (Kaçay & Soyer, 2020, p. 3). Physical education and sports classes aim to raise awareness of individuals about exercise and sports activities from an early age, and to play sports and sports activities a part of the individual's life (Güngör, 2019, pp. 2-3). Teachers, on the other hand, are the biggest part of the change and they are representatives who help students reach their goals and prepare them for life (Kaçay, Soyer, & Eskiler, 2015, p. 115). In this context, physical education and sports teachers have an important role in ensuring that the culture and values of the society are sustainable, and sports can take place in the life of the individual. When evaluated in this respect; a quality education equals the presence of qualified teachers. As an indicator of being qualified, teacher professionalism stands out.

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Expressed by the researchers as a professional value, an ideology specific to a company or institution, professionalism is defined as the level of excellence or competence an individual demonstrates in their work. Professionalism is a concept that includes the ability to cooperate and communicate effectively with colleagues, the awareness of responsibility, not to be indifferent to the interests, needs and expectations of others and being able to behave towards others as they wish to be treated, knowing that they are a part of the whole (Salem Press Encyclopedia, 2020).

The concept of professionalism, which has been researched and interpreted by different disciplines specific to their fields in the literature, is generally associated with the management approach. However, this approach is controlling and restrictive, unlike the inclusive and collaborative educator professionalism (Osgood, Gordon, & Philips, 2010). The quality of the services provided is an indicator of the professionalism of the experts in their fields (Mackey & Evans, 2011, p. 20). When evaluated from this point of view, the quality of education and qualified student profile emerges as an indicator of teacher professionalism. Tschannen-Moran (2009) has reported that professionalism is an important element in increasing the quality of education and improving student quality.

Educational institutions that undertake the training of the next generation, therefore teachers, as the most important element of the education system, contribute to the increase of the welfare level of the society with the students who are the output of this system, the transfer of social values to the next generations and the country to reach the level of modern civilization. So, there is a need for teacher professionalism that expresses specialization in the field and being able to transfer the knowledge and skills in the best way.

The main purpose of teacher professionalism is to complete an effective and successful education process in mutual respect, love, loyalty, harmony and cooperation (Hoy, Smith & Sweetland, 2002; Hoy & Sabo, 1998). In order to achieve this, it is important to be a teacher who listens and understands effectively in communication with students and colleagues and can be a role model with his attitudes and behaviors. The effective transfer of information and emotions depends on the high empathic tendency. Because if the individual can put himself in the place of the other person, he will be able to understand his feelings and thoughts better and support him better.

Empathy is trying to see the events through the eyes of the other person without judging and questioning (Dökmen, 2011). In this case, the individual who thinks he is being understood opens up more easily, feels better (Günay, 2019, p. 3), feels more love, respect and trust towards the person who understands him (Kuzgun, 2006). This situation contributes to effective and efficient learning. Because students feel more comfortable with a teacher who understands, values and behaves friendly and they try to avoid situations that may cause problems and want to be more successful. On the other hand, empathic understanding not only positively affects relationships with students but also interactions with the social environment and colleagues (Duru, 2002, p. 24), contributing to more qualified social relationships, and thus to higher job satisfaction and performance. In this context, it is thought that empathic tendency will contribute positively to teacher professionalism.

Cognitive flexibility is defined as the capacity to exhibit flexible and adaptable behaviors against the changes happening in the environment (Siegel, 2001, p. 87). In addition, it is emphasized that cognitive flexibility is the ability of an individual to control himself and his environment (Phalet & Kosic, 2006, p. 340). In short, cognitive flexibility, which is defined as the ability to adapt to changing conditions (Güngör, 2019, p. 21), refers to the ability to think and act in a versatile way and to produce different solutions to problems; It can be said that it is a variable that contributes to the ability of teachers to understand and support others more easily, thanks to their knowledge, skills and experience and the level of empathic tendency they have in all situations and conditions. Therefore, the aim of the study is to determine whether cognitive flexibility has a mediating role in the effect of empathic tendencies of physical education and sports teachers on their professionalism. Determining the extent to which empathic tendency and cognitive flexibility predict and affect teacher professionalism can contribute to determining the variables that will affect or contribute to professionalism, and to include practices and policies that will improve professionalism. On the other hand, depending on the findings, it is thought that it can be a guide in terms of what can be focused on the development of teachers towards the solution of organizational problems that may arise due to low professionalism.

2. Method

2.1. Research Model and Hypotheses

The research was organized using the relational scanning model. Relational scanning model is used to determine the relationship between two or more variables and to obtain clues about cause and effect (Karasar, 2017). The model tested within the scope of the research was created by examining the relevant literature. This model was using structural equation modeling. The hypotheses of the model are expressed below.

H_1: Cognitive empathy affects teacher professionalism.

H_2: Emotional response affects teacher professionalism.

H_3: Social skills affect teacher professionalism.

H_4: Cognitive empathy affects cognitive flexibility.

H_5: Emotional response affects cognitive flexibility.

H_6: Social skills affect cognitive flexibility.

H_7: Cognitive flexibility affects teacher professionalism.

H_8: Cognitive flexibility has a mediating role in the relationship between empathic tendency and teacher professionalism.

2.2. Research Group

The study group of the research constituted physical education and sports teachers who work in the 2019-2020 academic year in seven different regions of Turkey. Within the scope of the research, the data were collected on an online platform. Since there was no missing or incorrect data among the collected data, all of them were used in the research. 85 (30%) of the participants are female and 198 (70%) of them are male. However, while 128 of participants (45.2%) were working in secondary school, 155 (54.8%) were working in any high school; 203 (71.7%) were undergraduate, 63 (22.3%) were graduate and 17 (6%) were doctoral program graduates. Also; 43 (15.2%) 1-5 years, 57 (20.1%) 6-10 years, 34 (12%) 11-15 years, 45 (15.9%) 16-20 years and 104 (36.7%) has 21 years or more of teaching experience. The average age of the participants was determined as 40.9 ± 7.8.

2.3. Data Collection Tools

Empathic Tendency, Teacher Professionalism and Cognitive Flexibility Scales were used in the study with personal information form.

2.3.1. Empathic Tendency Scale

It was developed by Lawrence, Shaw, Baker, Baron-Cohen and David (2004) and adapted into Turkish language by Kaya and Çolakoğlu (2015). The scale was a 5- point likert type and consists of 13 items and 3 sub-dimensions in total. These sub dimensions are; expressed as cognitive empathy, emotional response, and social skills. The internal consistency coefficient of the scale; .86 for the general of the scale, .61 for social skills sub-dimension, .75 for emotional response sub-dimension, and .74 for cognitive empathy sub-dimension. The Cronbach Alpha coefficient obtained from the data set were determined as 80, .78, .71, .75, respectively.

2.3.2. Teacher Professionalism Scale

It was developed by Tschannen-Moran, Parish and Dipaola (2006) and adapted into Turkish language by Cerit (2012). The scale was a 5-point likert structure, consists of 8 items and one dimension. The higher the score obtained from the scale, the higher the level of teacher professionalism. The Cronbach Alpha coefficient of the original form of the scale was expressed as .90. The Cronbach Alpha coefficient obtained from the data set was .88.

2.3.3. Cognitive Flexibility Scale

Cognitive Flexibility Scale was developed by Martin and Rubin (1995) and adapted into Turkish language after completing its validity and reliability studies by Çelikkaleli (2014). The scale was a 6-point structure, consists of 12 items and one dimension. The high score that can be obtained from the scale indicates the high level of cognitive flexibility. The Cronbach Alpha coefficient of the original form of the scale was .80. The Cronbach Alpha coefficient obtained from the data set was determined as .77.

Confirmatory Factor Analysis Results of the Scales Used in the Scope of the Study

Table 1. Confirmatory factor analysis results of empathic tendency, teacher professionalism and cognitive flexibility scales

Model Fit Index	Perfect Range	Acceptable Range	ETS	TPS	CFS
X^2/sd	$0<X^2/sd<2$	$2<X^2/sd<5$	3.51	4.12	3.22
RMSEA	0.00<RMSEA<0.05	0.05<RMSEA<0.10	.07	.08	.08
PGFI	0.95<PGFI<1.00	0.50<PGFI<0.95	.61	.57	.61
PNFI	0.95<PNFI<1.00	0.50<PNFI<0.95	.66	.70	.64
GFI	0.90<GFI<1.00	0.85<GFI<0.90	.90	.93	.90
AGFI	0.90<AGFI<1.00	0.85<AGFI<0.90	.85	.87	.85
CFI	0.95<CFI<1.00	0.90<CFI<0.95	.91	.95	.93

ETS: Empathic Tendency Scale; TPS: Teacher Professionalism Scale; CFS: Cognitive Flexibility Scale

In order to test the construct validity of the Empathic Tendency Scale, multifactorial confirmatory factor analysis and to test the construct validity of the Teacher Professionalism and Cognitive Flexibility Scales the first-order confirmatory factor analysis was applied. Considering the suggestions of the AMOS package program, covariance assignments were performed between items 6 and 10 of the Cognitive Flexibility Scale and items 3 and 7 and 5, and 6 of the Teacher Professionalism Scale. As a result of the application of the proposed modifications, the goodness of fit index values produced by the model were shown in Table 1. Since the good values of fit in Table 1 provide the necessary conditions, it can be stated that the factor structures of the measurement tools used in the study were confirmed (Meydan & Şeşen, 2011).

2.4. Data Analysis

Before analyzing the data, it was checked whether there were missing or erroneous data in the data set. Then, it was examined whether the data set had a normal distribution or not. The Shapiro-Wilk normality test was applied, and it was concluded that the data set had a normal distribution by looking at the Kurtosis and Skewness values (Tabachnick & Fidell, 2013). Kaiser-Mayer-Olkin (KMO) coefficient and Bartlett test were used to determine the suitability of the data for factor analysis. According to the analysis result, KMO suitability coefficient was determined as .87 for the Empathic Tendency Scale, .88 for the Teacher Professionalism Scale, and .83 for the Cognitive Flexibility Scale. However, Barlett test result was determined to be significant for the measurement tools included in the study ($p < .001$). Therefore, these values show the suitability of the data to factor analysis (Leech, Barlett, & Morgan, 2005). The theoretically created model was tested with a structural equation model. In the study, descriptive statistics were used in order to determine the average scores obtained from the scales. AMOS and SPSS package programs were used for data analysis.

3. Results

This section includes the findings obtained by analyzing the data.

Table 2. Average scores of the participants from the empathic tendency scale

Scales	N	Min.	Max	$\bar{x}$	SD
Cognitive Empathy Sub-Dimension	283	1.20	5.00	4.08	.66
Emotional Response Sub-Dimension	283	1.00	5.00	4.32	.63
Social Skills Sub-Dimension	283	1.50	5.00	3.60	.53
Empathic Tendency Scale	283	1.23	4.77	4.01	.51

The average score the participants obtained from the Empathic Tendency Scale was determined as ($\bar{x}$= 4.01); From the "cognitive empathy" sub-dimension ($\bar{x}$= 4.08); "emotional response" sub-dimension ($\bar{x}$= 4.32) and the "social skills" sub-dimension ($\bar{x}$= 3.60).

Table 3. Average Scores that Participants obtained from Teacher Professionalism and Cognitive Flexibility Scales

Scales	N	Min.	Max.	$\bar{x}$	SD
Teacher Professionalism Scale	283	1.38	5.00	3.79	.70
Cognitive Flexibility Scale	283	2.92	6.00	4.81	.58

In Table 3, it was seen that the average score obtained by the participants from the Teacher Professionalism Scale ($\bar{x}$= 3.79) and the average score they got from the Cognitive Flexibility Scale ($\bar{x}$= 4.81).

Table 4. Investigation of the Relationship between Variables using the Pearson Moments Correlation

	CE	ER	SS	TP	CF
CE	1				
ER	.67**	1			
SS	.49**	.46**	1		
TP	.20**	.30**	.21**	1	
CF	.48**	.40**	.32**	.38**	1

CE: Cognitive Empathy; ER: Emotional Response; SS: Social Skills; TP: Teacher Professionalism; CF: Cognitive Flexibility

In Table 4, a positive and low-level relationship was determined between CE and TP. A moderate positive correlation was determined between CE with ER, SS and CF. A moderate positive correlation was determined between ER with SS, TP and CF. A low-level relationship was determined between SS and TP. A moderately positive relationship was determined between CF and TP.

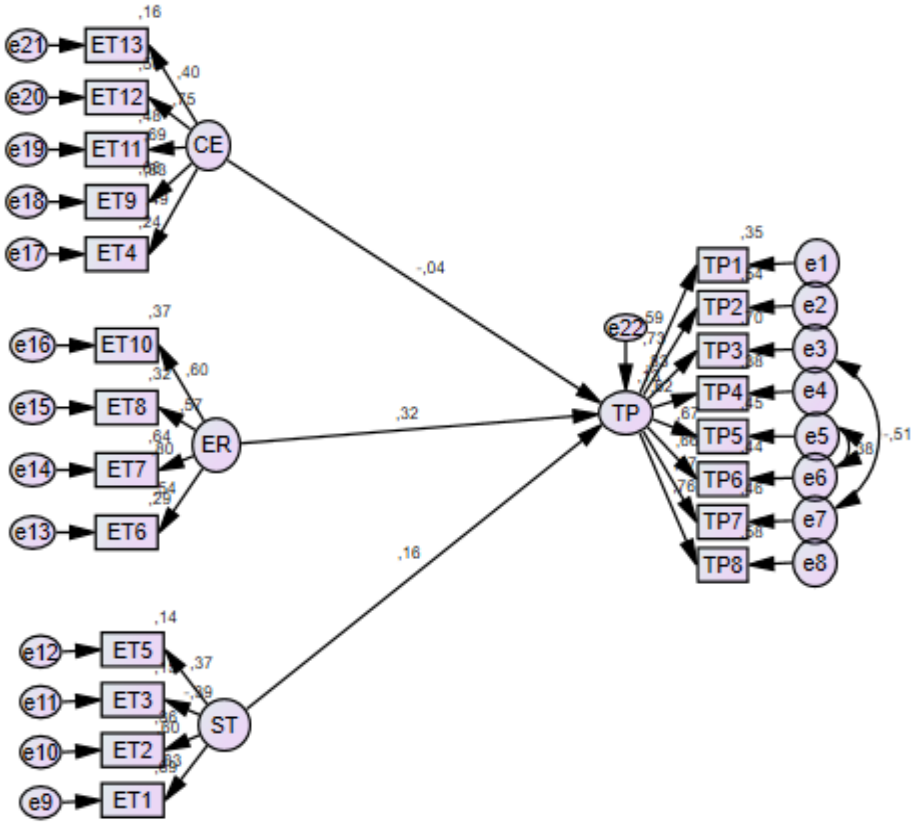

Figure 1. Structural equation model

It was seen that the standardized model in Figure 1 meets the necessary goodness of fit criteria (X^2 / df = 3.85, RMSEA = .07, PGFI = .70, PNFI = .66, GFI = .86, AGFI = .87, CFI = .90). By examining the goodness of fit index values of the model, the paths and parameter estimates in the model were discussed. Standardized β coefficients, standard error, critical ratio, p and R^2 values between variables according to the tested model are shown in the table below.

Table 5. Structural equation model coefficients

Vriables		Standardize β	Std. Error	Critical Rate	p	R^2
Cognitive Emphaty	Teacher Professionalism	-.04	.07	-.66	.50	.13
Emotional Respons		.32	.09	3.93	***	
Social Skill		.16	.05	2.18	.029	

Considering the analysis results; it can be stated that a statistically significant effect was determined in the relationship between emotional response and social skill with teacher professionalism, (β_2 = .32; p <.05; β_3 = .16; p <.05). There was no significant effect on the relationship between cognitive empathy and teacher professionalism, (β_1 = -. 04; p> .05). When the Squared Multiple Correlations (R^2) value of the model is considered; it can be seen that cognitive empathy, emotional response and social skills explain teacher professionalism at a rate of 13%.

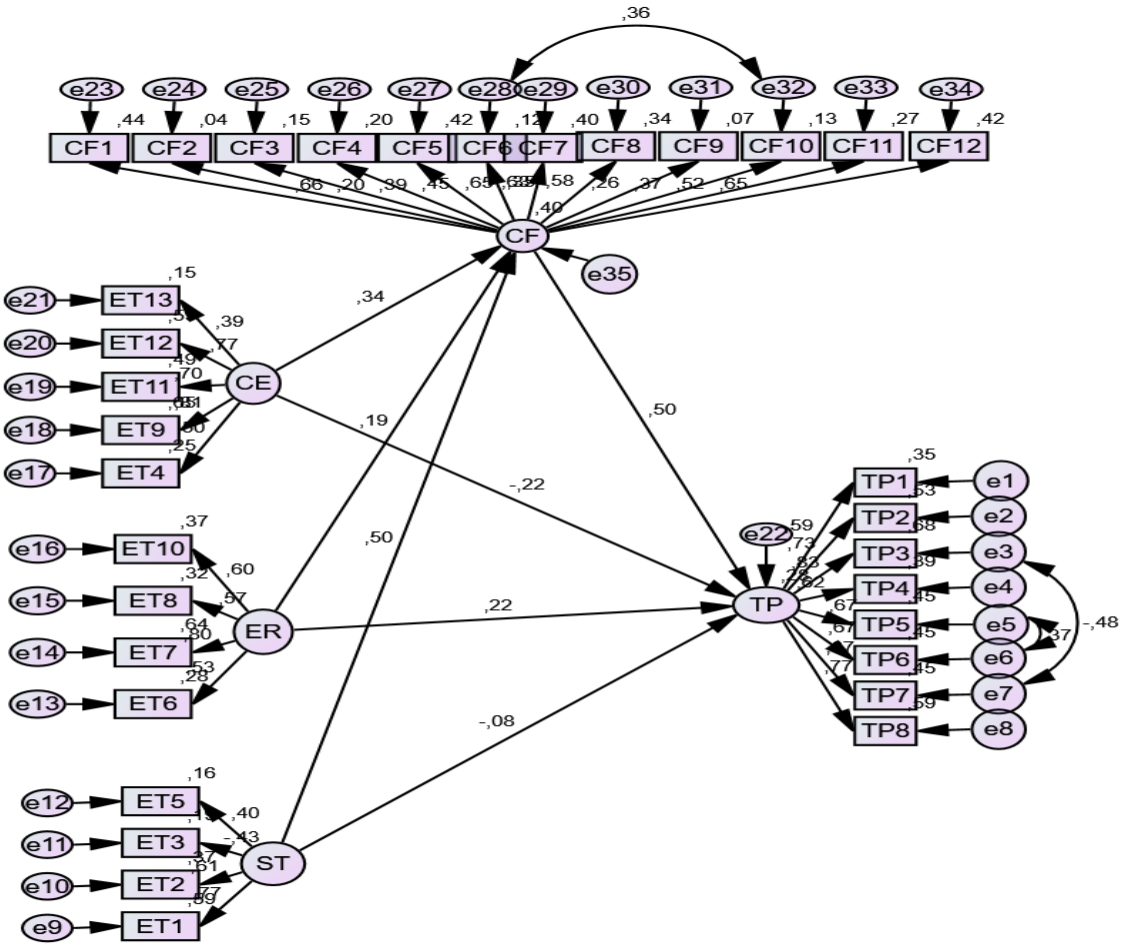

Figure 2. Internal and structural equation model of mediating variable

When the goodness of fit values of the model in Figure 2were examined, it was seen that the necessary conditions are met (X^2 / sd = 2.76, RMSEA = .08, PGFI = .77, PNFI = .71, GFI = .88, AGFI = .86, CFI. = .91). Standardized coefficients, standard error, critical ratio, p and R^2 values are shown in Table 6.

Table 6. Structural equation model coefficients tested by including the mediating variable

Variables		Standardize β	Standard Error	Critical Rate	P	R^2
Cognitive Emphaty	Cognitive Flexibility	.34	.08	4.39	***	.40
Emotional Respons		.18	.07	2.68	.007	
Social Skill		.50	.06	5.69	***	
Cognitive Flexibility	Teacher Professionalism	.50	.10	4.63	***	.28
Cognitive Emphaty	Teacher Professionalism	-.22	.08	-2.80	.005	
Emotional Respons		.22	.06	3.00	.003	
Social Skill		-.07	.10	-.86	.38	

When the analysis results were examined; it was determined that cognitive empathy, emotional response, and social skills affect cognitive flexibility (β_4 = .34; p<.05; β_5 = .18; p<.05; β_6= .50; p<.05). Also, it was concluded that cognitive empathy, emotional response, and cognitive flexibility affected teacher professionalism (β_1= -. 22; p<.05; β_2= .22; p<.05; β_7= .50; p<.05). It was determined that social skills did not affect teacher professionalism (β_3 = -. 07; p> .05). From this point; while the hypotheses numbered 1, 2, 4, 5, 6, 7 of the research were accepted, the hypothesis 3 was not accepted.

Another hypothesis of the study is that it shows the mediating role of cognitive flexibility, empathic tendency and teacher professionalism. For the test of this hypothesis, the research method proposed by Baron and Kenny (1986) was taken as reference. According to the related study, the method consists of three stages. The first stage is the independent variable affects the dependent variable; in the second stage, independent variable affects the mediator variable; In the third and last stage, when the mediator variable is included in the first-stage model, the effects of the independent variable on the dependent variable are reduced and the mediating variable affects the dependent variable.

In line with this reference; when Table 5 was examined, it was concluded that emotional response and social skills affect teacher professionalism and the first stage conditions are met. Independent variables were also included in the other model in order to observe the change over the whole feature in the model while passing to the second stage. Considering Table 6; it was determined that cognitive empathy, emotional response and social skill affect cognitive flexibility, which is the mediator variable, and in the second stage, the conditions were met. By passing both stages, cognitive flexibility, which is the mediator variable, was included in the model and it was concluded that emotional responses effect decreases and the effect of social skills on teacher professionalism disappeared. Therefore, cognitive flexibility was found to have a mediating role in the effect of empathic tendency on teacher professionalism and the 8th hypothesis of the study was accepted.

Considering the Squared Multiple Correlations (R^2) value of the model, the cognitive flexibility of cognitive empathy, emotional response and social skill explain teacher professionalism at the rate of 40%; cognitive empathy, emotional response, social skills and cognitive flexibility at the rate of 28%.

4. Discussion and Conclusion

This study was conducted to determine whether cognitive flexibility had a mediating role in the effect of empathic tendencies of physical education and sports teachers on their professionalism. For this purpose, a total of 283 physical education and sports teachers, 85 (30%) female and 198 (70%) male, voluntarily participated in the study.

When the results of the analysis conducted in this context were examined, it was determined that the participants' Empathic Tendency, Professionalism and Cognitive Flexibility levels were found to be high when looking at the average scores obtained from these scales. In the sub-dimensions of empathic tendency, it was determined that teachers perceived themselves as adequate in the cognitive empathy dimension, this followed by emotional response and social skills dimensions.

In addition, when the sub-dimensions of empathic tendency, emotional response and social skills, affect teacher professionalism and the Squared Multiple Correlations (R^2) value of the Structural Equation Model is considered; It was determined that cognitive empathy, emotional response and social skills explain teacher professionalism by 13%.

When the literature is scanned, it can be seen that there are many studies the teacher professionalism is above the middle level or at high level (Cansoy & Parlar, 2017; Çelik, 2015; Güngör, 2019; Kılınç, 2014; Kılınç, Cemaloğlu & Savaş, 2015; Koşar, 2015; Moomaw, 2005;) and low level (Bayhan, 2011; Cerit, 2012). High level of professionalism indicate that the teachers are experts in their profession (Hess & Fennel, 2015), responsible and role model (Agezo, 2009), they do high quality works and qualified jobs (Hargreaves, 2000), teachers take active roles in education (Kılınç, 2014) and they can solve the problems in a creative and different way. (Carlgren, 1999). Keeping up with constantly renewed and changing needs has become a necessity in the rapidly globalizing new world order. In this respect, the high level of teacher professionalism can be considered as an indication that they are open to change and innovation, and that they fulfill their responsibilities in the best way by working in cooperation.

Those with high cognitive flexibility is known that they are attentive (Jonessen & Grobowski, 1993), investigative, questioning, self-confident individuals who can think analytically, do not have focus problems, are open to change and can produce different solutions (Martin & Anderson, 1998). Cognitive flexibility is expressed as a concept that affects the level of social skills and contributes to effective communication and awareness raising (Stahl & Pry, 2005). On the other hand, social skills should be high in order to initiate and maintain effective communication and to display appropriate behavioral patterns in the face of problems. According to the findings of the study, it was determined that the social skill levels of physical education and sports teachers were high, and this affected the level of professionalism by 13%, together with cognitive empathy and emotional response as a variable contributing to teacher professionalism. In parallel with this study, Güngör (2019) found that physical education and sports teachers' cognitive flexibility and professionalism levels are above average and individual innovativeness also affects teacher professionalism.

According to analysis results, it was determined that cognitive empathy, emotional response and social skills affected the cognitive flexibility; It was determined that cognitive empathy, emotional response, and cognitive flexibility affected teacher professionalism. It was determined that social skills did not affect teacher professionalism. From this point; While the hypotheses 1, 2, 4, 5, 6, 7 of the research were accepted (H1: Cognitive empathy affects teacher professionalism; H2: Emotional response affects teacher professionalism; H4: Cognitive empathy affects cognitive flexibility; H5: Emotional response H6: Social skills affect cognitive flexibility; H7: Cognitive flexibility affects teacher professionalism), Hypothesis number 3 (H3: Social skill affects teacher professionalism) was not accepted. Finally, when Table 5 is examined, it was determined that cognitive flexibility (ability to predict knowledge, apply to unusual situations) had a mediating role in the effect of empathic tendency on teacher professionalism, and the hypothesis of the research number 8 (H8: Cognitive flexibility has a mediating role in the relationship between empathic tendency and teacher professionalism) was accepted. In addition, considering the Squared Multiple Correlations (R_2) value of the model, the cognitive flexibility of cognitive empathy, emotional response and social skill explain teacher professionalism at the rate of 40%; cognitive empathy, emotional response, social skills and cognitive flexibility at the rate of 28%.

Based on these findings, it was determined that all variables positively affected each other, empathic tendency predicted both cognitive flexibility and teacher professionalism at certain rates (40% / 28%), and cognitive flexibility had a mediating role in the relationship between empathic tendency and teacher professionalism. As a result, it can be said that as the empathic tendency and cognitive flexibility levels of teachers increase, their professionalism levels also increase. Although there is no research directly examining the empathic tendency and its effect on professionalism in the literature, there are studies that examine its relationship with different variables (William, 2006; Stripling, 2019). Çetinkaya Ulusoy and Paslı Gürdoğan (2019) also found that nurses' empathic tendency levels affect colleague solidarity. There are also studies conducted to determine the factors affecting teacher professionalism positively and negatively (negatively: Overbaugh, 1990).

According to Cha (2014), the level of interaction with children, parents and those in the institution also how much importance they attach to their own development and their love for children are factors affecting teacher professionalism. As a result of this study, it was concluded that empathic tendency positively affected teacher professionalism and cognitive flexibility mediated this. Güngör (2019) in his study investigating the mediating role of cognitive flexibility in the effect of individual innovation on teacher professionalism, concluded that cognitive flexibility does not affect professionalism. There are also studies that investigate the mediating role of cognitive flexibility in different variables (Cardom, 2016; Lin, Tsai, Lin, & Chen, 2014; Yu, Yu, & Lin, 2019) and find it as a mediator.

The research findings showed that the empathic tendency that supports the establishment of positive relationships and the cognitive flexibility levels, that helps to adapt to the changing situations easily and enables to produce solutions with different perspectives by thinking versatile, were important in order to maintain a high level of professionalism whose main purpose is to complete an effective and successful education and training process in mutual respect, love, loyalty, harmony and cooperation. Therefore; the general result of this research is the need to carry out multifaceted and effective studies that will increase the empathic tendency and cognitive flexibility levels, which are determined as some of the elements that will develop and support teachers' professionalism, and that teacher training should be organized to include these.

In this study the sample group was a physical education and sports teachers but in future studies sample group can be broadened and comparisons among different groups can be researched. In order to improve the empathic tendency of the teachers, educations and applications can be used by the administrations.

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Thematic Analysis of Studies on Mathematics Teaching Anxiety

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ABSTRACT

The aim of this study is to examine studies on mathematics teaching anxiety thematically. For this purpose, 44 research articles on mathematics teaching anxiety published between 2000-2020 were examined. Studies were collected through document review and evaluated in terms of publication year, sample type, method, data collection tools, purpose and results. The data obtained was analyzed with the method of content analysis and presented in tables and graphs together with their frequencies. As a result of the study, it was determined that the most studies on mathematics teaching anxiety were conducted between 2018-2020, more studies were carried out with pre-service teachers, quantitative research methods were used more, and scale was mostly preferred as a measurement tool. The differences and similarities between the studies were determined by their purposes and results, and suggestions were made for further studies.

Keywords:
Mathematics education, mathematics teaching anxiety, content analysis.

1. Introduction

Factors such as self-efficacy, anxiety, belief, and attitude are among the affective components that affect educational environments. Of these factors, mathematics anxiety is very significant (Brown, Ortiz-Padilla & Soto-Varela, 2020). Since there is a relationship between mathematical thinking and learning and an effective approach to mathematics (Hannula, 2005), one of the most common problems experienced in mathematics in the affective area is anxiety (Baloğlu & Koçak, 2006). When it comes to teaching mathematics, the anxiety factor has come in two dimensions in learning and teaching and these are mathematics anxiety and mathematics teaching anxiety.

Mathematics anxiety is emotional reactions experienced by an individual in the field of mathematics and arithmetic (Dreger & Aiken, 1957), is the state of tension that prevents the use of numbers and problem solving in academical or daily life (Richardson & Suinn, 1972), and is the feeling of fear and anxiety experienced when solving a mathematical problem (Fennema & Sherman, 1976). Mathematics anxiety is seen as a common characteristic of individuals with learning problems and can develop in all periods of education (Gresham, 2010). It is not limited to only physical and psychological symptoms, but affects students' performances and successes, and determines the tendencies of students in their career goals (Maloney, Schaeffer, & Beilock, 2013). Although mathematics anxiety is seen differently in every individual, people such as family, teacher and friends can be a cause of anxiety (Uusimaki & Nason, 2004).

There is a strong relationship between teachers' negative attitudes towards mathematics and students' mathematics achievement (Mensah, Okyere, & Kuranchi, 2013), and teachers who have mathematics anxiety is stated to transfer this anxiety onto their students (Bekdemir, 2010; Vinson, 2001). In addition, parents transfer their attitudes and beliefs about mathematics onto their children and the children are influenced by their families, and their self-efficacy and mathematics anxiety are shaped (Suarez-Pellicioni, Nunez-Pena &

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Colome, 2016; Tobias, 1978). Parents have also power to create a positive effect on mathematics anxiety by participating in mathematics-related school activities or through supportive conversations about mathematics, in addition to affecting negatively on their children (McLeod, Weisz & Wood, 2007). It is stated that the anxiety and mathematics teaching anxiety in teachers may be an important factor in the basis of the existing mathematics anxiety in students (Peker, 2006). In this respect, the effects of mathematics teaching anxiety should be considered on the learning environment and its reflection on students.

On the other hand, teaching mathematics anxiety is a structure that is seen only in teachers and pre-service teachers and is different from mathematics anxiety in terms of meaning. As a reflection of real or perceived deficiencies in mathematics knowledge or teaching skills (McMinn, 2019), it affects how a teacher will teach mathematics and how s/he will present it (Hadley & Dorward 2011). It also affects organizing content, planning time, determining teaching methods and learning activities (Ameen, Guffey & Jackson, 2002). This anxiety is very important in forming teachers' behaviors towards mathematics teaching in the classroom (Peker, 2006). Indeed, a teacher or pre-service teacher may have only teaching mathematics anxiety, as well as mathematics anxiety along with this type of anxiety. In this case, it can be said that the effect that may occur is more. So, although mathematics teaching anxiety is not necessary to be seen with mathematics anxiety, the effect can be bigger when the two types of anxiety are seen together.

Although it is difficult to explain the factors that cause mathematics teaching anxiety, negative experiences about mathematics (McMinn, 2019), mathematics anxiety of pre-service teachers (Vinson, 2001), lack of content knowledge and self-confidence (Hoşşirin Elmas, 2010), self-efficacy perceptions towards mathematics and mathematics teaching (Ural, 2015), and mathematical beliefs (Başpınar, 2015) affect this situation. There is a close relationship between teachers' and pre-service teachers' self-efficacy perceptions towards mathematics teaching and their mathematics teaching anxiety (Ural, 2015). Considering the relationship of teaching mathematics self-efficacy and teaching mathematics anxiety, it is seen that self-efficacy perception affects mathematics anxiety (Jain & Dowson, 2009) and there is a negative relationship between self-efficacy and mathematics anxiety (Hoffman, 2010).

Mathematics teaching anxiety causes to develop ineffective teaching behaviors (Ameen, Guffey & Jackson, 2002). In particular, teachers who have high mathematics anxiety do not willingly teach mathematics and fail in teaching (Brown, Westenskow & Moyer-Packenham, 2011). This situation can be evaluated in a cyclical structure. When teachers' own mathematics anxiety turns into mathematics teaching anxiety, students' mathematics learning is also affected (Hadley & Dorward, 2011). This anxiety that develops in the teacher will cause the student to think negatively about mathematics, not to increase her/his success, and not to gain efficiency from the course (Vinson, 2001). Hereby, mathematics anxiety and mathematics teaching anxiety negatively affect both students and teachers in the learning and teaching processes (Peker, 2006; Zengin, 2017).

As it is seen in the literature, many studies have been conducted in this field starting from the importance of reflections of mathematics teaching anxiety on the mathematics teaching process. In this context, studies were conducted about teachers/pre-service teachers'; mathematics teaching anxiety and mathematics anxiety (Brown, Westenskow & Moyer-Packenham, 2011; Gresham, 2010), learning/teaching styles (Stevens, 2010), genders (Peker & Halat, 2008) , mathematics/mathematics teaching self-efficacy perceptions (Ural, 2015), mathematics teaching/learning beliefs (Peker & Ulu, 2018), mathematical values (Yazıcı, Peker, Ertekin & Dilmaç, 2011), learning environment (McMinn, 2019), micro-teaching (Fadlelmula, 2013), teaching experiences (Brown, Westenskow & Moyer-Packenham, 2011), mathematical thinking (Yorulmaz, Altıntaş & Sidekli, 2017), metacognitive awareness (Öztürk & Serin, 2020) and technology usage (Zengin, 2017). Additionally, scale development (Liu, 2016; Peker, 2006; Sarı, 2014) and adaptation studies (Aytekin, Türkmenoğlu, & Arıkan, 2017; Hunt & Sarı, 2019) for mathematics teaching anxiety are among the studies conducted. It is predicted that the examination of the mentioned studies in terms of both quantity and quality will create a road map for new studies in this field. It is thought that identifying the current situation by determining the similar and different aspects of studies on mathematics teaching anxiety will lead to further implementations. For this reason, the purpose of the study is to analyze the studies on mathematics teaching anxiety from a thematic perspective. For this purpose, answers were sought for the following sub-problems:

i. What is the distribution of studies on mathematics teaching anxiety according to the publication year, sample type, method and data collection tools used?

ii. What is the distribution of studies on mathematics teaching anxiety according to their purposes?

iii. What is the distribution of studies on mathematics teaching anxiety according to their results?

2. Method

2.1. Research Model

This research, which aims to examine the studies on mathematics teaching anxiety thematically, is a descriptive study. In the research, the relevant studies were examined in the direction of the qualitative research approach by document review and tried to be described. In qualitative researches, data can be collected through private or official documents (Creswell, 2014). Document analysis aims to analyze written materials containing information about the cases that are aimed to be examined (Yıldırım & Şimşek, 2011). The documents examined in this study are the researches on mathematics teaching anxiety selected in accordance with the purpose of the study.

2.2. Data Collection

The keywords in the study were determined as "matematik öğretim kaygısı", "matematik öğretme kaygısı", "matematik öğretimine yönelik kaygı" in Turkish and "anxiety towards mathematics teaching", "mathematics teaching anxiety" and "anxiety of mathematics teaching" in English. Google Scholar Search Engine, Tübitak Ulakbim Dergipark, Ebscohost-Eric, Sciencedirect and Springer databases were used for this process. In the first evaluation, 349 studies were reached. Studies only about mathematics anxiety were eliminated and in order to examine the latest research trends based on mathematics teaching anxiety, the studies that were written in Turkish or English languages between the years of 2000 and 2020 and were reached their all texts were selected. In this case, 44 studies were determined, and the obtained studies were determined as the main document and the brief information of the studies was transferred to the computer environment. The data obtained by reading the studies at least twice were reviewed after two months again.

2.3. Data Analysis

Content analysis was preferred to use for data analysis in the study. Content analysis aims to combine similar data under certain concepts and themes and to organize and interpret them in a way that the reader can understand (Yıldırım & Şimşek, 2011). In the analysis of the researches included in the study, tables were created under the categories of publication year, sample type, method, data collection tools, purposes and results by referring to the forms used in thesis studies in the literature. Before starting the data analysis, the theme and code list was created and each study was presented by coding as "R-1, R-2, R-3,…, R-44". The data obtained were analyzed according to the specified categories and shown on tables and graphs together with their frequencies.

The criterion to be considered in the selection of the studies to be included in the data analysis and the keywords to be used in the screening were determined. The abstracts of the studies determined in this context were read and, when necessary, the whole text was analyzed and evaluated. In addition, in order for the coding process to function more efficiently, the data obtained was intermittently examined for three months, and the coding was controlled by taking the opinions of two different field experts other than the researcher. Analyzes were continued until there was a consensus on the codings, and as a result, the process was completed in the direction of a consensus.

3. Findings

The findings obtained in the direction of the sub-problems of the research are presented in tables. In this context, the distribution of the studies according to the publication year, sample type, method and data collection tools used is shown in table 1.

Table 1. Distribution of studies according to their publication year, sample type, method and data collection tools that are used

Year range	**Studies**	**f**
2000-2002	-	-
2003-2005	-	-
2006-2008	R-26/R-31	2
2009-2011	R-18/R-22/R-24/R-28/R-29/R-30	6
2012-2014	R-20/R-23/R-34/R-36/R-37/R-39	6
2015-2017	R-1/R-2/R-4/R-5/R-6/R-7/R-8/R-9/R-10/R-19/R-21/R-27/R-40/R-35	14
2018-2020	R-3/R-11/R-12/R-13/R-14/R-15/R-16/R-17/R-25/R-32/R-33/R-38/R-41/R-42/R-43/R-44	16
Sample	**Studies**	**f**
Pre-service Mathematics teachers	R-1/R-2/R-3/R-13/R-14/R-19/R-27/R-28/R-29/R-30/R-33/R-36/R-38	13
Pre-service Classroom teachers	R-4/R-5/R-9/R-10/R-11/R-12/R-16/R-17/R-23/R-41/R-42/R-43	12
Other pre-service teachers	R-18/R-20/R-22/R-24/R-25/R-26/R-31/R-32/R-35	9
Teacher	R-6/R-7/R-15/R-16/R-21/R-34/R-37/R-39/R-40/R-43/R-44	11
Method	**Studies**	**f**
Quantitative	R-2/R-6/R-11/R-12/R-14/R-19/R-28/R-32/R-33/R-37/R-38/R-40/R-41/R-43	14
Relational screening	R-4/R-5/R-7/R-8/R-9/R-10/R-12/R-21/R-25/R-30/R-38	11
Method unspecified	R-3/R-20/R-22/R-27/R-29/R-31/R-36	7
Scanning	R-2/R-13/R-24/R-32/R-33/R-42	6
Scale development	R-6/R-11/R-26/R-34/R-39	5
Mixed	R-1/R-15/R-17R-44	4
Scale adaptation	R-16/R-35	2
Qualitative	R-18/R-23	2
Data Collection Tools	**Studies**	**f**
Scale	R-1/R-2/R-3/R-4/R-5/R-7/R-8/R-9/R-10/R-12/R-13/R-14/R-19/R-20/R-21/R-22/R-23/R-24/R-25/R-27/R-28/R-29/R-30/R-32/R-33/R-38/R-41/R-42/R-44	29
Survey	R-15/R-17/R-25/R-31/R-36/R-43	6
Scale development	R-6/R-11/R-26/R-34	4
Opinion/Interview form	R-1/R-15/R-17/R-18	4
Personal information form	R-2/R-37/R-42	3
Scale adaptation	R-16/R-35	2
Lesson plan	R-23	1

*MTA=Mathematics teaching anxiety, MA=Mathematics anxiety

When Table 1 is analyzed, it is observed that studies on mathematics teaching anxiety (MTA) were mostly conducted between the years of 2018-2020, mostly with pre-service teachers, quantitative research methods were preferred as research methods and scales as measurement tools. It is thought that the obtained data will give more clear information by presented on the graphs. Accordingly, the distribution of the examined studies by years is shown in Figure 1.

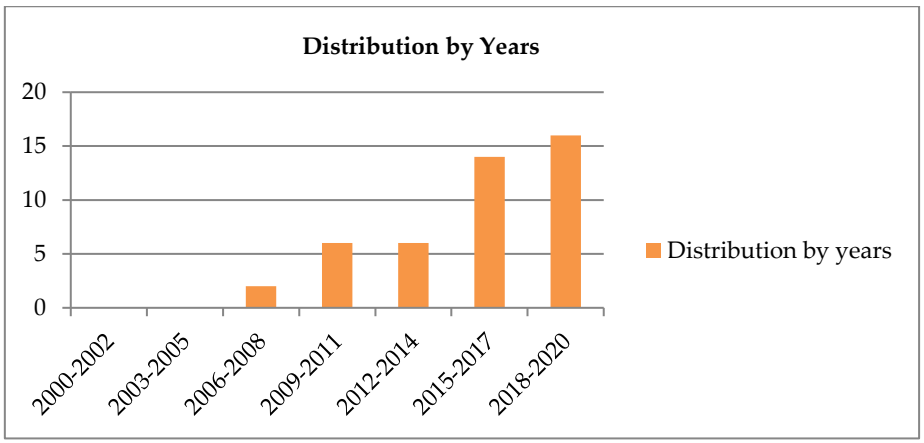

Figure 1. Distribution of studies according to the years

When the studies are analyzed in detail according to their publication year in Figure 1, it was determined that the studies continued increasingly especially after 2015. It is seen that 16 studies were carried out between 2018-2020 at the most, 2 studies between 2006-2008 at least. The distribution of the studies by sample type is shown in Figure 2.

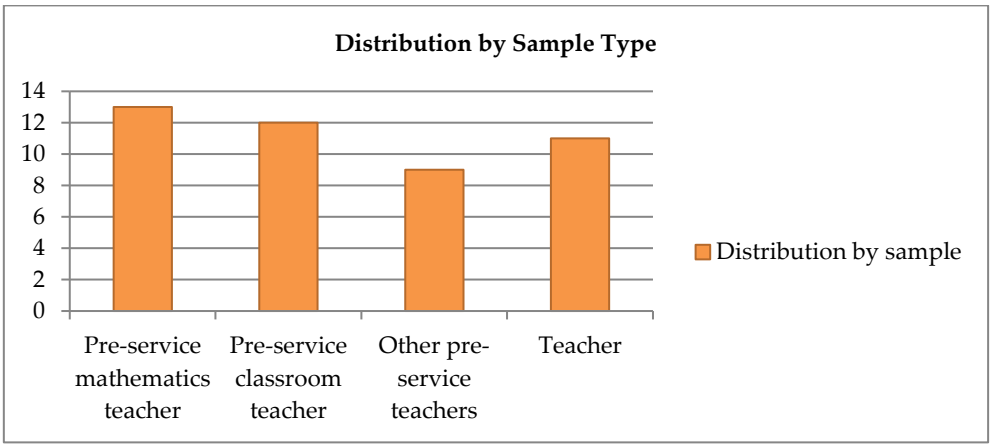

Figure 2. Distribution of studies according to their sample type

According to Figure 2, the distribution of the studied researches by sample type shows that pre-service mathematics teachers (f= 13) the most, then classroom pre-service teachers (f= 12) and other branches (f= 9) take place the most. Teachers (f= 11) was preferred as the least studied group. Accordingly, it can be said that most of the studies on MTA were conducted with pre-service teachers. The distribution of the studies according to their methods is shown in Figure 3.

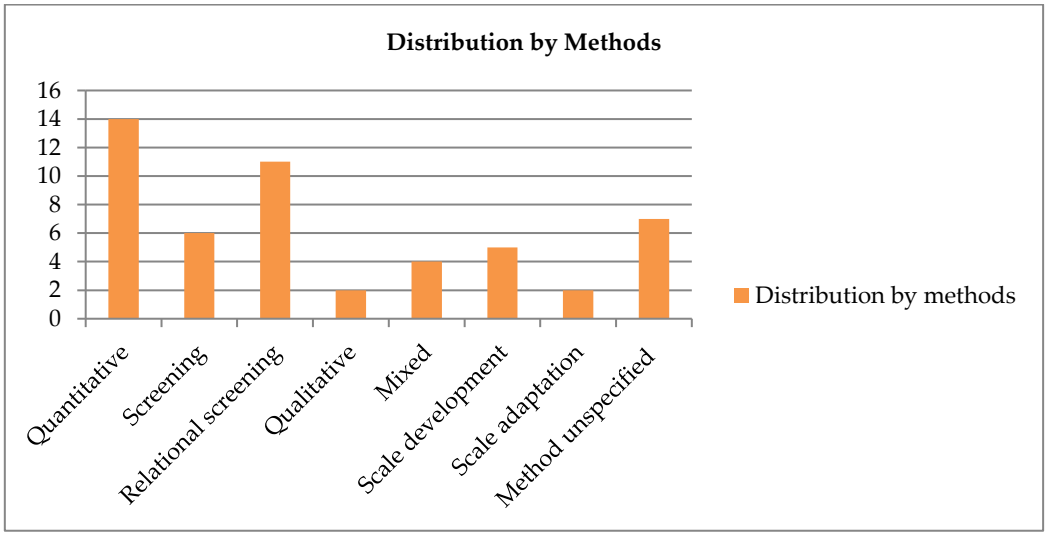

Figure 3. Distribution of studies according to their methods

According to Figure 3, it is seen that quantitative research methods (f= 31) are used the most, qualitative (f= 2) and mixed methods (f= 4) are preferred less, scale development (f= 5) and adaptation (f= 2) studies are also preferred. In addition, it is quite remarkable that there are some studies (f= 7) with no method specified. The distribution of the examined studies according to data collection tools is shown in Figure 4.

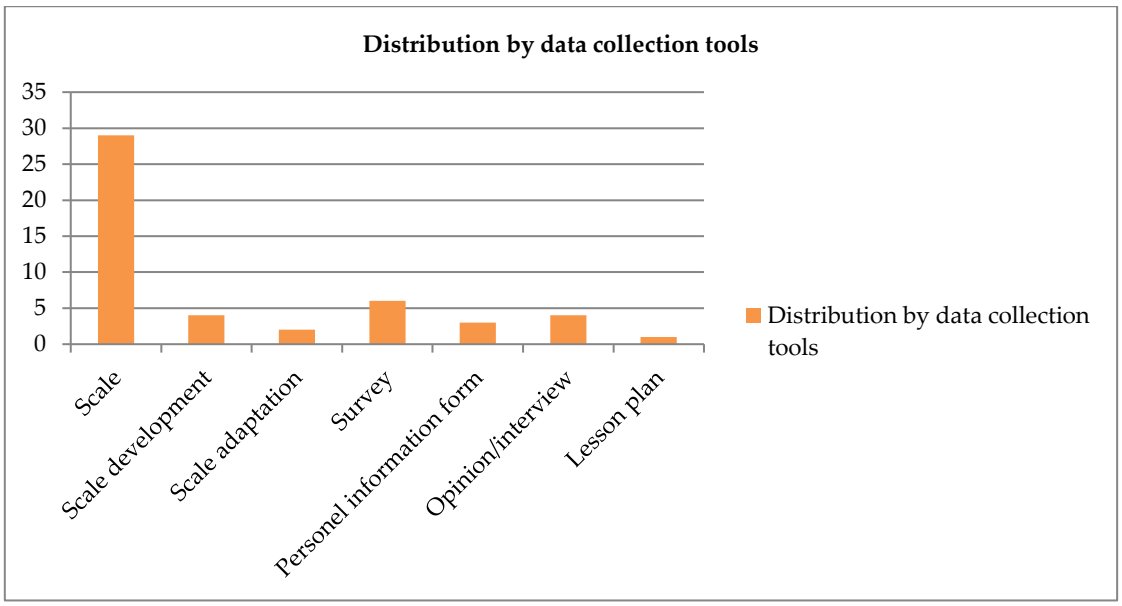

Figure 4. Distribution of studies according to their data collection tools

According to Figure 4, it is seen that the scale (f= 29) was used the most in the studies. The scales and study codes used are as follows; MTA scale (Peker, 2006; R-1, R-2, R-4, R-5, R-8, R-9, R-10, R-12, R-13, R-19, R-20, R-22, R-23, R-24, R-25, R-27, R-28, R-29, R-30, R-32, R-33, R-38), other MTA scale (Sarı, 2014; R-3, R-7, R-14, R-21) and mathematics and science teaching anxiety scale (Aytekin, Türkmenoğlu ve Arıkan, 2017; Liu, 2016). Considering the methods of the studies, it seems usual to use the measurement tools similarly by the quantitative design nature.

The distribution of the studies examined in the direction of the second sub-problem of the research is presented in Table 2 by grouping them under certain themes according to their purposes. In addition, under which groups the studies was classified in detail according to their purposes is shown in Appx-1 on the table.

Table 2. Distribution of studies according to their purposes

Theme	**f**
1. MTA level determination	10
2. MTA experience-reflection	6
3. MTA variable effect	9
4. MTA variable relationship	13
5. MTA variable difference	3
6. Scale development-adaptation	7

When Table 2 is examined, it is seen that the studies are collected under six different themes according to their purposes. According to this;

1. Studies determining MTA level (f=10): The studies in this group aims to determine the MTA of the pre-service teachers (R-2, R-4, R-9, R-12, R-32, R-33, R-36, R-37, R-40, R-41).

2. Studies examining the MTA experiences and its reflections on teaching (f= 6): In this group, it was aimed to examine the MA and MTA experiences of pre-service teachers (R-17, R-18, R-20), to analyze the reflections on anxiety (R- 23, R-43) and to examine the change of MA (R-15) after five years of teaching experience.

3. Studies examining the effect of variables on MTA (f= 9): This study group studies aims to examine the effect of a special design on MTA (R-1), the effect of mathematics teaching and learning beliefs on pre-service teachers' MTA (R-13), the effect of mathematics teaching self-efficacy on teaching anxiety (R-27), the effect of

micro-teaching on MTA (R-28, R-36), and the effects of online discussion on MTA (R-31), the effects of MTA factors (R-28, R-36). R-41) and the effect of teachers' mathematical thinking on MTA (R-21). The study examining the factors that decrease MTA (R-37) is included in this group as well.

4. Studies examining the relationship between MTA and variables (f= 13): This group studies aims to examine the relationship of pre-service teachers' MTA with the perception of mathematics self-efficacy and readiness to teach mathematics (R-3, R-10), MA, perception towards learning environment and self-efficacy towards mathematics teaching (R-8, R-9, R-25), belief (R-5, R-30), technological/pedagogical content knowledge/use (R-14, R-19, R-38), teaching style preference (R-7). The study examining the relationship of teachers' MTA and achievement (R-44) is included in this group as well.

5. Studies examining the differences between MTA and variables (f= 3): This group of studies aim to examine the differences of pre-service teachers' MTA on learning style preference (R-22), gender (R-29, R-42), grade level and grade point average (R-42).

6. Scale development or adaptation studies for MTA (f= 7): This group studies include the scale development and English/Turkish adaptation studies (R-16, R-35) that determine teachers' MA (R-6, R-39) and MTA (R-34) and pre-service teachers' MTA (R-11, R-26).

The distribution of the studies examined in the direction of the third sub-problem of the research according to their results is grouped under certain themes and presented in Table 3. In addition, under which groups the studies are classified in detail according to their results is shown on the table in Appx-2.

Table 3. Distribution by the results of the studies

Theme	**f**
1. Variable-MTA effect	7
2. MTA levels	11
3. Variable-MTA relationship	14
4. MTR-variable difference	22
5. MTR-experience	4
6. MTA scale development-adaptation	7

When Table 3 is examined, it is seen that the studies were collected under six different themes according to their results. According to this;

1. Results for the effect of variables on MTA (f= 7): Geogebra design contributed to the reduction of MA and MTA of pre-service teachers (R-1). The variables affecting MTA are MA and self-efficacy beliefs for teaching mathematics (R-8, R-20). It was found that pre-service teachers' traditional beliefs do not affect MTA, their constructivist beliefs negatively affect it (R-13), and MTA decreased as a result of micro-teaching (R-28, R-36) and online discussion (R-31).

2. Results related to MTA levels (f= 11): It has been found that pre-service teachers' MTA levels were below the average score (R-2, R-9, R-20, R-27), medium (R-32), and similar to MA (R-17, R-20), MA and MTA were not always related (R-18), had a higher MTA than teachers (R-16), had a negative correlation with perception of technology use (R-19), and teachers had high mathematical thinking and low anxiety levels (R-21).

3. Results regarding the relationship between variables and MTA (f= 14): It has been concluded that pre-service teachers' self-efficacy towards mathematics teaching (R-3, R-10, R-27), beliefs in readiness to teach (R-3), mathematics teaching/learning beliefs (R-5, R-30), metacognitive awareness (R-12), technological pedagogical content knowledge (R-38) and teaching style preferences (R-7) with MTA were negatively correlated, and their MA (R-9), mathematical value (R-24), perception of learning (R-25) were positively correlated. The results showed that pedagogical content knowledge and mathematics teaching competence had a mediator role (R-14) and teachers' mathematical thinking and MTA were negatively related (R-21).

4. Results of differences between MTA and variables (f= 22): MTAs of pre-service teachers differed according to their; undergraduate program (R-2), grade level (R-2, R-4, R-9, R-42), gender (R-12, R-33, R-42), learning style (R-22), learning environment (R-32), branch (R-32), level of participation in scientific activities (R-41). In other studies, it has been determined that there was no significant difference in MTAs of pre-service teachers according to their; grade level (R-12), gender (R-2, R-4, R-29, R-37, R-40), grade point average (R-42), type of

high school graduated (R-4). In addition, the results (R-37, R-40) of teachers' MTAs differed according to education, certificate and experience.

5. Results of experiences towards MTA (f= 4): MTAs of teachers have been found to be effective in student success (R-44), be related to experience (R-43), teachers had some MA after five years of experience (R-15), and MTA decreased or increased in pre-service teachers' experiences (R-23).

6. Scale development and adaptation studies for MTA (f= 7): A scale was developed for teachers (R-6, R-34, R-39) and pre-service teachers (R-11, R-26). Scale adaptation studies were also conducted (R-16, R-35).

4. Conclusion, Discussion and Recommendations

Mathematics teaching anxiety is a dynamic process that affects the teaching process, and the holistic evaluation of the studies in this field can guide future studies. Even though there are many studies at present, there is no detailed research that examines the methods, contents, and results of these studies and organizes them. Therefore, the aim of this study is to examine studies on mathematics teaching anxiety thematically. Within the scope of the research, it was determined that the studies on mathematics teaching continued increasingly over the years, and more studies were conducted, especially between 2018-2020. This means that the interest in this field has increased. Similarly, although it is different from mathematics teaching anxiety (MTA), it has been determined that master's dissertations about mathematics anxiety (MA) increased from 2008 to 2017 (Toptaş & Gözel, 2018). Increasing interest of researchers in affective components in mathematics education and increasing thesis studies and increasing research articles published on these fields can be considered as usual. Moreover, considering that student achievement in mathematics education is related to affective components and these factors are important in student success (Maloney, Schaeffer, & Beilock, 2013), the reflection of mathematics teaching on students is also very important. When we evaluate our mathematics achievement in national and international exams in recent years again, it should be focused on student's MA and MTA which is shown as an alternative factor.

Another result obtained from the researches is that the studies examined were mostly conducted with pre-service teachers. Due to the nature of MTA, studying with teachers and pre-service teachers (McMinn, 2019) is considered normal. According to Hadley and Dorward (2011), MTA affects how to teach mathematics and what kind of teaching will be presented. So, it seems worthy to study with pre-service teachers in order to determine the profiles of the future teachers and to eliminate their deficiencies. In the studies examined were less conducted with teachers in the sample group. This situation may be caused by factors such as difficulty finding volunteer group and taking a long time etc. Considering that MTA causes the development of ineffective teaching behaviors (Ameen, Guffey & Jackson, 2002) and failure in mathematics teaching (Brown, Westenskow & Moyer-Packenham, 2011), it can be said that more qualified studies are still needed in this area.

The other result obtained is that quantitative research methods were used more as a research method in the studies examined. Content analyses done on MA (Alkan, 2018; Toptaş & Gözel, 2018), mathematics education and different topics also reveal the findings that support the current research result (Çiltaş, Güler & Sözbilir, 2012; Köse & Yüzüak, 2020). On the contrary, there are also screening analyses where qualitative research is used at the same frequency as quantitative studies (Tatar, Kağızmanlı & Akkaya, 2013) and the qualitative method is preferred more (Albayrak & Çiltaş, 2017; Geçici & Türnüklü, 2020). Moreover, in the present study, it was found that scales were preferred more as data collection tools.

When the studies are evaluated according to their purposes; it has been determined that most of the studies investigated the relationship between MTA and various variables by determining MTA levels of teacher/pre-service teachers and examined the effects of various variables on MTA. In this context, it is seen that studies have been limited to making descriptions. This situation reveals the need to increase the number of studies focusing on solving problems related to teaching. There are also limited studies examining the reflection of MTA on experiences. Especially mathematics teaching anxiety affects both students and teachers negatively in the learning and teaching process (Peker, 2006; Zengin, 2017). Therefore, it can be said that it is important to increase the studies in which these kinds of experiences are observed more and the anxieties are eliminated with different practices in mathematics teaching in order to eliminate the negative effects reflecting on the learning environment and the student.

The results of the studies indicate that mathematics teaching anxiety of pre-service teachers can be reduced by using different learning environment designs such as geogebra, micro-education, and online discussion. MTA of pre-service teachers is positively correlated with self-efficacy towards mathematics teaching, belief in being ready for teaching and mathematics teaching/learning belief. The examined studies do not have clear results regarding the MTA of pre-service teachers and grade level and gender differences. According to this, some study results concluded that the MTA of pre-service teachers differed according to their grade levels (R-2, R-4, R-9). In some studies, it was stated that there was no significant difference in terms of grade level (R-12). There are some studies showing that MTA does not differ according to gender (R-2, R-4, R-29, R-37, R-40), while there are some other studies show significant differences in favor of male (R-12) and female pre-service teachers (R-33, R-42). This situation leads to an expectation for conducting more studies with different sample groups. In addition, it was found that the MTA of teachers differed according to their education and certification levels and experiences (R-37, R-40). It was found that pre-service teachers had significantly higher MTA compared to teachers (R-16).

Also, a limited number of studies in which the effects of mathematics teaching anxiety were determined among the examined studies were evaluated. In the studies, the results obtained about the teaching experiences or opinions of the pre-service teachers were mostly reviewed. As a result of this review, it has been revealed that mathematics teaching anxiety causes failure by creating an obstacle in mathematics teaching, makes pre-service teachers feel insecure, creates difficulties in teaching tasks, affects student achievement, etc.. Since mathematics teaching anxiety causes the development of ineffective teaching behaviors (Ameen, Guffey & Jackson, 2002), it can be said that the possible effects that may arise should be eliminated before they occur.

The fact that only the articles on MTA published between 2000-2020 were examined is regarded as the limitation of the study. For this reason, similar studies can be repeated with a larger data set in which postgraduate theses and papers are also examined. According to the results obtained in the study, the following suggestions can be made. Teachers and pre-service teachers with different levels of MTA firstly can be identified and alternative anxiety intervention programs can be developed and tested their effectiveness. In this framework, action research can be conducted. Also, the duration of teaching practice course can be increased, and the change of MTA can be also followed after pre-service teachers start their duty with their experiences.

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Appx-1. Distribution of studies by their purposes

Purposes	Studies	f	Group
MTAs of pre-service teachers	R-2/R-4/R-9/R-32/R-33/R-36/R-37/R-40/R-41	9	1
Metacognitive awareness-MTA	R-12	1	1
MA-MTA-experience	R-17/R-18/R-20	3	2
Reflections about anxiety	R-23/R-15/R-43	3	2
Effect of Geogebra design on MA-MTA	R-1	1	3
Effect of beliefs on MTA	R-13	1	3
Effect of mathematical thinking on MTA	R-21	1	3
Effect of mathematics self-efficacy (MSE) on MTA	R-27	1	3
Effects of micro-teaching in MTA	R-28/R-36	2	3
Effect of online discussion on MTA	R-31	1	3
Factors reducing MTA	R-37	1	3
MTA factors	R-41	1	3
MSE-MTA-readiness relationship	R-3/R-10	2	4
Perception of mathematics learning environments, relationship of MSE, MA, MTSE and MTA	R-8/R-9/R-25	3	4
MTA-belief relationship	R-5/R-30	2	4
MTA-teaching type preference relationship	R-7	1	4
Mediating role of mathematics teaching proficiency on MTA	R-14	1	4
Technology use-MTA relationship	R-19	1	4
Mathematical values-MTA relationship	R-24	1	4
MTA-technological pedagogical content knowledge relationship	R-38	1	4
Relationship between MTA-success	R-44	1	4
Differences of MTA by learning style choices	R-22	1	5
Gender, grade level and grade point average differences in MTA	R-29/R-42	2	5
Scale development	R-6/R-11/R-26/R-34/R-39	5	6
Adaptation of scale	R-16/R-35	2	6

Appx-2. Distribution of studies according to their results

Results	Studies	f	Group
Geogebra design has reduced MA/MTA.	R-1	1	1
The independent variables affecting MTA are MA and MTSE.	R-8/R-20	2	1
Traditional beliefs don't affect MTA, constructivist beliefs negatively affect it.	R-13	1	1
MTA has decreased with micro-teaching/online-discussion.	R-28, R-31, R-36	3	1
MTA was below score.	R-2/R-27	2	2
MTA was found at medium level.	R-32	1	2
High mathematical thinking and low anxiety were found.	R-21	1	2
MA/MTA are at low level.	R-9/R-20	2	2
MA/MTA were found to be similar.	R-17/R-20	2	2
MA and MTA are not always related.	R-18	1	2
MTA of pre-service teachers is higher than teachers.	R-16	1	2
The perception of technology use is negatively related to MTA.	R-19	1	2
MTSE is negatively related with MTA.	R-3/R-10/R-27	3	3
Beliefs is negatively related with MTA.	R-3/R-5/R-30	3	3
MTA-teaching style are negatively correlated.	R-7	1	3
MA-MTA are positively correlated.	R-9	1	3
Metacognitive awareness-MTA are negatively correlated.	R-12	1	3
Mathematics teaching competence has a mediating role on MTA.	R-14	1	3
MTA-mathematical thinking are negative correlated.	R-21	1	3
Mathematical values-MTA are positively correlated.	R-24	1	3
Learning perception is positively correlated with MTA.	R-25	1	3
MTA-technological pedagogical content knowledge are inversely related.	R-38	1	3
The undergraduate program differs from MTA.	R-2	1	4
There was no significant difference in MTA according to grade.	R-12	1	4
MTA differs according to grade.	R-2/R-4-9/R-42	4	4
MTA does not differ by gender.	R-2-4-29-37-40	5	4
MTA differs by gender.	R-12/R-42	2	4
MTA didn't differ according to grade point average.	R-42	1	4
MTA didn't differ according to type of high school graduated from.	R-4	1	4
Learning styles differ with MTA.	R-22	1	4
MTA differs according to learning environment and branch.	R-32	1	4
MTA of students at pedagogical formation and education were close each other.	R-33	1	4
MTA differs according to education, certificate and experience.	R-37/R-40	2	4
Participation in scientific activities differs in teaching anxiety.	R-41	1	4
MA was found after experience.	R-15	1	5
MTA decreases or increases in experience.	R-23	1	5
Experience is associated with MTA.	R-43	1	5
MTA is effective in success.	R-44	1	5
A scale has been developed.	R-6/R-11/R-26/R-34/R-39	5	6
A scale has been adapted.	R-16/R-35	2	6

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The Mediating Role of Forgiveness in the Relationship between Vengeance and Tranquility

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ABSTRACT

This research aimed to examine the mediating role of forgiveness in the relationship between vengeance and tranquility. 297 university students participated in this research. Scales of revenge, forgiveness and tranquility were used to collect data. The results indicated that forgiveness played a full mediator role in the relationship between vengeance and tranquility. In other words, in this model, as vengeance increases, tranquility and forgiveness decrease, and forgiveness plays a mediating role in that relationship. Individuals with high levels of vengeance are unlikely to have high levels of tranquility and forgiveness. If individuals feel more vengeance, they may have low forgiveness and exhibit less tendency to feelings of tranquility.

Keywords:
Foregiveness, tranquility, vengeance

1. Introduction

Tranquility is a frequently used word in daily life, but it is difficult to make an operational definition of tranquility. There are discourses about tranquility in several disciplines such as philosophy and etymology. When talking about peace, people use several expressions like true tranquility, spiritual tranquility and become tranquil. It is also heard that people wish each other a "tranquil home" and the world "a tranquil life in which wars end". The concept of peace, which is also grounded in philosophy and religious science, is used together with different concepts such as happiness in positive psychology. The sensitivity theory of Reiss (2000, p. 288) addresses revenge and tranquility among 16 main structures that affect human religious behavior. Tranquility is defined in TDK's Turkish dictionary (2019) as resilience, head vigor, peace a vigor of mind, comfort, peace and rest. In positive psychology, tranquility can be thought about the completion of one's internal processes. Bacanlı (2016) discussed the concept of tranquility through the concept of self. He has mentioned a model that states that individuals may be tranquil with the overlap of their real self, ideal self, and ought self and that their level of tranquility may increase. According to Nelson (2014) tranquility reflects a tendency for self-acceptance, self-compassion, a relatively permanent congruence between aspects of self, and nonviolence toward self and a tendency for emotional states that supports interpersonal peacefulness of individuals and/or is associated with living harmony.

Walker (2015) remarked that the idea of tranquility is complex and is related to faithfulness, emotional pleasure, anxiety relief, moral behavior and maintenance of a person's own well-being. Berenbaum, Chow, Schoenleber and Flores (2016) have defined tranquility as being at peace with one's current status, regardless of the situation. Lyubomirsky, King and Diener (2005) indicated that inner peace has a positive impact on human health and well-being. Sheldon and Kasser (1995) demonstrated that various elements of tranquility, such as coherence and congruence affect positively psychological well-being. Inner peace and self-

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acceptance of individuals were also found positively correlated with happiness, life satisfaction and purposes in life (Ryff, 1989; Ryff & Keyes, 1995). When the measurement tools that measure tranquility are examined, it is seen that the 14-item questionnaire of Luma (2004) assesses the ability to cope with stress, regulate emotions, and maintain a positive perspective on life. This scale was characterized as a measure of inner peace. Roberts and Aspy (1993) defined serenity as sustained inner peace and developed a 40-item Serenity Scale which generates scores for an inner haven, acceptance, belonging, trust, perspective, contentment, present centeredness, benevolence, and cognitive restructuring/self-responsibility. The Self Perception Scale developed by Nelson (2014) includes items such as "I am self-accepting of my weaknesses and failures" and "I punish myself for my mistakes and failures" (reverse scored).

Nelson (2014) specified that anger interferes with inner peace and that inclines people to respond in an aggressive way to conflict in all domains, thus people with an ability to control anger are likely to be relatively more tranquil. Fredrickson (1998) states that the concepts of contentment, tranquillity, and serenity are used interchangeably. Based on this information, Berenbaum, Huang and Flores (2019) conducted a study that aimed to explore the differences between contentment and tranquility. They have found that both of these constructs have positive associations with basic need reproductive activities and were negatively associated with entertainment activities. Mastery activities were positively correlated with contentment, they have negatively correlated with tranquility. Besides, tranquility has a strong positive relation with spiritual activities, but it has a negative relationship with social activities. While contentment was positively associated with intellectual activities, tranquility was not related to intellectual activities. Moreover, while a relation was found between tranquility and process focus, no relation was found between tranquility and outcome focus. In conclusion, it is recommended that acceptance of one's current status and low level of neuroticism are important in order to an individual to feel tranquility (Berenbaum et al., 2016).

It can be thought that the perspective acceptance of one's current status regardless of the conditions, which is a part of the definition of tranquility, may be related to forgiveness which involves letting go of justifiable feelings of hate or anger toward a wrongdoer and desire for vengeance. The concept of forgiveness which is rooted in religious traditions and philosophy is also an important part of positive psychology. However, positive psychology argues that forgiveness is a more important construct for emotional and mental well-being than addressed in religious traditions and philosophy (Enright, 2001; Luskin, 2003). Forgiveness means giving up anger and resentment or justifiable reaction and letting go of revenge (Enright & Fitzgibbons, 2000). Forgiveness occurs in two ways: self-forgiveness and other forgiveness. According to Hall and Fincham (2005), self-forgiveness is as a motivational change that helps an individual to decrease his/her motivation to avoid stimuli related with the violation and to decrease the motivation to punish himself/herself and to take revenge against himself/herself and then to increase the motivation to act benevolently toward the self. Interpersonal forgiveness, on the other hand, has been defined as a conscious act of an unjustly hurt person to release the desire of revenge against a person who has hurt him/her and to foster undeserved beneficence, compassion and even love towards the offender (Enright & Group, 1991; North, 1987). Forgiveness is a positive response to interpersonal harm and involves letting go of anger and thought of revenge (Bono & McCullough, 2006; McCullough, 2000). The first articles published on forgiveness describe therapeutic techniques based on forgiveness to help people get rid of the effects of traumatic experiences and revengeful emotions on their psychological and relational functioning (Hope, 1987). Anger is not completely resolved until a conscious decision is made to release the desire for revenge or to forgive (Fitzgibbons, 1986).

Vengeance that is another variable of the present study, is defined on a continuum from harmless and painless actions and thoughts on one end of the continuum to destruction or death (Gabriel & Monaco, 1994). Feelings of anger and harm (Socarides, 1966) and perceived personal attacks cause revenge feelings (Cota-Mckinley, Woody, & Bell, 2001). While Stuckless and Goranson (1992, p. 25) defined vengeance as "the imposition of punishment or injury in exchange for perceived error"; Aquino, Tripp and Bies (2001, p. 53) have defined it as an action in return to some anticipated damage or impairment by another group that is intended to inflict injury, loss, punishment or discomfort on the group judged responsible. Vengeance is often shown as a motivating factor in human aggression (Stuckles & Goranson, 1992).

Barclay (2008) emphasizes that there is probably an optimal level of vengeance and forgiveness for every situation. Too little revenge is an inadequate deterrent, but too much revenge invites more retaliation.

Axelrod (1984) also stated that too little forgiveness prevents compensation of a relationship, but too much forgiveness invites future exploitation. So the optimal level of revenge and forgiveness is healthy. According to Barclay (2008), in order to develop feelings of revenge and forgiveness, the human brain makes a cost-benefit analysis according to the characteristics of the individual. Naturally, while making this evaluation, an error occurs in one of these analyses. If these errors can be balanced, the optimal level arises, but if when they do not, revenge and forgiveness are produced.

When the previous studies on tranquility in Turkish literature are examined, two studies can be seen: The tranquility model presented by Bacanli (2016) and a study conducted by Demirci (2017) which investigated a peaceful and happy life in the context of values and character strengths. In the foreign literature, there are several studies examining the relationship between tranquility and religious beliefs (Idler, 1987; Ellison, Burdette & Hill, 2009; Berenbaum et al., 2019) and focusing to explain contentment and tranquility (Berenbaum et al., 2016; Berenbaum et al., 2019). However, there are limited studies. The concept of forgiveness attracted a more deal of interest in the previous literature. Previous studies examined the relationships between forgiveness and several constructs such as psychological resilience (Abid & Sultan, 2015; Çapan & Arıcıoğlu, 2014), perfectionism (Kaya & Peker, 2016), vengeance (Satici, 2016), anger (Topbaşoğlu, 2016), happiness and empathy (Kaya & Orçan, 2019). In addition to descriptive studies focused on vengeance (Goldner, Lev-Wiesel, & Simon, 2019; Jackson, Choi, & Gelfand, 2019), the association between vengeance and forgiveness has been also examined (Zhang, Oetzel, Ting-Toomey, & Zhang, 2019). Based on the previous literature, in the current research, it is aimed to examine the mediating role of forgiveness in the relationship between vengeance and tranquility. Therefore, the hypotheses are as follows:

i. Vengeance is negatively related to forgiveness.

ii. Vengeance is negatively related to tranquility.

iii. Forgiveness is positively related to tranquility.

iv. Forgiveness plays a mediating role in the relationship between vengeance and tranquility.

2. Method

2.1. Research Model

This research, which aimed to examine the mediating role of forgiveness on the association between vengeance and tranquility, is designed according to the correlational research design (Karasar, 1994). The dependent variable of the current study is tranquility, the independent variable is vengeance and the mediating variable is forgiveness.

2.2. Study Group

This study is conducted with 297 university students who are enrolled in the Faculty of Education in Fatih Sultan Mehmet Foundation University and Sakarya University. Of the participants, 255 were female (75.8%) and 72 were male (24.2%). Among the participants, there were 29 (9.8%) first grade, 89 (30.1 %) second-grade, 64 (21.5%) third grade and 114 (38.4%) fourth-grade students. 217 (73.1%) of the participants were from the medium socio-economic background. Besides, 54.5% (162) of the participants lived in a metropolis and 23.9% (71) lived in the city center. The mean age of the study group was 21.69.

2.3. Data Collection Tools

Personal Information Form: A personal information form was developed and used by the researcher to collect data on demographic variables including age, gender, where he/she lived most, parental attitude and income level.

The Tranquility Scale: The Tranquility Scale (TS) was developed by Demirci (2017) and Demirci and Ekşi (2018), consists of 8 items and has one dimension. Items are rated 5-Likert type scale. The results of the exploratory factor analysis which were conducted to constructs validity of TS it was found that the scale has 8 items and a unidimensional structure with a score of 3,23 eigenvalues and explaining 40,338% of the total variance. The factor loadings of the items range from .55 to .71. The Cronbach alpha internal consistency of the TS was found as .91 by Demirci (2017). The test-retest reliability coefficient was calculated as .83. The

scores range from 8 to 40, with higher scores indicating a higher level of tranquility (Demirci, 2017). In this study, the Cronbach alpha coefficient for the TS was .82.

The Forgiveness Scale: The Forgiveness Scale (FS) was developed by Ersanlı and Vural-Batık (2015) to determine the forgiveness level of university students. The results of the confirmatory factor analysis indicated that the FS that consists of 2 subscales and these two subscales explains 46,09 % of total variance and two-dimensional model is within acceptable fit limits ($x2/sd$ = 1.95, *RMSEA* = .07, *GFI* = .91, *AGFI* = .87, *SRMR* = .06, *NNFI* = .89, *CFI* = .91, p<.000). The first subscale which is called "Forgiveness of Other" contains 10 items and the second subscale which is called "Forgiveness of Self" contains 3 items. A positive correlation which calculated for convergent validity was found as .56 between the FG and The Tolerance Scale (Ersanli, 2014). The internal consistency of the FC was good with a Cronbach's Alpha of .74. The split-half reliability coefficient was found as .71 for the first half, and .77 for the second half. The FS is a 7-point Likert-type scale and scores range from 13 to 91 with higher scores indicating higher levels of forgiveness (Ersanlı & Vural-Batık, 2015). In this study, the Cronbach alpha coefficient for the TS was .80.

The Vengeance Scale: The Vengeance Scale (VS) was developed by Stuckless and Goranson (1992) and adapted to Turkish by Satici, Can and Akin (2012). As a result of the exploratory factor analysis, it was found that the Turkish version of the VS explained 37% of the total variance and that it had a one-dimensional structure as in the original scale. The results confirmatory factor analysis confirmed that the unidimensional model fit well (χ^2 = 341, χ^2/sd = 2.23, *NFI* = .95, *CFI* = .97, *IFI* = .97, *RFI* =.94, *GFI* = .91, *RMSEA* = .061 and *SRMR* = .05). The Cronbach's alpha internal consistency coefficient of the VS was calculated as 0.91, while the test-retest correlation coefficient was .87. The VS consists of 20 items and the total score of scale ranging within 20-140. Higher scores indicate higher levels of vengeance (Can & Akin, 2012) . In this study, the Cronbach's alpha coefficient for the VS was .90.

2.4. Data Collection

Ethical permission for the research had been obtained from the Ethical Committee of the Fatih Sultan Mehmet Foundation University. All the participants were informed about the aim of the study by the researcher and they were voluntarily completed the questionnaire packet. It took approximately 10 minutes to complete the questionnaires.

2.5. Data Analysis

Firstly, descriptive statistics were used to analyze the data. The result of the analysis reported that data has a normal distribution. The skewness and kurtosis coefficients were calculated as -.42 and -.01, respectively, for tranquility scale, -.08 and -.18, respectively, for forgiveness scale and .47 and .52, respectively, for vengeance scale. All the values are within the ±1.50, meeting the criteria suggested by Tabachnick and Fidell (2013). Path analysis was used to test the mediating effects of forgiveness on the association between vengeance and tranquility. The analysis was done using SPSS 23 and AMOS software programs. Significance was tested at a probability level of .05.

3. Findings

Research findings are of the statistical analysis of the data obtained from the study presented and interpreted in this section. Path analysis was performed in the current study which aimed to examine the mediating role of foregiveness on the relationship between perceived vengeance and tranquility. Several conditions must be met to show a mediational effect: (1) independent variable must be associated with dependent variable, (2) the mediating variable must be associated with the independent variable, (3) both the mediating variable and the independent variable must predict the dependent variable together and the mediating variable must be associated with the dependent variable (Kalaycı, 2010). Results indicated that vengeance was negatively correlated with tranquility (r = -.21, p < .01), vengeance was negatively correlated with forgiveness (r = -.54, p < .01) and there was a meaningful relationship between forgiveness and peace, while forgiveness and revenge are co-ordinating regression (β = .27, p < .001). Results show that necessary conditions have been met.

Total mean scores of participants and standard deviations are presented in Table 1.

Table 1. The mean scores and standard deviation scores and correlations scores of the participants

	n	Mean	*SD*	1	2	3
1.Tranquility	297	29.38	5.24	1		
2.Foregiveness	297	55.11	11.62	.31**	1	
3.Vengeance	297	65.17	20.54	-21**	-.54**	1

$p < .01$

When the Table 1 examined, it can be seen that the respondents exhibited a medium level of tranquility (M=29.38, SD=5.24) and forgiveness (M=55.11, SD=11.62) and low-medium level of vengeance (M=65.17, SD=20.54). Moreover, the findings indicated that there is a significant and positive relation between tranquility and forgiveness (r = .31, p < .01) but vengeance was negatively correlated with tranquility (r = -.21, p < .01) and forgiveness (r = -.54, p < .01). In other words, people with high tranquility tend to experience high forgiveness and an increase in forgiveness and tranquility may have an impact on the decrease in feelings of vengeance. "Three conditions must be met before testing the mediation effect. 1) significant relationship between independent and dependent variable significant relationship between mediator variable and independent variable, 3) A significant relationship between the mediator variable and the dependent variable, while both the mediator and the independent variable predict the dependent variable" (Kalaycı, 2010). It is seen that the conditions are met.

The results of path analysis which was conducted to explore the mediating role of forgiveness in the relationship between tranquility and vengeance were presented in Figure 1. The primary analysis indicated that the direct effect of vengeance on tranquility is negative (β = -.21; p <.001). When forgiveness is added to the model (Figure 1), it is seen that this effect meaningless (β = -.01, p >.05). İn other words, it has been determined that forgiveness has a full mediating role in the relationship between tranquality and revenge. While vengeance has a negative effect on forgiveness (β = -.54, p <.001), forgiveness has a positive effect on tranquility (β = .27, p <.001). In other words, the effect of vengeance on forgiveness and the effect of forgiveness on tranquility are significant. Moreover, when the fit indices of the model are examined, it is observed that the model fits well ($x2/df$ = 1.02, NFI = .99, RFI = .98, CFI = 1.00, $RMSEA$ = .008). In the model, forgiveness accounted for 10% of tranquility and vengeance accounted for 29% of forgiveness.

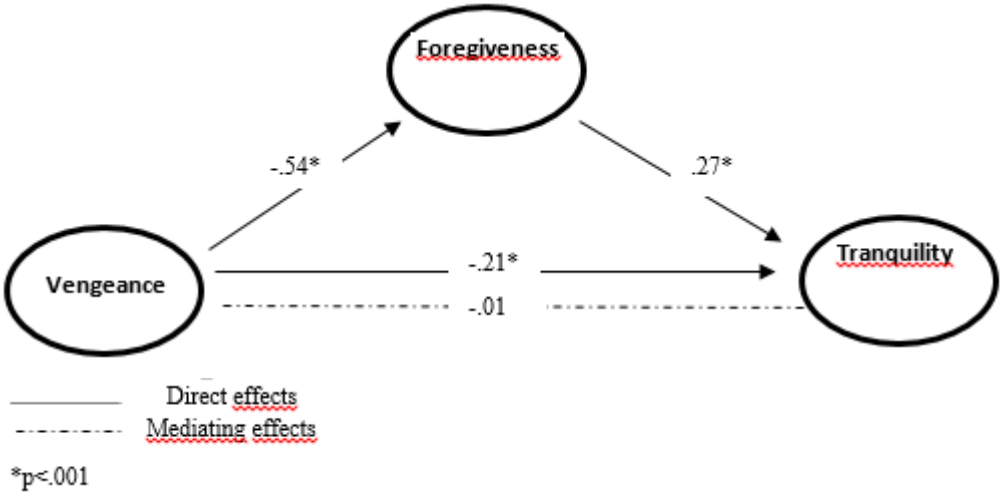

Figure 1. Standardized coefficient values for the model

4. Conclusion, Discussion and Suggestions

The present study aims to examine the relationships between vengeance, forgiveness, and tranquility. As expected, the results indicated that forgiveness played a full mediator role in the relationship between vengeance and tranquility. In other words, in this model, as vengeance increases, tranquility and forgiveness meaningless, and forgiveness plays a mediating role in that relationship. Individuals with high levels of vengeance are unlikely to have high levels of tranquility and forgiveness. If individuals feel more vengeance, they may have low forgiveness and exhibit less tendency to feelings of tranquility.

The results of the current study indicated a negative association between vengeance and forgiveness. In a study which was conducted by Uysal and Satici (2014) with 298 university students, it was found that

subjective happiness mediated the negative relationship between forgiveness and vengeance. Giammarco and Vernon (2014) investigated the relationship between Machiavellianism, narcissism, and psychopathy which are often referred to as the dark triad of personality and vengeance, forgiveness and empathy. They have found that Machiavellianism and psychopathy are positively correlated with a vengeance and negatively correlated with forgiveness and empathy. Therefore, it can be said that show vengeance and forgiveness negative association with each other. In their study conducted with 159 young adults, Bajwa and Khalid (2015) concluded that there was a negative correlation between vengeance and forgiveness. In another study which aimed to explore the relationship between forgiveness, revenge, social connectedness, and subjective well-being in university students, a significant negative association was found between vengeance and forgiveness (Satici, 2016). Uzun and Es (2019, p. 40) aimed to investigate the strengths of feelings of forgiveness in students and demonstrated that those who did not have a strong desire for revenge, tend to have strong feelings of forgiveness. They have also stated that as an individual's desire for vengeance decreases, self-forgiveness, the forgiveness of others and forgiveness of situations increases. These findings support the results of the current study.

The results of the current study revealed a negative correlation between vengeance and tranquility. To date, there is no direct research on the relationship between these variables. It is possible to say that the concept of tranquility is given little attention in the existing literature (Floody, 2014). However, when we look at the researches on acceptance which is a part of the definition of tranquility, it can be said that they indirectly support the negative relationship between vengeance and tranquility. For example, McCullough, Bellah, Kilpatrick and Johnson (2001) demonstrated that neuroticism had a positive relationship with revenge and a negative correlation with agreeableness. Likewise, Steel, Schmidt and Shultz (2008) and John and Srivastava (1999) concluded that there was a negative correlation between neuroticism and agreeableness. Pekala, Kumar, Maurer, Elliot-Carter and Moon (2009) have demonstrated that chronic alcohol and other drug-related populations and self-esteem (associated with substance abuse and relapse) are closely related to tranquility and anger-impulsivity. They have also stated that interventions designed to increase serenity can be very useful in reducing the urge to anger and in chemical addiction treatment programs.

The results of the current study also showed that there is a positive relationship between tranquility and forgiveness. In her book “Positivity” Barbara Fredrickson (2009) mentions about positive emotions as a component of tranquility. She also remarked that developing positive emotions such as gratitude, kindness hope, and mindfulness can help to build permanent personal resources (physical, intellectual, social and psychological). In this context, when the researches on the components of tranquility and positive emotions are examined, in a study conducted by Mayton (2012) it was demonstrated that self-acceptance was positively related with psychological nonviolence and Browne et al. (2010) showed that acceptance and inner peace were positively associated with psychological nonviolence.

Other findings of the current study indicated that forgiveness mediated the association between vengeance and tranquility. In other words, as forgiveness increases, vengefulness decreases but tranquility increases too. Previous literature propounded that while forgiving one’s transgressors has a positive influence on well-being but to seek revenge against the transgressor reduces well-being (McCullough et al., 2001). In their research, Linley, Maltby, Wood, Osbourne and Hurling (2009) stated that self-acceptance which is a component of tranquility has a positive relation with well-being. Lyubomirsky et al. (2005) remarked that tranquility is related to well-being. The results of the previous studies which indicated the association between revenge, forgiveness, and tranquility are consistent with the results of the present study.

The current study is limited to university students. Further research targeting sample groups can contribute to the literature. The data are limited to self-report responses of the participants. In a cross-sectional study, it is difficult to make cause-effect inferences. Finally, in this study, the mediating role of forgiveness in the vengeance–tranquility relationship has been examined. Future studies may investigate different variables that may play a crucial role between these variables.

Despite these limitations, the current study has made an important contribution to psychology literature. It is observed that in the psychology literature, there are limited studies on tranquility. However, tranquility is the desired feeling for all people. Forgiveness is one of the important concepts in the field of positive psychology. The findings of the study demonstrated that forgiveness is positively related to tranquility and

negatively related to vengeance. Thus, the findings provide information about the mediating role of forgiveness in the relationship between vengeance and tranquility. Intervention programs focusing on enhancing forgiveness may help individuals in all age groups to be less vengeful and more tranquil. Therefore, mental health professionals need to design and implement programs to increase forgiveness. It is also important to carry out qualitative and quantitative studies that will contribute to the literature on the tranquility.

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Perceived Parental Relationship Behaviors, Dyadic Perfectionism in Romantic Relationships and Relationship Quality Among College Students

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ABSTRACT

Romantic relationship quality is affected by a number of individual and environmental factors. In evaluation process of romantic relationship, individual's criteria and the resources that create these criteria have great importance as well. The main purpose of this study was to investigate the correlations among perceived parental relationship behaviors, dyadic perfectionism in romantic relationships, and relationship quality. The research sample comprised 246 students who studied in different departments at Trabzon University and had a romantic relationship at that time. As a result of the analysis, significant correlations were found between the perceived parental relationship behaviors and dyadic perfectionism in romantic relationships, and relationship quality. In addition, it was determined that order and social support scores of females were significantly higher than males. In line with the results, the previous studies reveal that negative patterns between parents and perfectionistic tendencies in relationships negatively affect romantic relationships.

Keywords:
Romantic relationship, perceived parental relationship behavior, dyadic perfectionism in romantic relationships, relationship quality.

1. Introduction

Romantic relationships have a significant effect on self-improvement and life satisfaction. This effect which involves romantic experiences of the individuals and their assessment towards partners can be observed positively or negatively based on the course and quality of relationships. It emphasizes subjective assessments instead of absolute truth and concrete criteria regarding relationships and makes the concept of relationship quality a subject of study. Assessing the quality, individuals compare the relationships they have experienced and those they expect to live. Social support, a variable affecting general mental health as well, is an important resource in private relationships for all (Pierce, Sarason, & Sarason, 1990). Perception of high social support improves the adaptation to a relationship and affects relationship quality between partners distinctively (Özabacı, 2011; Pierce, Sarason, & Sarason, 1991). In addition to social support expected from the partner, conflict and depth perception have an impact on relationship quality. Conflict involves disagreements in the relationship and negative emotions that result from partners, and also dept perception includes the role of individual in the relationship, confidence in the relationship, and the course of the (Pierce et al., 1991; Pierce, Sarason, Sarason, Solky-Butzel, & Nagle 1997). Social learning processes and impact of parents have specific reflections on social support expected from partners, conflict and relationship depth.

Family as the first unit, in which socialization process begins, plays a crucial role in shaping expectations and behaviors about the relationships. Individuals who directly or indirectly observe the relationships between

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their parents are likely to use these experiences in shaping their behaviors by reflecting on their romantic relationships. It reveals that romantic relationship style is affected by parents' marital relationships (Cui, Fincham, & Pasley, 2008) and the structures in the family of origin (Benson, Larson, Wilson, & Demo, 1993; Cui & Fincham, 2010). With a more concrete and specific assessment, it is evident that there is a tendency for similar patterns to emerge between the quality of communicating, criticizing and problem-solving ways of the parents and how their children develop romantic relationships (Amato, 1996; Cui & Fincham, 2010). This effect can be observed in different ways from attachment in a romantic relationship (Rodrigues & Kitzmann, 2007) to being exposed to violence and using violence (Liu, Mumford, & Taylor, 2018; Temple, Shorey, Tortolore, Wolfe, & Stuart, 2013). In this context, the impact of the inter-parental conflicts has been mostly examined in the literature. Studies reveal that such conflicts affect children's romantic relationships and increase their potential of having conflicts in the future (Herzog & Cooney, 2002; Kim, Jackson, Hunter, & Conrad, 2009). Furthermore, the effects of inter-parental relationship quality (Einav, 2014; Liu et al., 2018) and divorce (Sprague & Kinney, 1997) have been frequently investigated.

Another variable known to have negative effects on relationships is perfectionism (Hewitt & Flett, 1991). Perfectionism is a multidimensional and complex personality trait characterized by an effort for perfection, high performance standards, and excessive criticism (Frost, Marten, Lahart, & Rosenblate, 1990; Stoeber, 2018). This common characteristic may affect the life in every respect (Stoeber & Stoeber, 2009). Perfectionism may arise positively or negatively. Sometimes, it makes a contribution to the individuals, on the other hand it may have negative effects (Enns & Cox, 2002; Stoeber & Otto, 2006). Accordingly, the healthy form of perfectionism is defined as positive, whereas its pathologic form is defined as negative perfectionism (Slade & Owens, 1998).

Perfectionism consists of three dimensions: self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism (Hewitt & Flett, 1991). The dimensions of perfectionism which interpersonal components are dominant affect interpersonal functions of individuals. Other-oriented perfectionism defined as the tendency to have extreme standards for other people by Hewitt & Flett (1991) may cause problems in intimate relationships as well (Flett, Hewitt, Shapiro, & Rayman, 2001; Habke & Flynn, 2002; Hewitt, Flett, & Mikail, 1995).

According to the previous research, there are various factors that affect individual's behaviors and relationship assessment. As well as abovementioned variables, demographic attributes of the individuals have an effect on relationships. For instance, society attributes different roles to males and females within the context of relationships. When these roles are considered, gender has an impact upon the expectations of the individuals from their relationships and partners and consequently upon their assessment of relationship. There is a limited number of studies with different results in the literature that examine this impact on relationship assessment and perfectionistic behavior (Arcuri, 2013; Büyükşahin-Sunal, Ok, & Keskin, 2016).

Relationships in adolescence and early adolescence play a significant role in the development of individuals (Furman & Schaffer, 2003) and their romantic relationships in the future (Furman, 2002). In order to build a healthy relationship, it is significant to specify the factors which affect romantic relationships in this stage. In this regard, the study sample consisted of college students who had a romantic relationship. The main purpose of the study was to investigate the relations between perceived parental relationship behaviors, relationship quality and dyadic perfectionism in romantic relationships. The secondary purpose was to determine the effect of gender on dyadic perfectionism in romantic relationships and relationship quality.

2. Method

Correlational research methods which investigate the relation between two or more variables and causal-comparative research methods that aim to determine whether groups differ in terms of a certain variable were used in this research based on a quantitative approach (Fraenkel, Wallen, & Hyun, 2012). The research sample was selected by convenience sampling method. It is designed to select the sample from individuals who are easily accessible due to the limitations such as time, money, and workforce (Fraenkel et al., 2012). Using convenience sampling may create limitations in terms of reliability and generalization of the results. However, such limitations that may result from the sample can be statistically controlled while analyzing the data (Barker, Psitrang, & Elliott, 2002).

2. 1. Participants

The research sample comprised 246 college students who studied at Trabzon University in the 2019-2020 academic year and had a romantic relationship (70.7% female, 24.8% male, 4.5% unspecified). The majority of participants (43.3%) had middle income. The average of the participants' relationship periods was 31.47 months (±32.13) and the average age was 22.76 (±3.52). The participants who started a new relationship or sustained a long-term relationship in the research group caused a wider range of the relationship period and high standard deviation.

2. 2. Instruments

The research data were collected by Perceived Parental Relationship Behavior Scale (Çelik & Öziş, 2016), Dyadic Almost Perfect Scale (Taluy, 2018), Relationship Quantity Scale (Özabacı, 2011), and personal information form that involves information of gender, education level, income, age and relationship period of individuals.

2. 2. 1. Perceived Parental Relationship Behavior Scale

The Perceived Parental Relationship Behavior Scale was developed by Çelik and Öziş (2016) to evaluate the perceived relationship behavior between parents. In the scale with 37 four-point Likert-type items, each item was separately graded for both mother and father. The scale consists of five factors: authoritarian, neglectful, protective, democratic, and dependent. Cronbach alpha internal consistency coefficients of the scale ranged from .80 to .95 for mother form; while it ranged from .73 to .95 for father form.

2. 2. 2. Dyadic Almost Perfect Scale

The Dyadic Almost Perfect Scale was developed by Shea, Slaney and Rice (2006) to measure perfectionism in intimate relationships and adapted to Turkish culture by Taluy (2018). The 26-item scale has seven-point Likert-type rating. The scale consists of three factors: discrepancy, high standards, and order. Cronbach alpha internal consistency coefficients for the sub-dimensions were .93, .82 and .87, respectively.

2. 2. 3. Relationship Quality Scale

The Relationship Quality Scale was developed by Pierce et al. (1991) and was adapted by Özabacı (2011) to Turkish culture. The scale with 16 four-point Likert type items consists of three factors: social support, depth, and conflict. Cronbach alpha internal consistency coefficient for total is .85.

2. 4. Data Analysis

SPSS 23.00 packaged program was used for data analysis. Descriptive statistics, the Pearson Product-Moment Correlation Coefficient (PPMCC), and independent *t* test were used. The normality of variables was tested before the analysis. It was determined that coefficients of kurtosis and skewness for the variables were acceptable for normal distribution (Kalaycı, 2016).

3. Findings

In consequence of the analysis, it was found that discrepancy, one of the sub-dimensions of dyadic perfectionism in romantic relationships was significantly correlated with authoritarian (r=-.18, p<.01), neglectful (r=.22, p<.01), democratic (r=-.15, p<.05), and dependent (r=.22, p<.01) relationship behaviors of mother. There were significant correlations of high standards with authoritarian (r=.16, p<.05), protective (r=.18, p<.01), and dependent behavior (r=.19, p<.01); whereas no correlation existed between order and perceived relationship behaviors of mothers. Additionally, significant correlations were identified between social support and neglectful (r=-.31, p<.01), and democratic (r=.31, p<.01) behavior; depth and democratic behavior (r=.15, p<.05); between conflict and authoritarian (r=.19, p<.01), neglectful (r=.25, p<.01) and dependent (r=.18, p<.01) behaviors. There were significant correlations of discrepancy with authoritarian (r=.18, p<.01), neglectful (r=.17, p<.01) and dependent (r=.17, p<.01); and of high standards with authoritarian (r=.23, p<.01), protective (r=.13, p<.05) and dependent (r=.14, p<.05) relationship behaviors of fathers were identified. Furthermore, significant correlations were observed between social support and neglectful (r=-.14, p<.05), and democratic (r=.16, p<.05) behavior; between depth and protective behavior (r=.13, p<.05). There were significant correlations of conflict with authoritarian (r=.23, p<.01), neglectful (r=.27, p<.01), and dependent (r=.15, p<.05) behavior. The correlations between variables were summarized in Table 1.

Table 1. Correlations of perceived parental relationship behavior with relationship quality, and dyadic perfectionism in romantic relationships

Variables		Dyadic Perfectionism in Romantic Relationships			Relationship Quality				
Perceived Parental Relationship Behavior		Discrepancy	High Standards	Order	Social Support	Depth	Conflict	M	SD
Mother	Authoritarian	.18**	.16*	.00	.01	.05	.19**	4.68	2.77
	Neglectful	.22**	.11	-.05	-.31**	-.11	.25**	3.25	4.19
	Protective	-.03	.18**	.10	.10	.12	.00	10.95	4.01
	Democratic	-.15*	.05	.11	.31**	.15*	-.08	27.31	7.95
	Dependent	.22**	.19**	.09	-.06	.05	.18**	6.01	4.80
Father	Authoritarian	.18**	.23**	.08	-.06	-.04	.23**	5.60	2.65
	Neglectful	.17**	.13	.07	-.14*	-.05	.27**	6.02	6.09
	Protective	-.02	.13*	.07	.09	.13*	-.03	10.21	4.21
	Democratic	-.11	.-.08	-.01	.16*	.08	-.11	24.82	9.20
	Dependent	.17**	.14*	.01	-.06	-.03	.15*	5.08	4.28

The analysis demonstrated that, dyadic perfectionism in romantic relationships was positively correlated with some sub-dimensions of the relationship quality. There were negative correlations of discrepancy with social support (r=-.36, p<.01) and depth (r=-.37, p<.01); whereas there was positive correlation between discrepancy and conflict (r=.45, p<.01). In addition, positively significant correlations were found between high standards and conflict (r=.27, p<.01) besides between order and social support (r=.13, p<.05). The correlations between variables were summarized in Table 2.

Table 2. Correlations between dyadic perfectionism in romantic relationships and relationship quality

Variables	1	2	3	4	5	6	M	SD
1- Discrepancy [a]	1						44.74	16.83
2- High Standards[a]	.54**	1					23.37	6.21
3- Order[a]	.16*	.33**	1				21.84	5.03
4- Social Support[b]	-.36**	-.07	.13*	1			14.40	2.00
5- Depth[b]	-.37**	-.01	.07	.48**	1		14.75	1.66
6- Conflict[b]	45**	.27**	.12	-14*	-.05	1	21.66	3.80

[a]Sub-dimensions of Dyadic Perfectionism in Romantic Relationships, [b]Sub-dimensions of Relationhip Quality, *p<.05, **p<.01

Independent t tests were conducted to determine gender differences in dyadic perfectionism in romantic relationships and the relationship quality scores and results were summarized in Table 3. As a result of the analysis, the scores of order (t=2.23, p<.05, d=.33) and the scores of social support (t=2.23, p<.05, d=.32) varied by gender. Accordingly, it was identified that females perceived higher social support and had higher expectations related to order from their partners compared to males.

Table 3. Analyzing dyadic perfectionism in romantic relationships and relationship quality scores according to gender

Variables	Gender	N	M	SD	df	*t*	*p*
Discrepancy [a]	Female	174	43.62	16.16	233	-1.55	.12
	Male	61	47.49	18.45			
High Standards[a]	Female	174	23.45	6.23	233	.45	.65
	Male	61	23.03	6.28			
Order[a]	Female	174	22.14	4.95	233	2.23	.03
	Male	61	20.47	5.26			
Social Support[b]	Female	174	14.56	1.91	233	2.23	.03
	Male	61	13.90	2.17			
Depth[b]	Female	174	14.82	1.58	233	.77	.44
	Male	61	14.63	1.78			
Conflict[b]	Female	174	21.39	3.83	233	-1.65	.10
	Male	61	22.32	3.69			

[a]Sub-dimensions of Dyadic Perfectionism in Romantic Relationships, [b]Sub-dimensions of Relationhip Quality

4. Results and Discussion

The main purpose of this research was to examine the correlations among perceived parental relationship behaviors, relationship quality, and dyadic perfectionism in romantic relationships of college students. One of the perceived parental relationship behaviors, being democratic was positive, whereas others were negative. The results showed that the negative parental relationship behaviors were significantly correlated with the quality of individuals' current relationships. In other words, a linear correlation was revealed between these behaviors and conflict, one sub-dimension of the relationship quality. This finding is consistent with the research results indicated that the individuals who witness or suffer from negative parental relationship behaviors such as conflict have problems in their current relationships (Altınok & Hamamcı, 2018; Cui & Fincham, 2010; Gabardi & Rosen, 1993; Liu et al., 2018). When considered more specifically, significant correlations of negative relationship behaviors classified as authoritarian, neglectful, and dependent with relationship behaviors such as conflict were in line with some of the similar research findings (Altınok & Hamamcı, 2018; Cui & Fincham, 2010; Cui et al., 2008; Kim et al., 2009; Liu et al., 2018; Simon & Furman, 2010). On the other hand, it showed that individuals who perceived the relationship behavior of their parents as democratic had higher social support and depth perceptions in relationships. Accordingly, it was implied that relationship qualities of the individuals who had a healthy parental relationship behavior were higher. In a research by Masarik et al. (2013), it was also concluded that positive interaction between parents improved the relationship quality.

In this research, significant correlations were found between some of the perceived parental relationship behaviors and certain sub-dimensions of dyadic almost perfect scale. Individuals who had authoritarian, neglectful, and dependent parental relationship experiences had the opinion that their expectations were not met by their partners in the relationships. These results support the finding obtained by Herzog and Cooney (2002) that the conflicts between parents had an impact on people's interactions in current close relationships. At the same time, parental relationship-attachment patterns described by Rodrigues and Kitzmann (2007) and results of the research conducted by Dennison and Koerner (2006) on attitudes towards marriage show similarities with these results. On the other hand, Einav (2014) revealed that individuals' perceptions of relationship qualities of their parents did not affect their expectations of intimate relationships in the future.

One of the purposes in this study was to investigate the association between dyadic perfectionism in romantic relationships and relationship quality. The relationships between the variables indicated that high expectations towards a partner and the opinion the partners were inadequate influence the relationships negatively. Social support and the perception of depth in relationships of these individuals were low, which increased the potential of conflict. The studies in the literature similarly reveal that high standards individuals set for their partners (Mee, Hazan, Baba, Talib, & Zakaria, 2015) and dissatisfaction at their partners' performance (Lopez, Fonz-Scheyd, Morúa, & Chaliman, 2006; Mee et al., 2015) affected relationships negatively. Furthermore, there are studies suggesting that the other-oriented perfectionism and socially prescribed high perfectionism had negative effects on relationships (Haring, Hewitt, & Flett, 2003; Hewitt et al., 1995; Mee et al., 2015; Şensoy, Asıcı, & İkiz, 2019).

Finally, the role of gender on perfectionism in relationships and relationship quality was examined. As a result of the analysis, expectations related to order and perceived social support in relationships for females were significantly higher than males. Our findings show similarities to the research by Büyükşahin-Sunal et al. (2016) revealing that gender did not affect individuals' assessments of relationships. The finding of Arcuri (2013) that having high standards in relationships did not vary by gender also supports the results of the present study. However, Arcuri (2013) indicated that females had lower satisfaction with their partners, unlike this study results.

In summary, significant correlations were determined among the sub-dimensions of perceived parental relationship behavior, dyadic perfectionism in romantic relationships, and relationship in this study. Based on these findings, it is evident that perceived parental relationship behaviors and the perfectionistic tendencies in relationships affect the relationship qualities. On the other hand, this study has some limitations. The first one is that the research data are based on personal statements. Other limitations are that the research group consisted of college students and the perception of inter-parental relationships is discussed only within the context of behaviors.

In this context, the perceptions of inter-parental relationships should be examined with different variables and some skills such as conflict or problem solving that may affect parental relationship behaviors should be considered. Moreover, it is expected that conducting longitudinal studies to investigate the parallelism of parents' relationship behaviors and their children's behaviors will contribute to the field in terms of understanding this relationship. In conclusion, it is recommended to increase age range of the research group and including individuals who have different educational levels in the scope of research. It is important in practice to raise parents' awareness about the effects of the inter-parental relationships on their children in terms of the quality of intimate relationships that their children will experience in the future. Similarly, it is regarded as significant for healthy relationships to show the effects of negative perfectionistic behaviors of the adults in relationships and to minimize them. Accordingly, organizing various seminars and trainings is suggested to raise awareness and to gain certain skills for parents and adults.

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Cinderella Syndrome "Women with Fear of Independence": Developing a Scale

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ABSTRACT

Cinderella syndrome is a concept which is used to define woman who fear from being independent. Women with Cinderella syndrome are in the need of men's refuge and protection. The syndrome is like a psychological dependence for women and in this dependence, situation being patient and moral is important for being rescued by a man as a reward. In the syndrome women expect a man to come and take control of their own lives so that they can live happily. The aim of the study developing a scale into Turkish culture to determine the level of Cinderella Syndrome in females. The Cinderella Syndrome Scale is a 5-point Likert Type scale which includes 25 items. Exploratory factor analysis (EFA) was conducted to define construct validity and three factors were determined, called "sexist attitude", "escape from responsibility" and "quitting career". According to EFA, three factors describe 54,69 % of the variance. Results of EFA were validated by confirmatory factor analysis (CFA). The Cronbach's alpha was found as .94 for the total scale.

Keywords:
Cinderella syndrome, woman, man, gender, dependence

1. Introduction

Gender patterns, which form beliefs about the behavior of women and men, show themselves in particular in patriarchal societies, and in romantic relations it affects expectations about the role, duties, and responsibilities of men and women and relationship goals.

Gender patterns that are used to describe the social and cultural personality characteristics described as masculine and feminism are attributed to certain characteristics of the woman and man. Traits such as sensuality, weakness, dependence, or passive are defined as feminine; characteristics such as greed, power, aggression, or independence are seen as masculine (Eagly & Wood, 1999). In parallel, girls are grown from a small age to be female, and boys are raised to be men. From the perspective of the historical process, it is seen that this situation is more against women.

Women are encouraged to feel safe and comfortable from a small age, and hence they are trained not for freedom, but for dependence. This dependent process, expressed in feminism, causes fear of independence. The way to get rid of this fear is to have a man to protect herself (Kelley, 1994).

According to Dowling (1998), mothers' anxious or overprotective attitudes often create fear in their daughters. Mothers who teach their little girl to avoid risks, unintentionally, prevent the child from learning how to cope with fear, and girls, from early ages, doubts about their own skills, therefore they believe that in order to

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survive they should be supported and protected. Social expectations and concerns of parents restrengthen this belief.

The girl trained to become dependent is unable to get rid of this dependence she used to comfort when she grew up (Dowling, 1998) and thinks that the way to protect this "comfort" is only possible with a male savior (Saha and Safri, 2016). The concept of the Cinderella complex, used by Dowling (1998) to describe this situation as the basis of psychological dependence in women, is a psychological syndrome in which women are in the need of protection from a dominant figure (preferably male) without awareness (Saha & Safri, 2016).

The Cinderella Syndrome is named after the Story of Cinderella, waiting for the handsome prince to save herself from the evil stepmother and siblings, and was first conceptualized by Collette Dowling in the early 1980s. The Cinderella of Perrault is a good-hearted, gentleman who does not hold grudges against evil. Through this theme, a woman is said to be patient and moral in order to overcome difficulties, and be should wait for the day in which a man will come for her as a reward for her patience. In order to be perceived as virtuous, a woman should be compliant, attractive, faithful, and sexually "clean" (Saha & Safri, 2016). Cinderella is depicted as a helpless, passive victim who needs protection. "Perfect girl" is always soft, polite and cute (Shaw & Lee, 2001). Cinderella's weaknesses are contrasts with the evils of struggle. But eventually she falls in love with the prince and she marries and lives happily ever after. Cinderella's experience is an excellent example of psychological dependence in women. In modern society, these emotions may result in discrimination in the workplace or unemployment on women (Su & Xue, 2010).

Cinderella syndrome also includes the society's emphasis on youth, beauty and weakness in women. Cinderella is a good-hearted woman who doesn't bear a grudge against her own sister, and stepmother. As a result, many women accept challenges as a source of freedom. Instead of being independent, women are directed towards men for protection. Therefore, it is understandable that girls who grow by reading these tales will be a woman who passively spends their time waiting for their princes. The attractive and beautiful appearance of a girl always plays a crucial role in choosing a prince's wife. As a result, women care about beauty as the main factor in pleasing a man (Su & Xue, 2010). Today, the beauty industry is regarded as one of the areas where self-transformation through the Cinderella image is found (Miller, 2008).

This syndrome basically suggests that women are seeing themselves as "young girls in agony" and waiting to be rescued by a man. According to this, women expect a man who controls their lives and thus lives happily (Saha & Safri, 2016). These women protect their dependence, in every development phase; from kindergarten to university, professions, and marriages (Dowling, 1998). Cinderella syndrome is not only in some women, but in fact in all women and reflects a secret fear of independence (Barnes, 2009).

Dowling (1998) generally ranks the following forms of distinctive beliefs and behaviors in Cinderella syndrome: Adopt a role of "submissive" to avoid the tension that life brings; Internal belief that men should work harder and take risks; Internal or external rage against the thought that she had to take responsibility for her own life; belief that men are stronger, smarter, and resourceful than women; the extraordinary need for support when engaged in outward-oriented activities; believe that a man in marriage has the right to provide financial assurance to her; be proud of the skills of raising a child or devoting herself for housework; ignoring the symptoms of problems in the relationship, as little as possible questioning and seeing this situation as "endure".

Talented women are often reluctant to engage in the real self-sufficiency situation or have unnecessary concerns. Many prefer to be smart but unnoticed supporters of strong men (Dowling, 1998). Similar situation is seen in the career planning of these women. DiSabatino (1976) describes factors that are causing problems while career planning and decision making for women: women have a fear of failure more than man; women trust their skills less, development of independence and self-confidence is low; women often have conflicts between spouse and mother roles and their roles in the workplace (as cited Borman & Guido-DiBrito, 1986). In this syndrome, the woman is constantly working and waiting for a reward. It is a characteristic of Cinderella syndrome to constantly work and to settle for many things and to finally expect to be rewarded as a Cinderella one day at a time. It is also the most prominent characteristic of this syndrome (Gündüz, 2017).

Women must be able to give up their own accomplishments without the feeling of self-dedication. Therefore, they often suppress their own initiative, give up their aspirations, and become overly dependent on their

abilities and values with a profound sense of distrust and uncertainty (Dowling, 1998). The comfort woman, who is on the return of dependency, is forced to flee from responsibilities and become dependent again with the desire to be rescued, which becomes a vicious cycle. This desire blunts the woman's ambition, reduces her self-esteem and prevents her from being alone (Göde, 2018).

The explanations given above show that women with Cinderella syndrome are experiencing problems in both romantic and professional relationships in the context of self-esteem and dependence. There are limited studies about Cinderella syndrome in the literature; in addition, there is no measuring instrument which indicates the level at which women have this syndrome. It might be important that determining the level of possession of the Cinderella syndrome for both practical and theoretical studies. In this regard, a scale has been developed into Turkish culture, and validity and reliability studies were conducted in the current study.

2. Method

2.1. Participants

451 female individuals over 18 years of age constituted participants of this study. Random sampling was used to reaching participants. 51,4% of respondents were single (n=232), 44.1% married (n=199) and 4.5% divorced. The father and mother of 89,4% of the participants are together and parents of 82,5% of participants are alive. The ages of participants are between 18 and 59, and the mean ages are 29.79 (SD=8.19).

During the development process of the Cinderella Syndrome scale two participant groups were used. The First group includes 223 female participants and this data was used to conduct item analysis and Explanatory Factor Analysis (EFA); the second group consists of 228 female participants and the data have been used to perform Confirmatory Factor Analysis (CFA).

2.2. Procedure

In the development process of the scale, firstly the "Cinderella syndrome" literature was reviewed. 26 expressions which are thought to encompass all the features of Cinderella syndrome were included in the item pool. These items were presented to the opinion of three academic staff whose profession is Psychological Counseling and Guidance. Necessary corrections have been made according to experts' feedback and 26 items 5 points Likert-type pilot scale was created (Strongly disagree to Strongly agree).

As the second step, a 26-item trial form was applied to 223 female individuals, and the item analysis and EFA was performed on the data obtained. Any item has not been extracted from the item analysis because item-total test correlation coefficients were founded above .30. Then, according to the EFA findings, one item was extracted and 25 items were attained.

As the third step, a 25-item scale was delivered to 228 female individuals, and the data was evaluated by CFA on the model. Lastly, the reliability of the scale was computed.

2.3. Data Collection and Analysis

The data collection step was conducted with female individuals over the age of 18 to face-to-face and through the internet. The scale application lasted about 10 minutes. Analysis of the data was performed with SPSS 21 and AMOS 22 programs.

Construct validity of the scale was studied with the Barlett Sphericitiy test and the Kaiser-Meyer-Olkin (KMO) coefficient for the conformity of the data factor analysis. Appropriateness of data for factor analysis will be decided according to the significance of Barlett Sphericitiy test and value of KMO (Büyüköztürk, 2020). In the current research, the KMO sample coefficient and the Barlett Sphericitiy test χ^2 value were 0.922 and 3.174,957 ($p <. 001$). Accordingly, it was concluded that the data is appropriate for factor analysis.

The Factor structure of the scale was determined with Exploratory Factor Analysis (EFA) using principal axis factoring. Principal axis factoring is suggested because it is reliable while determining the factors in the scale developed in SPSS (Field, 2013). Then, Confirmatory Factor Analysis (CFA) was made with the purpose of testing the model created according to the EFA result. Mardia's multivariate normality test was performed before the CFA; results showed that the data were not normally distributed. Thus, 7 data with extreme values were extracted from the data set and a multivariate normality test was performed for a second time, and the

result showed that the data were normally distributed. The goodness of fit indices which are χ^2, RMSEA, GFI, CFI, NFI was calculated to test the suitability of the data to the model created.

3. Results

3.1. Explanatory Factor Analysis (EFA)

Factor structure and sub-dimensions of the 26-item trial scale were determined with EFA and varimax vertical rotation technique was used. Accordingly, 1 item has been extracted because it has less than .10 differences between the factor loadings in the sub-dimensions. Afterward, for the remaining 25 items EFA was has performed again. In this respect, the first factor's value is 10.432, and values of the second, third, fourth, and fifth factors are 1.90, 1.33, 1.15, and 1.02 correspondingly. When the scree plot was examined, it was seen that there might be a single factor structure. But the scale was accepted to be more suitable for the three-factor structure considering the related literature and the variance explained by the factor.

Three factors explain 54,69% of the total variance. The first factor's value was 10.43, which explains the 41,72% of the variances of the Cinderella syndrome. The second factor's value was 1.90 that explains the 7,62% of the variance and the third factor's value was 1.33 that explains the 5,34% of the variance of the Cinderella syndrome. Values for item factor load change between .37 and. 81 (see Table 1).

Table 1. Item factor load values

Item No.	1. Factor	2. Factor	3. Factor
1	.62		
6	.62		
8	.57		
9	.59		
10	.75		
12	.37		
13	.54		
14	.53		
15	.60		
20	.42		
23	.61		
3		.69	
4		.71	
5		.81	
16		.67	
17		.68	
18		.75	
25		.58	
2			.51
7			.72
11			.47
19			.47
21			.68
22			.62
24			.66
Eigenvalue	10.43	1.90	1.33
Variance	19.32%	18.99%	16.38%
Total variance: 54.69%			

3.2. Confirmatory Factor Analysis (CFA)

228 data were again collected from female participants to test the model created according to EFA results. After the multivariate normality test conducted on the collected data, 7 data with extreme values were removed and CFA was performed with 221 data. χ^2, RMSEA, GFI, AGFI, NFI and CFI are widely preferred Goodness of fit indexes in the assessment of the conformity of the data to the model (Sumer, 2000). According

to confirmatory factor analysis; the model is within acceptable limits since p value is less than .05 (Çokluk, Şekercioğlu, & Büyüköztürk, 2018), the value of χ^2/df is less than 5 (Kline, 2005), the value of RMSEA is less than .10 (Tabachnick & Fidell, 2020), the value of GFI is higher than .90 (Hooper, Caughlan, & Mullen, 2008), the values of CFI and NFI are higher than .90 (Sumer, 2000). Also the model is within perfect limit since p value is higher than .05 (Çokluk et al., 2018), the value of χ^2/df is less than 3 (Kline, 2005), RMSEA value is less than .05 (Jöreskog & Sörbom, 1993), the value of GFI is higher than .95 (Hooper et al., 2008), the values of CFI and NFI are higher than .95 (Sumer, 2000).

χ^2/df was used to test the statistical conformity of the model and it was found to be smaller than 3 (χ^2/df=1.14). Additionally, p value is .07. Because the p-value is greater than. 05, it can be said that the model fits well. For the model the goodness of fit index values are RMSEA=. 02, GFI=. 91, NFI=. 91 and CFI=. 98. The goodness of fit index outcomes showed that the model might be considered to be within a good fit and acceptable fit limits. With the CFA the three-factor structure model has been confirmed, it can be seen in Figure 1.

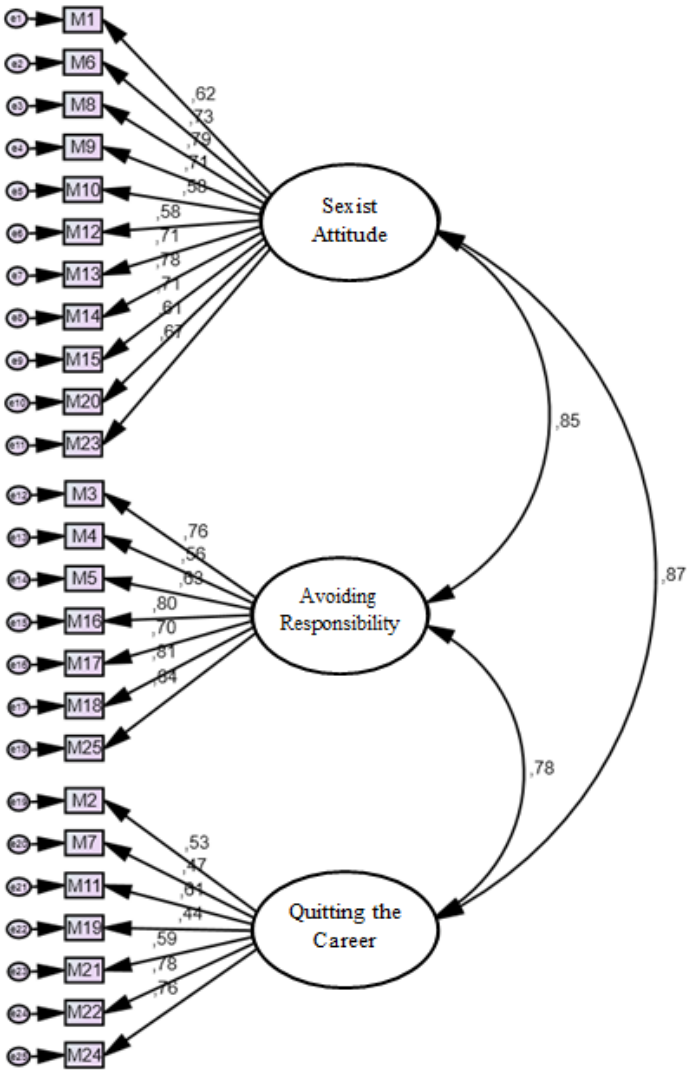

Figure 1. Three-factor Model of the Cinderella syndrome scale

As a final point, with respect to the related literature and items included in factors, the name of the first factor is determined as "sexist attitude", the name of the second factor is "avoiding responsibility" and the third factor is called "quitting the career". 11 items are included in the first factor, 7 items are included within the second factor and 7 items are included in the third factor. There is no reverse item on the scale. The lowest and highest scores that can be obtained from the scale are 25 and 125, respectively. Accordingly, the level of Cinderella syndrome is high when the total score taken from the scale is high.

3.3. Item-Total Correlation Values and Subscales Correlation Values

In table 3 the item-total test correlations of trial scale are given. The item-total test correlation coefficient is higher than .30 meaning that the item is adequately discriminatory, which means, it may measure the expected property to be measured with the whole scale (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel, 2020). As seen from Table 2, in the present study item-total test correlations range between .39 and .76. Therefore, it may be considered that in the scale all of the items are adequate to discriminate the property to be measured.

Table 2. Item-total test correlations

Item No	Item-Total Test Correlations
1	.58
2	.42
3	.66
4	.55
5	.55
6	.71
7	.42
8	.76
9	.69
10	.55
11	.54
12	.53
13	.66
14	.73
15	.66
16	.67
17	.66
18	.68
19	.39
20	.58
21	.52
22	.71
23	.64
24	.65
25	.65

The correlation coefficients of the sexist attitude, avoiding responsibility, and quitting the career subscales were found as .77, .72 and .65 respectively ($p<.01$) (See in Table 3). Thus, it can be said that subscales are significantly correlated with each other.

Table 3. Correlations coefficients between subscales

	1	2	3
Sexist Attitude (1)	-	.77*	.72*
Avoiding Responsibility (2)	-	-	.65*
Quitting the Career (3)	-	-	-

*p<.01

3.4. Findings on the Reliability of the Scale

Reliability of the scale have been computed with the Cronbach alpha and the split-half reliability coefficient. Accordingly, Cronbach alpha was found as .94 and the split-half reliability coefficient was founded .87 and .90 for the first half and second half, respectively. With respect to the results, the reliability of the Cinderella syndrome scale is adequate.

4. Discussion and Conclusion

The present study aimed to develop a scale to determine the level of Cinderella syndrome in women into Turkish culture. Cinderella syndrome is used to describe women who is in need of men's asylum and protection and therefore fear of independence.

The Cinderella syndrome scale is a 25 item five-point Likert-type scale. Construct validity of the scale was determined by EFA and results indicated that three factors describing 54,69% of the variance. The Result of the CFA showed that the goodness of fit index values has been determined to be in acceptable interval limits. That is to say, EFA was used to create the three-factor model and the factor structure confirmed by the CFA.

The Reliability of the scale was determined with Cronbach alpha and split-half reliability. For the total scale Cronbach alpha is .94, and split half reliability coefficient are .87 and .90 for the first half and second half, respectively. The results signify that the reliability of the Cinderella complex scale is sufficient.

The first factor called "sexist attitude" includes 11 items; the second factor called "escape from responsibility" includes 7 and the third factor called "quitting career" includes 7 items. The scale does not contain reverse items. The highest and lowest score to be obtained from the scale is 125 and 25.

The scale was developed into Turkish culture with the female participants who are older than the age of 18 regardless of relationship status. For future research, it might be recommended that the Cinderella syndrome be studied according to women's relationship status, parents' relationship status, age of their parents lost. The scale has valid and reliable psychometric properties and in this way it might be an appropriate tool to evaluate the level of Cinderella syndrome in women clients both individual and double counseling/ psychotherapies.

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A Case Study on Teaching Turkish through Distance Education

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ABSTRACT

The purpose of this study was to examine the status of secondary school Turkish education in distance education during the COVID-19 pandemic period in Turkey according to the opinions and observations of Turkish teachers. The fact that there are no studies examining the use of distance education in secondary school native language teaching constitutes the reason for the research. The research was carried out by the case study, one of the qualitative research designs. The participants of the study group in the first phase were 30 secondary school Turkish teachers, who worked in various schools in Turkey and taught online distance education courses in the spring semester of 2019-2020. The participants of the second phase of the study were 16 Turkish teachers who meet the above criteria. A semi-structured interview was held with the first group, while participants of the second group prepared observation reports on their live courses. The data collection tools of the research consist of a semi-structured interview form and a course observation form. Data collection tools were transformed into online forms and delivered online to the study group. The data of the research was collected over a period of one month and the document analysis technique was used to collect the data. The research data were analyzed using the content analysis method. The categorical analysis, one of the types of content analysis, was used in the study. The data analysis was performed with MAXQDA 2020 qualitative data analysis package program. Visualizations were made with the program used. For data analysis reliability, direct transfer statements were given from the codes where the opinions were concentrated. As a result of the study, it was concluded that the teachers faced with negativities intensely and they could not teach Turkish properly with distance education.

Keywords:
COVID-19 pandemic, distance education, emergency remote teaching, teaching Turkish

1. Introduction

The development of social life has brought along a certain process of social adaptation. Education comes to the fore in the formation of this adaptation process. The concept of education, which is defined as "a tool that enables individuals to continue their lives in a balanced and productive way and to adapt to society" (Gökalp, 2016, p. 1), has been applied in many types and durations according to the needs of the societies over time.

Distance education is one of the types of education that emerged according to the needs of the society. The concept of distance education was born on a need that applies to all innovations and inventions in the world. Several definitions have been made about this concept: "The term 'distance education' covers the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization" (Holmberg, 1977, p. 9). "It is a learning-teaching system in which the interaction between students and teachers who are far apart takes place through technological tools" (Karataş, 2008). "In the context of education, distance means that the learner and the teacher are not face-to-face. Thus, two-way communication must take place despite the fact that they are not in the same room

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together" (Perry & Rumble, 1987, p. 1). Distance education is "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (Schlosser & Simonson 2009, p. 1). Considering the definitions of distance education, it is seen that the main feature of this type of education is that there are no face-to-face lessons.

Distance education, which started with letters, has made a great improvement with the use of telephone, radio, TV, computer, and internet and network technologies connected to computers (Çallı, Bayram & Karacadağ, 2002). Moore and Kearsly (2005) divide the development process of distance education into five generations according to some critical steps. The first of these is education with letters, the second is radio and television broadcasts, the third is open education institutions, the fourth is teleconference, and the fifth is the Internet and the web. On the other hand, Taylor (2001) has modeled the distance education system according to the historical development processes in educational technologies: In the first generation, which is a teaching model with letters mailed to the students, the student's time, place and learning pace are quite flexible. Since the written/printed materials are sent to the student by mail, there is no synchronous and interactive communication. In the second-generation model, the multi-media model provides the student with the distribution audio-cassette, video-cassette and computer diskette as learning materials in addition to printed materials. Communication between the student and instructor proceeds without interaction. In the third-generation model, the tele learning model is the model that includes educational TV/radio and video broadcasting. The student is dependent on learning materials in terms of time, space and learning pace. Communication takes place interactively with educational TV/radio broadcasting, live telephone connection and video-conferencing. The fourth-generation model is a flexible learning model based on online access to learning material via the Internet. Communication is provided synchronously by using online interactive multi-media, internet-based and accessed resources and computer-based communication technologies. The fifth-generation model is the advanced flexible learning model, which is a more advanced model of the flexible learning model in the fourth generation. In addition to the previous generation, this fifth-generation model also includes computer-mediated communication with an automatic response system and access to corporate processes and resources through the campus portal.

Uşun (2006) suggested that synchronous communication is based on the fact that a group of students and the instructor are present synchronously and live in a classroom in a computer environment and includes two-way communication and interaction, and while asynchronous communication is defined as the fact that the learner enters the server-side system at his own time, and monitors programs that have previously been prepared. Despite the advantages of the synchronous model, such as real-time discussion, effective feedback, and less isolation of the student, it can be said that it has disadvantages in terms of planning the lessons in terms of time and duration, measuring and evaluating success of the students, providing technological facilities and ensuring effective participation of the students in courses (Bakioğlu & Can., 2014). However, presenting synchronous courses on the Internet and recording these courses and making them accessible to students reduces some of the disadvantages of the synchronous model.

The distance education system also has its own advantages and disadvantages. Even though distance education has advantages such as providing lifelong learning opportunities, providing multimedia, program standardization, providing independence for students, lowering costs and providing equal opportunities, offering easy and updatable measurement and evaluation tools and methods, it has some disadvantages such as providing limited skills in acquiring target behaviors at affective and psychomotor levels, limited communication and interaction opportunities, its negative effects on the socialization of individuals, some technical and financial problems in the distribution and access of modern communication technologies, inability to immediately fix learning difficulties and the student's inability to get help at any time, and the difficulty of controlling the educational process (Kaya, 2002; Uşun, 2006).

The necessity for teachers and students to be physically away from each other, which is seen as an important limitation of traditional distance education practices, has been significantly eliminated due to the synchronous interaction technologies (Gülüşen, 2011). The concept of internet-based (online) education that allows synchronous interaction has started to be used with the introduction of distance education using the Internet. Internet-based education is a distance learning system, in which the Internet is used as the main environment, where knowledge and experience supported in the assistive environments such as printed materials, audio tapes, videotapes or CDs, network-based seminars and face-to-face interactions is planned, prepared,

produced, presented and evaluated (Karataş, 2008). Thus, online education, a form of learning where learning and teaching activities and services are offered to learners with the support of computer networks, has gained importance (Çalışkan, 2002). Aktay (2002) also states that individuals are provided with an independent learning environment from the school with the realization of distance education on the Internet.

The COVID-19 disease, which emerged in China at the end of 2019, has become a worldwide pandemic in March 2020 (WHO, 2020). The flow and rhythm of life has changed all over the world with the pandemic, and various measures have been taken to prevent the spread of the disease (Zhao, 2020). In the spring of 2020, the education of 1.5 billion students from all educational levels in the world, which accounts for about half of the student population, has been disrupted by a break in face-to-face education in educational institutions (UNESCO, 2020a; UNICEF, 2020). In Turkey, approximately 25 million students were affected by these measures (UNESCO, 2020b). Measures in the field of education related to COVID-19 in the Republic of Turkey have started to be taken in March 2020 (MOE, 2020; CoHE, 2020). Education at all levels was carried out with emergency remote teaching in the spring term due to these measures taken.

According to Allen and Seaman (2008, p. 4), the type of the course is determined by the proportion of the course content delivered online. In this respect, traditional courses are those where no online technologies are used, and the content of the course is delivered in writing or orally. Web-facilitated courses deliver 1 to 29% of the content online, while blended/hybrid courses deliver 30 to 79% of the content online. Lastly, online courses are those in which at least 80% of the content of the course is delivered online. Students and faculty can come together in virtual environments in online education, as opposed to traditional types of face-to-face conversations. As it turns out, the COVID-19 pandemic has made it mandatory to make temporary changes in the education system in Turkey. Schools, universities and many other educational institutions have been temporarily closed. This caused all educational institutions to operate remotely and put emergency distance education into practice. (Bozkurt & Sharma, 2020). In this way, with delivering more than 80% of the content of the course over the Internet, emergency remote teaching was applied with the concept of online courses instead of traditional courses. Emergency remote teaching can be explained as “temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances” (Hodges et. al., 2020, p. 6). Furthermore, this concept appears as "emergency remote education", "emergency distance education", "emergency remote teaching" in various studies in the literature (Karataş & Tuncer, 2020; Toquero, 2020). In other words, the emergency remote teaching, which is applied in formal education institutions due to the pandemic, differs from regular distance education by differences such as temporary implementation of distance education in a crisis and the fact that teaching programs have been prepared for face-to-face education.

In the literature review, various studies on the effects of the COVID-19 pandemic on education were found (Byun & Slavin, 2020; Dai & Xia, 2020; Dong, Cao & Li, 2020; Flores & Swennen, 2020; Garbe, Ogurlu, Logan & Cook, 2020; Hebebci, Bertiz & Alan, 2020; Karakuş, Ucuzsatar, Karacaoğlu, Esendemir & Bayraktar, 2020; Koçoğlu & Tekdal, 2020; König, Jäger-Biela & Glutsch, 2020; Schaefer, Abrams, Kurpis, Abrams & Abrams, 2020; Zhou & Li, 2020; Zhou, Wu, Zhou & Li, 2020). However, no study examining the use of distance education in secondary school mother-tongue teaching was found in the literature. This was the main reason to conduct the study.

The purpose of this study was to examine the status of secondary school Turkish education in distance education during the COVID-19 pandemic period in Turkey according to the opinions and observations of Turkish teachers. The sub-goals related to the main purpose of the research are given below:

1. To determine the process of teaching Turkish in distance education.

2. To determine the course content and material usage in Turkish course in distance education.

3. To determine the difficulty of teaching language skills in distance education.

4. To determine the positive and negative aspects of distance education in terms of teaching Turkish.

5. To determine the observed elements of live Turkish courses in distance education.

6. To determine the suggestions of teachers in order to improve Turkish teaching in distance education.

2. Method

2.1. Research Model

Since the purpose of this study was to examine the status of secondary school Turkish education in distance education during the COVID-19 pandemic period in Turkey according to the opinions and observations of Turkish teachers, the case study method, one of the qualitative research designs, was used to conduct the study. The case study is an in-depth analysis and examination of a limited system (Merriam, 2013). The case study constitutes a special method for collecting, organizing, analyzing and interpreting the data and it represents an analysis and interpretation process (Patton, 2002). The purpose of the case study is to "draw conclusions for a particular situation. The most basic feature of the qualitative case study is to investigate one or more cases in depth" (Yıldırım & Şimşek, 2011, p. 77).

2.2. Study Group

The participants of the study group in the first phase were 30 secondary school Turkish teachers, who worked in various schools in Turkey and taught online distance education courses in the spring semester of 2019-2020. The participants of the second phase of the study were 16 Turkish teachers who meet the above criteria. A semi-structured interview was held with the first group, while participants of the second group prepared observation reports on their live courses.

The snowball sampling, one of the non-probabilistic sampling methods, was used to form the study group. In the snowball sampling method, a reference person is selected regarding the subject of the study and other people are reached through this person (Biernacki & Waldorf, 1981). Of the 30 teachers in the first phase, 29 were in public schools, 1 was in a private school, and 21 were female and 9 were male. These teachers were between 28 and 61 years old, their years of duty were between 4 and 35 years; and the total hours of live lessons they gave varied between 4 and 80. Teachers were coded as T1, T2, T3… T30. Of the 16 teachers in the second phase of the study, which is the live course observation report, 15 were in public schools, 1 was in a private school, 13 were female and 3 were male. These teachers were between 32 and 61 years old and their years of duty were between 4 and 33 years; the total hours of live lessons they gave varied between 12 and 80. Teachers were coded as TO1, TO2, TO3… TO16.

2.3. Data Collection Tools

The data collection tools of the research consist of a semi-structured interview form and a course observation form. The semi-structured interview form contains 10 questions about teaching Turkish in distance education. These questions include the process, content and material usage of the Turkish course and teaching language skills in distance education, positive and negative aspects of distance education and suggestions in regard with improving Turkish teaching. The course observation form was developed for teachers to write their observations about their recent live Turkish lessons. The questions in the data collection tools were prepared in line with the opinions of two faculty members, who are experts in the field of Turkish education, and were used in the data collection process after they were determined to be understandable by sending them to five Turkish teachers.

2.4. Data Collection and Data Analysis

Three Turkish teachers were interviewed to determine how the research data were collected. The teachers were asked whether they wanted to share the answers to the questions in written or verbal form. Since all of the teachers preferred to provide written answers, the data collection tools were converted into online forms and delivered online to the study group. The data of the research was collected over a period of one month and the document analysis technique was used to collect the data. The interview and observation forms obtained from the study group are the documents of the research.

The research data were analyzed using the content analysis method. The main process applied in the content analysis technique is to gather similar data within the framework of certain concepts and themes and to interpret them in a way that the reader can understand (Yıldırım & Şimşek, 2011). The categorical analysis, one of the types of content analysis, was used in the study. In the application of the categorical analysis, first

the data were coded, categories were created and organized, and at the last stage, the obtained findings were defined and interpreted (Robson, 2001).

In the data analysis, MAXQDA 2020 qualitative data analysis package program was used. Encodings were done by using the re-encoding method. The following formula of Miles and Huberman (2016) was used for encoding reliability: Reliability Coefficient = Number of topics or terms agreed on ÷ (Number of topics or terms on which there is no consensus + Number of topics or terms agreed on) × 100. The result achieved in this encoding check that gives the internal consistency is expected to be at least 70% (Miles & Huberman, 2016). After the re-encoding, the reliability coefficient was determined to be 91% for the interview forms and 94% for the observation forms, respectively. Below, the applied form of the formula is shown after the re-encoding.

Interview Form Encodings:

$$Reliability\ Coefficient = \frac{427}{427+41} \times 100 = 91.23$$

Observation Form Encodings:

$$Reliability\ Coefficient = \frac{50}{50+3} \times 100 = 94.33$$

The encodings were separately visualized for each category with the program's MAXMaps feature. Codes of categories and their frequencies were included in the visuals. In addition, examples of the category, code and opinion were with tables presented in order to increase the reliability.

3. Findings

The findings of the research were presented as the process of teaching Turkish in distance education, the course content and material usage in Turkish course in distance education, the difficulty of teaching language skills in distance education, the positive and negative aspects of distance education, the suggestions of teachers in order to improve Turkish teaching in distance education and the observed elements of live Turkish courses in distance education depending on sub-goals of the research.

3.1. The Process of Teaching Turkish in Distance Education

The code-category relationships regarding the status of the Turkish course process in distance education are shown in Figure 1.

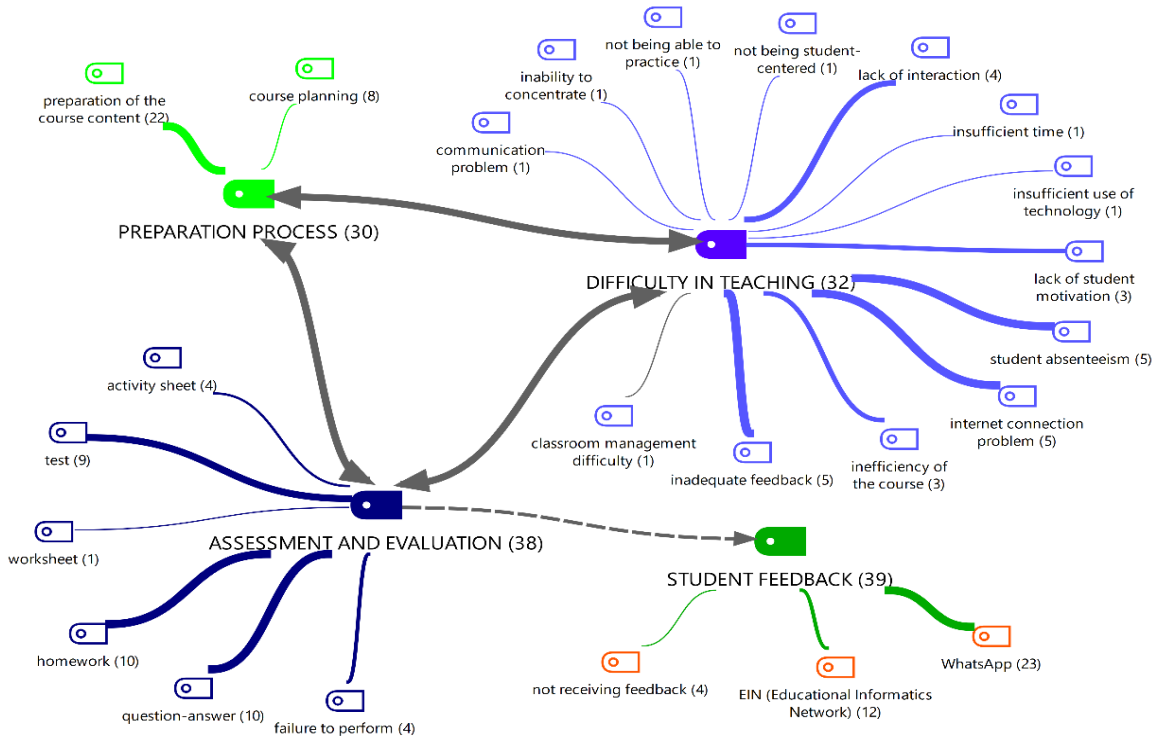

Figure 1. Code-category and theme relationship regarding the live course process of teaching Turkish

Considering the information presented in Figure 1, it was seen that the process of the Turkish course in distance education is evaluated in the categories of preparation process, difficulty in teaching, assessment and evaluation and student feedback.

It was seen that the codes in the preparation process category and the frequency of these codes appear as *the preparation of the course content (f=22) and course planning (f=8).* It was also seen that the focus was mostly on preparing the course content and the necessary importance was not given to the course planning in the preparation of the course category. The number of Turkish teachers who make course planning was 8. This number was less than one third of the study group.

The codes in the category of difficulty in teaching and the frequency of these codes were seen as *student absenteeism (f=5), internet connection problem (f=5), inadequate feedback (f=5), lack of interaction (f=4), inefficiency of the course (f=3), lack of student motivation (f=3), communication problem (f=1), inability to concentrate (f=1), not being able to practice (f=1), not being student-centered (f=1), insufficient time (f=1), insufficient use of technology (f=1) and classroom management difficulty (f=1).* In the teaching category, it was observed that student absenteeism, internet connection problem, inadequate feedback, lack of interaction, inefficiency of the course and lack of student motivation are the main difficulties. These factors pose an obstacle to the adequate and qualified teaching of Turkish in distance education.

It was seen that the codes in the assessment and evaluation category and the frequency of these codes appear as *homework (f=10), question-answer (f=10), test (f=9), failure to perform (f=5), activity sheet (f=4) and worksheet (f=1).* Furthermore, it was seen that mostly homework, question-answer and test tools are used in the assessment and evaluation category. There were 5 Turkish teachers who stated that they could not use any assessment and evaluation instruments.

It was seen that the codes in the student feedback category and the frequency of these codes appear as *WhatsApp (f=23), EIN [Educational Informatics Network (f=12)] and not receiving feedback (f=4).* In the student feedback category, it was seen that student feedbacks were made via WhatsApp and EIN (Educational Informatics Network), and there were 4 teachers who could not receive any feedback from the students.

The above findings show that course planning was not done adequately in the preparation phase of the Turkish course in distance education, there were many difficulties in the process of teaching, assessment and evaluation couldn't be performed in a planned and programmed manner, and student feedbacks were received via WhatsApp and EIN (Educational Informatics Network). The examples of codes that emerged in the categories of teaching Turkish in distance education are given Table 1.

Table 1. Categories, codes and opinion samples regarding the teaching Turkish in Distance Education

Category	Code	Opinion
Preparation Process	Making Course Planning	*Preparing a make-up education plan and giving the subjects that cannot be covered, benefiting from EIN, teaching the prepared subjects to the students by question and answer method (T20)*
	Preparing Course Content	*I prepare worksheets on subjects and explain the subjects covered in the worksheets to the students during the lesson (T9).*
Difficulty in Teaching	Internet Connection Problem	*There may be disconnections from time to time, which distracts the students (T22).*
	Student Absenteeism	*There is a problem of participation in the class (T28).*
	No Interaction	*Teaching Turkish is a course that requires interaction. When it comes to distance education, everything is missing (T16).*
Assessment and Evaluation	Homework	*By requesting the photo of the homework done, examining the homework submitted through EIN (Educational Informatics Network) (T17)*
	Question-Answer	*I do it by asking questions during the lesson (T24)*

	Test	*I do it by checking the answers of the tests I send through EIN (Educational Informatics Network). (T6)*
Student Feedbacks	EIN (Educational Informatics Network)	*I am trying to get feedback through EIN. (T2)*
	WhatsApp	*I get feedback through WhatsApp (T25)*

3.2. Course Content and Material Usage for Turkish Teaching in Distance Education

The code-category relationships regarding the content of Turkish course and material usage in distance education are shown in Figure 2.

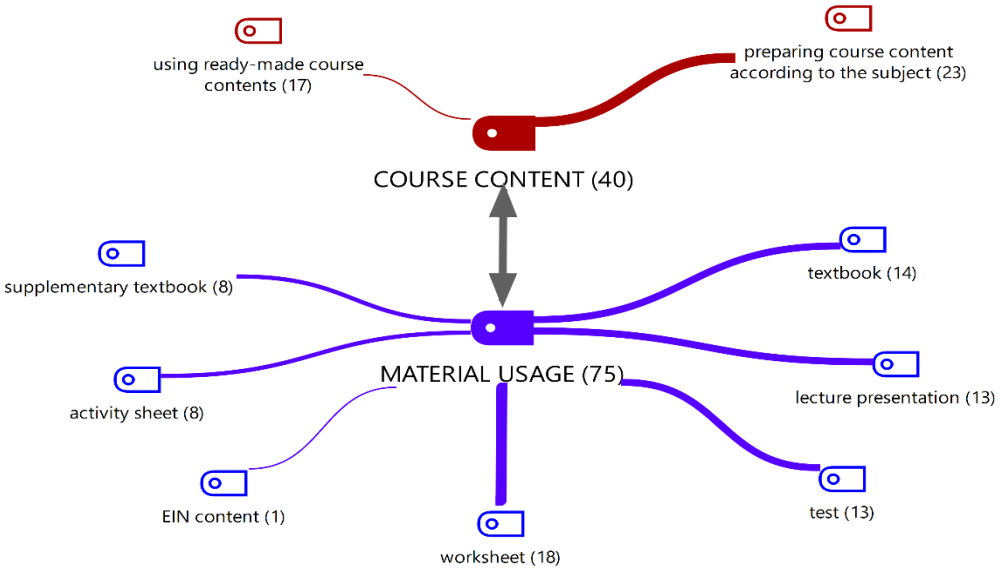

Figure 2. Code-category relationship regarding course content and material usage

Considering the information presented in Figure 2, it was seen that the codes in the category of course content in distance education and the frequency of these codes were *preparing course content according to the subject (f=23) and using ready-made course contents* (*f*=17); and the codes and their frequencies in the category of materials used in live lessons in distance education were *worksheet (f=18), textbook (f=14), test (f=13), lecture presentation (f=13), supplementary textbook (f=8), activity sheet (f=8) and EIN content (f=1).*

Considering the category of preparing course content, it was seen that the course content was mostly prepared in line with the subject, ready-made course contents were used. On the other hand, in the category of materials used in live lessons, it was seen that worksheets, textbooks, tests, lecture presentations, supplementary textbooks and activity sheets were mostly used in live lessons. These findings show that Turkish teachers in the study group are generally able to prepare their own course contents in the distance education process, as well as use ready-made course contents, and they mostly use worksheets, textbooks, tests, lecture presentations, supplementary textbooks and activity papers in live lessons.

The examples of codes that emerged in the category of course content and material use for teaching Turkish in distance education are given Table 2.

Table 2. Categories, codes and opinion samples regarding the course content and material use for teaching Turkish in Distance Education

Category	Code	Opinion
Preparing Course Content	Preparing Course Contents in line with the Subject	*I am preparing content in line with the content of the subject (T3). I prepare summaries myself. I prepare them in accordance with the subject and the students' levels (T13). I am preparing contents for distance education. In this was, I prepare myself for the lesson (T22).*

	Using Ready Course Contents	*I am using the contents of EIN and etc. I am not preparing the contents myself (T1). I use ready-made contents because I think teachers need training in preparing online contents (T11).*
Use of Materials	Worksheet	*I use PDF format worksheets (T19)*
	Textbook Use	*I use a textbook. I need it in text reviews (T28).*
	Lecture Presentation	*I use PowerPoint presentations (T13)*
	Supplementary Textbooks	*I use supplementary materials (T7)*

3.3. The Difficulty of Teaching Language Skills in Distance Education

The code-category relationship regarding the difficulty of teaching language skills in distance education is shown in Figure 3.

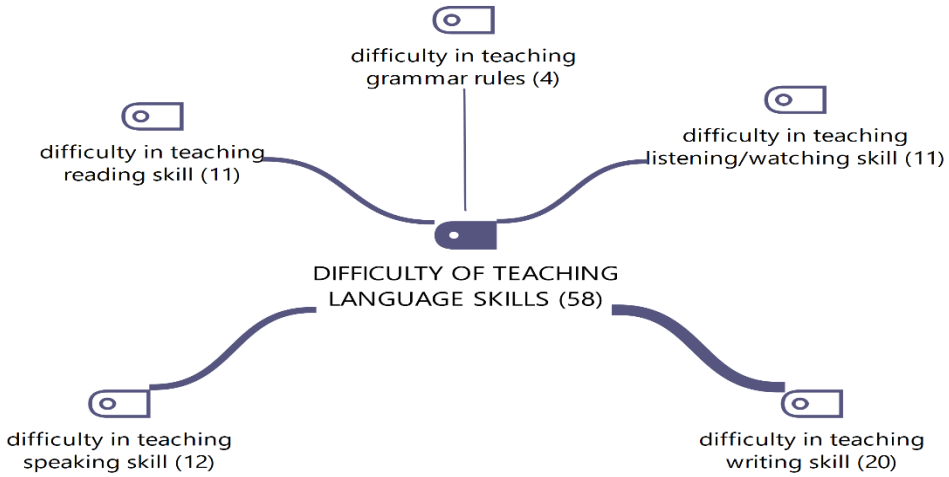

Figure 3. Code-category relationship regarding the difficulty of teaching language skills in distance education

Considering the information presented in Figure 3, the codes in the category of the difficulty of teaching language skills in distance education and the frequency of these codes appear to be the *difficulty in teaching writing skill (f=20), difficulty in teaching speaking skill (f=12), difficulty in teaching reading skill (f=11), difficulty in teaching listening/watching skill (f=11) and difficulty in teaching grammar rules (f=4).*

Among language skills, the most teaching difficulty was experienced in teaching writing skills, and the least difficulty was experienced in teaching grammar. In addition, there were teaching difficulties experienced in speaking, reading and listening/watching skills. The reason that the most teaching difficulties were experienced in writing skill among language skills can be explained as writing skill is a planned and process-based skill. These findings show that there are difficulties experienced by teachers in teaching language skills in distance education.

Examples of the codes emerging in the category of the difficulty of teaching language skills in distance education are given Table 3.

Table 3. Category, Codes and opinion samples regarding the difficulty of teaching language skills in Distance Education

Category	**Code**	**Opinion**
Difficulty of Teaching Language Skills	Teaching Reading Skill	*I am having difficulties in the reading practices (T22)*
	Teaching Writing Skill	*I am having difficulties to improve the writing skills of the students. This semester is very difficult, because it is hard to keep the students under control. (T27)*
	Teaching Listening/Watching Skill	*I think it is difficult to make students gain listening/watching skills through distance education. (T13)*

	Teaching Speaking Skill	*I find it difficult to teach speaking skills online. Even in the classroom, prepared and unprepared speaking skills are difficult to gain, but it is more difficult to do this online (T11)*
	Teaching Grammar	*Grammar subjects… It is necessary to explain by writing. This is very difficult in the home environment. (T2)*

3.4. Positive and Negative Aspects of Distance Education

The code-category relationship regarding the positive and negative aspects of distance education is shown in Figure 4.

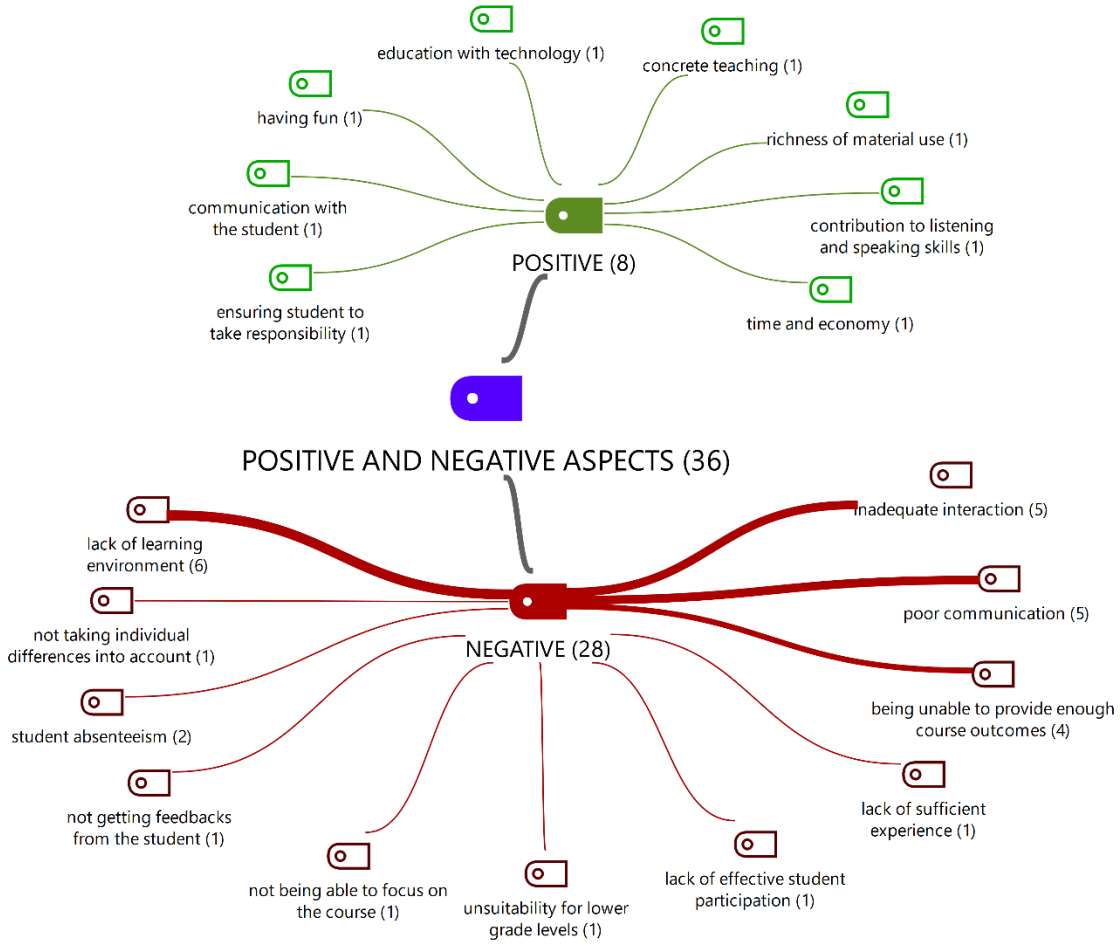

Figure 4. Code-category relationship regarding the positive and negative aspects of distance education

Considering the information presented in Figure 4, the codes related to the positive aspects of distance education and the frequencies of these codes appear to be *time and economy (f=1), contribution to listening and speaking skills (f=1), richness of material use (f=1), concrete teaching (f=1), education with technology (f=1), having fun (f=1), communication with the student (f=1) and ensuring student to take responsibility (f=1);* while the codes related to the negative aspects of distance education and the frequencies of these codes appear to be *lack of learning environment (f=6), poor communication (f=5), inadequate interaction (f=5), being unable to provide enough course outcomes (f=4), student absenteeism (f=2), not being able to focus on the course (f=1), not getting feedbacks from the student (f=1), unsuitability for lower grade levels (f=1), not taking individual differences into account (f=1), lack of effective student participation (f=1) and lack of sufficient experience (f=1).*

There were 8 codes and 8 opinions related to positive aspects of distance education, while there were 11 codes and 28 opinions related to negative aspects of distance education. The negative aspects of distance education in the teaching process are much more than its positive aspects. The negative aspects of distance education were mostly concentrated on not having a learning and communication environment, insufficient interaction and not providing enough course outcomes. These findings show that there are more negative aspects of

distance education compared to its positive aspects and that these negativities that arise prevent the realization of the teaching process properly.

Examples of the codes that emerged in the category of positive and negative aspects of distance education are given Table 4.

Table 4. Categories, codes and opinion samples regarding the positive and negative aspects of distance education

Category	Code	Opinion
Negative	Lack of Learning Environment	*Environment is necessary to improve language skills. This cannot be a digital environment.* (T14)
	Lack of Interaction	*There is not enough interaction between the students and the influence of teachers on the students is very low.* (T6)
	Inadequate Delivery of the Course Outcomes	*Course outcomes cannot be provided properly with distance education.* (T17)
	Student Absenteeism	*Not all students attend live lessons.* (T24)
Positive	Student Taking Responsibility	*The positive side of distance education is that students take responsibility.* (T22)

3.5. Suggestions for Improving Turkish Teaching in Distance Education

The code-category relationship regarding the suggestions for improving Turkish teaching in distance education is shown in Figure 5.

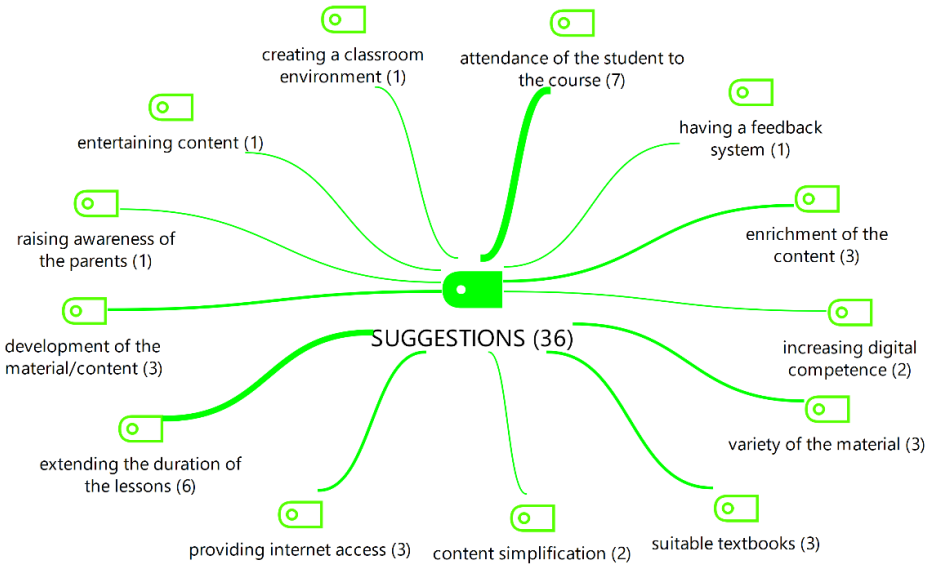

Figure 5. Code-category relationship regarding suggestions for improving Turkish teaching in distance education

Considering the information presented in Figure 5, the codes in the category of suggestions for the improvement of Turkish teaching in distance education and the frequency of these codes appear to be *attendance of the student to the course (f=7), extending the duration of the lessons (f=6), the development of the material/content (f=3), the enrichment of the content (f=3), the variety of the material (f=3), suitable textbooks (f=3), providing internet access (f=3), content simplification (f=2), increasing digital competence (f=2), having a feedback system (f=1), creating a classroom environment (f=1), entertaining content (f=1) and raising awareness of the parents (f=1).*

Most of the suggestions regarding the improvement of Turkish teaching in distance education were ensuring the maximum attendance of students and extending the duration of the lessons, followed by developing material/content, enriching the content, providing material diversity, making the textbooks suitable for distance education, providing internet access, content simplification, increasing digital competence for the development of Turkish teaching in distance education, having a feedback system, creating a classroom environment, having entertaining contents and raising the awareness of the parents. These findings should be

considered as the shortcomings determined by Turkish teachers in the study group regarding distance education and Turkish teaching in distance education. These suggestions reveal the weak sides of distance education, and a healthy education requires these recommendations to be taken into account.

Examples of the codes that emerged in the category of suggestions for the improvement of Turkish teaching in distance education are given Table 5.

Table 5. Category, codes and opinion samples regarding the suggestions for the improvement of Turkish teaching in distance education

Category	Code	Opinion
Suggestion	Attendance of the Student	*Student attendance should be ensured. (T30)*
	Extension of Lesson Durations	*Lessons should be longer. (T12)*
	Suitability of Textbooks	*The textbook materials should be prepared accordingly. (T8)*
	Material Diversity	*Diversification of materials to be used in distance education. (T4)*
	Providing Internet Access	*Every student should have internet access. (T1)*

3.6. Live Turkish Course Observations in Distance Education

The code-category relationship regarding the observation reports prepared by Turkish teachers for live Turkish courses is shown in Figure 6.

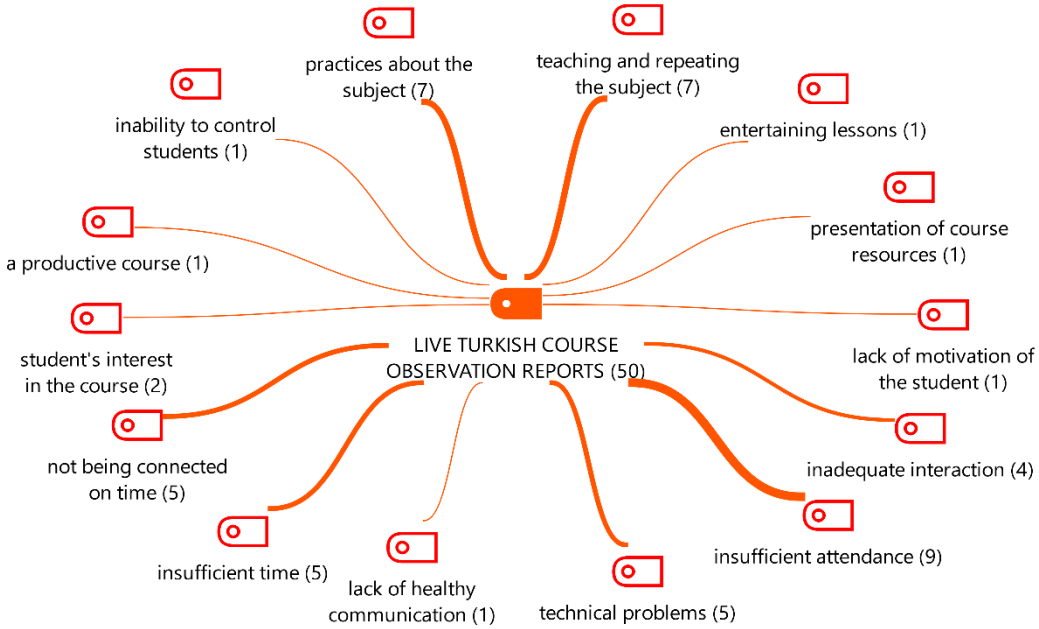

Figure 6. Code-category relationship regarding live Turkish course observation reports in distance education

Considering the information presented in Figure 6, the codes in the category of live Turkish course observation reports in distance education and the frequency of these codes appear to be *insufficient attendance (f=9), teaching and repeating the subject (f=7), practices about the subject (f=7), not being connected on time (f=5), insufficient time (f=5), technical problems (f=5), inadequate interaction (f=4), student's interest in the course (f=2), lack of healthy communication (f=1), lack of motivation of the student (f=1), presentation of course resources (f=1), entertaining lessons (f=1), inability to control students (f=1) and a productive course (f=1).*

In the live Turkish course observation reports, the situations mostly observed and reported were having insufficient attendance, teaching and repeating the subject, having practices about the subject after teaching and repeating the subject, failure to connect to the lesson on time, insufficient duration of the lessons, technical problems such as broken microphones, sound and visual problems and insufficient interaction during the lesson. These findings show that in the observation reports, the negativities of the process are more prominent than the content and quality of live Turkish courses in distance education, and that the course content and quality cannot be focused on due to these negativities.

Examples of the codes that emerge in the category of live Turkish course observation reports in distance education are given Table 6.

Table 6. Category, codes and opinion samples regarding the live Turkish course observation reports in distance education

Category	Code	Opinion
Live Turkish Course Observation Report	Lack of Enough Attendance	*15 out of 35 students in the class attend the course. (TO6)*
	Subject-Oriented Practice	*I am preparing a worksheet and giving the test solutions on the subject. I am solving the questions with my students. (TO5)*
	Insufficient Duration	*When I cannot complete the lesson in 30 minutes, the sentence becomes incomplete with the system shut down. (TO12)*
	Failure to Connect in Time	*I cannot connect to the live lessons in time. This also causes a waste of time. (TO4)*

4. Discussion and Conclusion

This study was conducted in order to determine the course process, course content and material use for Turkish teaching in distance education, difficulties in teaching language skills, positive and negative aspects of distance education, suggestions for improving Turkish teaching in distance education and live course observations during the COVID-19 pandemic. In the literature, there are various studies examining the distance education during the COVID-19 pandemic period (Akbulut, Sahin & Esen, 2020; Arora & Srinivasan, 2020; Garbe, Ogurlu, Logan & Cook, 2020; Habebci, Bertiz & Alan, 2020; Johannes, Daniela & Nina, 2020; Karakuş, et al., 2020; Koçoğlu & Tekdal, 2020; Korkmaz & Toraman, 2020; Maden & Önal, 2020; Mohalik & Sahoo, 2020). These studies usually include information tools, material and content elements in distance education, negativities faced during the process, suggestions and ideas for the development of distance education. There is a limited number of studies on teaching Turkish in distance education (Aydın, 2020; Özgür, Ceran & Yıldız, 2020; Sarıçam, Özdoğan & Topçuoğlu Ünal, 2020). These studies are based on student and teacher opinions.

Mohalik and Sahoo (2020) conducted a study in India and determined that power outages and internet connection problems were among the problems that pre-service teachers experienced in distance education. Karakuş et al. (2020) concluded that pre-service Turkish teachers mostly participated in the remote teaching systems with mobile phones and laptops, and that the most common technical problems were internet/connection problems and unsupported devices/equipment. The internet connection problem is one of the findings of the research, mentioned in the difficulties experienced in the course process, the negativities of distance education, suggestions and course observation reports. Ünal and Buliniz (2020) state that the disappearance of learning by doing, the existence of communication and technical difficulties, and the inability of every student to attend classes may be among the disadvantages of distance education for teachers.

Arora and Srinivasan (2020) point out that lack of interaction in distance education is associated with low participation, lack of communication and connection problems. Habebci, Bertiz, and Alan (2020) state that many students and teachers recommend live streaming to solve the problem of interaction in education, however, the high number of students in rural areas and the lack of sufficient internet connection and infrastructure limit live streaming opportunities. Lack of interaction is presented as a finding of the study, which emerged as one of the difficulties of teaching Turkish in distance education and the negative aspects of distance education and is also mentioned in live course observation reports. Lack of interaction is closely related to low student participation, connection problems and lack of communication.

Lloyd, Byrne, and McCoy (2012) state that the effectiveness of distance education is closely related to pedagogical and material support in the process; while Seaman (2009) states that unqualified materials can form the basis of negative opinions on distance education. Habebci, Bertiz, and Alan (2020) concluded that teachers do not find the amount of materials used in distance education is enough and they have the idea of increasing the number of qualified materials. Koçoglu and Tekdal (2020) determined that most of the teachers participated in their study had a negative opinion about resource and material competence. In their research,

Maden and Önal (2020) reached the conclusion that the documents related to the Turkish course in the EIN (Educational Informatics Network) content module are not evenly distributed to the learning areas in the Turkish Course Curriculum, the content provided is intensely exam-oriented, and there are documents of similar type and content. The result that similar type and content documents for Turkish teaching are included in EIN (Educational Informatics Network) and the suggestions for enriching the content, material diversity and material/content development in the suggestions of the research are related to each other. It is observed that the material element in distance education is one of the important findings in the studies and this study.

Korkmaz and Toraman (2020) state that educators in Turkey are working on taking measures on a variety of issues such as increasing network capacity and internet speed for distance education, providing information technologies and supporting online learning environments, and educating instructors to use online learning management systems. Some of these measures coincide with the findings of this study, which were presented in the course process in distance education, material use, negativities, suggestions and course observation reports. Garbe, Ogurlu, Logan, and Cook (2020) state that educating parents about the remote learning systems and platforms is crucial for future distance learning efforts. Raising the awareness of parents about the distance education process was suggested by a Turkish teacher in the study, and no other finding was found related to the education of parents. Johannes, Daniela and Nina (2020) emphasize the importance of introducing digital tools systematically to students and even their parents first and applying them to daily teaching and learning processes.

Johannes, Daniela, and Nina (2020) conducted a study on teachers in Germany and concluded that most teachers reported that they provided new learning content to their students in addition to assigning tasks and providing feedbacks. The finding of presenting new learning content coincide with the finding that most of the Turkish teachers prepare course content suitable for the subject. The finding of preparing new course content may be due to the lack of adequate content of courses available in distance education or the inability to provide distance education. Aydın (2020) stated in his study that the negative opinions of students regarding Turkish lessons conducted with distance education are insufficient time, rapid expression, inability to ask questions to the teacher, insufficient number of questions, difficulty in reading paragraphs and teacher change. Findings other than teacher change overlap with the findings that assessment and evaluation, lack of time and lack of interaction in this research. Özgül, Ceran, and Yıldız (2020) state that teachers' negative opinions about distance learning Turkish lessons come out as lack of communication, inability to access the internet, unwillingness, inadequate assessment and evaluation. These findings coincide with the findings of the research regarding communication problems, unwillingness, connection problems, measurement and evaluation.

Akbulut, Sahin and Esen (2020) determined that teachers experienced difficulties in the online learning applications during the COVID-19 pandemic period in Turkey due to the internet connection problems of the students, lack of teacher-student interaction, inability to perform reliable learning assessments, lack of knowledge about how to evaluate students' knowledge and skills, inability to improve learning skills of the students, inability to provide all the learning outcomes determined for learning, difficulty in providing feedback to students, inability to take the individual interests and abilities of students into account lack of student motivation and attitudes and behaviours of school/university administrators towards educators. Findings such as connection problems, lack of interaction, inability to provide skill teaching, inability to achieve all learning outcomes determined for learning, lack of student motivation, lack of knowledge on how to evaluate knowledge and skills of the students and the difficulty in teaching language skills coincide with findings, which are internet connection problems, lack of student motivation, lack of interaction, the fact that assessment and evaluation differ from teacher to teacher and course outcomes be adequately delivered in distance education presented in the difficulties experienced in teaching language skills, course content, suggestions and live course observations reports of the study. Sarıçam, Özdoğan, and Topçuoğlu Ünal (2020) found in their study that the Turkish lesson given with distance education remained only theoretical at many points and that there were insufficiencies in acquiring language skills other than listening skills. These results overlap with the result that there were difficulties in teaching language skills in distance education of this study.

It was determined that Turkish teaching in distance education mostly focuses on preparing course content, less importance is given to the planning; student absenteeism, internet connection problems, inadequate

feedback, lack of interaction, inefficiency of the lesson and lack of student motivation cause difficulties during the lessons; homework, question-answer and test tools are widely used in the assessment and evaluation process; student feedbacks are received via WhatsApp and EIN (Educational Informatics Network).

Furthermore, it was observed that the content of the lesson prepared for teaching Turkish was generally appropriate to the subject, and the materials used in live courses were mostly worksheets, textbooks, tests, lecture presentations, supplementary textbooks and activity papers.

It was determined that the most difficulty in teaching language skills in distance education was in teaching writing skills. There were also some other difficulties in teaching other language skills. The reason that the most teaching difficulties were experienced in writing skill among language skills can be explained as writing skill is a planned and process-based skill.

It was also determined that the negative aspects of distance education in the teaching process were more than its positive aspects, and the lack of a learning environment, lack of a proper communication, lack of interaction and insufficient acquisitions were found to be negativities of distance education.

In distance education, ensuring the maximum student attendance and extending the lesson durations, material/content development, content enrichment, material diversity, making textbooks suitable for distance education, providing internet access, content simplification, enhancing digital competence, having a feedback system, creating a classroom environment, having entertaining contents and raising the awareness of parents were stated as suggestions by the teachers in order to improve Turkish teaching. These suggestions should be considered as the shortcomings identified for distance education and Turkish teaching in distance education. These suggestions reveal the weak sides of distance education, and a healthy education requires these recommendations to be taken into account.

In the live Turkish course observation reports, the situations mostly observed and reported were having insufficient attendance, teaching and repeating the subject, having practices about the subject after teaching and repeating the subject, failure to connect to the lesson on time, insufficient duration of the lessons, technical problems such as broken microphones, sound and visual problems and insufficient interaction during the lesson. These findings show that in the observation reports, the negativities of the process are more prominent than the content and quality of live Turkish courses in distance education, and that the course content and quality cannot be focused on due to these negativities.

4.1. Recommendations

The following recommendations have been developed based on the results of the research:

1. The negativities experienced by teachers in distance education should be eliminated.
2. Development-improvement studies should be conducted for teaching language skills in distance education.
3. The variety of materials for distance education should be increased and these materials should be qualified.
4. Studies should be conducted to ensure teacher-student interaction.

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Anxiety of Not to be Appointed as a Predictor of Pre-service Teachers' Motivation to Teach

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ABSTRACT

It is necessary to have a good teacher training policy so that education and training activities can achieve their goals. Well-trained teachers will also lead to an increase in the quality of education. A well-trained teacher is expected to have a high motivation on many issues. The motivation to teach is one of the types of motivation that a teacher should have in the education and training process. Interest and aptitude to teach are among the determining factors of the motivation to teach. There are many variables associated with the motivation to teach. One of them is the anxiety of not to be appointed which can be described as the anxiety about not being employed as a result of the education received. The aim of this study was to determine the effect of pre-service teachers' anxiety of not to be appointed on their motivation to teach. To this end, this study was conducted in the relational screening model with pre-service teachers studying in the final year of Fırat University Faculty of Education and in the pedagogical formation education program of the same faculty. As a result of the study, it was determined that pre-service teachers' motivation to teach and anxiety of not to be appointed were high. Another result was that pre-service teachers' motivation to teach decreased as their anxiety of not to be appointed increased.

Keywords:
Motivation to teach, anxiety of not to be appointed, pre-service teacher

1. Introduction

In our country, teacher training policies have undergone different changes from the past to the present. The search for a policy that can meet the needs of the era, both in the Ottoman and the republic period, and is appropriate to our culture has still been going on. The results of this search continue to be effective in the faculties of education and teacher training programs. Nowadays, the faculties of education are no longer a resource for teacher training, and the graduates of different faculties have been provided with the opportunity to become teachers by completing their pedagogical formation education. Therefore, it is possible to use the term pre-service teacher not only for those studying in the faculties of education, but also for every person provided with this opportunity. Pre-service teachers should have a high motivation in many areas in order to become effective educators in the future. The motivation to teach is one of the most basic types of motivation that pre-service teachers should have. The presence, high or low level of motivation to teach may be affected by some situations. One of them is the anxiety of not to be appointed.

The most basic definition of the teacher is that he/she is the person who does the teaching. The teaching profession can be defined as the profession of professions. Because teaching is the profession with the most effective role in the process of teaching the cognitive and psychomotor detail of other professions (Türer, 2006; Işık, Çiltaş, & Baş, 2010). Hacıoğlu and Alkan (1997) define the teaching profession as a field of occupation in professional status, which has social, cultural, economic, scientific and technological qualities related to education, requires academic study and professional formation based on special expertise knowledge and

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skills in the field. In other words, it is not enough to have only academic knowledge to become a good teacher, it is necessary to have many characteristics and most importantly positive attitudes towards the profession and to feel ready to do that profession. Because reaching the desired level in the teaching profession is directly related to the attitude towards the profession. As a result of their study, Gokce (1995) and Jeans (1995) reached the opinion that the effects of teachers' attitudes and behaviors on students were quite important. In other words, no matter how good the factors such as the education system, the materials used, the school and classroom environment are, the desired efficiency will not be achieved in education if the teacher, who has the most important role in using them, does not like his profession and has insufficient motivation to perform his/her profession. This level of motivation may certainly not be achieved suddenly. The teaching profession is a profession that always requires being patient. Because the results of the work done are not obtained immediately, it is necessary to wait for a certain period (Gundersen, 2004). Therefore, attitude has an important place in this profession. In the studies on the teaching profession, it was concluded that the reasons for choosing teaching affected the attitudes towards the profession and that people who willingly chose teaching had more positive attitudes towards the profession compared to others (Bilgin, 1996; Üstün, Erkan, & Akman, 2004; Üstün, 2007). Teachers' positive attitudes towards their profession will also lead to an increase in their motivation. The positive attitudes may positively affect teachers' teaching efficiency by increasing motivation. Positive attitudes. In this regard, the motivation in performing teaching activities has an important place.

Motivation is the force that comes from intrinsic or extrinsic factors that energize individuals (Lazowski & Hulleman, 2016). Motivation, which effectively shapes the psychological and actional aspects of individuals, has been the focus of many studies, and many theories have been developed on this issue. While scope theories dealt with intrinsic motivation, process theories dealt with extrinsic motivation (Ayık, Akdemir & Seçer, 2015). Intrinsic motivation has three important innate motives, including psychological competence, autonomy, and the need for relevance (Van Blankenstein et. al., 2019). The sources of extrinsic motivation may consist of motives such as family orientation in choosing the teaching profession, social value attributed to the profession, or the salary received (Demiröz & Yeşilyurt, 2012: Gün & Turabik, 2019). Nal and Sevim (2019), expressed motivation with the intrinsic motivation if the work is fun for the individual, and the target internalization dimension if the behaviors are shaped by the effect of value system, as well as intrinsic and extrinsic resources. Motivation increases efficiency and job satisfaction in organizations and makes sense of the work and social lives of employees. Educational organizations are important institutions that raise people, direct the raised individuals according to their qualifications and make them an effective force for countries. While the behavioral change in the targeted direction within the scope of this raising is defined as education, creating this change in behaviors is defined as teaching (Can, 2005). At this point, the high motivation of the teachers, who have the act of teaching, directly affects the quality of the education. Teachers' motivation is shaped by the expectations, perceptions and attitudes towards the profession, which are shaped in the training programs in the first stage (Ayık & Ataş, 2014). Teachers 'personal achievements are positively associated with positive teaching behaviors, such as being energetic in education and encouraging students' autonomous motivation for learning (Esdar, Gorges, & Wild, 2015). The motivation to teach may vary by teacher's commitment to the organization (Ertürk, 2016), attitudes towards the job and teaching ability (Güzel Candan, Evin, & Gencel, 2015). Apparent intrinsic motivation, which is closely associated with the interest inherent in teaching, consists of four components, including social contextual effects related to the effect of external conditions and constraints, temporary dimension with emphasis on lifetime commitment, motivational factors resulting from negative effects (Han & Yin, 2016). For generations to shed light on the future, they should have teachers who will provide them with the ability to shed light. Teachers with high motivation will raise generations that adapt to development and will not be overwhelmed by time.

Anxiety occurs as a result of our thinking about the possibility of danger in our outer or inner world and our interpretations and perceptions in this direction. If we have anxiety, we feel under pressure and as if something bad will happen at any moment. Anxiety occurs as a result of an individual's feeling of inadequacy when he/she feels under pressure. However, anxiety generally arises as a result of our irrational thoughts (Yılmaz, Dursun, Güzeller, & Pektaş, 2014). Anxiety is one of the basic emotions of human, and it is normal for individuals to feel anxious in cases where they feel dangerous. Anxiety does not cause any problem unless it is experienced frequently, and in some cases, it may even increase the performance of the individual. In general, the temporary and situational anxiety experienced by most individuals is called "state anxiety" (Geçtan, 1993; Özyürek & Demiray, 2010). Despite its negative aspects, anxiety also has stimulating, protective

and motivating functions. Positive anxiety push individuals to improve and enables them to make an effort to learn. However, when anxiety cannot be managed, we are exposed to its negative aspects, which decreases our performance. On the other hand, anxiety also varies by personality traits (Akgün, Gönen, & Aydın, 2007). The level of anxiety, that occasionally increases for various reasons such as excessive stress, may lead to undesired results in the individual. The type of anxiety that involves constant restlessness and unhappiness, is not due to the dangers from the environment, is endogenous, and is felt as a result of perceiving the current situation as stressful by considering that the basic values are threatened is called "trait anxiety". Failures are observed in the behaviors of people with trait anxiety, and the symptoms such as perception and attention disorders, decreased course success, avoidance of individual relationships and withdrawal can be observed (Genç, 2008). Therefore, anxiety is more frequently observed in depression periods during which logical thinking is lower. Especially during the depression period, individuals tend to exaggerate and distort events due to their irrational perceptions and interpretations (Çakmak & Hevedanlı, 2004). All people on earth experience varying levels of anxiety in all ages and periods due to various factors. Especially the young, who are aware that many opportunities in our country are limited, experience many anxieties such as continuing their education, finding a job, and planning their future (Kurt, 2007). Unemployment, occupation, education and career are the issues that are mostly cared and therefore worried by the young for the future. Especially in our country, the most important future anxieties were determined as "unemployment and economic anxiety" due to imbalances between supply and demand (Aytar & Soylu, 2019). Anxiety, which is one of the problems experienced by the young today, can be defined as the feeling of inadequacy when the individual is under threat, feeling of uneasiness due to inner distress, fear or delusions, and reaction to future dangers (Eroğlu,2000; Karataş, 2009; Özyürek & Demiray, 2010). Anxiety may lead to many social symptoms, such as shyness, difficulty in speaking, and avoiding activities, as well as physiological reactions such as uneasiness, tremors, headache and chest pains, nervousness (Özyürek & Demiray, 2010; Ümmet, 2007). Anxiety also includes a multifaceted feeling that motivates individuals by warning them against possible dangers from the social environment and contributing to their survival, and involves adaptive and subjective feelings and behaviors to deal with dangers, along with the feelings of pessimism, failure, anxiety about the future (Güleç & Köroğlu, 1997; Tektaş, 2014). Anxiety, which is highly associated with future expectations, is also observed in pre-service teachers. The problems encountered in teacher appointments in our country lead to anxiety of not to be appointed among pre-service teachers. Some of these problems are the low number of appointments in some fields, the smaller number of appointments than expected, and the central exams taken to be appointed. In addition to the presence of these problems, the failure to meet the expectation of becoming a teacher and working as a teacher will increase this anxiety of not to be appointed over time. The pressure resulting from not meeting these expectations is one of the causes of anxiety that arises (Bahar, 2011; Doğan & Şahin, 2009; Karagözoğlu, 2009). The studies also indicate that this situation cause teachers to have feelings such as anxiety (Yılmaz, Yalçın, Yalçın, & Kahraman, 2017). The anxiety of not to be appointed may be effective through several attitudes and perceptions of pre-service teachers. The motivation to teach is one of them. Accordingly, the interaction between the anxiety of not to be appointed and the motivation to teach was considered worthy of investigation. The motivation to teach is an important emotional state from pre-service teachers' attitudes towards the profession to their individual performance. The aim of this study was to determine the effect of the anxiety of not to be appointed on pre-service teachers' motivation to teach. Based on this general aim, the following sub-aims were determined: *(i)* What is the level of perception of pre-service teachers of the motivation to teach and the anxiety of not to be appointed? *(ii)* Do pre-service teachers' motivation to teach and perceptions of the anxiety of not to be appointed differ in terms of some variables? *(iii)* Is there a relationship between pre-service teachers' motivation to teach and perceptions of the anxiety of not to be appointed? *(iv)* Does pre-service teachers' anxiety of not to be appointed have significantly predict on their perception of motivation to teach?

2. Method

2.1. Research Model

This study, which discussed the relationship between pre-service teachers' anxiety of not to be appointed and motivation to teach, was conducted in the relational survey model one of the quantitative research methods. Relational survey models are used to determine the presence and degree of the changes in variables that are considered to be related (Büyüköztürk et al., 2020; Karasar, 2012). Two variables were determined in

accordance with the research model. While the anxiety of not to be appointed was determined as an independent variable, the motivation to teach was determined as the dependent variable.

2.2. Population and Sample

The students studying in the final year of Fırat University Faculty of Education and in the pedagogical formation department of the same faculty during the same time period in the 2018-2019 academic year constituted the population of this study. The sample was formed from 401 pre-service teachers using the simple random sampling method. All units have an equal chance of election. In the app, all units are listed, and random selections are made from the list. In the simple random sampling method, each sampling unit in the population has an equal and independent sampling probability (Büyüköztürk et al., 2020). The sample was determined randomly and impartially among pre-service teachers in the population. In the selection of pre-service teachers, attention was paid to reach pre-service teachers from different departments and groups in order to determine a homogeneous sample, by considering the size of the final year students of the departments and the groups receiving pedagogical formation education. Table 1 includes the distribution of pre-service teachers who participated in the study according to their personal characteristics.

Table 1. Data on demographic characteristics of the participants

Demographic Variable	Groups	Frequency (n)	Percentage (%)
Gender	Female	176	43.9
	Male	225	56.1
	Total	401	100
Marital status	Married	96	23.9
	Single	305	76.1
	Total	401	100
Level of Education to work	Primary school	86	21.4
	Secondary school	144	35.9
	High school	171	42.7
	Total	401	100
Graduation	Faculty of Education	184	45.8
	Faculty of Science and Literature	116	28.9
	Fine Arts/Sports Sciences	101	25.3
	Total	401	100

According to Table 1, while 43.9% of 401 pre-service teachers who participated in the study were female, 56.1% of them were male. While 76.1% of pre-service teachers were married, 23.9% of them were single. According to the branch variable, while 43.1% of pre-service teachers who participated in the study were from the social sciences branch, 31.6% and 25.2% of them were from the sciences branch and the fine arts/sports sciences branch, respectively. According to the variable of level of education to work, while 21.4% of pre-service teachers would work in primary schools, 35.9% and 42.7% of them would work in secondary schools and high schools, respectively. While 45.8% of pre-service teachers who participated in the study graduated from the faculty of education, 28.9% and 25.3% of them graduated from the faculty of science and literature and the fine arts/sports sciences, respectively. Based on these data, it was observed that majority of pre-service teachers who participated in the study consisted of males and that large majority of them were single. According to the variable of level of education to work, it was determined that the majority of pre-service teachers who participated in the study would work in secondary schools and high schools. According to the graduation status variable, it was observed that most of the participants in the study graduated from the faculty of education.

2.3. Data Collection Tools

While determining the data collection tools in accordance with the aim of the study, the similar scales in the literature were determined. These scales were examined with regard to criteria such as their acceptance in the literature, the characteristics they measure, their usefulness, dimensions, number of items, suitability to the methodology of the study, and the response time, and it was decided which ones to use in the study. The Anxiety of Pre-service Teachers' Not to Be Appointed to Teachership Scale and motivation to teach scales were used to collect the data of the study. This title involves the characteristics of these scales.

Anxiety of Pre-service Teachers' Not to Be Appointed to Teachership Scale: The Anxiety of Pre-service Teachers' Not to Be Appointed to Teachership Scale was developed by Eskici (2016). The scale consisted of 13 items under two sub-dimensions. During the development studies of the scale, its reliability coefficient Cronbach Alpha value was determined as .96. In this study, the coefficient of the scale Cronbach Alpha value of the scale was determined as .88. The first sub-dimension of the scale was the "fear of not to be appointed" dimension that consisted of 10 items and measured pre-service teachers' fears of the possibility of not being appointed. Another sub-dimension was the "personal perception" dimension that consisted of three items and measured the pre-service teachers' perceptions of themselves. While the lowest score to be obtained from the five-point Likert-type scale was 13, the highest score was 65.

Motivation to Teach Scale: In the study, data on motivation to teach were collected using the "Motivation to Teach Scale". The scale was developed by Kauffman, Yılmaz Soylu & Duke (2011), and Turkish adaptation study of the scale was carried out by Candan & Gencel (2015). The scale consisted of a total of 12 items under two sub-dimensions. The 6-point Likert-type scale consisted of the dimensions of "intrinsic motivation" and "extrinsic motivation" for teaching. While "intrinsic motivation", one of the sub-dimensions, consisted of seven items, "extrinsic motivation" consisted of five items. In the Turkish adaptation study of the scale, the reliability coefficient Cronbach Alpha value of the intrinsic motivation dimension was .86, the reliability coefficient Cronbach Alpha value of the extrinsic motivation dimension was determined as .76. In this study, while the reliability coefficient Cronbach Alpha value of the intrinsic motivation dimension of the scale was .83, the reliability coefficient Cronbach Alpha value of the extrinsic motivation dimension was determined as .79. The lowest and highest scores to be obtained from the motivation to teach scale were 12 and 72, respectively.

2.4. Data Collection and Analysis

The data including the opinions of pre-service teachers were obtained using the application form with measurement tools. The data were collected through face to face interviews.

Before deciding on the analysis to be performed in this study, it was determined whether the data were normally distributed. While parametric tests should be used in cases where the data were normally distributed, nonparametric tests should be used in cases where normality cannot be achieved. There are various methods to determine whether the data are normally distributed in a study (Can, 2013; Özdemir, 2018). In this context, at first, 8 data that were not suitable for analysis due to various reasons were removed from the data set. The analyses were performed on 401 data. The normality in the data was examined by examining the skewness and kurtosis values, and the results are presented in Table 2.

Table 2. Skewness and kurtosis coefficients of the variables used in the study

Variable	$\bar{x}$	Ss	Skewness		Kurtosis	
			Value	Std. Er.	Value	Std. Er.
Anxiety not to be appointed to teachership	3,94	,981	-,978	,140	,254	,280
Fear of not being appointed	4,10	,976	-1,183	,140	,735	,280
Personal Perception	3,39	1,190	-,216	,140	-1,052	,280
Teaching Motivation	3,51	,750	-,514	,140	,417	,280
Intrinsic Motivation	3,61	,801	-,528	,140	,197	,280
Extrinsic Motivation	3,37	,797	-,278	,140	,074	,280

When Table 2 was examined, it was observed that the skewness coefficients of the measurement tools used in the study varied between -1.183 and .216 and the kurtosis coefficients varied between -1.052 and .417. According to these results, it can be said that the data were normally distributed (Can, 2013; Özdemir, 2018). Therefore, it can be said that it was appropriate to use parametric tests in the study. Independent Groups t-Test technique was used to determine whether there was a significant difference between the paired groups in terms of the variables since normal distribution was observed in the data collected within the scope of the study. ANOVA test, in other words, one-way analysis of variance, was used to determine whether there was a significant difference for more than two groups, and the Scheffe test, one of the post-hoc analyses, was used to determine from which groups the differences resulted. The correlation analysis was used to determine the relationships between the variables. The regression analysis was performed to determine the predictability of the anxiety of not to be appointed on the motivation to teach determined as the outcome variable.

3. Findings

The findings obtained from the study, and the interpretations of these findings are included in this section. In this context, the findings were achieved by analyzing the data obtained from the teachers who participated in the study by percentage, frequency, t test, ANOVA, Pearson Correlation Analysis and Multiple Regression Analysis.

Table 3. Pre-service teachers' perceptions of motivation to teach and anxiety of not to be appointed

	N	$\overline{X}$	S	Score Level
Anxiety not to be appointed to teachership	401	3,94	,981	High
Fear of not being appointed	401	4,10	,976	High
Personal Perception	401	3,39	1,190	Middle
Teaching Motivation	401	3,51	,750	High
Intrinsic Motivation	401	3,61	,801	High
Extrinsic Motivation	401	3,37	,978	Middle

When the averages in Table 3 were evaluated according to score ranges, pre-service teachers' anxiety of not to be appointed was high ($\overline{X}$ = 3.94). While the fear of not to be appointed, one of the sub-dimensions of the anxiety of not to be appointed, was high ($\overline{X}$ = 4.10), personal perception, another sub-dimension, was moderate ($\overline{X}$ = 3.39). The motivation to teach of pre-service teachers who participated in the study was high ($\overline{X}$ = 3.51). While intrinsic motivation, one of the sub-dimensions of the motivation to teach, was high ($\overline{X}$ = 3.61), their extrinsic motivation was found to be moderate ($\overline{X}$ = 3.37). It was observed that pre-service teachers had a high level of anxiety about not being appointed, especially due to their high intrinsic motivation for teaching. Furthermore, this anxiety was based on the fear of not to be appointed. Table 4 includes the results of the t-test performed to compare the perceptions of pre-service teachers who participated in the study of the variables according to marital status and gender variables.

Table 4. Comparison of pre-service teachers' perceptions according to gender and marital status variables

	Gender	N	$\overline{X}$	S	t	p	η2	Cohen d
A. Anxiety not to be appointed to teachership	Female	176	3,85	1,04	1,259	,209		
	Male	225	4,00	,93				
A1. Fear of not being appointed	Female	176	4,00	1,04	1,556	,038	**.01**	**.19**
	Male	225	4,18	,91				
A2. Personal Perception	Female	176	3,37	1,24	,240	,810		
	Male	225	3,40	1,15				
B. Teaching Motivation	Female	176	3,47	,74	,836	,404		
	Male	225	3,54	,75				
B1. Intrinsic Motivation	Female	176	3,54	,82	1,199	,231		
	Male	225	3,65	,78				
B2. Extrinsic Motivation	Female	176	3,36	,75	,186	,853		
	Male	225	3,38	,82				
	Marital status	**N**	$\overline{X}$	**S**	**t**	**p**	**η2**	**Cohen d**
A. Anxiety not to be appointed to teachership	Married	96	3,76	1,12	,877	,388		
	Single	305	3,96	,96				
A1. Fear of not being appointed	Married	96	3,88	1,12	1,071	,293	**.02**	**18**
	Single	305	4,12	,96				
A2. Personal Perception	Married	96	3,34	1,23	,213	,833		
	Single	305	3,40	1,18				
B. Teaching Motivation	Married	96	3,58	,71	,524	,604		
	Single	305	3,50	,75				
B1. Intrinsic Motivation	Married	96	3,71	,770	,742	,464		
	Single	305	3,60	,804				
B2. Extrinsic Motivation	Married	96	3,39	,806	,125	,901		
	Single	305	3,37	,798				

When Table 4 was examined, it was determined that the total score of the anxiety of not to be appointed and the score of the personal sub-dimension did not differ significantly in terms of gender variable. In the

dimension of the fear of not to be appointed, it was observed that there was a significant difference in favor of males (t=1.259; p=0,038<0.05). In this case, males' scores of the fear of not to be appointed ($\overline{X}$ = 4.18 ± 0.91) were higher than females' scores of the fear of not to be appointed ($\overline{X}$ = 4.00 ± 1.04). For the scores of the motivation to teach, which was the other variable of the study, and the scores of intrinsic motivation and extrinsic motivation, which are its sub-dimensions, it was observed that there was no significant difference according to the gender variable.

According to Table 4, it was determined that the total score of the anxiety of not to be appointed and the score of the personal sub-dimension did not differ significantly in terms of the marital status variable. In the sub-dimension of the fear of not to be appointed, it was observed that there was a significant difference in favor of single pre-service teachers (t= 1.071; p=0.029<0.05). In this case, single pre-service teachers' scores of the fear of not to be appointed ($\overline{X}$ = 4.12 ± 0.96) were higher than married pre-service teachers' scores of the fear of not to be appointed ($\overline{X}$ = 3.88 ± 1.12). For the scores of the motivation to teach, which was the other variable of the study, and the scores of intrinsic motivation and extrinsic motivation, which are its sub-dimensions, it was observed that there was no significant difference according to the marital status variable.

Table 5 includes the results of the Anova performed to compare the opinions of pre-service teachers who participated in the study according to the variable of level of education and graduation.

Table 5. Comparison of pre-service teachers' perceptions according to the variable of level of education and graduation

	Level of Education to work	**N**	$\overline{X}$	**S**	**F**	**p**	**Difference**	**η2**
A. Anxiety not to be appointed to teachership	A. Primary school	86	3,59	,84	1,949	,122	--	--
	B. Secondary school	144	3,77	,93				
	C. High school	171	4,03	,95				
A1. Fear of not being appointed	A. Primary school	86	3,81	,86	1,591	,192	--	--
	B. Secondary school	144	3,96	,95				
	C. High school	171	4,19	,94				
A2. Personal Perception	A. Primary school	86	2,85	,91	2,581	**,044**	C>A	
	B. Secondary school	144	3,16	1,13				
	C. High school	171	3,50	1,17				
B. Teaching Motivation	A. Primary school	86	3,31	,90	1,716	,164	--	--
	B. Secondary school	144	3,61	,61				
	C. High school	171	3,54	,71				
B1. Intrinsic Motivation	A. Primary school	86	3,39	,93	1,874	,134	--	--
	B. Secondary school	144	3,68	,66				
	C. High school	171	3,66	,77				
B2. Extrinsic Motivation	A. Primary school	86	3,21	,96	1,252	,291	—	—
	B. Secondary school	144	3,51	,68				
	C. High school	171	3,38	,74				
	Graduation	**N**	$\overline{X}$	**S**	**F**	**p**	**Different**	**η2**
A. Anxiety not to be appointed to teachership	A. Faculty of Education	184	3,64	,95	4,210	**,006**	B>C	**.04**
	B. Faculty of Science and Literature	116	4,12	,89				
	C. Fine Arts/Sports Sciences	101	3,75	1,05				
A1. Fear of not being appointed	A. Faculty of Education	184	3,77	,96	4,500	**,004**	B>A B>C	**.04**
	B. Faculty of Science and Literature	116	4,29	,86				
	C. Fine Arts/Sports Sciences	101	3,92	1,06				
A2. Personal Perception	A. Faculty of Education	184	3,20	1,03	2,453	,063	--	--
	B. Faculty of Science and Literature	116	3,56	1,16				
	C. Fine Arts/Sports Sciences	101	3,15	1,25				
B. Teaching Motivation	A. Faculty of Education	184	3,13	,67	1,516	,210	--	--
	B. Faculty of Science and Literature	116	3,54	,78				
	C. Fine Arts/Sports Sciences	101	3,59	,61				
B1. Intrinsic Motivation	A. Faculty of Education	184	3,21	,78	1,213	,305	--	--
	B. Faculty of Science and Literature	116	3,65	,83				
	C. Fine Arts/Sports Sciences	101	3,66	,66				

B2. Extrinsic otivation	A. Faculty of Education	184	3,02	,65	1,691	,169	--	--
	B. Faculty of Science and Literature	116	3,38	,81				
	C. Fine Arts/Sports Sciences	101	3,50	,70				

As it is seen in Table 5, pre-service teachers' scores of the personal perception dimension, the sub-dimension of the anxiety of not to be appointed, did not differ significantly according to the variable of level of education (F=2.581; p=0.044<0.05). The Scheffe test, one of the complementary post-hoc analyses, was performed to determine the sources of differences. As a result of the analyses, personal scores for the fear of not to be appointed of pre-service teachers who would work in high schools ($\overline{X}$: 3.50 ± 1.17) were found to be higher than the scores of pre-service teachers who would work in primary schools ($\overline{X}$: 2.85 ± 0.91). The variable of level of education could not make a significant difference according to pre-service teachers' total scores of the anxiety of not to be appointed and scores of the sub-dimension, fear of not to be appointed. Furthermore, pre-service teachers' scores of the motivation to teach and its sub-dimensions did not differ significantly according to the variable of level of education.

When Table 5 was examined, the scores of the anxiety of not to be appointed and its sub-dimension personal perception, and the scores of the motivation to teach and its sub-dimensions, intrinsic motivation and extrinsic motivation did not differ significantly the variable of graduation. With this result, pre-service teachers' scores of the anxiety of not to be appointed and the fear of not to be appointed differed significantly according to the graduation variable. According to this result, the scores of the anxiety of not to be appointed of pre-service teachers who graduated from the faculty of science and literature ($\overline{X}$: 4.12 ± 0.89) were found to be higher than the scores of the anxiety of not to be appointed of pre-service teachers who graduated from fine arts/sports sciences ($\overline{X}$: 3.75 ± 1.05). Furthermore, the scores of the fear of not to be appointed of pre-service teachers who graduated from the faculty of science and literature ($\overline{X}$: 4.29 ± 0.86) were found to be higher than the scores of both faculty of education graduates ($\overline{X}$: 4.77 ± 0.96) and fine arts/sports science graduates ($\overline{X}$: 3.92 ± 1.06).

The relationships between pre-service teachers' anxiety of not to be appointed and their perceptions of the motivation to teach were examined by the Pearson Correlation Analysis, and the results are presented in Table 6.

Table 6. Pearson correlation analysis results for examining the relationships between pre-service teachers' anxiety of not to be appointed and their levels of motivation to teach

	(1)	(2)	(3)	(4)	(5)	(6)
1. Anxiety not to be appointed to teachership	1					
2. Fear of not being appointed	,985**	1				
3. Personal Perception	,880**	,784**	1			
4. Teaching Motivation	-,224**	-,218**	-,204**	1		
5. Intrinsic Motivation	-,242**	-,237**	-,218**	,957**	1	
6. Extrinsic Motivation	-,165**	-,158**	-,155**	,913**	,755**	1

**p<.01, N=401

When Table 6 was examined, it was observed that there was a significant and negative relationship by .01 between pre-service teachers' anxiety of not to be appointed and both sub-dimensions and motivation to teach and both sub-dimensions. Based on this result, it was observed that there was a low level of relationship between pre-service teachers' anxiety of not to be appointed and motivation to teach (r= -.224; p<.01). According to this result of the study, pre-service teachers' motivation to teach decreased as their anxiety of not to be appointed increased. Furthermore, it was observed that there was a negative and low level relationship between the fear of not to be appointed, which is a sub-dimension of the anxiety of not to be appointed, and motivation to teach (r= -.218; p<.01), intrinsic motivation (r= -.237; p<.01), and extrinsic motivation (r= -.158; p<.01). It was observed that there was a negative and low level relationship between the personal perception, another sub-dimension of the anxiety of not to be appointed, and motivation to teach (r= -.204; p<.01), intrinsic motivation (r= -.218; p<.01), and extrinsic motivation (r= -.155; p<.01). Based on these results, there was an inverse relationship between pre-service teachers' perceptions of the motivation to teach and all sub-dimensions and the anxiety of not to be appointed and all sub-dimensions. As the anxiety of not to be

appointed, the fear of not to be appointed, and personal perception of not to be appointed increased, pre-service teachers' motivation to teach, intrinsic motivation and extrinsic motivation decreased.

Multiple Regression Analysis was performed for the Prediction of Pre-service Teachers' Motivation to Teach by their Anxiety of not to be Appointed, and the results are presented in Table 7.

Table 7. Multiple regression analysis results for the predictions of pre-service teachers' motivation to teach by their predictions of the anxiety of not to be appointed

Predicted Variable	Predictive Variables	B	Std. Error	B	t	p
Teaching Motivation	Constant	3,873	,103		37,481	**,000**
	Anxiety not to be appointed to teachership	-,192	,937	-,251	-,205	,426
	Fear of not being appointed	-,036	,797	-,042	-,046	**,049**
	Personal Perception	-,010	,235	-,017	-,044	,338
R= .224, R^2= .050, Adjusted ΔR^2= .048, F (5,246) = 169.062, p= 002, **p<.01						
Intrinsic Motivation	Constant	4,023	,110		36,637	**,000**
	Anxiety not to be appointed to teachership	-,542	,996	-,663	-,544	,568
	Fear of not being appointed	,306	,846	,333	,361	**,039**
	Personal Perception	,072	,249	,107	,288	,360
R= .242, R^2= .059, Adjusted ΔR^2= .054, F (6,229) = 192.682, p= 000, **p<.01						
Extrinsic Motivation	Constant	3,663	,111		32,980	**,000**
	Anxiety not to be appointed to teachership	,298	1,007	,366	,296	,568
	Fear of not being appointed	-,341	,856	-,373	-,398	,102
	Personal Perception	-,126	,252	-,188	-,498	,338
R= .166, R^2= .028, Adjusted ΔR^2= .021, F (2,863) = 190.907, p= 030, *p<.05						

When Table 7 was examined, it was observed that pre-service teachers' anxiety of not to be appointed and its sub-dimensions significantly predicted their motivation to teach (R=.224, R^2=.050, $F_{(5,246)}$= 169.062, p=002, p<.01). When the *t* values for the regression coefficients of the anxiety of not to be appointed and its sub-dimensions were examined, it was observed that the dimension of the fear of not to be appointed statistically significantly predicted the motivation to teach. It was observed that pre-service teachers' anxiety of not to be appointed and its sub-dimensions statistically significantly predicted the intrinsic motivation dimension, the sub-dimension of the motivation to teach (R=.242, R^2=.059, $F_{(6,229)}$= 192.682, p=000, p<.01). When the t values for the regression coefficients of the anxiety of not to be appointed and its sub-dimensions were examined, it was observed that the dimension of the fear of not to be appointed statistically significantly predicted the intrinsic motivation. It was observed that pre-service teachers' anxiety of not to be appointed and its sub-dimensions statistically significantly predicted the extrinsic motivation dimension, the sub-dimension of the motivation to teach (R=.166, R^2=.021, $F_{(2,863)}$= 190.907, p=030, p<.05). When the t values for the regression coefficients of the anxiety of not to be appointed and its sub-dimensions were examined, it was observed that the dimension of anxiety of not to be appointed and its sub-dimensions did not statistically significantly predict the extrinsic motivation. According to this result, the fear of not to be appointed explained 5% of the total variance in the motivation to teach and its sub-dimension intrinsic motivation dimension.

4. Discussion and Conclusion

The discussions and conclusions on the results obtained to determine the relationship between pre-service teachers' motivation to teach and anxiety of not to be appointed are discussed under this title. As a result of the findings, it was determined that pre-service teachers' perceptions of the anxiety of not to be appointed and motivation to teach were high. Furthermore, although the perceptions of the fear of not to be appointed, the first sub-dimension of the anxiety of not to be appointed, and extrinsic motivation, the first sub-dimension of motivation to teach, were high, it was concluded that the second sub-dimensions of both variables were

moderate in terms of pre-service teachers' perceptions. Along with these results, in the thesis study conducted by Süner 2019, one of the similar studies on this issue, it was observed that pre-service teachers' scores of the anxiety of not to be appointed and the sub-dimension of the fear of not to be appointed were above the moderate level. Furthermore, Ekici (2016) found another similar result with the results of the study. In his study, Ekici (2016) determined that pre-service teachers' scores of the anxiety of not to be appointed and its sub-dimension, fear of not to be appointed, were above the moderate level. Furthermore, Süner (2019) found that pre-service teachers' scores of personal perception dimension were low. The fact that today's pre-service teachers, who will shape the generations of the future, have high motivation to teach, one of the most important types of motivation they should have, is an important result in that their individual performance in their professional life would also be high. It is possible that pre-service teachers with high motivation to teach will also get satisfaction from their job while performing their teaching profession in the future. The issues such as the problems in teacher employment and the increasing number of pre-service teachers caused an anxiety of not to be appointed among pre-service teachers, which is also supported by the results obtained as a result of this study.

The variables discussed within the scope of the study were compared according to gender, marital status, level of education, and graduation status, which are the personal variables of pre-service teachers. The variable of gender caused a significant difference only in the fear of not to be appointed, the first sub-dimension of the anxiety of not to be appointed. Similarly, the marital status variable caused a significant difference only on the same sub-dimension, fear of not to be appointed. As a result of both results, it was determined that male pre-service teachers had more fear of not to be appointed compared to female pre-service teachers, and that single pre-service teachers had a higher fear of not to be appointed compared to married pre-service teachers. The situations such as social roles, future expectation, and the intention to take part in business life could be effective in the emergence of this result. Furthermore, based on the observations obtained during the research process, the fact that most of the pre-service teachers both in the pedagogical formation education and in the final year of the faculty of education, had an existing profession may be a reason why they had less fear of not to be appointed compared to single pre-service teachers. In a similar study with this result, Süner (2019) concluded that female pre-service teachers' fear of not to be appointed was significantly higher compared male pre-service teachers. In their study, İnce and Yılmaz (2018) concluded that male or female pre-service teachers had the same level of anxiety. In another study on the level of anxiety, it was observed that early pre-service teachers had a higher level of anxiety compared to female pre-service teachers (Aküzüm, Demirkol, Ekici, & Talu, 2015; Baştürk, 2007). Furthermore, in their study, Sürücü, Yıldırım and Ünal (2018) concluded that pre-service teachers' motivation to teach differed significantly according to the gender variable. In the same study, it was concluded that both intrinsic and extrinsic motivation scores of female pre-service teachers were higher compared to male pre-service teachers. As a result of the comparison according to the level of education at which pre-service teachers could work, no significant difference was obtained in the motivation to teach and its sub-dimensions. Along with this result, a significant difference was determined in the personal perception dimension of the anxiety of not to be appointed according to the level of education at which pre-service teachers could work. Accordingly, pre-service teachers who could work in high schools had a higher level of anxiety of not to be appointed in the personal perception dimension compared to pre-service teachers who could work in primary schools. The fact that pre-service teachers who could work in high schools has been less employed compared to pre-service teachers who could work in primary schools in recent years may be effective in the emergence of this result. The graduation variable did not cause a significant difference in pre-service teachers' motivation to teach and its sub-dimensions. However, the same graduation variable caused a significant difference in the sub-dimension of anxiety and fear of not to be appointed. Pre-service teachers who graduated from faculties of science and literature had a higher level of fear of not to be appointed compared to pre-service teachers who graduated from fine arts/sports sciences. In parallel with this result, the perceptions of the fear of not to be appointed of the graduates of the faculties of science and literature were higher compared to both the graduates of the faculties of education and the fine arts/sports sciences graduates. The fact that the graduates of the faculties of science and literature could not be appointed without receiving pedagogical formation education as of the date of the study, and the low need for appointment for the departments in this faculty were effective in the emergence of this result.

The relationship between the variables of the anxiety of not to be appointed and the motivation to teach, which are the variables of the study, was examined by the correlation analysis. According to the results of the correlation analysis, it was observed that there was a significant and negative relationship between the motivation to teach and its sub-dimensions and the anxiety of not to be appointed and its sub-dimensions. Pre-service teachers' motivation to teach decreased as their anxiety of not to be appointed increased. Although the level of anxiety is acceptable at a certain level, the dimension of the anxiety experienced may have a negative prediction on motivation. Therefore, pre-service teachers' anxiety of not to be appointed has a negative relationship with motivation to teach in this regard. Although a low level of relationship was found between both variables, it was a remarkable result to reveal the relationship between the motivation to teach and nonappointment. For the main aim of the study, regression analysis was performed to determine the prediction of the anxiety of not to be appointed on motivation to teach. As a result of the regression analysis, it was observed that the anxiety of not to be appointed and its sub-dimensions significantly predicted the motivation to teach. The fact that the anxiety of not to be appointed explained 5% of the total variance in the motivation to teach and its sub-dimension intrinsic motivation dimension was another important result for determining the predictability between both variables. In other words, the anxiety of not to be appointed had a little effect on the emergence of the motivation to teach. In another study showing similarity with these results, Ayık & Ataş (2014) determined that there was a positive and moderate relationship between pre-service teachers' motivation to teach and their attitudes towards the teaching profession. In the same study, it was concluded that the attitude towards the teaching profession was a significant predictor of teaching motivations, and intrinsic and extrinsic motivations. Akpınar (2013) determined that pre-service teachers' anxiety of not to be appointed increased their stress levels.

Based on these results, it can be accepted that the anxiety of not to be appointed has a certain level effect on pre-service teachers' motivation to teach, considering that a reasonable level of anxiety would not lead to a negative effect. However, as it can be seen in the results of the study, the anxiety experienced has a negative effect on pre-service teachers' motivation to teach. Therefore, policy makers should make a good planning on many factors from teacher employment to the number of pre-service teachers to be trained for the elimination of these problems.

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