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Students and Teachers' Points of View on Code-Switching in EFL Classes: A Balance or Imbalance Paradigm?

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Abstract

This study aims to clarify whether the implementation of language alternation in the teaching of English as a foreign language (EFL) has strengths or limitations from both teachers and students' points of view. By making use of both qualitative data which was conducted through structured interviews with 23 teachers in one of the provinces of Turkey as well as applying structured forms to 92 teachers from 34 cities in Turkey and quantitative data containing five-point Likert scale questionnaire collected from 226 students, the current research reports students' stances towards teacher code-switching in EFL classrooms in Turkish secondary and high school context, and teachers' language choice causes with inferable results. The data from the questionnaire were collated, and the SPSS program was used to calculate the descriptive calculations involving percentages and frequencies. The results of the study reveal that students and teachers tend to agree on the majority of questions. While students welcomed the teachers' code-switching efforts in English lessons, the teachers advocated the balanced conduct of language switching, especially in terms of communication skills.

Keywords: Code-switching, Mother Tongue, English Language, EFL Teachers, Learners

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Introduction

From time to time, bilingual or multilingual people switch back and forth between two or more different languages and that is called Code-Switching (CS). Even though there has recently been much attention on the reasons for EFL teachers' code-switching in their lessons there are few studies that shed light upon whether the use of mother tongue or only English in the classroom has facilitating or debilitating effect from the perspective of students' feelings, thoughts, and beliefs. The technical examination of bilingualism with both improved technology and novel approaches on language teaching in educational areas have led to a new perspective towards language learning and teaching phenomenon. When the Bilingual Education Act (BEA) was enacted in the 1960s, the term code-switching, shifting between two or more languages in the classroom, appeared as a controversial issue in the United States. While some of the scholars (Akkaya & Aydin, 2019; Auer, 2016; Eldridge, 1995; Rezvani & Rasekh, 2011; Sert, 2005; Yao, 2011) were in the opinion that the use of mother tongue in foreign language teaching classrooms has a facilitating effect on the learning and teaching process, the others (Hua, 2008; Jingxia 2010; Moore, 2002; Sridhar, 1996) asserted the contrary. Krashen's (1987) comprehensible input theory had a significant effect on some researchers, and they argued that total immersion is favorable for language learning and its acquisition. Nurhamidah et al. (2018) concluded that the minimization of the first language from language classrooms may have a hindering outcome and a systematic principle for obtaining mother tongue to ease language learning was proposed by them. When these approaches are taken into account, there are strong views backing up the usage of English as a medium of instruction or both employment of target language and L1 in the EFL context. The findings of most studies that investigate the alternation of language in English teaching classrooms indicate that code-switching is a prevalent circumstance in bilingual and multilingual educational environments (Enama, 2015; Paradowski, 2008; Üstünel, 2016). Not only teachers but students alternate between languages for some reasons as well (Akkaya & Aydin, 2019). Mother tongue's proper use does not disrupt the educational process but, on the contrary, it paves the way for a welcoming environment both for students' language comprehension and teachers' way of conducting their lessons (Miles, 2004). So, the proponents of bilingualism in language teaching agree that code-switching is a natural process for the acquisition of a second language, and it is also a fundamental part of this process for teachers to teach language. (Sridhar & Sridhar, 1986). The bilingual approach also professes that a lot of learners of EFL desire to keep up the linguistic and cultural identities of themselves in using and mastering English.

As Ataş (2012) states, there have been numerous methods and ways handling English, being multinational language, in a broad perspective for its teachable purposes all around the world as well as in Turkey. It is an undeniable fact that the globalization of English in the whole world has aroused the interest of some linguists for its appropriate practices in the classrooms. And the significance of foreign language education in every country has emerged according to the country's own needs.

Lambert (1999) has a classification of countries into three groups: homogeneous countries most citizens of which speak the same language; pairwise ones like Canada, where two or three languages have equal existence; and various ones such as Russia, in which many different groups use a lot of kinds of languages. Turkey is an example of the former mentioned country since Turkey's formal and most used language is only Turkish for many purposes.

Having an intersection location, Turkey holds the role of a bridge between Asia and Europe as well as taking on a considerable presence in the Middle East. It's being a prominent member of NATO and exerting for full membership in European Union (EU) are some other factors that make the country quite essential for some reforms. Along with its geographical importance, in today's world, the cultural aspect of Turkey is certain to be undeniable. Therefore, when these circumstances are taken into consideration it can be pointed out that both to catch up with the developments taking place in the world and to meet the needs of foreign language learning and teaching in the country, Turkey has gone for educational reforms. The enactment of compulsory education, which is completed in 12 years, in 2012 and reducing English teaching level from 4th grade to 2nd grade in 2013 were some of the important steps taken by the government to contribute both learning and teaching of English, which is used as a lingua franca all over the world, in the Turkish state school system (Özen et al., 2013). At all stages of education, it is the only compulsory subject among other languages such as French and German which are given as elective ones. The curriculum of the Ministry of National Education (MoNE) specifies English as a compulsory subject from primary to tertiary level of education.

Rather than conducting out of date teaching methods such as Grammar Translation Method (GTM) and Audio-Lingual Method (ALM), the current design adopts a mostly student-centered way of learning along with Communicative Language Teaching (CLT) which sets interaction as means of learning. That being so, it can be concluded that English is the most in-demand foreign language in the country. In addition to the government's reforms and peoples' intense interest in English learning around the country, there have also been so many methods, principles, and practices tried to be applied in the classrooms not only by teachers but also by researchers.

Conceptual Framework

Code-switching occurs when the speaker and listener converse in more than one language, and this occurs because the speaker feels more comfortable speaking in another language. Across the globe, bilinguals use code-switching to organize their communication, which is a regular occurrence (Narasuman et al.). According to Bullock & Toribio (2009) a bilingual's ability to seamlessly move between two languages is known as code-switching. It can be said that switching codes basically allows people who can speak more than one language to switch in different contexts and adapt to new contexts easily. Azlan & Suthagar (2012) point out that there are certain reasons for switching

between languages in the classroom environment. First, this is due to a lack of vocabulary in the target language among students who are learning the second language. Secondly, code-switching is needed to make communication effective in the classroom and to encourage class participation. On the other hand, Narayan (2019) draws attention to the fact that teachers utilize code-switching in order to bridge the language gap between them and their students. From this point of view, it can be stated that code-switching is a necessity rather than an obstacle for both teachers and students in the classroom context.

Due to the ease of communication and acculturation necessity, it has currently been quite vital to bring up bilingual and multilingual individuals all around the world. Therefore, demands and attitudes towards language learning have become more common than ever. That's why it would be useful to touch on the nature of code-switching and what it stands for the researchers of this era. The term code or variation in a language can be described as a selection of words and utterances that may change from one to another. On the other hand, code-switching refers to the process in which a multilingual or bilingual person shifts between languages that s/he knows or the others may be familiar with in a context or conversation. According to Gumperz (1982), "the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems" (p.59) is defined as code-switching. Lowi (2005) asserts that researchers shouldn't focus on CS only as a speaking instrument, conversely it might play a major role in identity formation and cultural interaction. So, as well as its being a physical way of articulation it also combines the components of culture and personal bonds. Holmes (2013), on the other hand, defines it as an alternation of language that is shifted for a clearer interpretation by the listener within a specific context. Within a language or two languages code-switching may happen in morphological structures as it does in syntax and the speaker's utterances namely, words or sentences switched, depending on the listener's competence.

Types of Code-Switching

Inter-sentential code-switching mainly occurs after the completion of the first language and then the speaker starts to the next sentence with L2. Both sides share the same topic, but the switching takes place a bit more in complexity. The speaker usually sets his/her sentences in two different languages such as *"Coronavirus is spreading all over the world, there is a huge death toll as people don't care about the social distance. Bu anlamda sosyal mesafeyi korumak büyük önem arz ediyor."* *(For this reason, following social distance rule is of vital importance.)*

In Intra-sentential code-switching, the person who speaks, shifts between two codes such as Turkish and English in the middle of the sentence or clause. Switching from English to Spanish, from Urdu to Arabic or from English to Turkish are common examples of intra-sentential code-switching. For instance, *"Chapter seven bu haftaki ödeviniz." (For this week, chapter seven is your homework.)*

Tag switching is more common because during the conversation the speaker adds tags which are one or two phrases into his or her statements. Expressions like 'you know', 'I mean' are common English examples.

As Al-Qaysi (2016) proposes, to be able to pin down the merits and limitations of the implementation of CS, learners' and educators' perspectives towards CS remain open to careful investigation. For those who claim that first language should be prohibited in the classrooms, the main point is that the teacher is the only facilitator for students, and they should interact more often in L2 as much as possible. Luo (2019) expresses that there has been an agreement between officials and parents about the ban of Chinese in EFL classrooms, especially in listening and speaking classrooms. He also asserts that the teacher's use of the first language can be considered bad, as this may cause hindrance in practicing English. On the other hand, the others' approach to CS is pretty calmer because they believe that without the use and comprehension of the mother tongue, the learning process becomes incomplete. According to García and Lin (2017), besides being an effective teaching instrument for teachers to convey meaning better, code-switching also contributes to the academic use of L2. CS taking place in the classroom might be useful for the comprehension of new vocabulary, checking learners' understanding and giving feedback to students (Zacharias, 2003). The heating debate among researchers, teachers, or educators has long been going on and the deadlock of L1 practice in foreign language classrooms has its extensiveness even today. Thus, that is the focal point of this study to clarify whether the use of the first language in EFL classrooms is facilitating or adopting a full use of English is inhibiting in view of both students and teachers' aspects. Therefore, this study aims to give possible answers to these research questions:

1- What attitudes and beliefs do students have on CS?

2- Do the students attitudes and beliefs differ regarding the variables of sub-section of the scale, gender, and grade?

3- What are the perceptions of teachers on CS based on the structured-form?

4- What are the CS manners of teachers in their classrooms?

5- What is the interview-based thoughts and opinions of teachers on CS?

Method

Design

In this study, the mixed-method design (Explanatory Sequential Mixed Methods Design was carefully tried to collect data both from students who were quantitatively administered by a 5-point Likert scale and teachers who were not only employed by close-ended questions with structured forms, but also 8 open-ended questions were asked to unravel their manners towards teachers'

switching between Turkish and English in the classrooms. As Creswell (2014) asserts, quantitative and qualitative research designs both have strong and weak points, to formulate a more effective insight into the research questions and tackle the limitations of both design methods, a combination of the two data forms is of vital importance for better results.

Participants

To investigate the related issues, the sequential mixed methods sampling was selected as it includes both probability sampling for quantitative process and purposive sampling for qualitative one (Teddlie & Tashakkori, 2009). The questionnaire was designed by the researcher and put into practice with the consent of the participating students and teachers. As Israel and Hay (2006) point out, the protection of the contributors is of vital importance in order not to come up against any challenges and giving them a sense of trust is morally much noteworthier. Consequently, great importance was attached to the anonymity of the participants. As participants, 226 students ranging from 5th grade to the 12th grade were selected from 11 cities of Turkey. Likewise, teachers working at the secondary and high schools, voluntarily participated in the survey. Totally 92 teachers 55 of whom work in secondary schools and 37 are in the high schools partook in structured forms. Additionally, 23 teachers from Kocaeli were structurally interviewed to boost the qualitative part. On account of the world-affecting outbreak, namely, coronavirus which forced the whole world to quarantine, it was impossible to reach the participants in person, and an online way of communication was held with both their and their institutions' assent. Thus, demographic information of the participants is presented in the following.

During the survey process, 106 secondary school students and 120 high school students voluntarily took part in this research. 10.4% *(f=11)* of secondary school students stated that they are at the beginning level, 77.4% *(f=82)* are at the intermediate level and 12.3% *(f=13)* are at the advanced level. On the other hand, 29.2% *(f=35)* of the high school students were beginners, 65.8% *(f=79)* of them were intermediates, and 5% *(f=6)* had C1-C2 levels of language proficiency.

In general, 226 students in 11 cities of Turkey willingly contributed to the survey about code-switching. As it is noticed, most of the participants with 53.1 percentage *(f=120)* were from Kocaeli due to the researcher's dwelling there. 15.5% of the respondents with the frequency of 35 participated in Siirt. Sakarya was the third city with the highest number of participants with 11.1% *(f=25)* and Erzincan with 7.1% *(f=16)* was the fourth one. This was followed by İstanbul with 6.2% *(f=14)* students and by Hakkari with 4% *(f=9)*. The number of participants from Batman and Malatya was equal with .9% *(f=2)*. In Ardahan, Bartın, and Kırklareli only .4% students took part in the study *(f=3)*.

The total number of the participants for teachers is 92. While males constitute 31.5% *(f=29)* of the group, the rate for girls is 68.5% *(f=63)*. Only 1 male has a master's degree, this number is 8 for females. Meanwhile, 79.3% *(f=73)* of teachers have ELT graduation degree, 18.5% *(f=17)* of the whole graduated from English Language and Literature, and 2.2% namely 2 teachers have Linguistics diplomas. Secondary school teachers make up 59.8% *(f=55)* of the group and high school ones are 40.2% *(f=37)*.

Teachers taking part in this survey were from all regions of Turkey and they contributed to this study from 34 cities. As it is clear, 30.4 of the participants *(f=28)* work in the Southeast Anatolian Region and 18.5% of them *(f=17)* are from the Eastern Anatolian Region. For the Marmara Region, the percentage is 19.6 which corresponds to 18 teachers while teachers from Black Sea Region are 15 (16.3%). These are followed by the Mediterranean Region with 7.6% *(f=7)* and Central Anatolian Region with 4.3% *(f=4)*. Finally, the Aegean Region with 3 attendants constitutes 3.3% of the total population.

Data Collection

Before the data collection procedures were implemented, as code-switching had ethical dimensions, the institutional consent and approval were obtained for the current study. Afterwards, the participants were informed about the purpose of the study, the protocols of interview, the detailed procedures, duration, and voluntary participation or withdrawals.

The data were obtained from both teachers and students ranging from 5th to 12th grades in EFL classrooms across the country through a four-week study. The instruments for data collection were two questionnaires one for students and the other for teachers. A five-point likert questionnaire was devised for students to gauge *(a)* code-switching's impact on their language learning *(b)* their attitudes to language shifting, and *(c)* its motivating effect on students' classroom participation. It included a total of 24 questions. On the other hand, a structured questionnaire consisting of 8 questions was prepared for 92 teachers. Meanwhile, 8 open-ended questions via video conference interviews were asked to 23 teachers from Kocaeli to elicit teachers' thoughts, stances, and approaches to code-switching in their classes. The questionnaires began with background information such as age, gender, years of experience, city of teaching/learning, etc. 5-point Likert scale of students' questionnaire included items like *strongly agree, agree, neutral, disagree, strongly disagree* with each statement. Students' questionnaire was created in Turkish to avoid any ambiguity. For total items of students' questionnaire *(n=24)* the reliability Cronbach alpha level was calculated as .82, which is accepted as feasible to collect data.

Data Analysis

In the current study, both quantitatively and qualitatively analyzed research methods were used to have a better interpretation of teachers' code-switching in view of students and teachers' answers. Through SPSS usage, quantitatively analyzed results were compared with open-ended questions of teachers to obtain appropriate critical analysis about why teachers alternate between languages in the classroom and what their and students' perceptions are about this situation. To calculate the percentages and frequencies in the Likert-scale and structured forms, descriptive statistics were chosen. Meanwhile, One-Sample T-Test was applied to reveal if there was any statistically significant difference among subsections of the students' questionnaire regarding code-switching. Independent Samples T-Test was aimed to find out whether gender makes a difference or not. One-Way ANOVA was administrated to see if any variance was in terms of grades or not. In addition, Miles and Huberman's (1994) model for qualitative data analysis was utilized.

Results

The descriptive and statistical results of students and teachers' questionnaires were categorized according to the tables below. Furthermore, the questions and answers of the conducted interview were presented to the reader with analysis.

Students' Attitudes and Beliefs on Teachers' Code-switching

Table 1. One Sample T-test Results for Sub-sections of Scale

Sections of Scale	N	x̄	S	SD	t	P
Code-switching's impact	226	23.20	5.86	225	59.48	.000
Attitudes to language shifting	226	26.99	6.12	225	66.27	.000
Motivating effect on students' classroom participation	226	12.20	3.49	225	52.54	.000

Table 1 illustrates that the coding of the data was statistically calculated under three sub-sections. In analyzing the students' questionnaire regarding the impact of CS on students' language learning, students' attitudes to CS, and its motivating effect on students' classroom participation one-sample t-test was employed to investigate if there was any statistically significant difference among these sub-sections. The mean values reveal that students' attitudes and beliefs on language shifting is higher than other categories (x̄= 23.20). As, the p-values were .000 *(p<0.05)* for all categories it showed that there was a statistically significant difference among three sub-sections.

Table 2. Independent Samples T-test Results for Sections of Scale in terms of Gender

Sections of Scale	Gender	N	x̄	S	SD	t	p
Code-switching's impact	Male	61	21.70	7.12	224	2.35	.020
	Female	165	23.25	5.24			
Attitudes to language shifting	Male	61	25.67	7.78	224	1.98	.049
	Female	165	27.47	5.33			
Motivating effect on students' classroom participation	Male	61	11.61	4.57	224	1.58	.116
	Female	165	12.43	2.98			

As presented in Table 2, the p-values for both genders reveal that there are statistically significant differences in code-switching's effect on students' language learning ($p = .020$, $p < 0.05$) and their attitudes to code-switching ($p = .049$, $p < 0.05$) sections in view of gender. On the other hand, it is clearly seen in the table that there is no significant difference in terms of gender in the last section ($p = .116$, $p > 0.05$). Considering the first part (code-switching's impact), it is understood that the mean values of the females (x̄= 23.25) are a bit higher than the males' (x̄= 21.70). In "attitudes to language shifting" part, the mean value for females ($n= 165$) is x̄= 27.47 and for males ($n= 61$) is x̄= 25.67. While the mean values of females are x̄= 12.43, those of males are x̄= 11.61 in the last part.

Table 3. Descriptive Results of One-way ANOVA in terms of Grades

Grades/Levels	N	Mean	SD
5th	10	51.60	17.22
6th	20	60.80	13.92
7th	33	66.45	15.52
8th	46	59.96	14.63
9th	40	62.03	10.44
10th	29	61.38	13.15
11th	29	64.90	8.86
12th	19	67.11	8.59
Total	226	62.39	13.16

Table 3 shows the mean and standard deviations score values from 5th to 12th grade to find out if there is any statistically significant difference between the grades of the students. In addition, a one-way analysis of variance (ANOVA) was conducted to determine the significant difference among the mean scores. As can be seen in table 3, the mean score of the 5th grade students ($n= 10$) were x̄= 51.60 and the standard deviation reported for them was 17.22, for 6th ones ($n= 20$) x̄ was 60.80 while the standard deviation was 13.92, for 7th grade students ($n=33$) mean score was x̄= 66.45 and standard deviation was 15.52, for 8th ones ($n=46$) was x̄= 59.96 and standard deviation was 14.63, for 9th grade

(n= 40) it was $\bar{x}$= 66.45 and standard deviation was 10.44, for 10th level students (n=29) mean value was $\bar{x}$= 61.38 and standard deviation was 13.15, for 11th ones (n=29) the mean score was $\bar{x}$= 64.90 and standard deviation was 8.86, lastly for 12th grade students (n= 19) the mean value was found as $\bar{x}$= 67.11 while standard deviation was reported as 8.59. It is clearly illustrated in the table that, as the grade level increases, the mean values go up in direct proportion.

Table 4. One-way ANOVA Statistics in terms of Grades

Source of Variation	SS	df	MS	f	p	Significant Difference
Between groups	2671.975	7	381.711	2.291	.029	
Within groups	36321.977	218	166.615			Between Pairs of all grades
Total	38993.951	225				

According to one-way ANOVA results, there is a significant difference between students' scale scores in terms of grade level, F (7, 218) =2.291, p<.05. In other words, students' scale scores change significantly according to the grade level.

Teachers' Reasons and Points of View on Code-Switching

Table 5. Descriptive Statistics of Teachers Questionnaire

Items	Answer	f	%
(1) Do you switch codes in your classes?	Yes	87	96.6
	No	5	5.4
(2) Language shifting during English classes is good for students' understanding.	Yes	82	89.1
	No	6	6.5
	No idea	4	4.3
(3) Does language shift affect educational process?	Yes	78	84.8
	No	10	10.9
	No idea	4	4.3
(4) Using Turkish in the classroom is a motivating factor.	Yes	68	73.9
	No	24	26.1
(5) Using only English is a motivating factor.	Yes	28	30.4
	No	64	69.6
(6) Do you agree with the idea that teachers code-switch because they are not familiar with the exact expressions in the target language?	I agree	36	39.1
	I disagree	45	48.9
	I have no idea	11	12.0
(7) How often do you think that you switch from English to Turkish in the class?	Always	11	12.0
	Usually	42	45.7
	Sometimes	27	29.3
	Rarely	12	13.0

(8) When do you especially alternate between English and Turkish?	Teaching Grammar	65	70.7
	Teaching Vocabulary	37	40.2
	Teaching Unknown structures	57	63.0
	If students have difficulty in understanding	75	81.5
	When adding emphasis	14	15.2
	When I sum up topic	25	27.2
	When I feel insufficient	13	14.1
	Other	2	2.2

As for item 1, 96.6% of the teachers (f=87) switch codes in their lessons whereas few of them say no that constitutes the percentage of 5.4%. This indicates that almost all of them alternate between English and Turkish during their EFL classes. For the second item, 89.1% of the teachers are in the opinion that language shifting is good for students' understanding while only 6.5% of them say no and 4.3% have no opinion about the situation. Likewise, most teachers (84.8%) think that language shifting directly affects the educational process. According to 73.9% of the teachers (f=68) usage of Turkish in the classroom is a factor for motivation. However, 26.1% of them (f=24) claim otherwise. As the table indicates for item 5 "*Using only English is a motivating factor.*", 69.6% of the participants (f=64) stated that they disagreed with only English usage. Regarding items 4 and 5, most of the teachers, support the claim that using Turkish is a motivating factor though few accept English as a motivating factor. When they were asked: "*Do you agree with the idea that teachers code-switch because they are not familiar with the exact expressions in the target language?*", 48.9% of teachers (f=45) expressed disagreement, 39.1% (f=36) agreed, and 12% (f=11) did not state an idea to this question. The frequency of teachers switching from English to Turkish is as follows; 45.7% *'usually'*, 29.3% *'sometimes'*, 13% *'rarely'*, and 12% *'always'*. From these results, it can be proved that the majority of them switch from English to Turkish. In the 8th item, the purpose of teachers alternating between English and Turkish was asked. They were also informed that they could pick more than one option. Most of the teachers (81.5%) stated that they (f=75) used code-switching when the students were having difficulty in understanding what was taught. Approximately three-quarters of the participants also added that to '*teach grammar*' they needed to code-switch between English and Turkish. As the third, language shifting reason for '*unknown structures*' was 63% while 40.2% of the attendants pointed out they used CS for '*vocabulary*' teaching. As can be seen, when teachers '*sum up the topic*', only 27.2% of them (f=25) benefit from code-switching. On the other hand, the total number of those who consider themselves as '*insufficient in transferring information*' is 13 (14.1%). Finally, teacher 41, expressed his opinion on the reasons of his CS during EFL classes mostly related to '*cultural issues*', and teacher 46 marked '*other*' option by saying that he used code-switching for '*classroom management*'. As a result, the percentage for those who specified other statements on their reasons for CS was 2.2% (f=2).

Interviewed Teachers' Points of View on Code-Switching during Their Classes

The comments and answers of 23 teachers who were interviewed via video conference in Kocaeli are as follows:

1-Do you switch codes in your classes? (Do you switch from English to Turkish or vice versa?)

The answer of 20 teachers (87%) to this question was *'yes'*, and just 3 of them (13%) responded with *'no'*. The interview group is also of the opinion that it is useful to switch codes between English and Turkish during the course.

2-How do you teach English? (Only in English language, by mostly using Turkish or benefiting from both etc.) You may give some details.

Teacher 9: *Mostly, I use English, however if I teach grammatical topics that are hard to understand such as relative clauses, passive voice, etc. I explain in Turkish first, then I go on my lesson in the target language.*

Teacher 3*: I teach English by mostly using the Turkish language because when I start to speak English some students don't understand what l say. On the other hand, I sometimes try to speak English in some situations and If I feel that my students don't understand even if I give many examples, pictures or objects, then I use Turkish again.*

In response to question 2, those surveyed indicated that their reasons for code-switching were various. Teacher 9 conducted mostly English-only lesson while teacher 3 used Turkish most of the time. However, it is clear that both, to some extent, benefited from Turkish for different reasons such as to teach grammar, to communicate, or to be understood by the students.

3- Do you think that teaching English via Turkish is useful for students to learn a language?

Teacher1: *I don't think this is true. As far as I have experienced through time (17 years of experience), this is only good if you are preparing them for a specific grammar examination, or else this doesn't contribute to their English.*

Teacher11: *Sometimes it may be useful especially for some grammar topics, but of course, for skills lessons, only English should be used. For example, I make a summary of personal pronouns, tenses in Turkish then I teach English versions. But for communication purposes, by no means should Turkish be used.*

As these quotes indicate, teachers' expressions for Turkish usage in English teaching context are mainly due to grammar topics that they assert are impossible to give in the target language on account of students' incompetence in that language. The participants, on the whole, demonstrated that as a language teaching method, fully taking advantage of Turkish in English teaching is not the proper way to teach the target language. This view was echoed by other informants as well. They added that

usage of Turkish in EFL classrooms facilitates learning grammar, but it has no use in speaking or communication.

4- How do you agree or disagree with the statement that "Foreign language is best taught by using only target language."

Teacher7: *Most of the languages may be suitable to teach a foreign language by using only the target language but when it comes to Turkish, it is a bit difficult as Turkish and English are from different roots and different language families. It is also really hard because of the crowded classes in Turkey, especially in state schools.*

Teacher5: *Yes, that's true but not always. It changes depending on situations like your students' level, background, context. But our students have no chances to speak with somebody speaking English outside the classroom.*

When the fourth question was asked to participants, the majority commented as, there are many factors affecting the need for the first language in EFL settings. They listed them as the differences between students' language levels, their backgrounds, crowded classrooms, limited time, language structure differences, clarification of some issues, and classroom management. Over half of those surveyed (*f*=13) reported that they agree with that statement; however, most of them put forward the reasons mentioned above, and 10 teachers stated their disagreement.

5- When do you especially alternate between English and Turkish?

Table 6. When Teachers Alternate between English and Turkish

Answer	f	%
Teaching grammar	17	73.9
Teaching vocabulary	5	21.7
Teaching unknown structures	9	39.1
If students have difficulty in understanding	12	52.2
When adding emphasis	4	17.4
When I sum up the topic	1	4.3
When I feel insufficient	6	26.1
Other	3	13.0

This question was also asked in the questionnaire of 92 teachers across Turkey. The frequencies and percentages in table show that the main reason why teachers (73.9%) attempt to CS is '*Teaching grammar'*. The second majority of teachers (52.2%) say that it is better to code-switch '*If students have difficulty in understanding*', and 39.1% are in the opinion that there appear some '*Unknown structures*' when we convey the lesson and most of the students can't understand so we switch to Turkish to make it clear. 6 teachers (26.1%) stated that they '*feel insufficient'* in some cases

and therefore they apply to CS to compensate the gap. On the other hand, 21.7 percent of teachers (*f*=5) switch codes when they '*Teach vocabulary*'. '*When adding emphasis*' 17.4% of them think that it is useful to CS. In addition, 3 of the teachers (13%) put forward other reasons for their code-switching apart from the options researcher directed. Teacher 10 expressed that she mostly uses Turkish to '*Give instructions*,' teacher 13 prefers to CS when time is limited, and Teacher 17 specified that '*I switch codes when there is a need or else, I don't do*'. Finally, only 1 teacher (4.3%) stated that he used CS while summarizing a subject.

6- Does usage of Turkish in EFL classes facilitate or debilitate learning of L2? (You may share your experiences.)

Teacher19: *It debilitates because students can learn a second language easily by speaking it, preparing dialogues, acting roles, singing songs in the target language. Especially using the communicative approach is the best method* (In this method communication in the target language is a primary factor for learning)

Teacher 21: *If students' level is low or cannot understand what you teach, speaking Turkish facilitates their target language learning. As an example, students sometimes force me to speak in Turkish once I speak in English. They do not bother themselves to get the point and just wait for you to explain in Turkish.*

The number of those who thought Turkish facilitates the *(f=12)* learning of L2 and those *(f=11)* who thought the contrary were close to each other. However, those who thought that the existence of the Turkish language in the EFL context had a positive effect also pointed out that Turkish should be used in a balanced way. As is clear in the excerpt of teacher 19, some argued that L1 use in the L2 environment impedes the pace of target language, thus claiming that L2 is best learned by practicing it in the classroom creating an attractive setting for L2. On the other side, some argued that there was no choice for the teacher other than using L1 due to students' levels as teacher 21said. Another teacher (10) supported this statement by adding that *"with limited time and many forms to teach you have no choice but to switch from l2 to l1"*.

7- How does code-switching affect the education process? Is it good or bad for learning? Could you please clarify with some examples or with your experiences?

Teacher7: *To some extent, code-switching makes my students much more confident, and they acquire positive attitudes towards English. You must balance it very well. If you use only English and they can't understand you, they get demoralized and they are afraid of it as if it were a monster. On the contrary, if you use mostly Turkish, in the course of time they forget the main function "communication" of the lesson and they see it as an ordinary theoretical subject to learn.*

Teacher5: *I think that's useful. I use code-switching, so my students not only understand me but also hear the target language. I mean, it depends on what you teach. If you want to teach a difficult unknown structure, it's good to switch the language. For example, while we are learning idioms, we try to find out the same expressions in Turkish which helps a lot to arouse students' interest.*

Two excerpts above reflect the general opinion of the teachers on this subject very well. Almost all the teachers interviewed mentioned the importance of a balanced use of mother tongue in the classrooms. Teacher 7 also draws attention to students' attitudes towards L2. Using only the target language can have negative effects on the student, she says. The teacher also emphasizes that this adverse condition may result from the overuse of Turkish as well. Here the balance between L1 and L2 plays an important role.

8- "Speaking Turkish in EFL classes is one of the main reasons for students not to be able to learn English at the expected level in Turkey." Do you agree or disagree with this statement? Can you give some details, please?

Teacher9: *I don't agree. I teach in Science High Schools* (best-qualified schools in Turkey) *for more than 10 years* (14 years of experience in total). *My students always claim that their English level is B1 or more and they generally graduate from private middle schools which means that their English level should be higher as they got more English lessons in their schools. However, when we apply the placement test, we notice that the level is generally not as advanced as they claim. When we start to use native language especially for the expression of sentence structures, they learn and use the target structure much more easily. That's why, I disagree.*

Teacher10: *Yes, I completely agree. They(students) do not want to try to speak in basic (easy) forms. They don't feel relaxed during speaking and they feel bad because they are afraid of their friends, they think that their classmates will laugh at them if they fail in speaking. Half of the students have the same problem. They didn't experience the communication environment in the L2 during their previous years (middle school). So, they come to high school with anxieties and prejudices towards English. I think, speaking mostly Turkish in the lessons cause these problems. It would be more beneficial to reduce Turkish or to use it at a certain rate.*

As regards the 8th question, while 15 (65%) teachers agreed with this statement, 8 (35%) expressed their belief of disagreement. Those who agreed and disagreed also explained the reasons for their answers during the interview. Interestingly, the teachers who favored the use of Turkish in the lesson also added that the use should be at a certain level. They implied that over or underuse of L1 could trigger some problems in learning environments. Therefore, they stated a balanced L1 use is more secure and better in language acquisition.

Discussion

Based on the 5-point Likert scale applied to the secondary and high school students and semi-structured interviews with the teachers, this study was conducted to shed light on the attitudes, language choice reasons and experiences of the two groups about code-switching in the EFL context. In this respect, the results of the students' and teachers' data were expressed below under two separate headings with the principle suitable for the study.

Discussing Students' Results

The results of this study showed that the majority of students think, teachers' alternating between English and Turkish in EFL classes contributes significantly to their understanding of the lesson. It was also noticeable that the teacher's benefiting from L1 or L2 during the lesson did not affect students' attitudes towards the lesson negatively. On the contrary, code-switching as a positive contributor created a more comfortable atmosphere for them during the class because they were not in a stressful environment to keep up with the teacher's usage of only English in the classroom. The parallel studies in this area were the works of Ahmad & Jusoff (2009) and Selamat (2014). Their findings depending on CS were that it did not cause a hindering effect on students' language learning but had a facilitating aspect in classroom settings. Considering the speaking skill, most of the students (74%) agreed with the statement that transition from English to Turkish in the lesson has a beneficial impact on their communication attempts in the target language. Therefore, the teacher's use of CS as a communication tool was welcomed by the students. This result was in line with the studies of Bhatti et al. (2018), as their study proved that due to incompetency of students regarding English in speaking classes, the use of CS was both helpful and effective.

As the study revealed in terms of gender, the mean values in all three sections of the survey were higher in favour of female students compared to male ones (see Table 2). In CS's impact on students' language learning section, the mean values of girls were higher by 1.55, this ratio was 1.8 in the second section of the questionnaire and 0.82 in motivating effect of CS on their classroom participation part, in favour of female students. Although there were statistically significant differences based on gender in the first two sections, a statistically significant difference based on gender wasn't noticed in the last section (p = .116, $p > 0.05$). Considering the grade levels, the mean values in all grades from the 5th grade to the 12th grade went up as the grade level increased. In addition, it was realised that there was a statistically significant difference in the scale scores of the students depending on the grade level. In this respect, the study parallels with the results obtained by Horasan (2014) in terms of facilitating language teaching in the classroom and activating learning. Simasiku et al. (2015) addressed the findings of 12 teachers from different schools that revealed the alternation of languages in the English teaching domain contributes to the academic success of students.

With respect to the second section of the questionnaire, which was based on students' attitudes towards code-switching, it was found that students looked with favor on their teachers' shifting from English to Turkish if particularly they have difficulty in understanding. The overall response to the question *"I find it right when our teacher explains it in Turkish when we don't understand"* was very positive. Of the 226 participants, 152 responded with 'strongly agree' and 57 of them marked 'agree'. Regarding the positive responses of participants about the use of L1 in English classrooms, this proportion adds up to 92.4% of the total group. As in Atkinson's (1993) previous studies, learning a new language can be difficult for students especially those who are beginners and that makes learning rather disturbing, so the immersion of L1 to EFL classrooms both may be fruitful and supportive.

One interesting finding of this study was that, although the impact of CS on students 'language learning (1st section of the questionnaire) and students' attitudes towards CS (section 2) were found positive with the higher percentage by the students, the results of the effect of CS on students' classroom participation as a motivating factor (section 3) were not the same. In the third section of the questionnaire, the *'agreeing'* and *'disagreeing'* answers given by the students towards using CS as a motivating element in the classroom in terms of increasing their interest in the lesson were very close to each other in percentage. These results corroborate the findings of Simasiku (2016), who found that participants' beliefs about the effect of CS on student's classroom engagement were not only promising but unfavorable as well. The promising findings were that students could understand the vocabulary and grammar at an expected rate. As for communication in the target language, the results were undesirable as students even didn't know how to respond to basic questions in English.

Discussing Teachers' Results

In general, both teacher groups' (92 teachers from 34 cities and 23 teachers from Kocaeli) attitudes on code-switching during English classes were almost the same. Most of the teachers supported the idea that code-switching is a necessity for clarity and comprehensibility. When asked both groups *"Do you switch codes in your classes?"*, out of 92 teachers 87 (96.6%) answered *'yes'*, and 20 (87%) of the 23 teachers in Kocaeli responded with *'yes'* as well. In a similar study conducted by Yana and Nugraha (2019) on the use of CS in English education, they emphasized that CS is a necessity to facilitate the students' vocabulary acquisition, to enable them to focus on the subject, to keep the message in their memory with confidence and to give them the opportunity to learn the language quickly. Considering its advantages in the classroom environment, it has also been revealed in other studies (Azlan & Narasuman, 2013; Paramesvaran & Lim, 2018; Wu et al., 2020) that CS is a tool that facilitates learning rather than making it difficult and is needed as a connecting bridge between the target language and the native language. A possible explanation for these results is that

nearly most of the teachers in secondary and high schools in Turkey benefit from code-switching in their lessons for some reasons. These results are consistent with the findings of Nurhamidah et al. (2018), as they found out that code-switching was a facilitator for both students and teachers to accomplish some targets in language classrooms. Uys & van Dulm's (2011) results also showed that CS plays an important role for teachers not only in teaching practices but also in classroom management strategies.

This study has revealed that teachers code-switched owing to many reasons which were usually intentional and sometimes unintentional (Gulzar, 2010; Raschka et al., 2009). Regarding the same question *(when do you especially alternate between English and Turkish?)* addressed to both groups of teachers, most of the respondents based their reasons for CS on *'teaching grammar'* and *'students having difficulty in understanding'*. These results agree with Yuvayapan's (2019) findings which showed that shifting from L2 to L1 in terms of teaching grammar and defining the subject clearly for a better understanding is the ultimate purpose of code-switching. Interestingly, while the students welcomed the teachers' benefiting from CS in the speaking classes, the teachers did not find it completely correct. The teachers' idea was that students weren't struggling to speak English despite teachers' use of Turkish to keep the conversation in L2 up.

Conclusion and Recommendations

The speculations about the use of the first language in foreign language classrooms have been a long-standing subject for researchers. Accordingly, the main goal of the current study was to unearth both teachers' and students' points of view on teachers' code-switching in EFL classrooms across Turkey. In general, both students and teachers supported the use of code-switching in lessons. However, this situation also revealed a significant difference between the perspective of teachers and students.

One of the salient findings that made this research special was that while the students approved the teachers' use of code-switching regardless of whether it was used to teach grammar, vocabulary, unknown structures, etc. or for speaking purpose, the teachers who switched between Turkish and English in the lessons concluded that the process of code-switching should be handled in balance, even if it is a necessity or a compulsion. They pointed out the importance of this balance, especially in the communication of target language. Therefore, how and where code-switching should be used is the key point of the foreign language classrooms (Akkaya & Aydin, 2019).

In this study, it was clearly revealed that there is more than one factor affecting teachers' use of the mother tongue in a foreign language learning setting. Both the readiness level of the students and the teachers' efforts to make the lesson simpler and more understandable are only two of these factors. The fact that grammar rules pose difficulties for students, the difficulty of learning vocabulary

in the target language, and the inability to practice the language due to the exam-oriented language teaching curriculum are some other reasons forcing teachers to use Turkish in lessons.

Whether the inclusion or exclusion of the L1 in L2 settings is an obstacle or assistance is likely to continue to be explored in the light of science. The scope of this study was limited in terms of a quantitatively conducted questionnaire for students, so a face-to-face interview with students would also contribute to the quality of the research undoubtedly. A big sample size in view of all cities of Turkey can make research more effective in respect of generalizability. And finally, although the effects of CS on foreign language learning have been the core investigations of many studies, its motivating outcomes for students' classroom participation is still open to further research.

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In-Service and Pre-Service Physical Education Teachers' Levels of Belief in Education: A Comparative Study

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Abstract

The aim of this study was to comparatively examine in-service physical education teachers' and pre-service physical education teachers' levels of belief in education. This study, which was carried out with the participation of physical education teachers (n=266) employed in various cities of Turkey, as well as first grade (n=73) and fourth grade (n=64) pre-service physical education teachers studying at Balıkesir, Manisa Celal Bayar and Muğla Sıtkı Koçman Universities, was conducted using a survey model. The "Scale of Teachers' Levels of Belief in Education" developed by Akın and Yıldırım (2015) was used as the data collection tool in the research. For the data analysis, descriptive statistics, independent samples t-test, one-way analysis of variance, and Scheffé's test were utilised. As a result of the research, it was determined that physical education teachers and pre-service teachers partially believed that the general aims of education were achieved, while they believed that the aims of education related to socialisation and all-round development were achieved more than the aims of education regarding individual differences. In the study, it was found that pre-service teachers believed in education more than in-service teachers, and that teachers' professional seniority was an important factor affecting levels of belief in education. In future research, qualitative studies and mixed design studies should be conducted in order to obtain more in-depth information related to revealing the reasons for in-service teachers' and/or pre-service teachers' partial and low levels of belief in education and to suggesting solutions. Furthermore, future studies with a correlational design aimed at determining the relationships of teachers' levels of belief in education with their levels of organisational commitment, professional burnout, motivation and alienation and with their perceptions towards the profession will contribute to better understanding of the phenomenon of belief in education.

Keywords: Belief in Education, Physical Education, In-Service Teacher, Pre-Service Teachers

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Introduction

All planned activities related to education are intended to achieve the specified goals and to carry out the functions of education (Şişman, 2018), and are the general goals and basic principles that guide a country's education system and reflect that society's education philosophy and policy. The curricula and activities of education institutions based on the education system are organised within the framework of these goals and principles. Teachers are obliged to carry out these duties in accordance with the goals and basic principles of Turkish national education (Erden, 2017). In this regard, the teacher, who is the main element of the system due to his/her position, assumes the most important role in achieving the goals specified in the education system and curricula.

In realising the goals of education, the importance of well-trained teachers with personal and professional qualifications (Eskicumalı, 2015) who have internalised the goals, principles and values of the education system is undeniable (Cemaloğlu, 2017). Furthermore, the road to serving such an important field as education and achieving efficiency in this service passes through teachers' belief in the job that they do, in other words, in education (Akın & Yıldırım, 2015). Belief in education is expressed as belief in whether or not the goals of education are realised, and beliefs related to whether or not the products produced in the functioning of the education process and at the end of the process are of the desired quality (Yıldırım & Akın, 2017). The general goals of Turkish national education have been expressed in the Basic Law of National Education no. 1739. These goals, which are grouped under three main headings, can be summarised as follows: i) to raise good citizens who know their duties and responsibilities towards the State of the Republic of Turkey, ii) to raise individuals with compete all-round development in physical, intellectual, moral, spiritual and emotional terms, and iii) to ensure that individuals have a profession that will make themselves happy and also contribute to the happiness of society. In this way, the goal is for the Turkish Nation to achieve a contemporary level of civilisation. The objectives of the curricula (MoNE, 2018) prepared in line with the general goals of education included in the Basic Law of National Education are presented in Table 1.

Table 1. General Goals of Curricula (MoNE, 2018)

Stage of Education	Goal
Preschool	*"To support the healthy development of students' in physical, intellectual and emotional areas by taking their individual development processes into account."*
Elementary School	*"Within the framework of students' moral integrity and self-awareness, in accordance with their levels of development and their own individuality, to ensure that they become healthy life-oriented individuals through the effective use of the self-confidence and self-discipline that they possess, and the acquisition of the verbal, numerical and scientific reasoning skills, social skills and aesthetic awareness that they will need in daily life."*
Secondary School	*"By developing the skills that students have acquired in elementary school, to ensure that they become individuals who have adopted national and moral values, who use their rights and fulfil their responsibilities, and who have acquired the*

	basic skills and competences finding their expression in the 'Turkish National Qualifications Framework' and in areas specific to other disciplines."
High School	*"By developing the skills that students have acquired in elementary and secondary school, to ensure that they become individuals who have adopted national and moral values and transformed these into a lifestyle, who contribute as productive and active citizens to the economic, social and cultural development of our country, who have acquired the basic skills and competences finding their expression in the 'Turkish National Qualifications Framework' and in areas specific to other disciplines, and who are prepared for a profession, higher education and life in line with their interests and abilities."*

It is argued that the extent to which teachers' believe or do not believe in the importance of their profession and education will have a positive or negative effect on their discipline, work performance and motivation for teaching in their professional lives (Argon & Cicioğlu, 2017), that teachers who do not believe in education will become more alienated from their professions (Sular, 2020), and that on the other hand, belief will be accompanied by commitment, loyalty and motivation towards their professions. Therefore, there is a relationship between teachers' levels of belief in education and their organisational commitment (Akın & Yıldırım, 2015). DeCotiis and Summers (1987) stated that individuals who have committed themselves to their organisations have four likely common characteristics. These are asserted to be: (1) internalisation of the organisation's goals and values; (2) involvement in an organisational role related to these goals and values; (3) a desire to stay in the organisation for a long time in order to serve these goals and values; and (4) a willingness to make an effort towards these goals and values beyond what is required. According to Mayer and Schoorman (1992) and Yousef (2000), committed individuals are more likely to remain in the organisation, work towards organisational goals and make more effort in their jobs. As stated by Somech and Bogler (2002), it is expected that teachers who are highly committed to their schools will exhibit behaviours that contribute to achieving the goals of the organisation, make important efforts that go beyond minimum expectations, and continue to remain in the organisation. As reported by Dee et al. (2006), a significant study group showed that a higher level of organisational commitment resulted in more effort and commitment towards achieving organisational goals that were closely related to the effectiveness of organisation. As Hulpia et al. (2009) reported, the conducted studies revealed that teacher commitment is a critical determinant of work performance and quality of education. From this perspective, it can be understood that teachers' strong belief in the aims of the education system will be accompanied by their commitment to the organisation.

It is also argued that belief in education and alienation are related concepts and that the degree of belief in education can be seen as a consequence of alienation (Yıldırım & Akın, 2017). Besides the feeling of disappointment regarding career and professional development, alienation from one's work reflects disillusionment related to breach of professional norms (Aiken & Hage, 1966). Alienation from work is defined as a socio-psychological phenomenon involving an employee's boredom, weariness, apathy and frustration towards work (Kurtulmuş & Karabıyık, 2016). The

thought that whatever they do, they will not be able to change anything can also pave the way for teachers' alienation (Yılmaz & Sarpkaya, 2009). Alienation prevents teachers from being a role model for their students and for the society they live in, and from developing themselves in a professional sense, and hinders their efforts towards social development, their productivity in the teaching-learning process, and their collaboration with the school management and with their colleagues. It is not possible for teachers who are alienated from their profession to contribute to their students' learning and personal development at school (Yıldız et al., 2013).

The extent of a teacher's belief in education is also correlated with the teacher's motivation (Yıldırım & Akın, 2017). Teachers' lack of belief in the job that they do negatively affects the motivation of both the student and the teacher (Akbaba, 2006). When the teacher enters the teaching-learning environment, he must first himself believe that his lesson and the activities he is to carry out in the lesson serve a specific purpose. This belief will provide the teacher with motivation and he will then be able to motivate his students to take part in the lesson and activities. In the opposite case, it is difficult for a teacher who does not believe in the importance of his job to persuade his students and create a positive teaching-learning climate (Yıldırım & Akın, 2017). The idea that the level of respect for the teaching profession has decreased, teachers' lack of belief in the work that they do, teachers' feeling of worthlessness and the thought that what they do will be of no benefit comprise some of the intrinsic factors that decrease teachers' motivation (Ada et al.,2013). As stated by Uğraş and Dindar (2019), it can be said that teachers with a high degree of belief in and motivation for the profession will have greater career satisfaction.

When the studies conducted in Turkey related to the case of physical education teachers and physical education lessons are examined, it is known that physical education teachers encounter problems in a number of areas, principally lesson practices and quality, insufficient course time, in-school assignments, lack of facilities, and levels of interest of students' parents and school administrators in sports activities (Kaya et al., 2015). Again, in the conducted studies, there are research findings to the effect that course time is insufficient for achieving the general and specific aims of the physical education and sport course (Taşmektepligil et al., 2006; Yüzüak, 2006). In the previous studies, it was determined that physical education teachers, the school management and other subject teachers did not give importance to their lessons, that students' parents and female students were not interested in the subject of physical education and had negative attitudes towards it, and that parents considered that they did not want their children to steer towards physical education and sport due to a number of academic concerns (Demirhan et al., 2014; Yılmaz et al., 2018; Kul & Hergüner, 2018; Uğraş et al., 2019). As a result of the study by Kul and Hergüner (2018) on the problems of physical education teachers, teachers expressed the view that they could not achieve all the goals and behaviours specified in the curriculum created by the Ministry of National Education in physical education lessons. In studies carried out by Ayan and Tamer (2010) examining the state of

implementation of physical education lessons according to their goals, and by Taşmektepligil et al. (2006) examining the views of teachers on the extent to which physical education lessons achieved their goals, some of the problems experienced in achieving goals were revealed to be insufficient weekly lesson time, and inadequacy of sports gym, facilities, technology and equipment. When all these research results are examined, and the structure and nature of physical education lessons are taken into consideration, it is likely that the problems experienced by physical education teachers in their professional lives, and also the current and past educational experiences of pre-service physical education teachers, will have an effect on their levels of belief in education.

When studies conducted on the levels of belief in education of teachers in other branches are examined, it is seen that there is a negative relationship between teachers' levels of belief in education and their levels of alienation from work (Sular, 2020), whereas belief in education is positively correlated with work engagement (Gün, 2017), teaching motivation (Argon & Cicioğlu, 2017), emotional labour behaviours (Ergün & Argon, 2017), and self-efficacy beliefs (Kabakaş, 2019). Moreover, in the conducted studies, it is seen that teachers' levels of belief in education are generally low. However, in the literature, no study can be found that examines in-service and pre-service physical education teachers' levels of belief in education.

Considering the role played by physical education lessons -in which learning by doing and experiencing is predominant as opposed to lessons mainly conducted in a classroom environment in which academic concerns are mainly at the forefront- in students' psychomotor development as well as in their intellectual and affective development, their socialisation, their personality development, and their acquisition of social values, physical education teachers' and pre-service teachers' believing that the job they do, principally as educators, achieves its aim, in other words, the degree of their belief in education, is an important issue that needs to be emphasised. Therefore, it is thought that this study will contribute to the literature. Based on this thought, the aim of this study is to comparatively examine levels of belief in education in in-service and pre-service teachers of physical education.

Method

Research Design

This study, in which in-service and pre-service physical education teachers' levels of belief in education were comparatively examined, was conducted according to a survey model, which is one of the quantitative research designs. According to Karasar (2017), survey models are arrangements made in a universe consisting of many elements on the whole of the universe or a group, example or sample to be taken from the universe in order to make a general judgement about that universe. In survey studies, an attempt is made to define the event, individual or object that is the subject of the study as it is without making any effort to change or affect it.

Participants

Physical education teachers employed in various regions of Turkey, and pre-service physical education teachers studying at Balıkesir, Manisa Celal Bayar and Muğla Sıtkı Koçman Universities took part in the research during the 2020-2021 academic year (n=403). The research data were collected by way of an online questionnaire. Information related to the participants is presented in Table 2.

Tablo 2. Participants

Variable	Group	Frequency (f)	Percentage (%)
Gender	Female	116	28.8
	Male	287	71.2
	Total	403	100
Grade Level of Pre-Service Teachers	First Grade	73	53.3
	Fourth Grade	64	46.7
	Total	137	100
School Level of Teachers	Secondary School	124	46.6
	High School	142	53.4
Professional Experience of Teachers	1-10 Years	99	37.2
	11-20 Years	77	28.9
	Over 20 Years	90	33.8
	Total	266	100
Employment Regions of Teachers	Mediterranean	33	12.4
	Eastern Anatolia	45	16.9
	Aegean	71	26.7
	Southeastern Anatolia	39	14.7
	Inner Anatolia	31	11.7
	Marmara	47	17.7
	Total	266	100
Status	In-Service	266	66.0
	Pre-Service	137	34.0
	Total	403	100

When the information about the participants in Table 2 is examined, it is seen that 28.8% (n=116) of the participants were female, while 71.2% (n=287) were male. Among the pre-service physical education teachers, 53.3% (n=73) were studying in first grade, while 46.7% (n=64) were studying in fourth grade. As for the in-service physical education teachers, 46.6% (n=124) were employed at secondary school level, while 53.4% (n=142) were employed at high school level. When the teachers' years of professional seniority are examined, it is seen that 37.2% (n=99) had 1-10 years,

28.9% (n=77) had 11-20 years, and 33.8% (n=90) had over 20 years of professional experience. According to regions of employment, 12.4% (n=33) of teachers worked in the Mediterranean region, 16.9% (n=45) were employed in Eastern Anatolia, 26.7% (n=71) worked in the Aegean region, 14.7% (n=39) served in Southeastern Anatolia, 11.7% (n=31) were employed in Inner Anatolia, and 17.7% (n=47) worked in the Marmara region. On the other hand, there were no physical education teachers participating in the research who worked in the Black Sea region. Among the participants of the research, 66% (n=266) consisted of in-service physical education teachers and 34% (n=137) comprised pre-service physical education teachers.

Data Collection Tool

Scale of Teachers' Levels of Belief in Education

The "Scale of Teachers' Levels of Belief in Education" developed by Akın and Yıldırım (2015) was used to examine the in-service physical education teachers' and pre-service physical education teachers' levels of belief in education. In the scale, not only have goals contained in the legislation been included, but also, behaviours expected to be fostered in individuals by education in a contemporary sense in the literature have been converted into statements. The scale consists of four subdimensions, namely "socialisation", "individual differences", "all-round development" and "preparation for upper education", and a total of 25 items. It is stated that the four subdimensions explain 65.9% of the total variance. For each item and subdimension, the teachers' beliefs are scored according to the extent to which the goal included in the relevant dimension of education is achieved. For example, the statement "I believe that positive personality characteristics are fostered in students" is included in the "socialisation" subdimension, the statement "I believe that equality of opportunity is provided to students" is placed in the "individual differences" subdimension, the statement "I believe that students are each raised as physically healthy individuals" is included in the "all-round development" subdimension, while the statement "I believe that students are prepared in the best way for upper education" is placed in the "preparation for upper education" subdimension. Participants are required to respond to the questionnaire items on a scale ranging from (1) "I completely disagree" to (5) "I completely agree". In the scale development study, the Cronbach alpha internal consistency coefficients were found to be .94 for the socialisation dimension, .88 for the all-round development dimension, .87 for the individual differences dimension, and .69 for the preparation for upper education dimension. Within the scope of this study, the values obtained for the subdimensions were .93, .89, .89 and .79, respectively, while a value of .96 was found for the overall scale.

Data Analysis

The data obtained within the scope of the research were analysed using the SPSS 26 (Statistical Package for the Social Sciences) software program. In the study, the data set was

examined using ±2 skewness and kurtosis values (George & Mallery, 2010) to determine whether or not it showed normal distribution for parametric tests, and it was decided that the data set did not deviate excessively from normal. Homogeneity of the data set was examined with Levene's test, and it was found that the variances for the groups were homogeneous. For comparison of levels of belief in education according to participants' status (in-service teacher-pre-service teacher) and according to the pre-service teachers' grade levels, independent samples t-test was used. For comparing levels of belief in education depending on the physical education teachers' professional seniority, one-way analysis of variance was utilised. When differences were found between groups, Scheffé's test was used to determine the source of the difference. In addition, Cohen's d value was calculated for independent samples t-test results to determine the size of the detected difference. In the one-way analysis of variance, the effect size of the difference was determined by means of eta-square ($\eta2$) calculation. The significance level was set at $p<0.05$ in the analyses.

Results

This section includes descriptive statistics regarding the participants' levels of belief in education and findings related to whether or not the in-service physical education teachers' and pre-service physical education teachers' levels of belief in education differed.

Table 3. Descriptive Statistics of In-Service Teachers' and Pre-Service Teachers' Levels of Belief in Education

Levels of Belief in Education	M ± SD	Skewness	Kurtosis	Alpha
Socialisation	3.08 ± .87	.206	-.163	.93
Individual Differences	2.68 ± 1.03	.345	-.587	.89
All-round Development	3.00 ± 1.00	.212	-.568	.92
Preparation for Upper Education	2.87 ± .94	.225	-.223	.79
Levels of Believe in Education	2.96 ± .87	.322	-.232	.96

When the findings included in Table 3 are examined, it is seen that the participants had partial/moderate beliefs that the goals of education were achieved with regard to socialisation (M=3.08±0.87), individual differences (M=2.68±1.03), all-round development (M=3.00±1.00), and preparation for upper education (M=2.87±0.94). Furthermore, it was determined that the participants also had partial/moderate beliefs that the goals of education were achieved according to their general mean scores (M=2.96±0.87) for levels of belief in education.

Table 4. Comparison of Pre-Service Physical Education Teachers' Levels of Belief in Education according to Grade

Levels of Belief in Education	1st Grade (n=73) M ± SD	4th Grade (n=64) M ± SD	t (135)	p	Cohen's d
Socialisation	3.10 ± .79	3.46 ± .95	-2.339	.02	.41
Individual Differences	2.84 ± 1.12	3.10 ± 1.13	-1.356	.18	.23
All-round Development	3.17 ± 1.03	3.40 ± 1.17	-1.206	.23	.20
Preparation for Upper Education	2.89 ± .92	3.14 ± 1.18	-1.341	.18	.23
Levels of Belief in Education	3.04 ± .84	3.33 ± 1.00	-1.876	.06	.31

The findings in Table 4, in which the pre-service physical education teachers' levels of belief in education were compared in terms of their grade level, show that there was no significant difference in mean scores for individual differences [t(135)=-1.356; p>0.05], all-round development [t(135)=-1.206; p>0.05], preparation for upper education [t(135)=-1.341; p>0.05], or general belief in education [t(135)=-1.876; p>0.05]. On the other hand, in terms of the socialisation subdimension, a significant difference was determined in favour of pre-service teachers studying in fourth grade [t(135)=-2.339; p<0.05]. In addition, it was determined that the grade level of pre-service teachers had a small-medium effect on their beliefs that the goals of education were achieved with regard to socialisation (d=0.41). Accordingly, it was found that final-year pre-service teachers had stronger beliefs that the goals of education related to socialisation were achieved compared to first-year pre-service teachers.

Table 5. Comparison of In-Service Physical Education Teachers' and Pre-Service Teachers' Levels of Belief in Education

Levels of Believe in Education	In-Service Teachers (n=266) M ± SD	Pre-Service Teachers (n=137) M ± SD	t (401)	p	Cohen's d
Socialisation	2.99 ± .85	3.27 ± .88	-3.085	<.01	.32
Individual Differences	2.55 ± .95	2.96 ± 1.13	-3.619	<.01	.39
All-round Development	2.86 ± .91	3.28 ± 1.10	-3.811	<.01	.41
Preparation for Upper Education	2.81 ± .88	3.00 ± 1.05	-1.853	.07	.19
Levels of Belief in Education	2.85 ± .82	3.18 ± .93	-3.575	<.01	.37

Examination of the participants' levels of belief in education in Table 5 reveals that pre-service physical education teachers had significantly stronger beliefs that the goals of education were achieved with regard to socialisation [t(401)=-3.085; p<0.01], individual differences [t(401)=-3.619; p<0.01], and all-round development [t(401)=-3.811; p<0.01] compared to in-service physical

education teachers. Moreover, it was determined that pre-service physical education teachers had significantly stronger beliefs that the goals of education were generally achieved in comparison with in-service physical education teachers [$t(401)=-3.575$; $p<0.01$]. The effect size of the difference determined in socialisation (d=0.32), individual differences (d=0.39), all-round development (d=0.41) sub-dimensions, and levels of belief in education (d=0.37) is small-medium. On the other hand, a significant difference was not found in the participants' beliefs as to whether the goals of education were achieved with regard to preparation for upper education [$t(401)=-1.853$; $p>0.05$].

Table 6. Comparison of In-Service Physical Education Teachers' Levels of Belief in Education according to Professional Experience

Levels of Belief in Education	1-10 Year[a] (n=99) M±SD	11-20 Year[b] (n=77) M±SD	>20 Year[c] (n=90) M±SD	F (2, 263)	p	Scheffe	η2
Socialisation	3.14 ± .85	3.03 ± .84	2.79 ± .83	4.388	.013	a-c	.032
Individual Differences	2.75 ± .93	2.56 ± 1.01	2.32 ± .88	4.783	<.01	a-c	.035
All-round Development	3.06 ± .87	2.97 ± .93	2.54 ± .87	9.029	<.01	a-c, b-c	.064
Preparation for Upper Education	2.91 ± .87	3.00 ± .88	2.54 ± .82	6.961	<.01	a-c, b-c	.050
Levels of Belief in Education	3.02 ± .79	2.92 ± .84	2.61 ± .78	6.385	<.01	a-c	.046

According to Table 6, in which serving physical education teachers' levels of belief in education were compared in terms of their professional experience, significant differences were found in the socialisation [$F(2, 263)=4.388$; $p<0.05$], individual differences [$F(2, 263)=4.783$; $p<0.01$], all-round development $F(2, 263)=9.029$; $p<0.01$] and preparation for upper education [$F(2, 263)=6.961$; $p<0.01$] subdimensions, as well as in their general levels of belief in education [$F(2, 263)=6.385$; $p<0.01$]. The effect size of the difference determined in socialisation (η2=0.032), individual differences (η2=0.035), preparation for upper education (η2=0.050) sub-dimensions, and levels of belief in education (η2=0.046) is small-medium. On the other hand, The effect size of the difference determined in all-round development (η2=0.064) is medium.

According to the results of Scheffé's test, which was performed to determine between which groups there were differences, it was revealed that physical education teachers with 1-10 years of professional experience had stronger beliefs that the goals of education were achieved with regard to socialisation, individual differences, all-round development and preparation for upper education than teachers with 20 or more years of professional experience; whereas teachers with 11-20 years of professional experience had stronger beliefs that the goals of education were achieved in terms of all-

round development and preparation for upper education than teachers with 20 or more years of professional experience. Moreover, it was found that physical education teachers with 1-10 years of professional experience had higher levels of belief that the general goals of education were achieved than teachers with 20 or more years of professional experience.

Discussion

Participants' Levels of Belief in Education in General

In this study, it was found that in-service physical education teachers and pre-service physical education teachers partially/moderately believed that the general goals of education were achieved (Table 3). Moreover, it was found that the participants believed that the goals of education related to socialisation were achieved the most, while they believed that the goals of education related to individual differences were achieved the least. Accordingly, it can be said that both the in-service physical education teachers and the pre-service physical education teachers believed that through education, positive personality characteristics were fostered in students, students were made into happy individuals, and students were raised as citizens who benefit society relatively more. On the other hand, when students' individual differences in education are considered, it can be stated that the participants believed that an education suited to students' abilities was given and that equality of opportunity was provided in education relatively less. In the results of the studies carried out on teachers by Argon and Cicioğlu (2017), Ergün and Argon (2017) and Nacar (2019), it was determined that in general, teachers believed that the aims of education were achieved at a low level. On the other hand, as in this research, in the studies conducted by Gün (2017) and Kabakaş (2019), it was found that teachers' levels of belief in education were partial/moderate. According to the results of studies carried out with the participation of teachers from different branches, it is seen that similar to the results obtained in this study, teachers believed less that the goals of education related to individual differences were achieved (Ergün & Argon, 2017; Gün, 2017; Kabakaş, 2019; Nacar, 2019; Yıldırım & Akın, 2017). It is stated that a stereotyping approach subsists in today's education conception by ignoring students' individual differences and their age-related developmental characteristics and needs (Yapıcı, 2005). Each individual who enters the education system also brings the accompanying differences into the education environment. The aim of education is to facilitate all-round development in these individuals according to their own individual qualities. The convergence of various differences that exist among students in a class can cause various problems in the education environment (Ocak & Olur, 2018). As a result of a study examining teachers' views related to equality of opportunity in the Turkish education system, it was revealed that the majority of teachers were of the view that equality of opportunity was not provided in education. In the study, problems emerged such as regional differences, families' financial situation, differences in schools' physical structure and equipment, insufficient numbers of teachers, differences between private schools and state schools, the fact that girls did not receive the required education, a low schooling rate,

insufficient income set aside for education, and inadequate numbers of classrooms (Polat & Boydak Özden, 2020). In a study by Kutlu Abu et al. (2016), pre-service teachers reported that among the features they wished to exist in the education system was guidance of students in line with their interests and abilities. In the current curricula in Turkey (MoNE, 2018), although emphasis is placed on matters such as the need to consider the fact that students have individual differences, the inappropriateness of using a standardised measurement and evaluation method, and the need to take account of students' age levels, readiness, interests and expectations, examples of the most important factors preventing these from being put into practice can be given as the fact that classes are still crowded in schools in certain regions, the fact that the education system has become exam-centred, an education conception that is predominantly based on memorisation, and the consecration of obtaining high marks in standardised exams that are focused only on cognitive measurement rather than all-round development. All these reasons constitute some of the obstacles preventing the realisation of goals related to individual differences in education.

Comparison of Pre-Service Physical Education Teachers' Levels of Belief in Education According to their Grade Level

In this study, although it was determined that pre-service physical education teachers studying in the final grade believed more strongly that the goals of education were achieved when compared with first-grade pre-service teachers, the difference was significant only in the socialisation subdimension. In other words, it can be said that in the study, final-grade pre-service teachers had stronger beliefs than first-grade pre-service teachers that the goals of education related to socialisation were achieved. This result obtained in favour of final-grade pre-service teachers is a desired situation. Considering the fact that today's pre-service teachers will be the physical education teachers of tomorrow, it can be expected that pre-service teachers who believe that the aims of education are realised, and in the importance of their profession and the work that they do, will devote themselves more to the profession, have higher motivation and make more effort towards achieving the goals of the curriculum in the future. In the literature, pre-service teachers' levels of belief in education have not been previously examined. For this reason, there is a need for further study in order to make an interpretation of this issue. Furthermore, it is considered important to utilise research findings in which views about the education system in terms of its relationship with belief in education are examined. In a study by Öztürk Çalıkoğlu and Başar (2019) named "Prospective Teachers' Metaphorical Perceptions Regarding Turkish Education System", it was reported that in general, prospective teachers mostly produced negative metaphors related to the education system. In the study, while pre-service teachers stated that education was a difficult process full of obstacles and requiring effort, they also criticised the fact that not everyone was happy due to the exam-focused and competition-based system and its contribution to individuals. Therefore, it was stated that the education system did not satisfy individuals' expectations and needs. As one of the reasons preventing

the goals of education from being realised, the pre-service teachers stated the changes that were frequently made in education policies, which had a negative effect on the continuity of the education system. In another study in which perceptions of the Turkish education system were examined by way of metaphors, Kasapoğlu (2016) reported that a significant percentage of pre-service teachers perceived the Turkish education system as a frequently changing, irregular (complicated) structure. In a study by Yeşil and Şahan (2015), prospective teachers stated that the most important problems experienced in the education system stemmed principally from teachers and from deficiencies and errors in education planning. It was revealed that for solving the most important problems experienced in the education system, they primarily recommended that revisions should be made in relation to the curriculum and education planning.

Comparison of In-Service Physical Education Teachers' and Pre-Service Physical Education Teachers' Levels of Belief in Education

According to another finding obtained in the study, pre-service physical education teachers had stronger beliefs than in-service physical education teachers that the goals of education were achieved in terms of socialisation, individual differences and all-round development, as well as with regard to education in general. On the other hand, no difference was found in participants' beliefs that the goals of education were achieved in terms of preparation for upper education. In the literature, no study has been conducted in which in-service teachers' and pre-service teachers' levels of belief in education are compared. In this respect, the present study fills a gap in the related literature. Another study, which is thought to be related to this research, was conducted by Aslan (2020) and the subject of "professional belief" was discussed. In the research, as a result of the focus group interview with pre-service teachers who have low teaching profession belief, the disappointment caused by the department, insufficient salary, counting on the spot, negative perception towards physical education teachers in the society, working conditions, insufficient field education, and the difficulty of being appointed to the teaching profession negatively affect professional belief has been reported. On the other hand, as a result of the focus group meeting with pre-service teachers with high level teaching profession beliefs, the themes of my dream job, love working with children, being beneficial for the society, being intertwined with sports and effect of physical education teacher has emerged as the themes that positively affect belief. In our study, there may be more than one factor that causes the differences in the beliefs of in-service and pre-service teachers. In particular, the theory-based pre-service education conception that has increased in recent years, and the fact that the theoretical knowledge acquired in courses is not supported with practical knowledge, prevents pre-service teachers from establishing a connection between theory and practice. Many prospective teachers learn the real meaning of teaching in their career years. In the study carried out by Uğraş et al. (2019) with physical education teachers who were just starting their careers, they drew attention to the problem of compatibility between the physical education and sport teaching undergraduate curriculum and the

conditions of National Education. In the study, it was reported that the physical education teachers considered that prior to service, they had not received training in accordance with school conditions. A similar emphasis was made by Korkmaz et al. (2004). The researchers stated that however effective pre-service teacher training was, when beginning the profession, teachers would face the difficulties of the world. The findings of the study conducted by Kozikoğlu and Senemoğlu (2018) are such as to support this. Consequently, when teacher candidates begin their careers, they experience important problems in the first years both in school and out of school. In the study, the difficult situations most often encountered by teachers in the first years emerged as classroom management, relations with parents, relations with the community, adaptation to the physical environment, etc. Based on these findings, it is thought that there is a need for further studies conducted with pre-service teachers to determine the possible reasons why pre-service physical education teachers believed more strongly than in-service physical education teachers that the goals of education were achieved.

Comparison of Physical Education Teachers' Levels of Belief in Education According to their Professional Seniority.

Another finding made in this study was that teachers' levels of belief in education differed according to their professional experience. In the study, it was found that that physical education teachers with 1-10 years of professional experience had stronger beliefs that the goals of education were achieved compared with teachers with 20 or more years of professional experience in terms of both the subdimensions and regarding education in general. Furthermore, it was revealed that teachers with 11-20 years of professional experience had stronger beliefs that the goals of education were achieved in comparison to teachers with 20 or more years of professional experience in terms of goals related to all-round development and preparation for upper education. Accordingly, it can be said that professional seniority is an important factor related to belief in education. The fact that as teachers' professional seniority increased, their levels of belief in education decreased, in other words, that experienced teachers had lower beliefs that the aims of education were realised, is an issue that needs to be particularly emphasised. One interpretation of this finding is the fact that experienced physical education teachers may also be experiencing professional burnout and alienation. In a study by the Turkish Education Association (2014), it was reported that a section comprising half of the teachers stated that the longer they worked as teachers, the more their beliefs in the prestige of their profession decreased. In the literature, the findings of studies conducted with teachers from different branches show both similarities and differences with the findings obtained in this study. In Nacar's (2019) study, it was also determined that experienced teachers with longer periods of service in the profession believed to a lesser extent that the goals of education related to preparation for upper education were achieved when compared to teachers with 1-5 years of experience. On the other hand, studies by Gün (2017) and Kabakaş (2019), it was reported that teachers' levels of belief in education did not differ depending on their lengths of professional service. In contrast to the results of this

study, however, in the study by Yıldırım and Akın (2017), it was found that compared to teachers with 11-15 and 16-20 years of experience, teachers with over 20 years of experience had stronger beliefs that the goals of education regarding all-round development were achieved. Furthermore, in the same study, it was found that teachers with over 20 years of experience believed more than other teachers that by means of education, individuals were prepared for upper education. These studies, which were made previously in the literature, were conducted with the participation of pre-service teachers from different branches. Therefore, it is thought that one of the main sources of the conflicting results stems from the discipline in which the teachers were employed. Due to the structure and nature of physical education and sport courses, it may be necessary to deal with them differently from other courses. The teaching-learning environment, the materials used in lessons, the clothes worn by teachers and students, and similar factors can be given as examples of characteristics that distinguish the subject of physical education and sport from other subjects (Demirhan et al., 2014). In a study by Gençay (2007) examining physical education teachers' professional burnout and job satisfaction, it was reported that teachers who were optimistic about their future careers had higher levels of job satisfaction, while those who were pessimistic about their future careers had higher levels of emotional burnout. Discussing an important problem in modern physical education courses, Temel et al. (2013) stated that due to academic concerns created by the desire to enter a good university, the importance of physical education and sport courses in high schools was decreasing. The researchers argued that this situation could lead to feelings of isolation and insignificance experienced in physical education teachers. In another study carried out by Pehlevan et al. (2019), which examined the extent to which the acquisitions included in the secondary school physical education and sport curriculum were realised according to the views of graduate students, a section comprising about half of the participants stated that the skills of speaking Turkish correctly, effectively and eloquently, and of using information technology were not acquired, whereas general and specific movement knowledge and skills, and personal development and healthy living skills and values were acquired. The graduate participants in the study reported that in general, the degree of realisation of the acquisitions included in the curriculum was low.

Conclusion and Recommendations

In this study, it was determined that in-service teachers and pre-service teachers of physical education partially believed that the goals of education in general were achieved, and that they believed that the goals of education related to socialisation and all-round development were achieved more than they believed that the goals of education related to individual differences were achieved. In addition, it was found that final-year pre-service teachers believed in education more than first-year pre-service teachers, and that pre-service teachers believed in education more than in-service teachers. Lastly, it was determined that teachers' professional seniority was an important factor affecting their levels of belief in education and that experienced teachers believed in education to a lesser extent.

This study, which was carried out with the participation of in-service and pre-service teachers of physical education, shows similarities and differences with previous studies. Moreover, in terms of the participant group, this study has filled the gap that existed in the literature. However, in order to obtain more in-depth information, the number of studies related to belief in education in the field of physical education should be increased.

This study, and previous studies on the subject of teachers' levels of belief in education, were conducted with a quantitative research design. However, with the aim of obtaining more in-depth information related to the reasons why in-service teachers' and/or pre-service teachers' levels of belief in education are partial or low, and regarding solution suggestions for preventing this situation, qualitative and mixed design studies should be conducted. Furthermore, in future studies, correlational design studies that investigate the relationship of teachers' levels of belief in education with their levels of organisational commitment, professional burnout, motivation and alienation, and with their perceptions towards the profession, will contribute to better understanding of the phenomenon of belief in education.

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An Overview of Listening Skills of Secondary School Students: Barriers and Suggestions[1]

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Abstract

This study investigates the listening skills of students at secondary school. In this context, this study focuses on identifying students' listening problems according to teacher perspectives and examining the causes of these problems. It also aims to find out how teachers address these issues and the types of solutions they propose. In order to meet these objectives, case study with a qualitative research design was conducted. Participants were identified according to the purposive sampling method. Data were collected from ten teachers working at different secondary schools at a variety of levels using a criterion sampling approach. Data were also collected through semi-structured interviews. The qualitative data were analyzed using content analysis. The study's findings indicated that the secondary school students struggled to understand listening rules, listen to courses, comprehend what they listen to and increase their motivation during lessons. Additionally, the results indicated the causes of the problems, and of the types of suggestions that could be made to resolve them. Seven themes emerged in the study as a result of teachers' perspectives, consisting of; the family, the environment, readiness, the speaker, the listener, education and listening materials. When the source of the listening problems is examined, the family structure and the lack of emphasis placed on the listening process by families, the lack of appropriate environmental conditions, the inability of students to be drawn to the listening material and the teacher, and the lack of awareness are highlighted. The outcomes of resolving these problems include providing the necessary learning environment and materials for increased listening, improving teacher self-development, creating an environment in which students can learn through doing, cooperating with family, school, environment and teacher and to eliminating the lack of education.

Keywords: Listening Skills, Listening Barriers, Suggestions for Listening Problems

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Introduction

Language is important to individuals as it constitutes the primary means of communication and social order in society. It clarifies situations and enables people to maintain interaction in both their personal and professional lives.

Consequently, good language education is critical for people to be able to interact with one another in society. In this context, providing adequate language education is a crucial component of the goal of basic education in contemporary countries. The primary goal of language education is to develop "understanding and telling" skills (Özbay, 2013). And undoubtedly, this development is carried out within the framework of Turkish teaching. This is parallel to Sever's (1993) argument that the process of teaching Turkish, which begins in primary school and continues throughout the student's education life, is based on the interaction of four language skills and their direct and indirect relationships. It is expected that these skills will be supported by various implementations in the process (Sever, 1993).In other words, language skills should not be thought of as distinct skills; rather, they should be viewed as complementary skills that advance one another.

When language skills are examined, it is possible to conclude that while reading, speaking, writing and other skills may be sufficient to improve language proficiency, listening has a greater influence on the maturation process. Furthermore, listening is the first comprehension skill And hence, listening makes it easy to learn a language through awareness and to improve language skills. Because once a language is understood, it is significantly easier to improve other language skills. All studies, including those on language acquisition skills, have demonstrated that language proficiency is acquired through listening (45%), speaking (30%), reading (15%), and writing (10%) while we communicate. Apart from serving asa primary mode of communication, listening enables learners to appreciate the beauty of the language (Renukadevi, 2014). These rates are significant because they demonstrate the priority and importance of listening during the communication process. For all of these reasons, it can be said that listening serves as the foundation for language learning.

Blewett (1951) defined listening as the process of interpretations of verbal images; Özbay (2013) described it as all of the phones which individuals perceive voluntarily according to their preferences; Martínez-Florand Usó-Juan (2006) depicted it as communicative issue necessary to be taught various communicative abilities to the listeners and let listeners behave according to the specific situation. Briefly, listening is a skill that encompasses comprehension and thinking skills (Kapanadze, 2019).Listening should not be considered a single process. On the contrary, it would be more convenient to think of listening as identifying the sounds produced by speaker, perceiving intonation patterns, and interpreting the level of relation between spoken words (Lynch & Mendelsohn, 2013).It should be noted that listening and comprehension are two distinct skills. This is consistent with Hasan's (2000) findings that listening is necessary to receive the message rather than

interpreting the text during the process is different from comprehension required for meaningful interaction with the text. Consistent with Hayrapetyan, the listener retains the sounds and makes sense of the text by observing signs such as vocabulary knowledge, intonation and ability to express (Hayrapetyan, 2016). In a nutshell, listening and listening comprehension refer to the ability to make sense of external stimuli through a series of mental processes, as well as the state of being able to show reaction based on the interpretation process.

According to this perspective, individuals listen for the purpose of gathering information, sharing, understanding the environment, providing personal development and possessing power (Güneş, 2016). In addition, listening is practiced for the purposes of pleasure, persuasion, perception and comprehension (Hayrapetyan, 2016). Listening is a skill that is enables people to demonstrate their existence personally and socially, to transfer the world of the thought and to make sense of human existence. Considering the negative events and potential problems associated with this skill that enables people to connect with the world, the importance of listening becomes clear once more.

The listening skill begins to develop systematically in the scope of the Turkish curriculum. In the Turkish curriculum for 2019, expressing and interpreting concepts, ideas, opinions, feelings, and phenomena in written and oral form (listening, speaking, reading and writing) is referred to as communication in the mother tongue, as is engaging in appropriate and creative linguistic interaction in a variety of social and cultural contexts such as education and training, the workplace, home and entertainment (MEB, 2019). The importance of listening is emphasized in this curriculum by stating that students' listening, speaking, reading and writing skills should be improved; in addition to taking pleasure in what they read and listen to, and their imaginary world should also be fostered (MEB, 2019). In the same program, listening acquisitions were included at each grade level, and a development process was followed in these acquisitions as the grade level progressed. The learning outcomes are designed to enhance listening skill and to successfully teach listening techniques.

Improved listening skills benefit people both individually and socially. The importance of listening skills, which enable an individual to communicate with their environment, serve as the foundation of learning, and aid in the development of language skills, are well established and should be given the appropriate weight in the educational process. Listening skill develops as a result of social learning and is reinforced in educational settings through planned and programmed activities. Furthermore, it occupies its own place and maintains its significance as a complement to the educational process. When the studies on listening skills are examined, it can be observed that Renukadevi (2014) discovered the importance of listening in language acquisition, as well as the difficulties associated with acquiring listening skills. In his study focusing on listening comprehension strategies and problems, Hasan (2000) made suggestions for the listening process for the solution of these problems. Imhof, Henning & Kreft (2009) emphasized the effect of external sounds on attention during the listening process and the significance of external sounds in the listening process. Emiroğlu

(2013) interviewed Turkish prospective teachers to determine their problems during their experiences with listening and their views on the solutions of these problems. Başkan and Deniz (2015), on the other hand, worked with high school students to determine their in-class listening difficulties. Keray Dinçel (2018) conducted interviews with secondary school students to determine their listening difficulties and expectations in this area. On the other hand, in his study, Bayram (2019)placed an emphasis on the difficulties faced by Turkish teachers in their classroom listening practices and the solutions of these problems. Bayram (2019) examined listening problems in the context of three stages: pre-listening, during listening and post-listening and conducted interviews with teachers to determine how to solve these problems. In addition, there are studies examining various aspects of listening skills (Sonmez, 2019; Carkit, 2020; Kapanadze, 2019).

As these studies demonstrate, listening skill is critical for language learning. The studies also show that there are problems involving this important skill as well. Studies with students at different education levels are critical for explaining these problems. In addition, it is seen that some these studies have suggested alternative solutions. These suggestions are crucial; however, it is exceedingly difficult to achieve the desired level of awareness and proficiency in listening without first identifying the source of the problems and implementing a fundamental solution to these problems. Therefore, it is important to identify the source of the problems and determine the appropriate course of action. The purpose of this study is to determine the listening problems of secondary school students by utilizing the experiences of Turkish teachers, to get to the source of these problems, to ascertain how teachers address these problems, and to make recommendations for resolving these problems. In a nutshell, the aim of this study is to examine listening skill through emphasizing on its problems and solutions. This study conducted with this point of view, will provide an important perspective for future research and will be a significant step toward minimizing the problems related with listening skills.

Method

Research design

The purpose of this qualitative study is to determine teachers' perceptions of barriers and suggestions for improving secondary school students' listening skills. The current study was conducted in the form of a case study. As Yin (2009) and Creswell (2014) indicate, case studies are particularly useful for describing social phenomena in their its various dimensions within a particular context. In other words, a case study requires a search for everyday concepts in real life. Prior to beginning this study, it was recognized that there were some problems with listening skills as a result of field studies and pre-interviews with Turkish teachers. A case study was conducted in order to determine the problems, trace the sources of the problems, and to determine which alternatives might be used to address the problems that people experienced. Therefore, a case concerning the listening

skills of secondary school students was discovered and analyzed in detail through teachers' perceptions and observations.

The participants

The participants of this study consisted of 10 volunteer teachers from five different public secondary schools in Van's Tusba and İpekyolu provinces. As the goal was to obtain detailed information, experience was a significant factor. Due to the fact that criterion sampling was used, two main criteria were applied. One of them was that the teachers must have at least three years of experience; the other was that the teachers had to teach each grade in secondary school (5th, 6th, 7th, 8th grades) and observe the students' listening skills.

Data collection instrument

The data for this case study were collected using an interview technique. The researchers collaborated to develop semi-structured qualitative interview forms that focused on teachers' perceptions of secondary school students. To begin, we consulted with a Turkish teacher about listening problems in order to prepare these questions. Secondly, research in literature was examined. The interview questions were developed as a result of pre-interviews and literature research by selecting effective ones from a question repository. Moreover, expert opinions from four academics of the Turkish education department were gathered to ensure the study's quality and intended results. The number of questions were reduced as a result of expert opinions. Four basic questions and sub-questions depending were selected accordingly. Finally, pilot interviews were conducted and as there were no issues in this step, the data collection process continued. Consent was obtained from teachers during the data collection process, and anonymity was ensured. Interviews with the teachers were conducted at the scheduled location and time, and all interview sessions were recorded. The sessions lasted approximately 30 minutes each. Additionally, the ethics committee's approval was obtained, which certifies that the study is ethically appropriate.

Data analysis

Data were analyzed through content analysis. Content analysis is a detailed analysis that aids researchers in their decision-making process when it comes to selecting themes and categories from the data. The process begins with the coding of data, followed by the classification of codes and the creation of themes that best explain the codes, and finally, the organization and interpretation of data using the codes and themes (Yıldırım & Şimşek, 2011). The first stage of data analysis involved two researchers coding interviews with three teachers. Codes were identified for each interview, and a code list was created after discussing the differences and similarities in the researchers' coding. After that, the interview data for two different teachers were coded separately and compared.

Almost all of the codes worked with no issues. A few ambiguous codes were discussed and resolved. The remaining data were coded by one researcher and then double-checked by the other. Following the completion of the data coding process, codes with the same or similar meanings were combined by bringing them together. Thus, the reliability of the data analysis was ensured. After the data was coded, themes and sub-themes emerged, and the findings were presented in a meaningful structure. To ensure the validity of the data collection instrument, the study examined the literature and developed questions in conjunction with teachers during a brainstorming session. Furthermore, expert opinions were consulted regarding the interview form's suitability for the purpose, and the comprehensibility of the questions was confirmed via the pilot interview.

Results

Analysis of the interview transcripts revealed seven themes regarding secondary school students' listening problems: family, environment, education, readiness, listeners, speaker and listening materials. At first, results demonstrating students' listening problems were displayed, followed by detailed explanations of the sources of these problems, problem-solving strategies, and alternative suggestions made by teachers for each problem.

Findings regarding listening problems of secondary school students are presented in Table1.

Table 1.Listening Problems of Secondary School Students from the Perspective of Teachers

Listening problems	N
Not being aware of listening rules	8
Being bored with listening	7
Not listening to the lesson	7
Not comprehending what one listens to	6
Having low motivation for listening	5
Making an effort to express oneself	5
Not listening to the speaker	4
Ignoring to useless information	4
Not obeying the rules of listening	3
Focusing on speaking rather than listening	3
Appearing to be a listener	3
Thinking that what one listens to at school is unimportant	3
Being unable to adapt to listening in the first and last lessons	3
Not wanting to listen	3
Distracting factors (environmental)	3
Being closed minded towards the course	2
Ignoring what one listens to	2
Reducing the time for listening	2

Lack of attention (personal)	2
Failing to understand the phenomenon of listening	2
Not attending listening activities	1
Putting listening on the back burner	1

From Table 1, it can be seen that *not being aware of listening rules, being bored with listening, not listening to the lesson, not understanding what one listens, having low motivation for listening, making an effort to express oneself, not listening to the speaker, not listening to useless information* are primary issues among listening problems of secondary school students. A few of secondary school teachers explain the problem below:

> *"...the child sometimes does not listen during listening activity in the classroom. When we ask why you don't listen, he says he doesn't understand or doesn't know that he should listen, he doesn't understand the phenomenon. This is due to the attitude at home, probably he does not listen at home."* (T6).

> "*We have students who have listening problems. First of all, students have attention deficits. This is because of their individual differences*." (T4).

After analyzing listening problems, sources of these problems, teachers' problem-solving approaches and their suggestions were examined and explained under seven themes.

Theme 1: Family

Table 2. Teacher Perspectives on Family Theme

	Sub-theme	Code	N
Source of the problems	General structure	Traditional family structure	6
		Families' lack of education	2
		Families' lack of cultural development	1
	Attitude & Behavior	Families not having enough time to practice the essential listening process with the students	8
		Indifference of the family	8
		Families not being the correct role model for the students	4
		The students not being listened to by their families	3
		The students' ability to express themselves in the family environment being difficult	2
		The families' disregard of what students say	2
Problem-solving approaches	Awareness	Raising families' awareness about listening	2
		Arranging meetings with families	1
	Collaboration	Cooperation with families	1

	Awareness	Informing parents about the importance of listening to students	4
		Hosting seminars for families on topics including listening by experts of the field	2
Alternative suggestions	Attitude & Behavior	Families should give listening education to the students from early ages	3
		Families should be a good role-model for the students	1
		Families should create listening environments at home where students rest	1
	Collaboration	School-family cooperation should be established	3
		A healthy environment should be created with school-family cooperation	3

Table 2 illustrates that the majority of the teachers claimed that *traditional family structure* and *families' lack of education* are the most frequently expressed codes among listening problems. Besides, *indifference of the family, families not having enough time to practice the essential listening process with students* and families *not being the correct role model for the students* are the other codes that inhibit attention according to the teachers. One of the teachers expressed her opinion as written below:

> *"We have a problem with the family. If a democratic environment is not created at home, and if the children do not feel precious themselves, if the children's wishes are not taken into account, then what the child will do is not to listen, namely, he will not be able to have this habit."* (T4).

Teachers carried out some problem-solving approaches to resolve secondary school students' problems related to families. These approaches fell into two main categories: awareness and collaboration. *Informing parents about the importance of listening to students* is the most repeated code among the others.

According to the suggestions, *informing parents about the importance of listening to students, providing listening education to the students in the family from early ages* and also *creating a healthy environment based on school-family cooperation* are the most repeated codes in the sub-theme of awareness, in the sub-theme of attitude and behaviors, and in the sub-theme of collaboration respectively. One of the teachers' striking perception is below:

> *"If possible, studies related to majority can be conducted in the triangle of family-teacher-student. A situation that may be positive in such a study / studies will also affect the other parties. Raising awareness of the family in these ways, having continuous communication with the school, being motivated of such interactions by the schools, administration and teachers will enable us to make good progress in education process. All stakeholders must take responsibility."* (T10).

Theme 2: Environment

Table 3. Teacher Perspectives on Environment Theme

	Sub-theme	Code	N
Source of the problems	Social environment	Lack of environments which students may spend their energy	3
		Negative audience profile	2
		Lack of social environments for students to participate	2
	Educational environment	Noise and mobility in the class	2
		Lack of a listening-appropriate environment (in exams)	2
		Mobility in the class	1
		Crowded classes	1
	Technological environment	Spending a lot of time on technological devices	1
		Gradual loss of patience due to of speeding up the life through internet	1
		Increasing negative examples through technology	1
		Using technology from early ages	1
Problem-solving approaches	Environment	Offering students a wide range of extracurricular activities	1
		Enabling all students to maintain mentally active through technology in the classroom	1
Alternative suggestions	Social and artistic activities	Students should be taken to the theatre	5
		Suitable listening environments should be created for students	4
		Artistic and literary environments should be created for students	2
		Listening environment funded by the government should be provided	2
		Students should be taken to the cinema	2
	Technological environments	Families should limit students' time of using technological devices	2
		Controlled use of internet should be ensured	1
		Lessons should be given students on proper use of media	1

As indicated in Table 3, the environment is one of the reasons of the listening problems of secondary school students. Three sub-themes such as social, educational and technological environment emerged under the theme of environment. When the codes were examined, it could be said that *lack of environments which students may spend their energy, noise and mobility in the class and gradual loss of patience due to speeding up the life through internet* are the most outstanding codes. Teacher's opinion about this subject is below:

"… the listener cannot completely focus on listening because of external environmental
factors… When there is some noise outside, children immediately focus on this noise."
(T5).

Problem solving approaches which teachers have applied are *offering students a wide range of extracurricular activities, and enabling all students to maintain mentally active through technology in the classroom.*

When teachers' alternative solutions regarding the source of environmental problems were examined, some prominent codes such as *students should be taken to the theatre, suitable listening environments should be created for students, artistic and literary environments should be created for* students in the category of social and artistic activities emerged. In addition, *families should limit students' time of using technological devices* is the other noticeable code in the sub-theme of technological environments. An example of a solution suggestion for the environment is given below:

> "*Parents may restrict the use of technological devices for children, such as being busy for 1 hour or 40 minutes in social life, during that time, the children might play game or do their homework, get up and when they get up, they might continue their life completely away from that device. In this way, their time should be restricted. Otherwise, the children cannot listen very well by walking around with the phone in his hand*" (T5).

Theme 3: Readiness

Table4. Teacher Perspectives on Readiness Theme

	Sub-theme	Code	N
Source of the problems	Developmental characteristics	Not being able to adapt to the beginning and ending hours of the class	3
		Student naughtiness because of their age (5th grade)	2
		Inability to adapt to the transition from primary school to secondary school	1
	Physical needs	No prepared breakfast for students (being hungry)	3
		Not paying attention to students' sleeping time	2
	Course hours	Excessive course hours (5th and 6th grades)	5
		Beginning of the lessons at early hours	3
	Learning	Lack of vocabulary (listening and comprehension)	5
		Differentiation of given importance to the knowledge according to grade levels (5th and 8th grades)	1
Problem-solving approaches	Preliminary preparation	Motivation for listening	4
		Organization activities suitable for student age	1
	Education	Preparing activities which improve student vocabulary	2
		Doing dictionary exercises	1
Alternative suggestions	Appropriateness of level	Listening activities appropriate for age of the students should be planned	2
		Listening topics should be arranged according to student age	2

	Exercises which improve student vocabulary should be done	2
Education	Empathy skills should be developed	2
	Class size should be ideal (not crowded)	2

Table 4 presents that there are different sub-themes under the themes of readiness. *Not being able to adapt to the beginning and ending hours of the class* is the prominent code in the sub- theme of developmental characteristics. *No prepared breakfast for students (being hungry) and not paying attention to students' sleeping time are* striking codes in the sub- theme of physical needs. *Excessive course hours (5th and 6th grades) and beginning of the lessons at early hours* are the most repeated codes in the sub-theme of course hours. *Lack of vocabulary (listening and comprehension)* is an important code in the sub-theme of learning. An example opinion of a teacher is:

> "*Apart from that, the lack of vocabulary is a serious problem. It is noticed that while the students who read books have a much better vocabulary, listen to the lesson carefully, focus on the lesson and contribute to the lesson, it is seen that the students who have difficulties in expressing themselves also have difficulties in the lesson, and they get busy with other tasks instead of listening to the lesson.*" (T3).

Preliminary preparations and education are sub-themes emerged under the theme of readiness as teachers' problem-solving approaches. *Preparing activities which improve student vocabulary* is the most repeated code among them.

As alternative suggestions for problems, in the sub-themes of appropriateness of level and education some codes emerged according to the perspectives of teachers. These are listening activities appropriate for age of the students should be planned, listening topics should be arranged according to student age; and exercises which improve student vocabulary should be done, empathy skills should be developed, class size should be ideal (not crowded).The opinion of the teacher on this subject can be given as an example:

> "*Students should read good qualified books to improve their vocabulary. Furthermore, one or two idioms can be learned daily. In addition, the use of idioms in sentences is learned and by starting to use it in daily life, so students develop their vocabulary. Hence, they can understand what they listen to and do not get bored of listening.*" (T3).

Theme 4: Speaker

Table5. Teacher Perspectives on Speaker Theme

	Sub-theme	Code	N
Source of the problems	Voice and body language	Lecturing with a monotonous tone of voice	2
		Using less or more body language than enough	1
		Lacking the skill of making powerful and effective speeches	1
	Content of the topic	Not informing students about the benefit of the topic	2
		Not being interesting of the content for students	1
		Not enriching the topic (speech) with anecdotes, idioms, etc.	1
		Not being familiar with the subject (speaker)	1
	General characteristics of teachers	Teachers' clothing preferences	2
		Good manners of teachers (easygoing)	1
		Unprepared courses for teachers	1
Problem-solving approaches	Drawing attention	Speaking empathetically (to support listening)	2
		Addressing multiple senses	1
		Paying attention to stress and intonation	1
Alternative suggestions	Voice and Body language	Gesture and mimics should be used effectively	3
		Teachers should give importance what they wear	3
		Teachers should not speak monotonically	1
	Content of the topic	Teachers should explain the topics according to student level	3
		Anecdotes, idioms, etc. should be used while speaking	2
		Teachers should come to the lesson with different materials	1
		Appropriate class environment should be created for students	1
		Teachers should be contemporary	1
	Personal development	Teachers should be friendly	1
		They should follow the publications which improve themselves	1

In Table 5 the findings show that voice and body language, content of the topic, and general characteristics of teachers are the sub-themes which emerged as the source of problems in the theme of speaker. *Lecturing with a monotonous tone of voice, not informing students about the benefit of the topic and teachers' clothing preferences* are the most striking codes among these themes. The opinion of the teacher on this subject is below:

> "*The person's speaking skill is really important, especially for students in the class. If the person in front of you is ready to listen to something, your monotonous speech can bore him and completely removes him from the environment*" (T10).

Teachers mostly mentioned the codes of *speaking empathetically (to support listening), addressing multiple senses and paying attention to stress and intonation as problem-solving approach.*

Alternative suggestions to solve listening problems related to speaker are offered by the teachers. Among these suggestions *gestures and facial expressions should be used effectively and teachers should give importance what they wear* are the most noteworthy ones. On the other hand, *teachers should explain the topics according to student level and anecdotes, idioms, etc.* should be used while speaking are the striking codes in the sub-theme of content of the topic. Furthermore, there are some other codes such as *teachers should be contemporary, teachers should be friendly and be role model for students in the theme of personal development*. Example of teacher opinions are as follows:

> "The attitude of the lecturer, his behavior, his manner of speaking, his dressing, briefly everything is so important. It is very effective on the student's attention. The teacher should be interesting from every aspect… The speaker should pay attention to his dress, his tone of voice, and anecdotes he will use in order to make the subject interesting." (T2)

Theme 5: Listener

Table 6. Teacher Perspectives on Listener Theme

	Sub-theme	Code	N
Source of the problems	Listening awareness	Not listening to speaker	9
		Not having listening awareness	8
		Making an effort to show yourself	2
Problem-solving approaches	Education	Making students active while listening	3
		Involving listening activities based on empathy	3
		Finding correct and meaningful examples for students	1
	Awareness	Making students realize the importance of listening	2
		Leading students through listening activities	1
	Concern	Dealing with students individually	2
		Listening students patiently	1
		Knowing the students well	1
Alternative suggestions	Listening awareness	Making students realize the importance of listening	3
		Making students realize the usefulness of knowledge	2
	Having experience	Environments which help students develop empathy should be created.	6
		Drama techniques should be used	5
		Students should feel mutual respect for each other	1

Table 6 shows that the source of problems appears on the bases of listening awareness. Numerous teachers explained the codes of *not listening to speaker and not having listening awareness* in this category. One of the teachers' mindset about this subject is below:

"If the students are not conscious, they do not want to listen to the lesson. When they do not listen to the lesson, they can lose their interest to the lesson, and they can be interested in some things outside the lesson." (T10).

Problem-solving approaches used by teachers to solve listening problems based on listeners are clarified in the categories of education and awareness. *Making students active while listening and involving listening activities based on empathy; making students realize the importance of listening* are the prominent codes in these sub- themes.

Alternative solutions which teachers emphasized stated that teachers' attention was focused on the issue of listening awareness and having experience problems. The codes such as *making students realize the importance of listening and making students realize the usefulness of knowledge* are important codes in the sub- theme of listening awareness, and besides *environments which help students develop empathy should be created and drama technique should be used* are the most repeated codes in the sub- theme of having experience. The opinion of one of the teachers can be given as an example in this regard:

"…When the students do not listen to each other or have negative attitudes towards each other, the teacher can make them think or learn the subject with challenging questions that lead to empathy. By asking some questions such as "How would you feel if you were in such a situation or how does this attitude make your friend feel right now?"… they can help their friends to express their feelings and solve these kinds of problems with activities such as drama techniques." (T9).

Theme 6: Education

Table 7. Teacher Perspectives on Education Theme

	Sub-theme	Code	N
Source of the problems	Program	Lack of appropriate activities for active listening	5
		Difficult content of curriculum for student level	3
		Fewer Turkish courses in the curriculum	1
		Intensive grammar topics in the curriculum	1
	Educational environment	Crowded classes	3
		Lack of course materials	2
		Inadequate school facilities	1
		Inadequate physical conditions of the school	1
	Learning	Lack of vocabulary	6
		Not having basic language skills in primary school	2
		Lack of studies about listening skills in primary schools	2

Problem-solving approaches	Learning environment	Using materials which appeal to more than one sense organ	2
		Creating environment for students to listen to one another	2
		Organizing listening activities according to students' active listening time	1
		Benefiting from the activities that make students active in listening activities	1
	Awareness	Explaining the listening rules before the listening activity	1
		Helping students comprehend about how to listen effectively	1
		Creating listening rules	1
Alternative suggestions	Student	The activities which make students active should be prepared	3
		Shorter and more attractive activities should be organized	2
		Games should be in activities (5th grades)	2
		Duties and responsibilities should be given to the students	2
		Listening activities should be appropriate for student level	1
	Program	Course hours should be lessened (6 hours for secondary schools and 5 hours for primary schools)	1
		Grammar topics should be excluded from the curriculum (5th grade)	1
		Turkish lesson should be built entirely on reading comprehension	1
		A curriculum should be prepared to increased listening activities	1
	Physical environment	Turkish classes should be created	2
		Class size should be reduced	1
		Physical conditions of the school should be appropriate for education	1
	Learning environment	Methods that maintain students' attention should be used	2
		Visual materials should be used in order to enable student participation	2
		Environments for learning by doing should be created	2
		Activities appropriate for the theory of multiple intelligence should be designed	1
		Listening rules should be constantly repeated in listening environments	1
		The teacher should give feedback before, during and after listening activity	1

Table 7 shows the findings related to listening problems based on educational setting. Lack of activities appropriate for active listening and not being appropriate of curriculum for student level are the most repeated codes in the sub- theme of program. While *crowded classes and lack of course materials* are noteworthy codes in the sub- theme of education, *lack of vocabulary* is crucial in the sub-theme of learning. The opinion of T9 on this issue is as follows:

"Listening activities are obviously not activities that students can actively participate in, but these are not completely excluded from them. We try to add them" (T9).

Problem-solving approaches of teachers about listening problems based on education are *using materials which appeal to more than one sense organ and creating environment for students to listen to one another* in the sub- theme of learning environment. Besides, *explaining the listening rules before the listening activity, helping students comprehend about how to listen effectively and creating listening rules* are the other codes emerged in the sub-theme of awareness.

Alternative solutions of teachers for students' listening problems are based on some codes such as *the activities which make students active should be prepared; Turkish classes should be created; methods that maintain students' attention should be used, visual materials should be used in order to enable student participation and environments for learning by doing should be created. These* are the codes which teachers mostly mentioned in the category of student, physical environment and learning environment respectively. In addition to these codes, *course hours should be lessened (6 hours for secondary schools and 5 hours for primary schools), grammar topics should be excluded from the curriculum (5th grade), Turkish lesson should be built entirely on reading comprehension and a curriculum should be prepared to increased listening activities* are the other codes emerged in the sub- theme of program. An example of a teacher's view on this issue is as follows:

"...In my opinion, schools should have listening rooms. Even, there should be real rooms, there should be lecture rooms, such as Turkish classrooms, mathematics classrooms. The teacher will remain stationary in the classroom and provide student circulation like in a workshop room. Turkish lesson workshop will be organized accordingly" (T6).

Theme 7: Listening materials

Table 8. Teacher Perspectives on Listening Materials Theme

	Sub-theme	Code	N
Source of the problems	Structure of the text	Not being interesting of the content	4
		Not being appropriate of selected texts for student level	2
		Not being interesting of listening text	2
		Not being related to topic with real life	1
		Having too long texts	1
	Activities	Having few listening activities in course books	1
		Not being interesting of the activity	1
		Having many, long, boring activities	1

		Involving topics which students are interested in	2
Problem-solving approaches	Topic	Informing the students about the benefits of the topic that they listen	1
		Using texts including useful information in real life	1
Alternative suggestions	Content	Topics should be related to daily life	3
		Listening text should be interesting	3
		Different activities related to topic should be preferred	2
		Listening texts should be listened to throughout the process	1
		The importance of knowledge should be explained to the students (8th grade)	1
		Lessons should be taught entertainingly (5th grade)	1

The findings presented in Table 8 indicate that *not being interesting of the content, not being appropriate of selected texts for student level, not being interesting of listening text* are noteworthy codes in the sub- theme of structure of the text as a source of problems. In addition, *having few listening activities in course books, not being interesting of the activity and having many, long, boring activities* are the codes which teacher focused on in the category of activities. The opinion of the teacher on this subject is below:

"*...Some texts are too difficult. I am reading the text, I say "listen to me, I will stop and you will summarize.". The children could not summarize, they could not listen. Because when there are unknown words in the text, their attention gets distracted. Thus, they don't want to listen. They cannot think of the subject in a context, and consequently I could not get feedback*" (T1).

Involving topics which students are interested in, informing the students about the benefits of the topic that they listen and using texts including useful information in real life are the codes which teachers thought as a problem-solving approach in the category of topic.

Alternative suggestions for listening materials are seen really important by teachers. *Listening text should be interesting and different activities relating topic should be preferred* are some of these suggestions in the sub- theme of content. Besides, *listening texts should be listened to throughout the process the importance of knowledge should be explained to the students (8th grade) and lessons should be taught entertainingly (5th grade)* are the other prominent codes in the same category. One of the teachers' mindset about this subject is below:

"*For instance, preparing visual materials related to the topic, preparing games, doing activities related to the subject or explaining the events in daily life can be some of the suggestions.*" (T10).

Discussion, Conclusion and Recommendations

The results of this study indicated that secondary school students have a variety of listening problems. The most prominent ones are being unaware of listening rules, being bored with listening, not listening to the lesson, not understanding what one listens to, having low motivation for listening, making an effort to express oneself, not listening to the speaker, not listening to useless information. Emiroğlu (2013) concluded that, these problems primarily stem from speakers in prospective teachers' opinions regarding listening problems. According to listening problem studies, other factors affecting listening include the listener, the topic and the environment. According to Keray Dinçel's (2018) findings, the problems encountered by secondary school students during Turkish lessons are the environment, listening texts, listening activities, Turkish teachers and students. On the other hand, Bayram (2019) discovered that the majority of listening problems occur during the pre-listening stage and can be discussed under the titles of students, teachers, texts, environments, among others. According to Underwood (1989), the main listening problems are inability to control of speaker's speaking rate and repetitive listening, listeners' limited vocabulary, failure to recognize signs correctly, interpretation problems, inability to concentrate, and established learning habits. Parallel to this, Underwood (1989) believed that there is a direct link between these problems and the students' differences in background. Students whose culture and education are centered around story-telling and oral communication are generally more competent at listening comprehension than students whose culture and education are centered around reading and book-based education (as cited in Chen, 2005). According to Hasan's (2000) research, listening comprehension difficulties are related to task and activity, message, speakers, and listeners. Moreover, Renukadevi (2014) stated that despite advancements in technology in the field of education, students continue to struggle with the act of listening. These problems stem from a lack of time spent on improving students' listening skills, as well as from the use of ineffective strategies in the learning environment, listening materials and physical environment.

There are several prominent results in the family-related aspects of students' listening problems, including "traditional family structure, families' lack of education, families not having enough time to practice the essential listening process with students, indifference of the family, families not being the correct role model for the students, not being listened of the students by their families. The most frequently repeated code among the approaches used by teachers to solve these problems is raising awareness of the families about listening. The most prominent alternative suggestions are; Informing parents about the importance of listening to students, providing listening education to the students in the family from early ages, ensuring school – family cooperation and creating a healthy environment with school-family cooperation. As suggested by Maden (2013), it might be beneficial to provide families with trainings on intra- family communication, raising children and the importance of listening.

Lack of environments in which students can expend their energy, noise and mobility in the class, crowded class, and gradual loss of patience due to speeding up the life through internet are significant codes that stem from listening problems in the theme of environment. Başkan and Deniz (2015) reminded us that physical deficiencies of the classroom and the noise in the classroom environment have a negative effect on students' ability to listen to the course. Consistent with this, Keray Dinçel (2018) reported that noise caused by environment is one of the most serious listening problems. This is parallel to the argument of Emiroğlu (2013) that prospective teachers who participated in the study stated that being hot, stuffy, noisy of the environment and also being lots of stimuli and disorder in the environment where the speech was made caused listening problems. Imhof, Henning & Kreft (2009) asserted that if the external noise became soft or loud in the natural environment, attention and listening performance would be hindered. This study examined the types of problem- solving approaches used by teachers to address the problems arising from the environment. It was discovered that they attempted to tackle problems by offering students a diverse range of extracurricular activities and enabling all students to maintain mentally active through the use of technology in the classroom. In addition, teachers suggested that students be taken to the theatre, that appropriate listening environments be created, and that the appropriate artistic and literary environments be created for the students to solve the problems. Apart from that, limiting students' time spent on technological devices by families, and teaching students how to properly use media are other noteworthy codes that teachers suggested as alternatives.

The most striking and repeated codes in the theme of readiness are not being able to adapt to the beginning and ending hours of the class, no prepared breakfast for students (being hungry), not paying attention to students' sleeping time, excessive course hours (5th and 6th grades), beginning of the lessons at early hours and lack of vocabulary (listening and comprehension). According to Bayram's (2019) study, the result of the students' low level of readiness due to the problems caused by the student prior to the listening activity is viewed as a result that addresses the theme of readiness. Teachers explained that they used various problem-solving approaches such as motivating students for listening and preparing activities which improve student vocabulary. In addition to that, teachers emphasized on the importance of planning listening activities that are appropriate for student age, doing exercises which improve student vocabulary, and ideal class size implementations.

In terms of the speaker, the most striking codes that contribute to secondary school students' listening problems are lecturing in a monotonous tone of voice, not informing students about the benefit of the topic, not informing students about the benefit of the topic and teachers' clothing preferences. This fits with the findings of Başkan and Deniz (2015) that teachers who consistently use the same narrative techniques have a negative effect on students' listening comprehension. Besides, Keray Dinçel (2018) described problems such as teachers speaking in silently and not lecturing Turkish courses fluently. Furthermore, Bayram's (2019) findings pointed out that some problems

stem from teachers, such as not notifying the students about the aims, not being able to motivate the students to listen to the lesson and not making any connection between the topic and the real life in the pre- listening category. Moreover, according to the results of an experimental study conducted by Anderson and Lynch (1998) with Iranian individuals learning English as a second language, the group that listened to the native teachers while reading by changing the intonation in the native language was more successful in terms of making inferences, choosing the correct clue and listening comprehension. This situation positively affected the ability to learn inferring in a second language. This result is parallel to our study's findings, indicating the critical role of tone of voice in listening. Teachers' problem-solving approaches for the resolution of problems that stem from the speaker are viewed as the codes of speaking empathetically (to support listening), addressing multiple senses and paying attention to stress and intonation. When the teacher perspectives on the alternative suggestions for the problems were examined, using gesture and facial expression effectively, giving importance to what teachers wear, explaining the topics according to the student level, using anecdotes, idioms, etc. while speaking, being contemporary and friendly are the codes emphasized as alternative suggestions. These arguments are parallel to findings of Bayram's (2019) study. Turkish teachers who participated to his study suggested that teachersincorporatea variety of activities tokeep lessons interesting and enjoyable both for themselves and their colleagues, while also paying attention to individual differences of students and maintaining students' attention. In addition, Çiftçi (2001) emphasized how the teacher's attitudes and behaviors, the methods and techniques he employs, as well as his professional knowledge, skills and abilities are all have an effect on the listeners. Turkish prospective teachers interviewed for Emiroğlu's (2013) study emphasized the importance of paying attention to the speaking style and body language, as well as correctly and appropriately using ones voice, intonation and stress. Keray Dinçel (2018) stated in her study that the students' expectations of Turkish teachers include making the lesson as enjoyable as possible, speaking loudly while teaching, having effective classroom management and using the technology. Similar to Emiroğlu (2013), Marley (2000) discovered that listeners pay attention to not only verbal behavior but also non-verbal elements (body postures, body movements, gestures, eye contact) in the social context in which listening takes place (as cited in Martínez-Flor &Usó-Juan, 2006).

Almost all of the participants who were secondary school students identified not listening to the speaker and a lack of listening awareness codes as the source of the problems in the theme of the listener. According to Başkan and Deniz (2015), students believed that lessons were easy, and that exams could be passed easily and that they did not want to listen to the lessons and were not interested in the lessons when they found them so easy. Apart from listening to the lesson, teachers' attitudes toward students were more effective than the course itself. When teachers' approaches to problem-solving are examined, it is clear that making students active while listening, making students active while listening, involving listening activities based on empathy, making students realize the

importance of listening and dealing with students individually are the most prominent problem-solving approaches. On the other hand, when alternative solutions were evaluated, it is clear that making students realize the importance of listening, making students realize the usefulness of knowledge, creating environments which help students develop empathy and using drama techniques are noteworthy solution suggestions. Parallel to this thinking, Bayram (2019), made some suggestions for students to help them solve their listening problems such as being physically ready for listening training, taking notes while listening, and having eye-contact with the speaker. The suggestions that emerged in Bayram's (2019) study differ from the suggestions made by the teachers in this study. Goh (2000), on the other hand, suggested the following strategies for increasing student awareness about learning to listen: organizing course time for discussions and reports on listening problems and useful strategies, encouraging the students to think aloud after completing the listening task, expanding and the scope and giving opportunities for individual responses by listening to the diaries.

The most frequently cited sources of the secondary school students' listening problems are lack of appropriate activities for active listening, difficult content of curriculum for student level, crowded classes, lack of course materials and insufficient vocabulary of students in the theme of education. According to Aşılıoğlu's (2009) study findings, not creating an environment that enable students to participate to the lesson effectively is one of the main listening obstacles. In addition, the findings such as making loud noise by the friends in the class, having a large number of class size, and being disturbed by the friends are fundamental listening obstacles that are similar to Keray Dinçel's (2018) findings in their study. When the problem-solving approaches for listening problems in the theme of education were examined, using materials which appeal to more than one sense organ, creating environment for students to listen to one another, explaining the listening rules before the listening activity, and helping students comprehend about how to listen effectively are the most prominent approaches posited by teachers. Furthermore, when teachers' suggestions for resolving listening problems were examined, preparing the activities which make students active, organizing shorter and more attractive activities, giving duties and responsibilities to the students in the course, excluding grammar topics from the curriculum, building Turkish lessons entirely on reading comprehension, reducing the class size, methods that keep student attention alive, and creating environments for learning by doing are the significant codes that emerged as alternative suggestions in the theme of education.

In the theme of listening material, not being interesting of the content, not being appropriate of selected texts for student level, not being interesting of listening text, not being interesting of the activity and having many, long, boring activities were emphasized on as the most significant sources of listening problems. Başkan and Deniz (2015) argued that students have difficulty with listening to lessons in which they are uninterested. According to Keray Dinçel's (2018) study, the main listening problems of secondary school students are boring, long and unnecessary listening texts, including

unknown words, and not being much interesting of the texts. Consistent with these findings, Bayram (2019) reminded us that not being short and concise, and not being interesting of the of the texts are the noteworthy sources of listening problems with the findings of his study. Parallel to these findings, Emiroğlu (2013) noted that prospective teachers expressed concern about some issues such as not being dealt with the topic by the listener, not being interesting. The findings of these studies are consistent with the problems identified in the listening materials in this study. When problem-solving approaches regarding listening materials were examined it was seen that involving topics which students are interested in, informing the students about the benefits of the topic that they listen and using texts including useful information in real life are prominent codes. Additionally, teachers' alternative suggestions about this issue are; being related to daily life of the topics, being interesting of listening text and doing different activities related to topic. The Turkish teachers who participated in Bayram's (2019) research suggested that; being interesting of the listening texts, being supported with visual materials and, being short, concise and understandable improved listening comprehension. This is consistent with Keray Dinçel's (2018) findings in terms of some recommendations such as being short of listening texts and being interesting of listening activities while solving the problems. Similarly, Hasan (2000) asserted that uninteresting activities would not improve students' listening comprehension skills. Based on these findings, it is possible to conclude that engaging students in in-class activities that encourage them to focus on the overall message rather than onindividual words will aid in their comprehension of the text.

All in all, the findings of this study indicated that there are a variety of factors that contribute to the listening problems of secondary school students. According to the teachers' views examined through the themes of family, environment, education, readiness, speaker, listener, and listening material, it can be concluded that each variable in the student's life affects the development of listening skill within certain limits. The teachers participating in the study stated that they made concerted efforts within their capabilities and offered suggestions for resolving the problems. As demonstrated in this study, there are numerous variables that contribute to the problems associated with listening skill, and success appears impossible unless the effect of these variables is minimized. Until they start secondary school, students recieve education about listening skills in their family, social environment and especially during the primary school period. This situation demonstrates the importance of including listening skill training by teachers at all levels and in each department. Considering that the development in listening skills affects all other skills and lessons, it is necessary to provide necessary training and awareness to all branch teachers in-service training. Moreover, relevant institutions and organizations should implement innovations and changes aimed at resolving family, environment and educational issues. Solving listening problems and achieving positive development in students may be possible by minimizing the negative effects of the variables that

affect listening skill. This process will be accomplished if all stakeholders in education work cooperatively and supportively.

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The Effect of the Flipped Classroom Model on Pre-Service Teachers' Digital Literacy and Digital Pedagogical Competencies

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Abstract

This study aims to analyze the effect of the flipped classroom model on the pre-service social studies teachers' digital literacy and digital pedagogical competencies. The study employed one group pretest-posttest design, one of the weak experimental models. The working group of the study consisted of 28 sophomore studying at the department of social studies teaching in a Turkish state university during the 2019-2020 academic year. This study employed "Digital Literacy and Digital Pedagogic Competency Scales" as data collection tools. Descriptive statistics and multivariate variance analysis (MANOVA) were used during data analysis. The study results revealed that the flipped classroom model based activities had a significant impact upon the digital literacy and digital pedagogical competences of the participants. The study also examined whether there was a significant difference in pre-service teachers' pre-test and post-test scores with regards to gender. A significant difference was identified across the pre-service teachers' digital literacy post-test scores in favor of females. Based on the results, various recommendations were provided.

Keywords: Digital Literacy, Digital Pedagogical Competence, Flipped Classroom Model, Pre-Service Teachers

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Introduction

In the twenty-first century, great advances have been made in science and technology. Developments in science and technology have affected people's lives and technology has gained a significant place in human life. Technology, which has such an important place in human life, has also affected educational research. Especially technological developments have made it necessary to organize technology-based teaching-learning environments. Scientists have developed student-centered teaching-learning approaches by considering students' interests and needs based upon the technological developments and changes. One of them is the flipped classroom model.

The flipped classroom model differs greatly from the traditional classroom model. Demiralay and Karataş (2014) defined the flipped classroom model as a "blended learning model" carried out with the guidance of the teacher, in which the knowledge provided by the teacher in the traditional classroom environment is moved to the online platform and the tasks expected to be done outside the school are transferred into the classroom. Bishop and Verleger (2013) underlined that flipped classroom model is a teaching-learning model that offers students the opportunity to do classroom activities individually or group activities with the guidance of the teacher, and to find solutions to their problems. The flipped classroom model has various contributions such as the effective use of time in the classroom, enabling students to learn at their own pace, increasing the interaction between student and teacher, taking responsibility for the student's own learning, increasing students' academic achievement, motivation and interest in the lesson (Ayçiçek, 2019). In the flipped classroom model, the teacher shares videos or documents s/he has prepared on the subject with the students via Web 2.0 tools or teaching management systems. Before coming to the classroom, students watch these videos and examine the documents and thus become ready for prior knowledge of the subject. The teacher makes various practices related to the subject to be taught in the lesson. Teachers were spending a lot of time in transferring knowledge in the traditional classroom environment. Since the teachers attached more importance to the transfer of knowledge in the classroom, they could not make enough practices for the subjects they taught. In the flipped classroom model, since students come to the class with prior knowledge, teachers find opportunities to practice during the lesson (Bergmann & Sams, 2012; Chilingaryan & Zvereva, 2017; Debbağ, 2019).

Technology-based teaching-learning approaches, as in the flipped classroom model, should be used in all educational levels from primary school to university because individuals in this age take an eager interest in technology. The generation, called the Z generation, uses technology quite frequently in their daily lives (Prensky, 2001). The students' characteristics and needs should be taken into consideration while organizing the teaching-learning process. Providing a teaching environment organized in this way, students' learning gets easier and permanent learning can be achieved. It is also important to apply contemporary technology-based teaching-learning approaches especially in teacher

training programs. Pre-service teachers' knowledge about how technology-based teaching-learning approaches should be applied and learning by doing these approaches can contribute to their implementation of these approaches when they start their teaching profession. Applying technology-based teaching-learning approaches in teacher training programs can also improve pre-service teachers' digital literacy and their digital pedagogical competences.

Digital literacy requires having skills to reach, produce and share accurate information, and to use technology in learning-teaching processes together with the appropriate use of different technologies (Hamutoğlu, Canan-Güngören, Kaya-Uyanık & Gür-Erdoğan, 2017). A digital literate individual is an individual who is creative, innovative, able to collaborate, communicate, think critically, solve problems, develop decision-making skills, know what technological concepts mean and use these concepts accordingly, and who can do what is required as a digital citizen (Ocak & Karakuş, 2018a). Teachers are expected to be digital literate as the age we live in is called the digital age, and therefore, teachers must have the skills to use digital tools.

Teachers also need to possess digital pedagogical competences as well as being digital literates. Digital pedagogical competence is defined as the basic knowledge and skills of the teachers about digital tools and their effective usage in teaching process (Yaman, Demirtaş & Aydemir, 2013). Digital pedagogical competence can also be defined as having knowledge about digital technologies, having the skills to use these technologies, employing these technologies by considering student development characteristics while organizing the teaching-learning process, and considering themselves as competent in this regard. Teachers' technological competences play a significant role in identifying their effectiveness in the teaching-learning process. Odabaşı and Kabakçı (2007) noted that teachers' technological competences include not only the ability to have knowledge, skills and attitudes regarding computer or internet technologies, but also to adapt different information and communication technologies to the learning-teaching process. Hence, it is not adequate for teachers to use technology merely by following technological developments; that is, it becomes a necessity for them to use technology while organizing learning activities (Durmaz, 2017). In this regard, it is highly essential that teachers have high digital literacy and digital pedagogical competences. Only if teachers have high digital literacy and digital pedagogical competence, will they be able to organize the teaching environment by taking digital technologies into account. In this case, individuals with 21st century skills can be raised. It is paramount in employing technology-based teaching-learning approaches to develop this literacy and competence in undergraduate education in order to improve teachers' digital literacy and their digital pedagogical competence.

When the national and international literature are examined, researches on flipped classroom model and digital literacy have been found. In the study conducted by Gyeong-Geon, Young-Eun, and Hun-Gi (2021), it was concluded that the collaborative flipped classroom model significantly affected

the motivation of higher education students. On the other hand, Liu-Jie, Sheng-Quan & Shi-Deng (2021) revealed in their research that the flipped classroom model improves student participation and interaction outside of the classroom through peer coaching of students studying in higher education. In the study conducted by Elian and Hamaidi (2018), it was concluded that the flipped classroom model significantly affected the academic achievement of students. Besides, Phoeun and Sengsri (2021), concluded in their research that the flipped classroom model improved students' attitudes towards speaking English in a positive way. In the study conducted by Tyger (2011) it was determined that the digital literacy levels of teacher candidates were low. In the research conducted by Tang and Chaw (2016), it was concluded that the hybrid learning model affects students' digital literacy.

Upon examining the related literature in Turkey, various studies were conducted to examine the effect of the flipped classroom model on pre-service teachers' attitudes towards geometry (Özdemir, 2019), on their academic achievement and the learning motivations (Duman, 2019), on their motivation, self-efficacy and attitudes toward lessons (Debbağ, 2019), their further reading and writing skills, self-regulation skills in learning, and classroom interactions (Aydemir, 2019). There are also studies examining the pre-service teachers' digital literacy (Aslan, 2021; Boyacı, 2019; Ocak & Karakuş, 2018a) and their digital pedagogical competences (Yaman, Demirtaş & Aydemir, 2013) in terms of several variables. Considering the relevant literature in Turkey, there is no such a study specifically published on analyzing the effect of the flipped classroom model on pre-service teachers' digital literacy and their digital pedagogical competence. Thus, it clearly reveals the gap in the literature.

Studies revealed that using technology-based approaches in the teaching-learning process has numerous benefits (Debbağ, 2019; Özdemir, 2019). In this respect, it is fundamental to use technology-based teaching-learning approaches in teacher training programs and to conduct research in this line. Providing education to pre-service teachers who will raise new generations based on contemporary and technology-based approaches may contribute to the development of their digital literacy and digital pedagogical competences. Thus, pre-service teachers can acquire the 21st century skills and equip students with these skills when they begin their teaching. In this respect, the results of this study are expected to contribute to the relevant literature. Especially the activities based on the flipped classroom model will shed light on the faculty instructors working in teacher training programs. Besides, this study is thought to guide scientists who are willing to work in this field.

According to the previous studies' findings, it can be said that some socio-demographic variables are effective on digital literacy and digital pedagogical competence. One of these variables is the gender variable. It can be stated that especially gender roles affect individuals' access to digital technology. As a matter of fact, it can be stated that the patriarchal nature of the social structure in

Turkey causes men to use digital technology more. When the studies conducted in Turkey were examined, it was found that there was a significant difference in favor of men in terms of digital literacy levels (Aslan & Aybek, 2020; Aslan, 2021; Bayrakcı & Narmanlıoğlu, 2021; Göldağ, 2021; Yazıcıoğlu, Yaylak & Genç, 2020). Likewise, in the study conducted by Bilge and Kılcan (2021), there was a significant difference in favor of males in terms of students' attitudes towards e-literacy. Based on these results, it was examined whether the digital literacy and digital pedagogical competencies of pre-service teachers differed significantly in terms of gender in this study.

This study aims to analyze the effect of the flipped classroom model on the pre-service social studies teachers' digital literacy and their digital pedagogical competences. In this regard, answers to the following questions were sought:

Is there a significant difference between the pre-test and post-test scores of the experimental group regarding digital literacy and digital pedagogical competence scales?

Do the pre-test and post-test scores of the experimental group regarding digital literacy and digital pedagogical competence scales significantly differ across gender?

Method

Research Model

This study utilized an experimental research model. Experimental research is a systematic model used by researchers to manipulate one or more variables and to control the rest of the variables (Özdemir & Doğruöz, 2020). A weak experimental design was used in the present study. In weak experimental designs, external variables or situations that may threaten the internal validity of the study cannot be controlled (Şahin, 2019). Weak experimental designs are used in situations in which the conditions in the field of education are unfavorable and the number of participants is low (Şahin, 2019). This study employed a weak experimental design since the number of participants was insufficient. The one-group pretest-posttest design is usually the one in which the experimental process is carried out on a single group and the group is measured twice (Şata, 2020). One group pretest-posttest design is used when a control group cannot be formed (Tuncer, 2020). As the number of participants was low in this study, a control group could not be formed and therefore one group pretest-posttest design was used. Table 1 depicts the experimental design of the study.

Table 1. Experimental Design of the Research

Group	Pre-test	Experimental process	Processing time	Post-test
Experimental	Digital literacy Digital pedagogical competence	Flipped classroom model	14 weeks	Digital literacy Digital pedagogical competence

Participants

The participants consisted of 28 sophomore pre-service teachers studying at the department of social studies teaching in a Turkish state university during the 2019-2020 academic year. Convenience sampling method was used while determining the sample. In this sampling method, the researcher includes the participants in the immediate surroundings that s/he can reach (Özkan, 2019). This study used the convenience sampling method as the pre-service teachers studying at the department of social studies teaching, which could be easily reached by the researcher, participated in the study. The working group held 17 female and 11 male pre-service teachers. Necessary permissions were obtained before the study was conducted. During data collection process, participant consent forms were distributed and signed to the teachers. The decision of the ethics committee was also taken (Number: E-87432956-050.99-173705).

Experimental Process

Experimental procedures related to the study were executed in a total of 14 weeks. Activities were conducted with the experimental group in the computer laboratory of the university.

Activities Used with the Experimental Group

Within the scope of the study, the activities based on the flipped classroom model were administered to the experimental group. Pretests were applied to the experimental group before the activities were carried out. A flipped classroom model was applied to the experimental group via the teaching management system (Blackboard). Prior to applying the flipped classroom model-based activities to the experimental group, the pre-service teachers were informed about the teaching management system and the necessary information was presented. After the teaching management system was announced by the researcher, the experimental application was initiated. The experimental process was conducted by the researcher within the context of "Instructional Technologies" course. When teacher training programs are examined, it is recommended to teach theoretical information about "information technologies in education, teaching process and classification of instructional technologies, theoretical approaches to instructional technologies, new trends in learning approaches, current literacy, design principles of instructional materials, evaluation criteria of instructional

materials" in instructional technologies course (Council of Higher Education [YOK], 2018). Apart from this content, different information was given to the students and different applications were made within the scope of the course in this research. The researcher observed that the pre-service teachers did not have sufficient knowledge about digital technologies, and their digital literacy as well as digital pedagogical competences were low. The starting point of the study was grounded on these observations. Within the scope of the research, in the out-of-class dimension of the flipped classroom model, pre-service teachers were taught theoretical information on subjects such as animation, simulation, augmented reality, and digital story. For this, videos were shot and shared with teacher candidates before they came to the lesson. In addition, programs that can be used for animation, simulation and digital story development are also mentioned in these videos. Thus, the pre-service teachers were informed about the topics of that week before coming to the class. Within the scope of in-class activities dimension of the flipped classroom model, activities were organized in the computer laboratory by using these programs for the acquisitions in the social studies curriculum in the classroom for pre-service teachers. Within the scope of the instructional technologies course, the pre-service teachers were ensured to prepare presentations in various programs by introducing presentation tools; moreover, animations, digital stories, simulations, and lecture videos were developed and prepared through some programs. In addition, some of the augmented reality applications were exemplified for the pre-service teachers within the framework of social studies curriculum and game-based learning tools were developed. Pre-service teachers were made to prepare samples regarding the use of social media tools (Twitter, Facebook, Instagram) within social studies teaching. They were also urged to prepare web designs for classroom web design. Applications were made for these subjects in the classroom environment. The contents and activities of the videos were presented to five faculty members, who work at the department of educational sciences and who have studies on technology integration in education, in order to receive their opinions. With the faculty members' feedback, the videos and activities were finalized and put into practice. After all subjects were applied in this way, a post-test was implemented to the experimental group.

Data Collection Tools

This study used two data collection tools.

Digital Literacy Scale

The "Digital Literacy Scale" developed by Sulak (2019) was used in the study. The scale development process was conducted with 424 pre-service teachers. Exploratory and confirmatory factor analyzes were used while developing the scale. The exploratory factor analysis results showed that the scale consists of 3 factors and 44 items. Instructional technologies factor of the scale includes 18 items, and the factor loadings of the items varies between .37 and .81; the information communication factor consists of 15 items and the factor loadings differ across .48 and .68; the

technical factor involves of 11 items in total and the factor loadings of the items vary between .51 and .74 (Sulak, 2019). The factors of the scale explain 49% of the total variance. The Cronbach Alpha coefficient was examined in order to determine the reliability of the scale, and the coefficients of the instructional technologies, the information communication and the technical factors were found to be .92, .90 and .91, respectively (Sulak, 2019). In the confirmatory factor analysis performed by Sulak (2019), some of the fit values were at acceptable levels, while others were below the acceptable level. The scale was developed as a five-point Likert type. In this study, the Cronbach Alpha coefficient of the scale was examined, and the Cronbach Alpha coefficient of the sub-dimension titled as instructional Technologies was found .95, the information communication sub-dimension was found.93; technical sub-dimension was found .95 and the whole scale was found .97. The Cronbach Alpha coefficient of .70 and above indicates that the scale is highly reliable (Fraenkel, Wallen & Hyun, 2014).

Digital Pedagogical Competences Scale

The "Digital Pedagogical Competences Scale" developed by Yaman, Aydemir-İleri and Demirtaş (2013) was deployed in this study. The scale development process was conducted with 246 pre-service teachers. Exploratory and confirmatory factor analyzes were used while developing the scale. The exploratory factor analysis results suggested that the scale consists of 3 factors and 19 items. The educational digital pedagogical competence factor of the scale includes 7 items and the factor loads vary between .43 and .84; web digital pedagogical competence factor consists of 5 items and the factor loads differ across .48 and .76; the general digital pedagogical competence factor possesses 7 items in total, and the factor loads of the items vary between .55 and .78 (Yaman, Aydemir-İleri & Demirtaş, 2013). The factors of the scale explain 55% of the total variance. The Cronbach Alpha coefficient was examined to determine the reliability of the scale, and accordingly the coefficients of the factors- educational digital pedagogical competence, web digital pedagogical competence and general digital pedagogical competence- were identified as .89, .81 and .76 (Yaman, Aydemir-İleri & Demirtaş, 2013). As a result of the confirmatory factor analysis performed by Yaman, Aydemir-İleri, and Demirtaş (2013), the fit indices were found at an acceptable level. 5 point likert type gradation was used to express agreement level. In this study, the Cronbach Alpha coefficient of the scale was examined and the Cronabch Alpha coefficient of the educational digital pedagogical competence sub-dimension was found .91, the web digital pedagogical competence sub-dimension was found .89, the general digital pedagogical competence sub-dimension was found .93 and the whole scale was found .95. Based on this result, the scale can be said to be reliable. Necessary permissions were obtained for the data collection tools. Confirmatory factor analysis was performed on both scales and a second level validity study was conducted. For this reason, analyses were made over the total score in the study.

Data Analysis

At first, the data were analyzed to determine as to whether the univariate normality assumption was met. The Shapiro-Wilks test was examined in terms of whether the univariate normality assumption was met or not. Seçer (2015) suggested that the sample should be 50 at most to use the Shapiro-Wilks test. As the number of the pre-service teachers in the experimental group was less than 50, the Shapiro-Wilks analysis result was examined in the present study. As a result of the analysis, the digital pedagogical competence pretest score (S-W:.97, p>.05) and digital literacy posttest scores (S-W:.97, p>.05) of the experimental group demonstrated a normal distribution, while the digital literacy pretest and the digital pedagogical competence posttest scores did not show a normal distribution. Can (2019) suggested that if the Shapiro-Wilks analysis is significant, the skewness and kurtosis coefficients must be examined. As a result of the analysis, the skewness coefficient of the digital literacy pretest score was -1.36 and the standard error was .44, the kurtosis coefficient was 1.45 and the standard error was .85; besides, the digital pedagogical competence posttest score was found to have a skewness coefficient of -1.05 and a standard error of .44, a kurtosis coefficient of 1.45 and a standard error of .85. Can (2019) noted the coefficient of skewness and kurtosis between +1.96 and -1.96 indicates that the data are distributed normally. Based on this reference, the experimental group's digital literacy pretest score and the digital pedagogical competence posttest score showed a normal distribution. Descriptive statistics and MANOVA were used during data analysis. Some assumptions are required to use MANOVA. This study revealed the assumptions that the number of samples were more than the dependent variables, the variance-covariance matrices were homogeneous, the provision of multivariate normality, and the absence of multiple linear connections were met in order to perform MANOVA (Akbulut, 2011; Field, 2009; Pallant, 2005; Tabachnick & Fidell, 2007). Green and Salkind (2013) stated that the effect size value ($\eta2$) for MANOVA is evaluated as such: .01 small, .06 medium and .14 large. The effect size was also mentioned in relevant tables. This analysis could not be performed because the basic assumptions of MANCOVA could not be provided in the analysis of the data.

Results

This section presents the results of the analyses related to the sub-problems of the study separately.

Findings Regarding the Difference between Pretest and Posttest Scores of the Experimental Group

Table 2 depicts the one-way repeated MANOVA (Multivariate Analysis of Variance) results related to whether there was a significant difference between pre-test and post-test scores of the pre-service teachers in the experimental group.

Table 2. One-Way Repeated MANOVA (Multivariate Analysis of Variance) Results of the Experimental Group's Pretest and Posttests

Variable	Test	n	M	SD	df	F	p	η^2	Diff.
Digital literacy	Pretest (A)	28	3.17	.64	1-54	11.29	.00*	.17	B>A
	Posttest (B)	28	3.71	.56					
Digital pedagogical competence	Pretest (A)	28	3.20	.64	1-54	25.2	.00.	.31	B>A
	Posttest (B)	28	4.02	.58					

*p<.05

Table 2 suggests one-way repeated MANOVA analysis results in order to examine the difference between the pretest and posttest scores of the experimental group on digital literacy and digital pedagogical competence. In the one-way repeated MANOVA analysis, digital literacy and digital pedagogical competences scales were dependent variables, while the experimental group's pretest and posttest scores were independent variables. Before executing one-way repeated MANOVA MANOVA, the assumptions of normality, univariate and multivariate extreme values, linearity, multiple correlation problem and homogeneity of variance-covariance matrices were examined and it was found that all these assumptions were not violated. Therefore, the Wilks' Lambda test was analyzed. A statistically significant difference was identified across the pre-test and post-test scores of the experimental group in terms of the combined dependent variables ($F_{(1-54)}$=12.6, p=.00; Wilks' Lamda=.6; η^2=.32). Given the ANOVA results presented in Table 2 for the dependent variables, a significant difference was determined between the experimental group's digital literacy ($F_{(1-54)}$=11.29, p<.05) and their digital pedagogical competences ($F_{(1-54)}$=25.28, p<.05) pretest and posttest scores in favor of posttest scores. The eta square values signified a high level of effect.

Findings Regarding the Difference between the Experimental Group's Pretest-Posttest Scores in Terms of Gender

Table 3 displays the one-way between groups MANOVA results related to whether there was a significant difference between pretest and posttest scores of the pre-service teachers in the experimental group in terms of their gender.

Table 3. One-way Between Groups MANOVA Results Regarding the Difference between the Pretest and Posttest Scores of the Experimental Group in Terms of Gender

Test	Variable	Gender	n	*M*	*SD*	*df*	*F*	*p*	η^2	*Diff.*
Pretest	Digital literacy	Female (A)	17	3.32	.43	1-26	2.45	.13	.08	-
		Male (B)	11	2.94	.84					
	Digital pedagogical competence	Female (A)	17	3.24	.67	1-26	.18	.67	.00	-
		Male (B)	11	3.13	.62					
Posttest	Digital literacy	Female (A)	17	3.88	.58	1-26	4.516	.04*	.15	B>A
		Male (B)	11	3.45	.42					
	Digital pedagogical competence	Female (A)	17	4.09	.58	1-26	.553	.46	.02	-
		Male (B)	11	3.92	.59					

*p<.05

As is seen in Table 3, one-way between groups MANOVA analysis was conducted in order to reveal whether there was a difference between the digital literacy and digital pedagogical competences pre-test and post-test scores of the experimental group in terms of their gender. In one-way between groups MANOVA analysis, digital literacy and digital pedagogical competences scales were dependent variables, while the experimental group's gender was an independent variable. Before executing one-way between groups MANOVA, the assumptions of normality, univariate and multivariate extreme values, linearity, multiple correlation problem and homogeneity of variance-covariance matrices were examined and it was found that all these assumptions were not violated. Therefore, the Wilks' Lambda test was analyzed. No statistically significant difference was identified across the digital literacy and digital pedagogical competences pre-test scores of the experimental group in terms of their gender within the context of the combined dependent variables ($F_{(1-26)}$=1.62, p=.21; Wilks' Lamda=.89; η^2=.11). On the other, a statistically significant difference was found between the digital literacy and digital pedagogical competence posttest scores of the experimental group in terms of their gender within the context of the combined dependent variables ($F_{(1-26)}$=4.11, p=.02; Wilks' Lamda=.75; η^2=.24). Considering the ANOVA results presented in Table 3 for dependent variables, the post-test scores of the experimental group's digital literacy ($F_{(1-26)}$=4.52, p<.05) was determined to significantly vary across their gender in favor of female pre-service teachers. No significant difference emerged in the posttest score of the experimental group's digital pedagogical competence ($F_{(1-26)}$=.55, p>.05) in terms of gender. Taking the eta squared values into consideration, the digital literacy pre-test score had medium effect and the post-test score had high; whereas a low level of effect on digital pedagogical pretest and posttest scores.

Discussion

The scientific and technological developments in the twenty-first century have made an effect on the field of education along with all areas of life. The need for organizing learning-teaching environments has sprung so that individuals can keep up with technological developments in the field of education. In this fashion, the demands of the Z generation will be met. The most prominent feature of Generation Z is their persistent use of digital technology in their daily lives (Polakova & Klimova, 2019; Pousson & Myers, 2018). Thus, this study attempts to develop the Generation Z pre-service teachers' digital literacy and their digital pedagogical competences.

The first problem of the study was constructed to uncover whether there was a significant difference between the digital literacy and digital pedagogical competence pretest and posttest scores of the experimental group. The analysis results demonstrated a significant difference in favor of the posttest scores of the pre-service teachers in the experimental group. Rested on this result, it may be wise to mention that the flipped classroom model applied in the experimental group had a significant effect on the pre-service teachers' digital literacy and digital pedagogical competences. The flipped classroom model is a student-centered teaching-learning approach based on technology. In student-centered approaches, students are both physically and mentally active during the teaching-learning process. What is more, students are responsible for their own learning in student-centered approaches (Bayrakçeken, Doymuş & Doğan, 2015; Flumerfelt & Green, 2013; Foldnes, 2016). Similarly, student-centered activities based on the flipped model were applied to the pre-service teachers in the experimental group in order to enable them to be active in the process and to be responsible for their own learning in the present study. Also, the flipped classroom model allows students to practice in the classroom. Not only students are more active in the classroom but also time is used effectively by the teacher in the flipped classroom model (Aslan, 2021; Bishop & Verleger, 2013). Hence, this study paved the way for the fact that these activities carried out in this way could significantly affect the pre-service teachers' digital literacy and their digital pedagogical competence. In the study conducted by Özdemir (2019), the flipped classroom model was determined to increase pre-service teachers' attitudes towards geometry. Duman (2019) concluded that the flipped classroom model affects the pre-service teachers' academic achievement and their learning motivations. Likewise, the studies carried out by Gua, Tian, and Liu (2018), Erbil (2019) and Zhang (2018) presented that the flipped classroom model increased the students' academic achievement. Based upon these results, the flipped classroom model can be regarded as an effective teaching-learning approach.

The second problem of the study attempted to unveil whether there was a significant difference between digital literacy and digital pedagogical competence pretest and posttest scores of the experimental group in terms of gender. In that event, no significant difference was identified between the digital literacy and digital pedagogical competence pretest scores of the experimental

group, while a significant difference existed between the digital literacy scores posttest scores in favor of female pre-service teachers. The flipped learning activities had more effect on the females' digital literacy than males'. This is a significant result of this study. The concept of gender is generally known to be interpreted in favor of males in Turkey. Parents are usually in favor of men in accessing and using technology (Aslan & Aybek, 2020). As a matter of fact, the finding of the study conducted by Aslan and Aybek (2020) supports this situation, emphasizing a significant difference between the digital literacy levels of the secondary school students in favor of male students. That the pre-service teachers' digital literacy pretest scores were free from any significant difference may indicate that their digital literacy levels are close to one another. However, the emergence of a significant difference between digital literacy posttest scores of the pre-service teachers in favor of females can be interpreted as the activities applied within the scope of the experiment affect female pre-service teachers more than male counterparts. As a matter of fact, in the out-of-class dimension of the flipped classroom model, female pre-service teachers used the instructional management system (Blackboard) to watch the videos. In this case, it can be said that female teacher candidates improve their digital literacy and digital pedagogical competencies.

Conclusion

This study examined the effect of using flipped classroom model in "Instructional Technologies" course on the digital literacy levels and digital pedagogical competencies of prospective social studies teachers. As a result of the research, it was concluded that the flipped classroom model was effective on the digital literacy levels and digital pedagogical competencies of prospective teachers. Planning teaching-learning process based on the flipped classroom model in teacher training institutions may improve the digital literacy and digital pedagogical competencies of prospective teachers. In this way, teachers equipped with 21st century skills can be trained. This leads to the conclusion that technology-based teaching-learning models may be more effective in teacher education. It is thought that the results of this research are very important and that they have made an important contribution to the literature.

Limitations and Suggestions for Future Research

This study was conducted according to one group pretest and posttest design, which is one of the weak experimental designs. This design has significant validity problems (Cohen, Manion & Morrison, 2007). For this reason, while reporting the results of the study using this design, one can claim that the experimental process has an effect on a development, still cannot evaluate this development as an alternative to another application (Tuncer, 2020). In this regard, the researcher claimed that the reason for the significant difference might be the activities based on the flipped classroom model applied to the experimental group, yet this significant effect was not considered as an alternative to another application. In order to overcome this limitation, different activities rather

than the content of the instructional technologies course were applied by the researcher. However, this limitation can be eliminated by creating a control group together with the experimental group and performing covariance analysis, in future experimental studies. Another limitation of the study is the disuse of qualitative data collection tools within the study. Qualitative data collection could have made a contribution to the validity and reliability of the study. However, qualitative data collection tools were not used by the researcher as the activities applied during the study process took forever. In later studies, in-depth researches will also be used in the literature by using qualitative data tools.

Suggestions

Based upon the results, various recommendations were provided:

1. The results showed that the flipped classroom model had a significant effect on the digital literacy and digital pedagogical competence of the pre-service teachers in the experimental group. On this subject, it is recommended to apply the flipped classroom model in teacher training programs. In this way, pre-service teachers' digital literacy and their digital pedagogical competence can be developed, and pre-service teachers appropriate for the 21st century can be raised.

2. Experimental studies may be conducted on the flipped classroom model in different teacher training programs and courses.

3. This study deployed one group pre-test and post-test experimental design. It is advisable that controlled experimental designs be used in the experimental studies.

4. Conducting studies on which different models and designs such as case study, mixed research model, action research will be applied for examining the effect of the flipped classroom model on the pre-service teachers' digital literacy and digital pedagogical competence will contribute to the relevant literature.

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Analysis of 2015-2018 Life Studies Curricula Objectives Based on Marzano and Kendall Taxonomy

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Abstract

The curriculum that changes according to the age conditions helps the individual adapt to society. One of the programs created in this context is the life studies teaching program. The objectives of the curriculums prepared gain importance in this context. This study aims to examine the 2015 and 2018 life studies curricula according to the Marzano and Kendall taxonomy; the document review method has been used. The objectives and explanations of the 2015 and 2018 life studies curricula, which were accepted by the Ministry of National Education, Board of Education and Discipline, have been examined as a document. For the analysis of the research data, the form objectives created by Marzano and Kendall have been used for evaluation. According to the results, 2015 and 2018 life studies teaching programs are generally included in the cognitive system according to Marzano and Kendall's taxonomy. The objectives in the self-system are insufficient. In addition, while there is an objective in the 2015 curriculum in the metacognitive system, there is no objective in the 2018 curriculum. In the context of knowledge, the 2015 and 2018 curricula' objectives include mental procedures and psychomotor procedures more than the information area. However, both 2015 and 2018 curriculum outcomes focus on mental procedures and psychomotor procedures of generally retrieval and comprehension levels.

Keywords: Life Studies Curriculum, Education Taxonomy, Marzano and Kendall Taxonomy.

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Introduction

The changes that have occurred globally in the last century also give rise to social changes. Raising individuals that can adapt to the changes become important individually, socially and globally. This situation highlights the importance of education. With its dynamic structure, education makes it possible to raise individuals that adapt to the changes. One of the curricula that were affected by changes and transformations is life studies curricula which is taught in the first three years of primary school.

Life studies curricula has been constituted withing the framework of collective teaching principle in accordance with child developmental characteristics in the republican era. (Ministry of national education [MoNE], 2005). The Life studies course has been constituted in 1926 within the framework of the opinions of the experts of ''Nature Study'', ''Agriculture and Public Health'', ''The Principle of Geography and History'', ''Musabahat-ı Ahlakiye and Malumat-ı Vataniye'' courses (Cicioğlu, 1985, p. 95) with the principle of collective teaching. Life studies, which were constituted in accordance with developmental features through the blending of different lessons, is expressed as a lesson that prepares the child for life, leads them to be a good person through learning by doing and equips them for the higher education institution (Karabağ, 2009, p. 4). It can also be regarded as a lesson that enables the child to have correct and sound knowledge about his or her environment and the world from an early age and to develop good habits and skills that are necessary for adapting to environment by making him or her analyze the societal and cultural environment in which he/she lives in (Binbaşıoğlu, 2003, p. 36). MoNE (2005); defines it as a lesson that were designed for the child to recognize both himself/ herself and the world and society in which he/she exists. As indicated by the definitions, life studies course is specified to be a lesson that prepares the children for the higher education institution and enables them to recognize themselves, their surroundings and nature by taking the child developmental features into account at first. Therefore, it could be said that life studies curricula become crucial for child.

The first and the most prominent element of life studies curriculum is ''Objective'' which is the case for curricula. ''Objectives'' which provide answers for the question "why do we teach?", have been used as ''goal'' and ''purpose'' within the framework of adopting the constructivist approach with the 2005 curricula (Ayvacı, Alev & Yıldız, 2014). Objectives explain the curriculum output and provides a vision for the future (Chatterjee & Corral, 2017). Ornstein and Hunkins (2016, p. 319) states that objectives involve a specific expression or certain behavioural outputs. In this context, in the objectives; students need to have the qualities that are expected to be acquired through planned or regulated experiences or students need to have qualities which are suitable to be explained as behavioral change or behaviour (Akpınar, 2010, p. 73). The objectives that will be created should have a value and not be simple. In other words; objectives may not be demonstrated or learnt in a good level unless they don't make sense for general society and individual (Ornstein & Hunkins,

2016, p. 319). Therefore, the objectives to be created are considered to be important. Within this context, different taxonomies have been generated in the field of education to make it easy for the curriculum designers and practitioners.

Created for the objectives to be aligned, the taxonomies provide a special framework and persistence for the objectives (Anderson & Kratwohl, 2001, p. 4). The taxonomy that was created by Benjamin Bloom could be said to be most famous one among other developed taxonomies. It could be said that the bloom taxonomy, which helps provide an answer for the question "What kind of changes will be observed in students at the end of the teaching", receives much criticism (Küçükahmet, 2000, p. 14). One of the criticisms that is received is the simplification of the relationship between thought and learning (Furst, 1994). Another criticism is the result that the difference between the upper and lower levels is not supported by researchers even though it separates teaching from a simple, unidimensional and behaviourist structure (Marzano & Kendall, 2007, p. 8). Within this scope, a new taxonomy has been developed by considering the criticisms despite the fact that taxonomy was renewed by Anderson and Kratwohl (2001, p. 4). The new taxonomy is two-dimensional and is shown in figure 1.
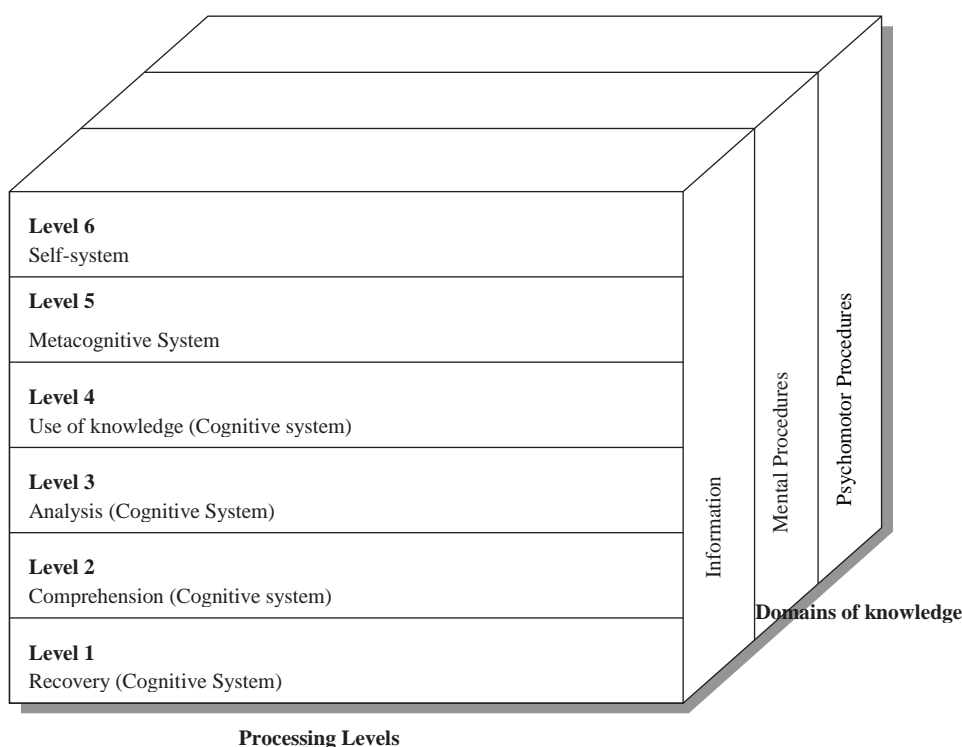
Figure 1. Marzano and Kendall's Taxonomy of Educational Objectives (2007, p. 13)

According to the Figure 1 where Marzano and Kendall's Taxonomy is shown, there are two dimensions which are mental procedure levels and domains of knowledge. "Domains of knowledge comprises of three fields which are information, Mental Procedures and Psychomotor Procedures. Domains of knowledge provides information about the quality of the objectives. Information field is

also called declarative information. Declarative information contains the regulation of the ideas which includes principles and generalizations and the details that includes words, facts and time series. Mental procedures, on the other hand are called ''procedural information''. Procedural information comprises of two components which are macro-procedures and skills that involves simple rules, algorithm and tactics. While the information or the declarative information is considered as an answer for ''what'', mental procedures or procedural information is the answer for ''how to do''. Psychomotor operations, on the other hand, are the physical operations that the individual makes use of to participate in daily activities. Psychomotor procedures are categorized as skills that involve simple combinational procedures and procedures that involve complex combinational procedures (Marzano & Kendall, 2007, p. 23-32). To sum up, mental and psychomotor procedures focus on being productive, whereas the information field of domain of knowledge is based on propositions.

Level 6, which is another component of taxonomy and is considered to be mental procedures, consists of three different parts. While the first one is cognitive system that contains the levels of recovery, comprehension, analysis and use of knowledge; the other two parts are metacognitive and self-system (Marzano &Kendall, 2007, p. 35). Thus, these systems, levels, sub-dimensions and the qualities of these levels are shown in Table 1.

Table 1. Marzano and Kendall Taxonomy based on Systems and Levels

Procedures (Systems)	Sub-dimensions	Qualities
SELF-SYSTEM	Examining motivation	The student can determine the motivation level and the reasons of the level to improve informational, mental and psychomotor procedures.
	Examining emotions	The student can determine emotional response levels and the reasons of responses of informational, mental and psychomotor procedures.
	Examining efficacy	The student can determine his/her own efficacy level and question what lies behind this perception to learn informational, mental and psychomotor procedures.
	Examining importance	The student can determine the importance of informational, mental and psychomotor procedures for himself and question what lies behind this perception.
METACOGNITIVE SYSTEM	Monitoring Accuracy	The student can determine the degree of accuracy for informational, mental and psychomotor procedures.
	Monitoring Clarity	The student can determine the degree of clarity for informational, mental and psychomotor procedures.
	Process Monitoring	The student can monitor the process oriented towards the purpose that were formed according to informational, mental and psychomotor procedures.
	Specifying Goals	The student can prepare a plan to reach the goal by creating goals based on informational, mental and psychomotor procedures.

COGNITIVE SYSTEM	KNOWLEDGE UTILIZATION	Investigating	The student can use informational, mental and psychomotor procedures or carry out research about them.
		Experimenting	The student can use informational, mental and psychomotor procedures to generate and test hypotheses or create and test hypotheses about informational, mental and psychomotor procedures.
		Problem-Solving	The student can use informational, mental and psychomotor procedures to solve problems or solve the problems about informational, mental and psychomotor procedures.
		Decision-Making	The student can use informational, mental and psychomotor procedures in decision-making or make decisions about informational, mental and psychomotor procedures.
	ANALYSIS	Specifying	The student can specify the logical results of informational, mental and psychomotor procedures.
		Generalizing	The student can generate new principles and generalizations based on informational, mental and psychomotor procedures.
		Analyzing the mistake	The student can identify the mistakes in the presentation or utilizations of informational, mental and psychomotor procedures.
		Classifying	The student can identify the upper and lower categories which informational, mental and psychomotor procedures depend on.
		Matching	The student can identify the important similarities and differences about informational, mental and psychomotor procedures.
	COMPREHENSION	Symbolizing	The student can present the critical and crucial elements of informational, mental and psychomotor procedures in a symbolic way.
		Integrating	The student can identify the basic structure and critical aspects of informational, mental and psychomotor procedures.
	RETRIEVAL	Executing	The student can fulfill the procedures without a major mistake. However, he/she may not understand how and why the procedures have occurred.
		Recalling	The student may know the properties of knowledge; yet may not understand its structure or break it down into its important and critical components.
		Recognizing	The student may confirm the knowledge; yet may not be able to understand the structure of it and break it down to its import and critical components.

Source: Marzano and Kendall (2008, p. 4-5)

It could be said that this developed taxonomy involves hierarchical thinking structures in the classification of the objectives in education. Stating that the objectives can be evaluated within the scope of the sub-dimensions of six mental processes and three components of the domains of knowledge, Marzano and Kendall's (2007, p. 14) self-system, which is the fifth level of the three

systems, establishes a bond between the determination of beliefs, attitudes and goals and the motivation of the individual. Metacognitive system on the other hand, is about fulfilling a task and is closely related to the self-system. As a matter of fact, these two systems can be acknowledged as the indicator of the level of motivation for the fulfillment of the tasks (Marzano, 2001, p. 11-12).

Cognitive system consists of recovery, comprehension analysis and use of knowledge levels and is different from Bloom's taxonomy as stated by Karadağ and Kaya (2017). As a matter of fact, although each level has sub-dimensions, it is clear that skills are emphasized in the level of using knowledge, which is the top step of cognitive system. As a matter of fact, the 2009, 2015 and 2019 curriculums have been discussed on the basis of basic life studies since the 2005 life studies curriculum. Decision-making, problem-solving, questioning and investigating in this step are the skills that are aimed to be acquired. In this context, analyzing the life studies curriculum objectives will enable both the knowledge and skill dimensions of the curriculum to be dealt with according to Marzano and Kendall Taxonomy. Besides, considering that the objectives, which are the most important parts of the curriculum, are directory in the implementation and evaluation of the curriculum, it also gains importance in the evaluation of the 2015 and 2018 life studies curricula according to the Marzano and Kendall Taxonomy. This is because it is indicated that there is not much a of a difference between the objectives of 2018 life studies curriculum and 2015 life studies curriculum (Yıldırım, 2020). In addition, it is hoped that the analysis of the objectives in the life studies curriculum, which aims one to know themselves and adapt to the society they live in, according to the Marzano and Kendall taxonomy will be a guidance for the experts who prepared the curriculum for the mental procedures and domains of knowledge of the objectives .It is thought that this research will give an idea to the field experts about the distribution of the objectives of life studies teaching, the content, learning-teacher process and the dimensions of evaluation and the suitability of the objectives for the students. Also, it is hoped that it will be a guidance for the classroom teachers who implement the curriculum by preparing lesson and daily plans and play a role in the creation, organization and evaluation of the curriculum about the knowledge, skill and affective dimensions of the objectives. As a matter of fact, Marzano and Kendall Taxonomy is not only a categorization of the objectives; it could also be used to evaluate whether student can fulfill the objectives or not.

In this study, which analyzes the distribution according to the Marzano and Kendall taxonomy, answers to the following questions have been sought:

- What is the distribution of the objectives of the 2015 and 2018 life studies curriculums according to the Marzano and Kendall taxonomy? How are the objectives are distributed according to mental procedures and domains of knowledge?
- What is the distribution of the objectives of the 2015 and 2018 life studies curricula in terms of levels of grade according to Marzano and Kendall Taxonomy?

Method

Research Model

The document review method has been used in this study, which aims to analyze the first second and third grade objectives according to Marzano and Kendall Taxonomy. Document review is the examination of books, magazines, newspapers, etc. that contain information about the phenomenon or facts aimed in the research and it is also the examination of the sources such as movie, archive that are suitable for the subject of the research (Yıldırım & Şimşek, 2013, p. 217-219). Document review is used as an independent method as well as being a complementary data tool for other research methods (Kıral, 2020; Bowen, 2009; Hodder, 2000). The reason for using document review in this study is to provide a systematic review of the objectives of the 2015 and 2018 life studies curriculum.

Data Source

In the 2015 life studies curriculum approved and implemented by the ministry of national education, board of education and discipne, a total of 146 objectives and their explanations (MoNE, 2015) were examined, 54 for the first grade, 49 for the second grade and 43 for the third grade. Besides, 53 objectives and their explanations (MoNE, 2018) prepared for first graders, 50 for second graders and 45 for third graders in the 2018 life studies curriculum were discussed.

Data Collection and Analysis

The research data were collected by document review. The documents used in the research were obtained from the 2015 and 2018 life studies curriculums on the website of the Ministry of National Education, Board of Education and Discipline. In the research, a from was prepared to examine the compliance of the objectives with the education taxonomy. In the preparation of the form, a teacher observation form in the book "The New Taxonomy of Educational Objectives'' which includes information about taxonomy by Marzano and Kendall (2007) and the book "Designing A New Taxonomy of Educational Objectives was used. Since the taxonomy is two-dimensional, the prepared form was prepared in two dimensions in accordance with the processes, sub-dimensions and domains of knowledge and is shown in Table 2.

Table 2. Marzano and Kendall Taxonomy Evaluation Form

Procedures (Systems)	Sub-dimensions	Domain of knowledge		
		Knowledge	Mental Procedures	Psychomotor Procedures
SELF-SYSTEM	Examining motivation			
	Examining emotions			

		Examining efficacy
		Examining importance
	METACOGNITIVE SYSTEM	Monitoring Accuracy
		Monitoring Clarity
		Process Monitoring
		Specifying Goals
	KNOWLEDGE UTILIZATION	Investigating
		Experimenting
		Problem-Solving
		Decision-Making
COGNITIVE SYSTEM	ANALYSIS	Specifying
		Generalizing
		Analyzing the mistake
		Classifying
		Matching
	COMPREHENSION	Symbolizing
		Integrating
	RETRIEVAL	Executing
		Recalling
		Recognizing

According to Table 2 in which the evaluation form of Marzano and Kendall Taxonomy is shown, there are informational, mental and psychomotor procedures that include the domains of knowledge of the objectives and cognitive, meta-cognitive and self-system where mental procedures are handled. While evaluating the objectives, the level was determined by the explanations about the mental procedure as shown in Table 1. In addition, the domain of knowledge was created by determining the area of the objective in knowledge, mental and psychomotor procedures. This is how a table was created according to the mental procedure of the objective and the domain of knowledge. For instance; in the recognizing stage, which is the sub-dimension of the retrieval level, an objective is discussed in a domain of knowledge, mental procedures or psychomotor tasks. In other words; the objective "Participates in an in-class meeting event." can be handled in the sub-dimension of recognizing based on the description ''The student will be able to verify the knowledge; yet may not understand the structure of it and break it down into its important and critical components.''. Since it includes a physical activity as a domain of knowledge and it is on the area of psychomotor procedure,

this objective is in the recognizing sub-dimension of the retrieval level and is discussed in the area of psychomotor procedures as a domain of knowledge.

For the codification, it was coded as ''class level, unit number, objective number'' according to the MoNE (2015) explanations. To illustrate with an example; in the codification of "1.2.3.", "1'' is class level", "2'' is unit number and ''3'' is objective number. Therefore, the declared objective demonstrates the third objective in the second unit of the first-grade life studies curriculum.

To establish reliability in the study, multiple analysis triangulation was practiced. Multiple analysis triangulation is the analysis of the same qualitative data and the comparison of the findings by two or more researchers (Patton, 2018, p. 560). In this context, in accordance with the form created, the objectives have been evaluated by the researcher and a classroom teacher. Miles and Huberman (1994, p. 64) coding reliability formula has been used for the distribution made by the coders. The indicated formula is as follows:

$$\text{Reliability} = \frac{Consensus}{Consensus + disagreement}$$

As a result of the analysis, a consensus was achieved in 145 objectives out of 146 objectives of the 2015 life studies curriculum and it was concluded that the distributions created were 99% similar. A consensus was achieved in 146 objectives out of 148 objectives of the 2018 life studies curriculum and it was concluded that the distributions created were 99% similar. The reasons for the objectives for which the similarity could not be achieved were discussed and reevaluated by the coders within the framework of taxonomy explanations and discussed with a common consensus.

Results

In this study, which studies the 2015 and 2018 life studies curriculum objectives according to the Marzano and Kendall Taxonomy, the findings found according to the grade levels of the objectives are presented. The distribution of the objectives in the 2015 life studies curriculum according to the Marzano and Kendall Taxonomy is shown in Table 3.

Table 3. Distribution of the objectives in the 2015 life studies curriculum according to the Marzano and Kendall Taxonomy

Procedures	Sub-dimensions	Domain of knowledge			Total
		Knowledge	Mental Procedures	Psychomotor Procedures	
SELF-SYSTEM	Examining motivation	1.1.14	2.1.2 3.1.5		3
	Examining importance	2.5.4 2.5.5	1.2.4. 3.5.5 3.1.4	2.3.5 3.5.6	7

Category	Subcategory						Count
METACOGNITION	Process Monitoring	2.1.8					1
KNOWLEDGE UTILIZATION	Investigating				3.5.3		1
	Problem-Solving	3.4.10 3.6.7	3.2.6 3.4.7	3.4.8 3.4.9	1.6.8 2.6.10 3.1.3	3.6.1 3.6.6	11
	Decision-Making	1.2.6			1.3.3 2.1.4	2.4.4	4
ANALYSIS	Specifying	2.6.3	2.6.1	3.6.4	2.6.9		4
	Classifying		1.3.7	3.5.4			2
	Matching		3.2.5 3.5.8	3.6.2 3.6.3			4
COMPREHENSION	Symbolizing				3.1.1	3.2.1	2
	Integrating	1.3.8 2.4.3 2.5.6 3.4.1	1.3.11 1.5.6 2.5.7 2.6.2	2.6.6 2.6.8 3.5.9	1.1.2 1.1.8 1.1.11 1.2.2 1.3.4 1.3.5 2.1.5	2.1.6 2.1.9 2.1.11 2.3.2 3.1.6 3.3.2 3.3.3	25
RETRIEVAL	Executing		1.3.12 2.3.7 3.3.5		1.1.6 1.1.7 1.1.12 1.2.1 1.3.1 1.3.2 1.4.1 1.4.2 1.4.3	2.1.10 2.3.3 2.4.1 2.4.2 2.4.5 3.2.2 3.2.3 3.3.1 3.6.5	21
	Recalling	1.5.4 1.6.1 1.6.2 2.3.4	1.5.2 1.5.3 1.6.4 2.2.2 2.2.4 2.2.6	2.3.1 2.4.7 2.5.1 2.6.7 3.2.2 3.2.4 3.5.2	1.2.5 1.6.3 1.6.5 1.6.6 2.1.1 2.1.3 2.1.7 2.2.3	2.5.2 2.5.5 2.6.5 3.1.2 3.3.4 3.5.7	31

Recognizing	1.1.3 1.1.4 1.1.5 1.1.9 1.3.6 1.4.4 1.4.7	1.5.1. 1.5.7 1.6.7 2.2.1 2.4.6 3.4.2 3.4.6	1.4.5 1.4.6. 2.2.5 2.3.6.	2.4.8 3.4.3 3.4.4 3.4.5	1.1.1 1.1.10 1.1.13 1.3.9	1.3.10 2.5.3 2.6.4 3.5.1	30
Total	30		48		68		146

In Table 3, in which the distribution of the 2015 life studies curriculum objectives according to the Marzano and Kendall Taxonomy are shown, it is seen that the highest objective is at the ''retrieval'' and ''comprehension'' level of the cognitive system among the 3 systems in which mental procedures are discussed. As a matter of fact, there are 30 objectives in the ''recognition'' sub-dimension of the ''retrieval'' level, 31 in the comprehension sub-dimension and 21 in the ''execution'' sub-dimension. In other words, there are 83 objectives in total at the ''retrieval'' level. At the ''comprehension'' level, 25 of the objectives are in the ''integrating'' sub-dimension while 2 of the objectives are in the ''symbolizing'' sub-dimension. Again, there are 10 objectives in total at the ''analysis level''. However, there are 16 objectives in total at the level of ''knowledge utilization'' that includes the sub-dimensions of decision-making (4), problem-solving (11) and investigating (1), which are aimed to be acquired as a skill in the curriculum. While there is one objective in the other system, ''metacognitive system'', there are 10 objectives in the self-system.

In short, when the three systems of the Marzano and Kendall Taxonomy are considered, 135 objectives are located in the cognitive system and are generally at the first and second levels. However, it is seen that objectives are decreased in number at higher levels. In addition, it can be said that the objectives in the curriculum as a skill and at the level of knowledge utilization are insufficient. However, there are no objective related to the ''generalizing'' and ''analyzing the mistake'' sub-dimensions of level three which is analysis procedure, the ''experimenting'' sub-dimension of Knowledge utilization level, the sub-dimensions of Metacognitive System such as ''Monitoring Accuracy'', ''Monitoring Clarity'' and ''specifying Goals'' and the sub-dimensions of Self-system such as ''Examining motivation'' and ''Examining efficacy''. As can be seen, the number of objectives decreases at the upper levels of the cognitive system. As a matter of fact, when the upper levels of the cognitive system are investigated, it is seen that it makes the student cognitively active in the procedure. It can be said that this situation negatively affects the student's learning to learn and her process of applying what she has learnt to daily life. Considering that the inadequacy of the objectives of the metacognitive system and self-system that emphasizes the motivation and affects the attitude of the individual towards the course will be effective on learning, it is thought that the program is insufficient in this context.

When mental processes are analyzed in the context of grade levels, it is seen that first-grade objectives are distributed in the sub-dimensions of recognizing (17), recalling (10) and execution (10) of the retrieval level and in the sub-dimension of integrating of the comprehension (15) level. The second-grade objectives are mostly collected in the sub-dimensions of recognizing (15) of the retrieval level and integrating sub-dimension (11) of the comprehension level. However, there are objectives at higher levels. Third grade objectives are difficult to explain in one level and sub-dimension. That's because, the third-class objectives at all levels are distributed in a normal way compared to the first and second-grade objectives. While the objectives in the first and second grades are generally at the lower levels, the objectives in the third grade are in the upper steps of the cognitive, metacognitive and self-systems. In this context, it can be said that the objectives of the first and second grade are insufficient, but that they are sufficient when they are distributed in all three systems the third grade.

When evaluated in the context of domains of knowledge; it can be seen that there are 30 objectives in the domain of knowledge, 48 in the field of mental operation, and 68 in the field of psychomotor operation. When examined in terms of grade levels, the first grade has 16 objectives in the domain of knowledge, 10 in the field of mental operations, and 26 in the field of psychomotor operations. Second-year objectives are 9 in the domain of knowledge, 17 in the field of mental operations, and 23 in the field of psychomotor operations. When we consider the third grade, there are 5 objectives in the domain of knowledge, 21 in the field of mental operations, and 17 in the field of psychomotor operations. Supposing that cognitive and psychomotor procedures and the propositions of the domain of knowledge are productive, it can be said that the program enables students to be productive. However, it is seen that the objectives related to the domain of knowledge are mostly in the recognizing sub-dimension, while the objectives related to mental operations are in the comprehension sub-dimension. Although the psychomotor operations are mostly found in the execution sub-dimension, the number of objectives in comprehension and combining steps is in the majority. Since the domains of knowledge in the curriculum are located at the lower levels of the cognitive system, this situation gives rise to the limitation of the student's being productive. Although this situation makes the curriculum students active, it can be said that it impedes their creativity.

The distribution of the objectives in the 2018 Life Studies Curriculum according to the Marzano and Kendall Taxonomy is shown in Table 4.

Table 4. The distribution of the objectives in the 2018 Life Studies Curriculum according to Marzano and Kendall Taxonomy

Procedures	Sub-dimensions	Knowledge		Mental operations		Psychomotor operations		N
SELF-SYSTEM	Examining Emotions	2.4.5		1.1.14 1.1.15	2.1.2 2.1.6	2.2.7 2.5.7	3.1.7	8
	Examining importance	1.1.16 2.5.2 3.2.2	3.6.1	1.5.6 1.5.7 1.6.3	1.6.4 2.6.2	3.6.5		10
KNOWLEDGE UTILIZATION	Investigating	2.5.3 3.5.8	3.5.9 3.6.2	1.6.7 2.2.6 2.5.6	2.6.9 3.1.10 3.5.6	3.5.3		11
	Problem-solving	3.4.3		2.6.7 3.1.9	3.2.6 3.4.6	3.5.7		6
	Decision-making			1.2.6 2.2.5	2.3.7	1.1.17 2.1.3	2.1.4 2.2.8	7
ANALYSİS	Specifying	3.5.4		3.1.6 3.3.5	3.4.2 3.6.6	1.4.4 1.6.2 2.6.4	2.1.11 3.3.3 3.3.4	11
	Classifying	2.4.1		1.6.5	2.6.1			3
	Matching	2.5.4 2.5.5		1.1.2 2.3.1 3.1.2	3.1.3 3.2.1	2.1.1		8
COMPREHENSION	Symbolizing					3.1.5	3.2.3	2
	Integrating	3.1.4		1.4.7 1.5.4 2.2.9 2.5.8 2.6.3	3.1.1 3.2.7 3.2.8 3.6.4	1.1.11 1.3.3 1.3.4 1.3.7 1.4.2 1.4.3 1.6.1	2.1.7 2.1.8 2.3.2 2.4.2 3.3.1 3.3.2 3.5.5	24
RETRIEVAL	Executing			1.1.8 1.2.7 3.2.5		1.1.3 1.3.1 1.3.5 1.4.1 2.1.9 2.2.1	2.1.10 2.4.3 2.4.6 3.1.8 3.4.7	14
	Recalling	2.6.5 3.4.4 3.4.5		1.2.2 1.3.2 1.5.2 1.6.8	2.2.4 2.3.6 2.6.6 3.5.2	1.1.10 1.1.12 1.1.13 1.2.3 1.2.4 1.2.5 2.3.3	1.3.6 1.6.6 2.1.5 2.6.8 3.2.4 3.4.1 3.6.3	25
	Recognizing	1.1.5 1.1.7 1.1.9 1.4.5 1.5.1	1.5.5 2.2.3 2.3.4 2.4.4	1.1.6 1.5.3	2.2.2 2.3.5 3.5.1	1.1.1 1.1.4 1.2.1	1.4.6 2.5.1	19
N		27		58		63		148

In Table 4, in which the distribution of the objectives of 2018 life studies curriculum according to Marzano and Kendall Taxonomy is shown, it is seen that the highest amount of objective has been achieved in the cognitive system out of the three systems, where mental

procedures are discussed. Within the cognitive system, there are more objectives at the level of ''retrieval and ''comprehension'' of the distribution of the objectives compared to the other levels. In addition, the first level, "retrieval", has 19 objectives in the recognizing sub-dimension, 25 in the comprehension sub-dimension, and 14 in the execution sub-dimension. In other words, there are 58 objectives in total at the retrieval level. In addition, at the "comprehension" level, 24 of the objectives are in the integrating sub-dimension, while 2 of the objectives are in the symbolizing sub-dimension. However, there are a total of 22 objectives in the analysis process. In the curriculum, there are a total of 24 objectives at the level of "knowledge utilization", which includes decision making (7), problem solving (6) and investigating (11) as sub-dimensions. While there are no objectives in the other system, the metacognitive system, there are 18 objectives in the self-system. Considering the levels of the objectives, the fact that they are mostly at the lowest level of the cognitive system and that there are not objectives related to meta-cognitive system shows that the cognitive procedures of the students are negatively affected and that students are not allowed to regulate their own learning.

When compared to the objectives of the 2015 life studies curriculum, it can be said that the 2018 Life studies curriculum objectives demonstrate a more natural distribution according to the Marzano and Kendall Taxonomy. However, it is seen that the distribution of objectives is generally at the level of "retrieval" and "comprehension" of the cognitive system within the context of mental procedures in both curricula. In addition, while the number of objectives related to the level of application of knowledge specified as a skill in the 2015 life studies curriculum was low, more objectives were included in the 2018 life studies curriculum. However, it is seen that the objectives of the 2018 life studies curriculum are not included in the metacognitive system that allows the individual to regulate their own learning. As a matter of fact, considering the fact that the absence of the objectives related to meta-cognitive system that highlights the motivation level of the individual will also be effective in regulating the students' learning, it is thought that the curriculum is insufficient in this context. However, there are no objectives in the dimensions of "generalizing" and "analyzing the mistake" at the analysis level, "experimenting" at the level of knowledge utilization, and "examining motivation" of the self-system, "examining efficacy". In this context, it is seen that the 2018 life studies curriculum is similar to the 2015 life studies curriculum and it shows that the upper mental procedures are not sufficiently included in the curriculum. In addition, it can be said that it is the deficiency of the curriculum that there are no objectives in 2018 and 1 objective in 2015.

Although it is seen that the objectives in the first grade are mostly distributed in the sub-dimensions of "retrieval" level (12) and comprehension (12), there are objectives at every level when the grade levels are examined. The fact that there are no objectives related to first grade at all levels in the 2015 life studies curriculum shows that the 2018 curriculum was organized in this context. When the second-grade objectives are considered, it is seen that the objectives are distributed in the sub-dimensions of recognizing (6), recalling (7) and execution (5) of the level of "retrieval" and in the

dimension of combining (7) of the level of "comprehension". In addition, it is seen that the second-grade objectives include the upper levels of the cognitive system, the metacognitive system and the self-system objectives according to the 2015 life studies curriculum. Although there are objectives in every level and sub-dimension, the third-grade objectives are not collected at a specific level or sub-dimension.

When evaluated in the context of the domains of knowledge; The 2018 life studies curriculum has 27 objectives in the domain of knowledge, 58 in the field of mental operation, and 63 in the field of psychomotor operations. It is seen that the objectives related to the domain of knowledge are generally in the sub-dimension of recognizing (9), while the objectives related to mental operations are mostly found in the sub-dimension of recalling (8) and integrating (9). On the other hand, psychomotor operational objectives are mostly in the sub-dimensions of recalling (14) and integrating (14). When the domains of knowledge are examined in the context of grade levels, there are 7 objectives in the domain of knowledge, 17 in the field of mental operations and 27 in the field of psychomotor operations in the first grade. In the second grade, there are 10 objectives in the domain of knowledge, 19 in the field of mental procedures, and 21 in the field of psychomotor operation. Third grade objectives are 10 in the domain of knowledge, 19 in the field of mental operations, and 15 in the field of psychomotor operations. In the context of domains of knowledge, it can be said that the 2015 life studies curriculum and the 2018 life studies curriculum are similar. In this context, the fact that the objectives of both 2015 and 2018 life studies curricula are mostly at the level of mental and psychomotor operation provide primary school students with more experience; However, the fact that these objectives are at the lower levels of the cognitive system is thought to prevent creativity.

Discussion, Conclusion and Recommendations

Considering that education helps the individual to adapt to the society he lives in, it can be said that the importance of primary school has increased. Educational curriculums are prepared in order for the individual to recognize both himself and the society in which he lives. One of the curricula prepared in this context is life studies, which is taught in the first three years of primary school. It was created in 1926 within the framework of the principle of collective education and was rearranged in 1936, 1948, 1968, 1998, 2005, 2009, 2015 and finally 2018 according to the conditions of the era. It can be said that the distribution of the prepared curriculum objectives will be a guide for the evaluation of the curriculum. In this context, it is considered to be important that the taxonomic distribution of the 2015 and its rearranged version, 2018 curriculum objectives of the life studies curriculum, will provide feedback both to the evaluation of the curriculum and to the preparers and practitioners of the curriculum. In this context, the Marzano and Kendall Taxonomy, which deals with the objectives two-dimensionally, and the objectives of the 2015 and 2018 life studies curriculum have been studied.

When the 2015 life studies curriculum objectives are considered in the context of three levels of Marzano and Kendall Taxonomy, it has been concluded that the objectives are generally included in the cognitive system including the levels of retrieval, comprehension, analysis and knowledge utilization. While there are more objectives at the level of retrieval and comprehension of the cognitive system, it is seen that the sub-dimensions of the level of knowledge utilization such as decision-making, problem-solving and investigating, which are specified as skills within the scope of the curriculum, are not included enough. In the 2018 life studies curriculum, the objectives are mostly at the level of retrieval and comprehension of the cognitive system. It can be said that Eker, Bilgin, and Baykan (2019), who analyzed the 2018 life studies curriculum according to Bloom's taxonomy, are in consensus with the result that the objectives are generally in the cognitive dimension. In addition, the investigating and decision-making sub-dimension, which is included as a skill in the 2018 curriculum, had more objectives compared to the 2015 life studies curriculum. The finding that students do not acquire enough of decision-making and problem-solving skills by Öztürk (2015), who examines the life studies curriculum according to teachers' opinions, supports this situation. As a result of Şenay's (2015) research, it was concluded that the life studies curriculum is not sufficient to develop students' problem-solving and decision-making skills. Again, according to the research conducted by Baysal, Demirbaş- Nemli, Özçelik, and Güneypınar (2020), students' decision-making skills are at a moderate level. In addition, in the study of Güzel, Berberoğlu, Demirtaşlı, Arıkan, and Tuncer (2009) in which the primary school curriculums were analyzed, it was concluded that the students could not acquire the objectives and skills. As a matter of fact, although there are more objectives at the level of application of knowledge in the 2018 life studies curriculum, it can be said that this situation is not capable of improving students' investigating, problem-solving and decision-making skills, which is also supported by the studies in the literature.

While there is one objective in the sub-dimension of process monitoring in the 2015 life studies curriculum regarding the metacognitive system, which is accepted as an indicator of the individual's motivation level and is the other system of taxonomy, there is no objective in the 2018 life studies curriculum. The fact that the individual has knowledge about his/her own cognitive procedures and the objectives of metacognition, which is defined as the ability to manage these procedures, are low in number (Krathwohl, 2002), causes the students not to recognize, think and question the knowledge they have. In addition, it can be said that this process is also negatively affected when it is considered that metacognitive learning begins and develops from the age of three and the individual controls his own learning and memory through metacognitive learning (Karakelle & Şentürk, 2006). As a matter of fact, the lack of objectives in the metacognitive system shows that the curriculum is incomplete when it is considered that the life studies course brings awareness of individual existence (Topses, 2001, p. 5).

While there are 18 objectives in the 2018 life studies curriculum, there are 10 objectives in the 2015 life studies curriculum in the self-system, which is the last system of taxonomy and is considered to be important for establishing a connection between the values, attitudes and beliefs of the individual. It is thought that this situation will affect the motivation and learning of the individual. Lee, Kim, Jin, Yoon, and Matsubara (2017) state that the metacognitive system and the self-system are the basis of provision of learning. However, in the 2015 and 2018 life studies curricula, it is seen that the distribution of the objectives according the three systems of Marzano and Kendall Taxonomy is not balanced and that the cognitive system is emphasized more. Özgüç (2019), who examined the 2009, 2015 and 2018 second grade life studies curriculum within the framework of teachers' opinions, is in consensus with the result that the objectives and skills are not suitable for the cognitive, affective and psychomotor development levels of the students and that the life studies course does not provide enough of opportunities for self-regulation. Karadağ and Kaya (2017), who examined the primary school fourth grade curriculum according to the Marzano Taxonomy, support the finding that the objectives mostly take place in the cognitive system in the context of the curriculums they examined. In addition, when Karacaoğlu (2020) made his taxonomic analysis of the second-grade level of the life studies curriculum, he arrived to the conclusion that the objectives were generally distributed as cognitive and affective. This is in line with the finding of Eker, Bilgin, and Baykan (2019) that the curriculum does not include upper-level steps.

Taking the curriculum into consideration in the context of grade levels, it is seen that there were no first-grade objectives at all levels in the 2015 life studies curriculum. However; that this situation has been regulated in the 2018 curriculum. Considering the second-grade objectives; while there are no objectives for the upper levels of the cognitive system, metacognitive system and self-system according to the 2015 Life studies curriculum, there is only one objective in the 2018 life studies curriculum. Although the third-grade objectives are in every level and sub-dimension in both the 2015 and 2018 life studies curriculum, they are not collected at a certain level or sub-dimension.

When the 2015 and 2018 life studies curricula are considered according to the Marzano and Kendall Taxonomy, it is thought that the higher amounts of objectives in mental and psychomotor processes will increase the effectiveness of the curriculum. As a matter of fact, the fact that the objectives of domains of knowledge are at the level of retrieval and comprehension of the cognitive system in both the 2015 and 2018 life studies curriculum prevents students from being creative. The finding of Eker, Bilgin, and Baykan (2019) also supports this situation. However, the conclusion of Ulum (2017), who dealt with the primary school Turkish curriculum according to Bloom's Taxonomy, that the curriculum generally handled low-level skills and did not include high-level mental skills, and the conclusion of Değirmenci (2018) that primary school 4th grade course objectives were insufficient in terms of metacognitive knowledge and the conclusions of Başar (2005) that the educational objectives in the 2005 primary school 4th grade science and technology curriculum are not sufficient

for students to reach high-level cognitive, affective and psychomotor learning levels are in line with the findings of the research.

The following recommendations can be made according to the results obtained:

- Regarding that the objectives for the cognitive system, which is the first system of the mental procedure, are generally at a low level, the curriculum should be revised in order for students to be able to acquire skills at the higher level of the cognitive system.

- It could be said that the regulation of the curriculum that is oriented towards Metacognitive and Self-system objectives, which are accepted as indicator of students' motivation levels and are based on questioning their own knowledge, will be effective in motivating students for the Life Studies course and acquiring skills.

- It is thought that the equal distribution of the objectives of both the cognitive system and the metacognitive and self-system at grade levels will support the cognitive and affective development of students.

- Considering the fact that Marzano and Kendall Taxonomy can also be used for student evaluation, it is thought classroom observations, examination of student product files and textbooks will be of guidance in the evaluation of the life studies curriculum.

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Social Skills Scale Development Study

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Abstract

The aim of this study is to develop a scale for assessing teachers' social skill levels. A total of 1064 teachers, including 243 kindergarten teachers, 465 primary school, 67 social studies, 113 Turkish teachers, 80 science teachers, 96 mathematics teachers, participated in the research voluntarily. "Social Skills Scale (SSS)" consists of a 5-point Likert type consisting of 36 items. As a result of the factor analysis varimax transformation, the scale items are collected under seven sub-dimensions and explain 54.73% of the total variance. The sub-dimensions determined are named as: 1) Social cohesion 2) Self-control 3) Verbal communication 4) Cooperation 5) Participation 6) Nonverbal communication 7) Conflict resolution.

Keywords: Social Skills, Teacher, Scale Development, Validity, Reliability

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Introduction

Accepted by the society, facilitating social integration, initiating and maintaining communication in the process of establishing positive communication and relations with people, verbal and nonverbal communication skills, conflict resolution skills in problem and conflict situations, self-control skills such as behavior, empathy and being open to criticism are social skills (Riggio, 1986). In addition, social skills can also be expressed as the individual's revealing appropriate behavior patterns in line with the goals set (Morgan, 1998).

Social skills consist of learned behaviors. It is possible for the individual to be accepted socially and to have a positive attitude in interpersonal relations with the person's social skills. In the social development process, it has features such as developing and changing social skills in the changing social environment of the person, finding ways of positive interaction in interpersonal relations, developing appropriate behavior for events and situations, and appearing with verbal and nonverbal expressions. (Cartledge & Milburn, 1980).

It is one of the primary responsibilities of teachers to educate people who are part of the social functioning as individuals who are compatible with the society they live in and exhibit positive attitudes in interpersonal relations. The human power that provides social order and continuity can be trained through education. Social integration behaviors that can be gained through education can only be realized with teachers with advanced social skills. In addition to universal values, teachers should not remain unfamiliar with the cultural values and social structure of the society they belong to and should be a model in this regard (Bacanlı,1999).

Teachers are the most important people to ensure the social development of students (Eryaman, 2007; Pavri& Monda-Amaya, 2001; Smith & Smith, 2000). Teaching social skills is one of the skills that teachers should give students, especially starting from the pre-school period, considering the social and individual needs of students in all educational institutions.

While teachers support the social development of students, they also gain social skills for students. In this process, teachers become role models by demonstrating their own social skills inside and outside of the school. In addition, they can contribute both directly and indirectly by supporting social skills development in educational institutions, organizing appropriate activities using strategies and methods, and creating appropriate environments that will establish a ground for the transformation of these skills into behavior.

In teaching social skills, the teacher plays an important role in and outside the classroom with activities that support peer interaction, collaboration, problem solving, and the development of expression skills.

In the studies conducted, it is seen that teachers consider social skills teaching important and argue that social skills should be a part of the applied curriculum. Bain and Ferris (1991) include teachers' views on the priority of social skills education and its need to be included in education programs. In addition, studies that reveal teachers' lack of knowledge and experience in the field of social skills are included in the literature. In their study, Cheney and Barringer (1995) included the opinions of teachers about their individual deficiencies in the field of social skills and their inadequacy in supporting students' social skills. There are similar studies in which teachers expressed their deficiencies in the field of social skills (Lane & Wehby, 2002).

Teachers and families are among the most effective people who shape the social development of students. For this reason, it is important for teachers to have high social competencies and social skill levels individually and to grow up in dimensions that are deemed inadequate (Buchanan et al., 2009). Starting from this point of view, it is necessary to reveal primarily the social skill levels that teachers have individually in the process of social skill acquisition. In order to reveal teachers' social skills levels, "Social Skills Scale", developed by the researcher, is a measurement tool, and it is thought to contribute to the field with its features such as having up-to-date features, high validity and reliability. Teachers whose Social Skills level is revealed with this measurement tool, realize the dimensions they are sufficient or their deficiencies. By this means, they will be able to perform activities to increase their social skill levels with supportive studies in the areas they lack (Pınar, 2009).

When the international literature is examined, there are measurement tools for assessing the social skills of children and adolescents in the field of social skills, but there are no current studies to determine the social skills of adults and especially teachers (Teague, 2014). In this context, social skill levels can be measured with a measurement tool with high validity and reliability, which is updated and developed to evaluate the social skills of individuals in our country. Deficiencies can be identified and studies can be carried out to develop social skills.

Most of the measurement tools used in studies in the field of social skills in our country are not up-to-date and there are no measurement tools that reveal the social skill levels of adults and especially teachers. This fact reveals the importance of the measurement tool presented in the study.

Method

Descriptive survey model is used in the study. Descriptive survey, which tries to describe the events or situations by revealing the way they exist and with quantitative or qualitative research methods, constitutes the model of the study (Karasar, 2008). The development process of Social Skills Scale (SSS) has been carried out by following the stages which are preparation of scale items, conducting the content validity study of the items, performing trial application, conducting construct

validity and reliability studies of scale items. SPSS and LISREL programs are used for validity and reliability analysis of the study.

Sampling

It is considered appropriate that the sample size selected in scale development studies should be between 5 and 10 times the number of items determined. The research was applied to 1064 teachers working in public schools in Çanakkale city center and its districts. There are 244 preschool teachers, 453 classroom teachers, 111 Turkish teachers, 95 Mathematics teachers, 79 Science teachers and 72 Social Studies teachers.

It is stated that the number of samples to be selected from the range between 5000-50000 values should be at least 381 with an allowable error limit of 0,05 (Andersan & Arsenault, 1998). 1064 teachers from six different branches were determined by stratified random sampling. In determining the study group, it is based on the statements of Tabachnick and Fidell (2012), for factor analysis, a sample size of 300 is good, 500 is very good, and a sample size of 1000 is excellent. A sample size of 1000 has been reached. Random sampling without determining any probability refers to a stratified random sample selection where there are substrates and groups in a particular population (Pagano & Gouvreau, 1993).

A total of 1064 teachers voluntarily participated in the research, including 600 teachers in the first stage of the study and 464 teachers in the second stage. In the tables below, there are tables showing the sample numbers of teachers by branch, professional year and place of duty.

Table 1. Sample Numbers of Teachers According to Branches

Branch	Sample	
	N	%
Preschool Teacher	244	22.9
Classroom Teacher	463	43.5
Turkish Language	111	10.4
Social Studies	72	6.8
Sciences	79	7.4
Mathematics	95	8.9
Total	1064	100,0

Table 2. Sample Numbers of Teachers According to Years of Professional Duty

Precedence	Number of Teachers according to Years of Duty	%
1-10 years	262	24,6
10-20 years	457	43,0
+20 years	345	32,4
Total	1064	100,0

Table 3. Sample Numbers of Teachers According to Their Places of Duty

Place of Duty	Number of Teachers	%
Center of Çanakkale	468	44,0
Ayvacık	29	2,7
Biga	246	23,1
Gelibolu	124	11,7
Lapseki	87	8,2
Bayramiç	31	2,9
Çan	45	4,2
Yenice	34	3,2
Total	1064	100,0

Item Pool

Before the scale items appeared, the relevant literature was scanned, and Social Skills themed studies were carried out in Turkey and abroad. The behaviors that can be defined as Social Skills were determined and 124 items were included in the scale item pool under different sub-dimensions. The item pool, consisting of positive and negative examples, is submitted to the expert opinion to test the content validity. The scale is prepared in 5-point Likert type and it is scored as (1) Absolutely Disagree, (2) Disagree, (3) Undecided, (4) Agree, (5) Completely Agree.

Expert Opinion (Content Validity)

The scale items put forward by the researchers are submitted to expert opinion in order to evaluate the content validity. In line with the comments and suggestions of three faculty members in the field of Educational Sciences, two lecturers in the field of assessment and evaluation and three lecturers in the field of psychological counseling and guidance, and two teaching assistants from the department of Turkish language, the 87-item scale are made ready for application by removing some items from the 124-item pool.

Factor Analysis

During the development process of the Social Skills Scale, the factor structure of the scale is tested by Exploratory Factor Analysis and Confirmatory Factor Analysis. In the exploratory factor analysis, in order to reveal the conceptual structure of the scale, statistical processes including scale items are carried out in order to test items (Büyüköztürk, 2012). With Confirmatory Factor Analysis, the goodness of fit between the data of the scale and the factor structure is examined. For that purpose, x^2/sd, AGFI, GFI, CFI, RMSEA and SRMR values are examined and evaluations are made on how meaningful it is according to the fit index limits in the subtitle.

The draft scale created in this study was applied to 600 teachers in the first application, and exploratory factor analysis was made on the data obtained. In accordance with the analysis results, the final version of the scale was created with items that provide structure validity. In the second application, the final version of the scale was applied to 464 teachers and confirmatory factor analysis was made.

Reliability Calculation

The reliability of the scale was examined by calculating the Cronbach's Alpha reliability coefficients of all items and sub-dimensions of the scale, and by evaluating the Cronbach's Alpha coefficients and piece-whole correlations during the analysis of the data.

Findings

Generation of the Item Pool

In the study aiming to determine the social skill levels of teachers, social skill behavior expressions were tried to be determined. For that reason, interviews were made with 20 teachers from six different branches by asking open-ended questions on social skills. The related literature, national and international studies were scanned to form the Social Skills behavior statements. Many social skills behavior statements were determined in line with the opinions of field experts. While determining the behavioral expressions, social skills were tried to be contextualised with all dimensions.

The behavioral expressions revealed were reviewed in terms of content, simplicity and understandability and necessary corrections were made. Some items were removed and 124 items were determined. 124 items, created for the scale at the first stage, were presented to domain experts' opinions. The number of items was reduced to 87 items in line with expert opinions and recommendations. The Social Skills Scale (SSS) consists of two parts with 87 items related to personal knowledge and social skills behavior. In the first stage, SSS is applied to 600 teachers who are pre-school, classroom teachers, Turkish, Social Studies, Science and Mathematics teachers.

Table 4. Sample Number of Teachers by Branches

Branch	Sample	
	N	%
Pre-school Teacher	149	24.8
Classroom Teachers	257	42.8
Turkish Teachers	62	10.3
Social Studies	39	6.5
Science	41	6.8
Mathematics	52	8.7
Total	600	100.0

Findings Related to the Validity of the Scale

Exploratory Factor Analysis (EFA) is used to determine the factor structure of the scale and to examine the construct validity in this way. As a result of the Barlett test, it is determined that there is a relationship between variables subjected to (p=0,000<0, 05) factor analysis. As it can be seen in Table 5, as a result of the test it is determined that the sample size (KMO=,60 and over) is sufficient for factor analysis.

Table 5. KMO and Barlett's Test

Kaiser- Meyer-Olkin Measure of Sampling Adequacy		,912
Bartlett's Test of Sphericity	Approx. Chi Square	7513,987
	Df	630
	Sig	,000

As a result of the transaction, it is seen that among the 36 items in the scale; 7 items have a high load value in the first factor, 8 items receive high load value in the second factor, each 5 items have a high load value in the third factor, the fourth factor and the fifth factor, and each 3 items receive high load values in the sixth and seventh factors. It is determined that item factor loads of the scale items range from .47 to .84 and consist of 7 factors.
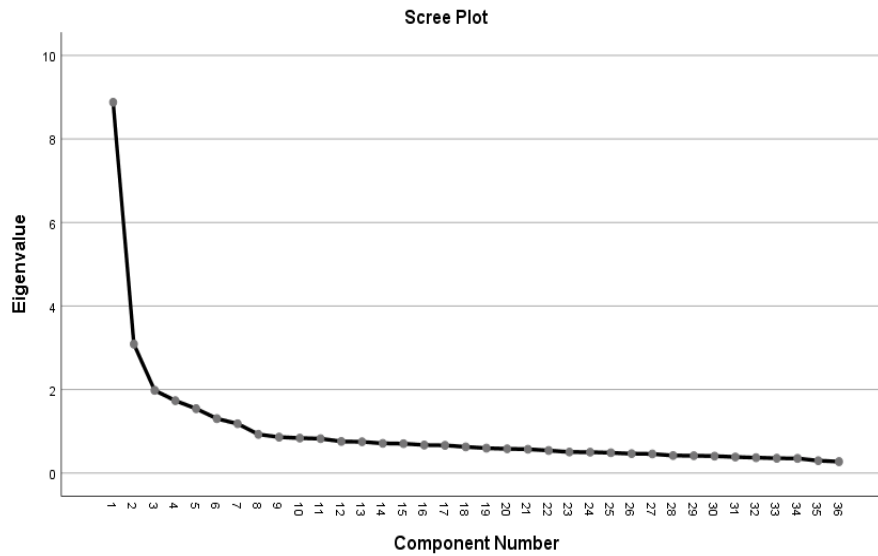
Figure 1.Social Skills Scale (SSS) eigenvalue scree plot

Table 6. EFA Results (Factor Loads of the Items of Social Skills Scale (SSS))

ITEM NO	SOCIAL COHESION	SELF CONTROL	VERBAL COMMUNICATION	COOPARATION	PARTICIPATION	NONVERBAL COMMUNICATION	CONFLICT RESOLUTION
I5/1	,69						
I36/2	,69						
I69/3	,68						
I56/4	,66						
I12/5	,64						
I14/6	,60						
I7/7	,52						
I53/8		,72					
I45/9		,69					
I49/10		,66					
I51/11		,63					
I39/12		,62					
I50/13		,59					
I72/14		,54					
I86/15		,47					
I4/16			,76				
I3/17			,73				
I2/18			,70				
I1/19			,51				

I16/20	,49					
I79/21		,76				
I66/22		,65				
I87/23		,63				
I78/24		,60				
I65/25		,56				
I80/26			,78			
I24/27			,68			
I81/28			,64			
I82/29			,62			
I23/30			,52			
I9/31				,84		
I6/32				,82		
I10/33				,53		
I43/34					,73	
I44/35					,64	
I38/36					,58	

**p<0.01

These factors explain 54.73% of the total variance. In the studies conducted in the field of Social Sciences, it is considered sufficient if the variance values explained by the scale items are over 50% (Kara, 2010).

When the items that make up the factors are examined in detail, the relevant areas of the factors are examined and evaluated. They are named as "Social Cohesion, Self-control, Verbal Communication, Cooperation, Participation, Nonverbal Communication, and Conflict Resolution".

While developing the Social Skills Scale, the factor structure of the scale is examined with the Explanatory Factor Analaysis. In the Explanatory Factor Analysis, factors are put forward by examining the connections between variables. It aims to evaluate whether the factors created and the variables examined in Confirmatory Factor Analysis are compatible with the data or not. Many fit statistics are used to evaluate the validity of the model in Confirmatory Factor Analysis (CFA). The most used of these are Chi-Square Goodress Test (x^2), Goodress of Fit Index (GFI), Adjusted Goodress of Fit Index (GFI), Rood Mean Square Residuals (RMR or RMS), and Rood Mean Square Errors of Appsoximation (RMSA). Pearson Coefficient of Correlation is used to calculate the correlations between scale scores.

It has been tried to determine whether there is a significant difference between the Social Skill Levels of the teachers according to gender, seniority, branch and the location of the school by using the necessary statistical tests. In the second phase of the study, Confirmatory Factor Analysis (CFA) is applied to examine the compatibility of the seven-factor structure, emerging with the Explanatory

Factor Analysis (EFA), with the data. It is determined by the confirmatory factor analysis whether the factors created by the Exploratory Factor Analysis are compatible with the factor structures proposed by the hypothesis or not. As a result of the CFA application, fit indexes are found as x²=1352,31 (sd=573,p<,001), (x²/sd)=2,35 RMSEA=,054, RMS/RMR=0,049 Standardized RMR=0,065 GFI=0,85 ve AGFI==,83. The coefficients of item-factor relationships calculated with CFA are shown in;

Table 7. Fit Indices of the Factor Structure of the Scale

Fit Indices	Adaptive Value
CMIN/DF	2,35
GFI	,859
CFI	,875
AGFI	,836
NFI	,803
RMSEA	,054
SRMR	,0652
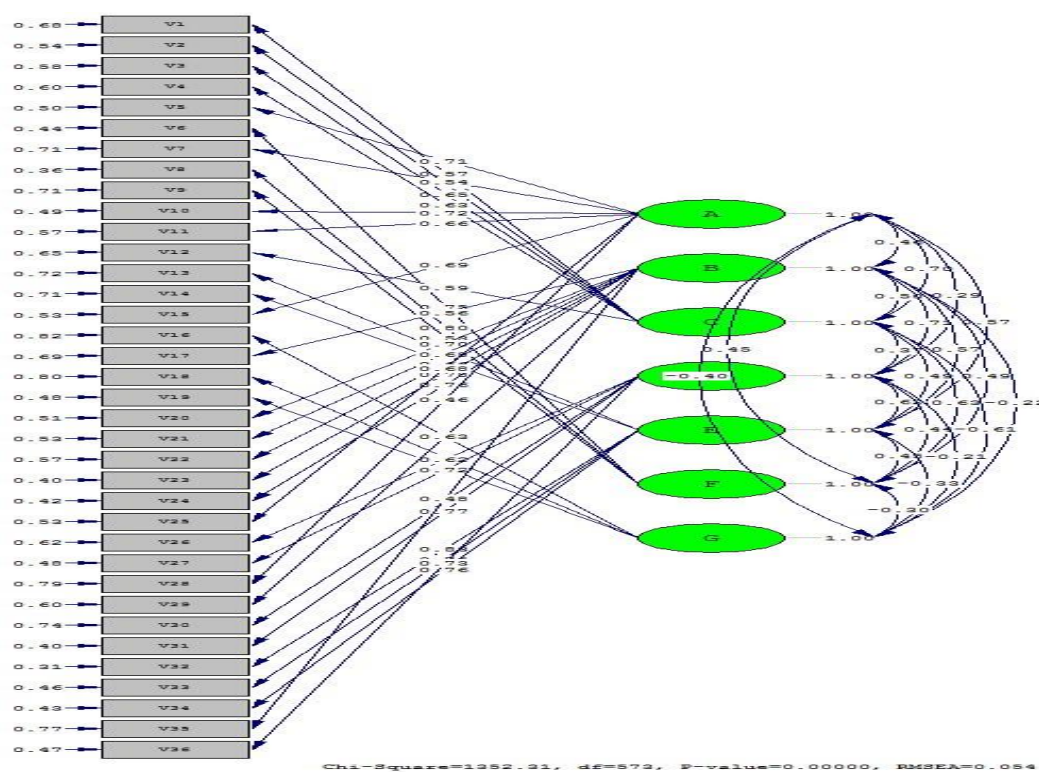
Figure 2. In Figure I, The relationships between the factors in the model and the items of the factors are schematized.

Lines extending from factors to the items and values on these lines state the influence quantity of the factors. The values on lines extending from outside to items express variance ratios that cannot be explained by items. When the relationship coefficients between the factors and the items,

belonging to the factors, are examined in Figure I, it is seen that the values of all items are greater than 30 and change between 0.46 and 0.88 in Figure I. The factor loads of the items in the 'Social Cohesion' factor are seen as 0.71-0.54- 0.72-0.66-0.69-0.68-0.46. It is seen that all the relationships between factor and item are meaningful at 01 level.

It shows acceptable perfect fit if Chi-square statistic is $x^2/df < 2$, and shows acceptable fit if Chi-square statistic is $x^2/df < 3$. (Kelloway, 1998) In Goodness of Fit index (GF) and Comparative Fit Index (CFI), values of 0.90 or higher indicate acceptable fit. Root Mean Square Error OF Approximate (RMSEA) values between 0 and 10 determine acceptable values (Bryne, 2001; Stevens,2001).

Findings Related to the Reliability of the Scale

In order to determine the reliability of the scores, obtained with the Social Skills Scale (SSS) so as to determine the accuracy of the measurement, Cronbach alpha internal consistency coefficient of all scale items and sub-dimensions is examined. Alpha values, as indicated in Table 8 below, are, 87 for the whole scale. For the factors, it is seen that they take values between, 50 and, 84. Having a value higher than 30, item-total correlations show that the reliability of the scale items is high (Büyüköztürk, 2012). As a result of the findings, it is concluded that the internal consistency coefficients of the scale items and factors are sufficient, and coherent measurements are made.

Table 8. Social Skills Scale (SSS) Internal Consistency Levels

Factors	Item Number	Cronbach's alfa
Social Cohesion	7	,840
Self-control	8	,829
Verbal Communication	5	,767
Cooperation	5	,718
Participation	5	,767
Nonverbal Communication	3	,719
Conflict	3	,502

Conclusion, Discussion And Recommendation

Since the desired value is specified as 1 in the KMO test, values close to this value are accepted as very good values. The achieved values should not be less than 0.50 (Tavşancıl, 2019). The KMO value of 0.912 obtained in the study shows that the data set is an excellent value for factor analysis. The value found as a result of the Bartlett test analysis was found to be significant (p<0.01). It was determined that the correlation between variables, which determines the suitability of the data set for factor analysis, is at a high level (Büyüköztürk et al., 2008).

The factor number of the scale was determined and factor analysis was repeated. The item factor load values of the factors were examined. The item factor loading value is required to be 0.45 and higher (Tabachnick & Fidell, 2012). Accordingly, an item which the factor loading value is under (0.45) was removed from the scale.

A measurement tool with high validity and reliability is developed so as to determine the social skill levels of teachers. 87 items in the item pool are applied. As a result of the evaluation of the obtained data by Exploratory Factor Analysis, items with factor loads below, 30 are removed from the scale. The 36-item scale is made ready to be applied in its final form. It is determined that 7 of the scale items have high load value on the first factor, 8 items have high load value on the second factor, and 5 items have high load value on the third, fourth and fifth factor, and 3 items have high load values on the sixth and seventh factors. Factor load values of scale items are expressed as, 60 and above as high, and, 30-50 as medium level (Kline, 2000). It is stated that a factor load value of 45 and above is a good measure. With the 36-item scale developed by Tabachnick and Fidell (2012), it is determined that the factor load values of the items take a good level. To determine the reliability of the scale, Cronbach's alpha reliability coefficients for all scales and dimensions were calculated. The reliability coefficient for the whole scale was found to be 0.87.

It was determined that 7 factors in the scale clarified 54.73% of the total variance. According to Büyüköztürk (2012), it should explain at least 30% of the total variance. In a scale with more than one factor, scale items should be able to explain 40% to 60% of the total variance (Çokluk et al., 2010). The factor loading values of the items in the scale vary between 0.47 to 0.84. If these values are significant, it means that there is a significant relationship between the observed and latent variables.

In the scale, there are seven items measuring the sub-dimension of social adaptation which can be expressed as social skills behavior indicators, 8 items measuring the dimension of 'self-control', 5 items measuring the dimension of 'Verbal Communication', 5 items measuring the dimension of 'Collaboration', 5 items measuring the 'Participation' sub-dimension, 3 items measuring the 'Nonverbal Communication' sub-dimension, 3 items measuring the 'Conflict Resolution' sub-dimension. In the study, it is concluded that the Social Skills Scale (SSS) consisting of 36 items and 7 sub-dimensions is a valid and reliable measurement tool for measuring the social skill levels of teachers.

Teachers who have the responsibility of being role models for students should have all the skills that should be gained to students through education. Therefore, they should have social skills especially themselves. It is very important for the new generation to make these gained skills a part of their own lives and the lives of students. In the literature, there are researches that measure and improve the Social Skills Levels of university students, pre-school, middle school and secondary

school education students (Fischer, 2004; Simons, et al., 1991; Humprey, et al., 2011; Seven ve Yoldaş, 2007; Phillipsen, et al., 1999; Aktı, 2011; Dicle, 2006). Program development studies to increase their social skill levels like (Durualp & Aral, 2010; Denham & Burton, 2003).

For example; Yalçın (2002), emphasizes the importance of social skill behavior in preschool in his study, in which he examines the Social Skills levels of preschool teachers, and focuses on the effect of social skill levels of teachers on the social skill acquisition process (Liman, 2017). However, studies evaluating the social skill levels of teachers are not taken place enough in the field. In the literature, there are more studies on students' social skills. Studies examining teachers' social skills and social skill behaviors are Uçar (2010), Winemiller (2006), Kara (2003), Hamarta (2009), Kılıç (2019), Warga (1996), Tepeli and Arı (2011), Novak, et al., (2016).

Before doing social skills training activities, it is necessary to make a diagnosis in order to determine their characteristics. However, as a result of these evaluations, realistic goals can be formed regarding what the person will learn in the future (Bacanlı, 1999; Goodwin, 1999; Gresham &Elliot, 2008; Kelly, 2017; Merrel & Gimpel, 1998; Strain & Odom, 1986).

The limitations of the application of the measurement tool, the subjective answers to the questions while answering the scale questions, the effects of perceptions and emotions on the answers given, affect these scales, which are used to convert them into numerical data and cause some errors (Avcıoğlu, 2007; Özgüven, 1994).

The most important result of the research is the development of a domestic measurement tool that can measure the social skill level of adults A new scale based on teacher evaluation has been added to the literature. It is thought that this scale, which was developed due to the lack of a scale for adults in the field of social skills, will encourage other scale development studies for the area. It is thought that the scale, which is an up-to-date measurement tool with high validity, reliability and developed to reveal the social skill levels of teachers, different from the social skill levels of students especially in this field, will contribute to the field.

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APPENDIX: Social Skills Scale (SSS) Sample Items

1. **English Version**

SOCIAL SKILLS SCALE (SSS)	Absolutely Disagree	Disagree	Undecided	Agree	Completely Agree
3) I am good at managing group discussions.					
14) When I encounter a problematic situation, I find a solution by thinking about the problem from different perspectives.					
20) I have difficulties in expressing my feelings.					
23) I avoid sharing information about my field.					
29) I participate in various activities outside of school with my students.					
31) I make eye contact while talking about a topic about myself.					
36) In the face of conflict, I submit to the situation and try to adapt.					

2. **Turkish Version**

Sosyal Beceri Ölçeği (SBÖ)	Hiç Katılmıyorum	Katılmıyorum	Orta Düzey Katılıyorum	Katılıyorum	Tamamen Katılıyorum
3) Grup tartışmalarını yönetmede başarılıyım.					
14) Problem teşkil eden bir durum ile karşılaştığımda problemi farklı açılardan düşünerek çözüm üretirim					
20) Duygularımı ifade ederken zorlanırım.					
23) Alanıma dair bilgi paylaşımından kaçınırım.					
29) Öğrencilerimle okul dışında çeşitli etkinliklere katılırım.					
31) Kendim ile ilgili bir konudan bahsederken göz teması kurarım					
36) Çatışma karşısında duruma boyun eğerim ve uyum sağlamaya çalışırım.					

The Relationship Between Organizational Justice, Professional Motivation and Organizational Identification: A Study on Teachers

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Abstract

The aim of the study is to investigate the relationship between organizational justice, professional motivation and organizational identification. In this study, relational model was used. The population of the study consists of teachers from primary schools in the province of Gaziantep in Turkey during 2019-2020 academic year, and the sample consists of 368 primary school teachers. The data were collected through "Organizational Justice Scale", "Professional Motivation Scale" and "Organizational Identification Scale". In the analysis of the data, descriptive statistics about the variables were calculated, correlation and regression analysis were performed. According to the descriptive statistical results of the study, teachers' perceptions of organizational justice, professional motivation and organizational identification are at a high level. Organizational justice has a positive, moderate relationship with professional motivation and organizational identification. Besides, there is a positive and moderate relationship between professional motivation and organizational identification. As a result of the stepwise multiple regression analysis conducted to determine the relationship between professional motivation, organizational justice, and organizational identification, it was determined that professional motivation has a partial mediating role in the relationship between organizational justice and organizational identification. It is considered important to increase the motivation of teachers by treating them equally and fairly in the distribution of resources to identify with the school. Moreover, with the increase in motivation, it can be ensured that teachers increase their performance and identify with their organizations.

Keywords: Organizational Justice, Professional Motivation, Organizational Identification, Teachers

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Introduction

In schools, where the human resources of the society are raised, teachers have an important role in the effective management of educational activities. Teachers work hard to fulfill both their individual goals and the duties and responsibilities expected by the schools. The level of this hard work may vary according to teachers' perceptions of justice. In other words, fairness and consideration of ethical rules in decisions taken, practices, and distribution of resources positively affect the performance of teachers (Akar, 2018; Cheung & Law, 2008; Duffield & McCuen, 2000). Besides, a high perception of justice leads teachers to embrace their schools by improving their sense of belonging and commitment (Başar & Sığrı, 2015; Cohen-Charash & Spector, 2001). Therefore, it can be stated that teachers who embrace and identify themselves with their school will work hard towards achieving the goals of the school and have higher professional motivation. In this context, this study gives suggestions based on the findings obtained by examining the relationships between these variables.

Literature Review

In today's business life, individuals are expected to work in order to achieve the goals of their organization, aside from their personal goals and to perform according to this. The level of performance in question can vary according to perceptions of justice of the organization. According to Adams (1965) equality theory, the concept of justice is considered within the framework of a social change. When deciding whether the organization they work in is fair or not, employees often compare the contribution/reward rates of other employees working in similar conditions with their achievements (Judge & Colquitt, 2004). Organizational justice, expressed in various ways in the literature, is defined as the reflection of the general sense of justice on the working environment, and the rules on the management and distribution of rewards and punishments (Byrne & Cropanzano, 2001; Moorman, 1991). Organizational justice, which was discussed in two dimensions as distributive justice and procedural justice at first, started to be evaluated in three dimensions with the addition of a third dimension as interactional justice in later studies (Eskew, 1993; Greenberg, 1990; Roch & Shanock, 2006). Within the scope of this study, organizational justice is discussed in three dimensions: *distributive justice, procedural justice* and *interactional justice. Distributive justice*, employees' assessment of performance outcomes such as salary, rewards and promotion, and their attitudes towards the distribution of resources (rewards, money, promotions, etc.); *procedural justice*, employees' perceptions of the fairness of the methods and processes used in the allocation of resources rather than the allocation of resources itself, and *interactional justice*, managers' attitudes and behaviors towards employees during the implementation of procedures (Moorman, 1991; Jawahar, 2002). In the light of this information, it can be argued that organizational justice - which has an important role in the attitudes and behaviors of employees in the organizational environment - is a preliminary variable of organizational identification of employees.

Organizational identification is becoming increasingly important as a key concept in the field of organizational behavior. Because it is accepted as a determining factor in forming psychological bonds with the organization, as well as the attitudes and behaviors of the employees in the organizational environment (Edwards, 2005). Organizational identification means that employees perceive themselves as part of a whole and establish a psychological bond with the organization (Ashforth & Mael, 1989; Van Kippenberg & Sleebos 2006). Individuals, who identified themselves with the organization they work for, express themselves considering the identity of the organization which they are a member of and act accordingly by seeing the goals of the organization as their own (Wiesenfeld et al., 2001). This will contribute to increasing the motivation of employees by ensuring that they identify with their organizations, and develop positive attitudes and behaviors.

Motivation, which is defined as action programs and behavioral patterns that individuals develop according to their desired goals, plays an important role in the performance of the individual and the organization (Laming, 2004). Professional motivation, on the other hand, is defined as a process that empowers and guides the behavior of individuals in the organizational environment (Leonard et al., 1999). It is extremely important to have high and sustainable motivation in the teaching profession, which is affected by many factors such as students, parents, school administrators, curriculum, and education policies (Ceviz, 2018). In this regard, Yılmaz (2009) stated that the high level of professional motivation of teachers is a determining factor in an effective and productive educational environment, job satisfaction and performance; moreover, Aypay (2011) drew attention to the importance of professional motivation by emphasizing that it is one of the prerequisites of being a good teacher. Therefore, professional motivation increases the performance of teachers and enables them to develop positive attitudes and behaviors towards both their school and their profession.

It can be observed in the literature that various studies have been conducted to determine the relationship between the variables. Tyler (2000) argued that the perception of justice shapes the feelings, thoughts, and behaviors of individuals, and therefore organizational justice is an important determinant of organizational identification. Being fair and impartial in procedures in the organizational environment, adopting practices that meet the expectations and needs of individuals, and respecting their work increase organizational identification (Cheung & Law, 2008; Chen et al., 2015; Moorman, 1991; Olkkonen & Lipponen, 2006). In this context, Hoy and Miskel (2010) referred to the relationship between organizational justice and motivation by stating that one of the most important determinants of individual motivation is the belief that the individual is treated equally with other employees in the organization. There are findings indicating that organizational justice positively affects motivation of individuals (Liao & Tai, 2006; Misra et al., 2013), and being fair when implementing rules and in interpersonal interactions increases motivation (Barling & Michelle, 1993). When the concepts of organizational justice and motivation are evaluated within the context of

education, it can be argued that taking justice into consideration in school practices and establishing qualified communication with teachers will positively affect professional motivation. The identification between motivation levels of individuals and organizational outcomes has a positive relationship with motivation (Akman, 2018; Ceviz, 2018; Mael & Ashforth, 1995; Richardson & Watt, 2006; Van Dick & Wagner, 2002). In a study conducted by Akman (2017) on the relationship between professional motivation and identification, it was stated that identification is related to motivation, professional motivation increases identification, and individuals who identify with their organization will perform at a higher level. Based on these statements, it can be said that teachers who feel comfortable in the work environment, who love their profession, and who see themselves as a part of the school will identify more with their school.

The abovementioned statements indicate that being fair in the work and procedures in schools contributes to teachers' identification with the school by increasing their professional motivation. Although there are various studies on these variables in the literature, no study has been found in which three of these variables are evaluated together and the mediation role is examined. In this context, this study aims to determine the relationship between organizational justice, professional motivation and organizational identification. For this purpose, following questions were tried to be answered.

1. What are the teachers' perception levels of organizational justice, professional motivation, and organizational identification?

2. Is there a statistically significant relationship between organizational justice, professional motivation, and organizational identification?

3. Does professional motivation have a mediating role in the relationship between organizational justice and organizational identification?

Method

Research Model

The study was designed with the relational model, which aims to determine the existence and direction of the relationship between two or more variables (McMillan & Schumacher, 2010). In this context, after determining the relationship between organizational justice, professional motivation, and organizational identification variables, predictions were made about the possibility of a cause-effect relationship between these variables.

Sample

The population of the study consists of teachers from primary schools in the province of Gaziantep in Turkey during 2019-2020 academic year, and the sample consists of 368 primary school teachers selected by disproportionate cluster sampling method from the primary schools in this

population. The scale form was distributed to approximately 475 teachers, taking the return rate into consideration. Of the 382 returned scales, 14 scales that were incomplete and incorrectly filled were excluded from the analysis. It was decided that 368 teachers were sufficient for 95% confidence level and α=.05 significance by using the formula prepared for known sizes of the main mass number (Field, 2009), 77.47% of the scales were considered valid and analyzes were made on 368 scales. 66.6% of the teachers (*n*=245) in the sample were female, (*n*=123) 33.4% were male; (*n*=213) 57.9% were married, and (*n*=155) 42.1 were single. According to age groups, (*n*=211) 57.3% were in the age group of 21-30, (*n*=134) 36.4% were in the age group of 31-40, (*n*=23) 6.3% were in the age group of 41 and above.

Data Collection Tools

"Organizational Justice", "Professional Motivation" and "Organizational Identification" scales were used as data collection tools in the study, aside from the personal information of teachers. 5-point Likert scale has been used in all scales as; "strongly disagree (1)", "disagree (2)", "slightly agree (3)", "agree (4)" and "totally agree (5)".

Organizational Justice Scale: The scale, developed by Hoy and Tarter (2004) and adapted to Turkish by Taşdan and Yılmaz (2008), consists of 10 items and one dimension. In this study, the Cronbach's alpha reliability coefficient of the scale is determined as .85. The construct validity of the scale was tested by confirmatory factor analysis (CFA). In the analysis phase, modifications were made by adding covariance between the error terms of OJ3 and OJ5 and OJ6 and OJ7, and thus the model fit values were increased. As a result of CFA, mostly χ^2, χ^2/df, GFI, NFI, IFI, TLI, CFI, RMSEA, RMR values are reported (Kline, 2011). These values are also reported within the scope of this study. According to the CFA result, model fit values are identified as; χ^2=53.263, χ^2/df=3.133, GFI=0.974, NFI=0.963, IFI=0.975, TLI=0.958, CFI=0.974, RMR=0.021, RMSEA=0.076, and it has been concluded that these values are at acceptable levels (Hu & Bentler, 1999; Schumacker & Lomax, 2010). This result provides evidence that the unidimensional structure of the scale was confirmed in the research sample and that the scale was structurally appropriate.

Professional Motivation Scale: The scale developed by Ceviz (2018) consists of 30 items and 5 sub-dimensions (*pleasure, value, commitment, dedication,* and *contribution*). In the present study, the Cronbach's alpha reliability coefficient is calculated as .93. In the CFA stage, a modification was made by adding covariance between the error terms of PM1 and PM2 items, and PM24 was removed because it was associated with items of different dimensions and increased the chi-square value. Thus, model fit values were increased. According to the CFA result, model fit values are found to be in acceptable level as; χ^2=1007.538, χ^2/df=2.760, GFI=0.834, NFI=0.894, IFI=0.930, TLI=0.922, CFI=0.929, RMR=0.021, RMSEA=0.069 (Hu & Bentler, 1999; Schumacker & Lomax, 2010). This

result is evidence that the five-dimensional structure of the scale was confirmed in the research sample and that the scale was structurally appropriate.

Organizational Identification Scale: The scale, developed by Mael and Ashforth (1992) and adapted to Turkish by Tak and Aydemir (2004), consists of 6 items and one dimension. In the present study, the Cronbach's alpha reliability coefficient is calculated as .81. As a result of CFA, model fit values are found to be; χ^2=15.400, χ^2/df=1.711, GFI=0.986, NFI=0.958, IFI=0.982, TLI=0.970, CFI=0.982, RMR=0.013, RMSEA=0.044. These values are at acceptable levels (Hu & Bentler, 1999; Schumacker & Lomax, 2010). This result shows that the one-dimensional structure of the scale was confirmed in the research sample.

Data Analysis

SPSS 22.0 and AMOS 23.0 statistical package programs were used for data analysis. A stepwise multiple regression analysis was conducted to determine the predictive power of organizational justice, professional motivation, and organizational identification. Before the regression analysis, required assumptions (multicollinearity, homoscedasticity, extreme values, linearity and normality) were tested. For the multicollinearity problem; the binary correlations between independent variables were identified to be less than .90; VIF values of independent variables to be less than .10, and tolerance values to be greater than .10. These values show that there is no multicollinearity problem. Besides, it was determined that the values of the independent variables in the data set and the variances in the subsets of the dependent variables are equal to each other (homoscedasticity). The extreme values were determined using Mahalanobis distances and it was concluded that the values were below 13.82 (Pallant, 2005), which is considered to be the critical value. The linearity and normality assumptions of the data were determined by calculating the skewness and kurtosis coefficients. Since the values obtained varied between -1.5 and +1.5, the data were found to be normally distributed (Tabachnick & Fidell, 2013). As a result, the analyzes were carried out by providing the assumptions required for the regression analysis.

Results

Descriptive statistics (arithmetic mean, standard deviation, and standard error) and correlation coefficients regarding variables are presented in Table 1 below.

Table 1. Descriptive Statistics and Correlation Coefficients Regarding Variables

Variables	Mean	SD	SE	1	2	3
1. Organizational Justice	3.95	0.50	0.03	1		
2. Professional Motivation	3.88	0.38	0.02	.402**	1	
3. Organizational Identification	3.85	0.42	0.02	.530**	.376**	1

** Correlation is significant (p<.01)

As seen in Table 1, organizational justice (M=3.95, SD=0.50), professional motivation (M=3.88, SD=0.38), and organizational identification (M=3.85, SD=0.42) perception levels are high. This result can be interpreted as teachers' perception of justice in schools, their motivation towards their profession, and their level of identification with the school in general.

In Table 1, correlation coefficients between organizational justice, professional motivation, and organizational identification vary between .376 and .530. A moderate positive correlation between organizational justice and professional motivation (r=.402**, p<.01); There is a moderate positive correlation between organizational justice and organizational identification (r=.530**, p<.01); There is a moderate positive correlation between professional motivation and organizational identification (r=.376**, p<.01).

The Role of Professional Motivation in Organizational Justice and Organizational Identification Relationship

The results of the stepwise multiple regression analysis conducted to determine the relationship between professional motivation, organizational justice, and organizational identification are presented in Table 2.

Table 2. Regression Analysis Results Regarding The Role of Professional Motivation in The Relationship between Organizational Justice and Organizational Identification

Model	Independent variables	B	SE	β	t	p
1. step (enter)	(constant)	4.168	0.109		38.315	.000
	Gender (dummy)	-0.114	0.046	-0.127	-2.476	.014
	Age	-0.009	0.003	-0.134	-2.614	.009
2. step	(constant)	2.359	0.181		13.031	.000
	Gender (dummy)	-0.024	0.040	-0.027	-0.604	.546
	Age	-0.008	0.003	-0.121	-2.755	.006
	Organizational Justice	0.444	0.038	0.522	11.649	.000
3. step	(constant)	1.774	0.236		7.515	.000
	Gender (dummy)	-0.010	0.040	-0.011	-0.255	.799
	Age	-0.007	0.003	-0.102	-2.338	.020
	Organizational Justice	0.385	0.041	0.453	9.509	.000
	Professionel Motivation	0.199	0.053	0.180	3.768	.000

Dependent variable: Organizational Identification, R=.568, R^2=.323, ΔR^2=.316, $F_{(4,363)}$= 43.318, p<.001

As can be seen in Table 2, in the stepwise multiple regression analysis, it is found that the organizational justice added in step 2 positively and significantly predicted the organizational identification, after adding the gender and age control variables to the model in step 1. In step 3, professional motivation was added to the model and it was found that both professional motivation and organizational justice positively and significantly predicted the organizational identification. The

decrease in the predictive power of organizational justice with the addition of professional motivation to the model and the significance of this decrease ($p<.001$) provides evidence that professional motivation has a partial mediating role in the relationship between organizational justice and organizational identification. ΔR^2 value was examined to determine the level of independent predictive contributions that contribute to the model statistically in the prediction of organizational identification; and it was determined that organizational justice and professional motivation variables, together with gender and age, explain 31.6% of organizational identification ($\Delta R^2=.316$, $F_{(4,363)}=43,318$, $p<.001$).

When the t values in Table 2 are examined, it can be observed that the constant number, organizational justice, and professional motivation are significant at $p<.001$, and age is significant at $p<.05$ level. The equation obtained as a result of stepwise multiple regression analysis is; "Organizational Identification=1.774 + -.010* Gender (dummy) + -.007*Age + .385*Organizational Justice + .199*Professional Motivation". With the help of this formula, the predictive level of organizational justice and professional motivation on organizational identification can be estimated when gender and age variables are taken under control.

The significance of the mediating effect of professional motivation was determined using the Sobel Test. In this context, the values were entered into the MedGraph-I program, developed by Jose (2003), and the results shown in Figure 1 below are obtained.
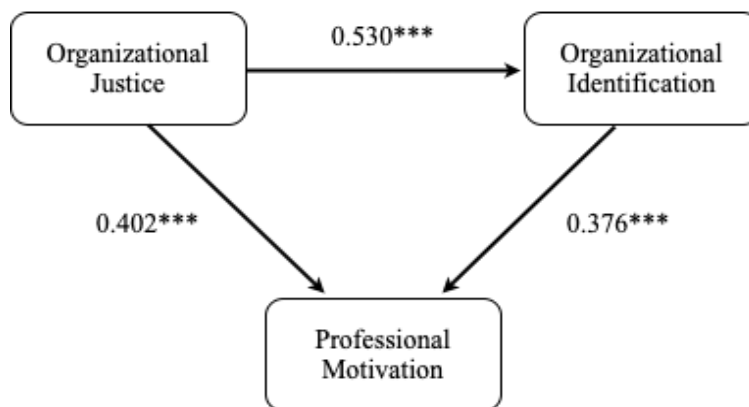
Figure 1. Mediating Role of Professional Motivation

Table 3. Sobel Test Results for Mediating Effect

Mediating Role	Partial
Sobel Z-Value	3.394791
p	0.000687
Direct Effect	0.453
Indirect Effect	0.077
Total Effect	0.530

According to Table 3, the mediating effect of professional motivation is significant at $p<.001$ level. It was determined that the direct effect of organizational justice on organizational identification was determined is $\beta=0.453$, the indirect effect due to the mediating effect of professional motivation is $\beta=0.077$, and the total effect $\beta=0.530$. This result shows that professional motivation has a partial mediating role in the relationship between organizational justice and organizational identification. In other words, organizational justice has a positive and significant effect on organizational identification, both directly and through professional motivation.

Discussion, Conclusion and Recommendations

In this study, the relationship between organizational justice, professional motivation, and organizational identification have been evaluated. According to the descriptive statistical results of the study, teachers' perceptions of organizational justice, professional motivation and organizational identification are at a high level. This finding can be interpreted as teachers think that the practices in schools are generally equal and fair, and their professional motivation and identification with their schools are high. As a result of the correlation analysis conducted to determine the direction and level of the relationship between variables, it was found that the variables had a moderate, positive and significant relationship with each other. In other words, the increase in teachers' perception of organizational justice will increase their motivation towards their profession and their identification level with their schools, on the contrary, when their organizational justice perception levels are low, their professional motivation and identification levels will decrease.

It was found that there is a positive relationship between organizational justice and organizational identification, supporting the findings obtained in various studies (Chen et al., 2015; Cohen-Charash & Spector, 2001; Olkkonen & Lipponen, 2006) on the relationship between organizational justice and organizational identification. In this regard, Chen et al. (2015) stated that organizations' being impartial while determining the procedures affecting employees and acting according to meet the expectations of the employees will increase the organizational identification, and Olkkonen and Lipponen (2006) stated that the procedures for ensuring justice and the distribution of justice are important factors for identification of employees with their organizations. However, the result of the positive relationship between organizational justice and the professional motivation of the teachers obtained by this research coincides with the results of similar studies in the literature. Hoy and Miskel (2010) referred to the relationship between organizational justice and motivation by stating that one of the most important determinants of individual motivation is the belief that the individual is treated equally with other employees in the organization. Based on this information, it can be argued that the sharing of the resources of the school, the reward/punishment system, the fairness of school administrators in their attitudes and behaviors towards teachers will increase professional motivation and organizational identification levels of teachers.

As a result of the stepwise multiple regression analysis conducted to determine the relationship between professional motivation, organizational justice, and organizational identification, it was determined that professional motivation has a partial mediating role in the relationship between organizational justice and organizational identification. In other words, organizational justice predicts organizational identification both directly and through professional motivation. There are findings indicating that organizational justice positively affects motivation of individuals (Liao & Tai, 2006; Misra et al., 2013), and being fair when implementing rules and in interpersonal interactions increases motivation (Barling & Michelle, 1993). Eisenberger et al. (1990) argued that caring about and meeting (or trying to meet) the needs of employees is an indication that organizations treat their employees with respect. Studies have revealed that organizational justice positively affects organizational identification (Chen et al., 2015; Başar & Sığrı, 2015). If employees consider mechanisms such as resource sharing, reward&punishment system, attitudes and behaviors of managers, and taking opinions of employees as fair, the level of their identification with the organization will increase (Cheung & Law, 2008). In light of this information, it can be argued that organizational justice increases teachers' professional motivation and organizational identification level, which supports the findings of this study.

When the results of the study were evaluated in general, it was revealed that teachers' perceptions of organizational justice increased their professional motivation and, accordingly, was an important determinant in their identification with the school. From this point of view, it is considered important to increase the motivation of teachers by treating them equally and fairly in the distribution of resources to identify with the school. Moreover, with the increase in motivation, it can be ensured that teachers increase their performance and identify with their organizations. Teachers' identification with their schools will contribute to the effective realization of educational goals by making them more productive and increasing their performance levels. In future studies, there can be research on different variables, which are considered to be the antecedents of organizational identification, such as self-efficacy, school culture, personality traits, and leader-member interaction. Qualitative and mixed studies can be conducted to determine variables that may negatively affect teachers' identification with their schools. HLM or Multilevel SEM analyzes can be used to determine which variables affect the findings at school level or teacher level.

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Moral Development in Early Childhood: Benevolence and Responsibility in the Context of Children's Perceptions and Reflections

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Abstract

This study aimed to examine children's perceptions regarding the concepts of benevolence and responsibility in early childhood and the way they put them into practice. The study was designed according to the basic qualitative research method and consisted of 64 children between the ages of 4 and 5. The data were collected through interactive value stories, children's drawings related to the relevant values, and semi-structured interviews. The data analysis presented remarkable results, the first of which is that preschool children may have not only result-oriented but also intention-oriented moral values. The second result is that the course of behaviours related to moral values is primarily directed towards family members. As the third result, preschool children's moral values were found to appear often in their relationships with people in need and with people who are much older. Finally, the fourth result indicates that children associate moral values not only with human beings but also with nature and plants, which is a significant indicator that universal moral thinking can develop in children of this age.

Keywords: Early Childhood Education, Values Education, Moral Development

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Introduction

The impact, role, and importance of early childhood education not only on the lives of children but also on their families are rapidly increasing in the world (Lee & Hayden, 2009; UNESCO, 2008). The preschool period is one of the most important stages aiming the social, emotional and cognitive development of children in a programmed manner after their own families (Bronfenbrenner & Morris, 2006, p. 993-1028; Hildebrandt & Zan, 2008, p.352). In the process of growing up and socializing, children form their own moral and ethical grounds according to what they hear, experience, and obtain from the society (Veisson & Kuurme, 2010). Not only the social, emotional and language-wise development of preschool children, but their mental and physical development is expected to be achieved in a systematic educational environment. In addition to the developmental areas mentioned above, the preschool period is of critical importance in the lives of individuals in terms of moral development. In this sense, values are ethical principles that contain good and desirable characteristics, motivate and influence human behaviour, affect decision-making processes, and give us an idea about what we should be like and how we should act (Cooper, 2014; Sagiv, 2002; Schaefer, 2012). In other words, the early childhood period is of great importance not only in academic terms but also in terms of raising individuals with sound personalities and values.

In this context, this study has tried to determine whether preschool children possess moral values, which are very important in terms of human skills, and to identify the value-related perceptions of preschool children and how children can put such values into practice.

Responsibility Value in Early Childhood

Responsibility can be defined as being aware of one's own behaviour or any kind of circumstances within his/her authority and undertaking the consequences of his/her actions and deeds. In addition, people are expected to take the moral and legal responsibilities of their own actions and circumstances within their authority (Glover, 1970). Lickona (1991) defined responsibility as the active aspect of morality. The author further specified the concept of responsibility as showing care and attention for oneself and others, fulfilling one's obligations, participating in the social process, trying to alleviate suffering, and striving for a better world.

Undoubtedly, children are not born with a sense of responsibility. However, learning to be responsible starts sooner than most people think. It could be argued that a variety of phenomena that children can perceive around them from the moment they are born, the care and attention shown by parents, and the way parents fulfil their responsibilities create the initial effects on children. Scientists who study the development of child personality often claim that young children acquire their knowledge of responsibility according to the way their needs are met by the people around them. From another standpoint, the currently used preschool program by the Ministry of National Education (MoNE, 2013) in Turkey stated that children aged five to six begin to notice the consequences of their

behaviour and to act more responsibly. In fact, it seems clear that a well-structured social environment along with maturation can help to gain values in early childhood.

Benevolence Value in Early Childhood

Studies show that the benevolence value can be observed in children starting from an early age. As an example, in a study by Warneken and Tomasello (2007), the researchers observed 18-month-old toddlers during routine activities at home, and the study concluded that children in this month are able to help their parents in daily routines. Similarly, the preschool education program in Turkey (MoNE, 2013) emphasized that three-four-year-old children can handle simple tasks and responsibilities in activities and fulfil their daily routines.

In this context, it is of great importance for children to learn values from an early age, whether it is achieved through educational activities in schools or through other activities in families (Karatekin & Sönmez, 2014).

Moral Development in Early Childhood

Moral development theories about childhood examined in the literature emphasized three different theories, the first of which is based on the ideas of Piaget (1965) and Kohlberg (1984), which try to explain moral development with different aspects of cognitive development. Another group of theories are those put forward by Gilligan (1997) and Hoffman (2001), which emphasize the importance of emotional factors rather than cognitive development and the importance of the principles of care and upbringing of children. And finally, there are theories arguing that moral development occurs with the combination of cognitive and emotional development as mentioned above, and that the moral judgments of individuals can change according to the situation and conditions (Eisenberg, 1986; Rest, 1994).

Among these theories, Piaget's theory carried out studies on moral development with story pairs that he read to children and that contain dilemmas as well as a moral theme (McLeod, 2015).

> *"There was once a little girl who was called Marie. She wanted to give her mother a nice surprise and cut out a piece of sewing for her. But she didn't know how to use the scissors properly and cut a big hole in her dress.*
>
> *A little girl called Margaret went and took her mother's scissors one day when her mother was out. She played with them for a bit. Then, as she didn't know how to use them properly, she made a little hole in her dress." (Piaget, 1932).*

During such an activity, after the story pairs are read, the children are asked, "Who is naughtier?" Typically, young children (in preoperational and early concrete operations, i.e., up to the age of 9-10) say Marie is the naughtier child. Drawing on Piaget's theory, Kohlberg created his own theory consisting of three levels and six stages, and similarly, tried to determine the moral states of

individuals by revealing scenarios containing moral dilemmas. The best known of these scenarios is the Heinz dilemma (Kohlberg, 1969). According to Kohlberg, cognitive development is a prerequisite for moral development, but is not sufficient by itself.

The Current Study

Since education in preschool affects the future life of children, it is necessary to recognize and evaluate this period in the best way in order to raise children with positive personalities (Aral, Kandır & Can Yaşar, 2011). In the 2013 preschool education program in Turkey, the expression saying the child "pays attention to cultural and universal values", which is included under the heading of the fundamental features of the program, emphasized that the exercises related to values education should be applied in classrooms (2013, Ministry of National Education [MoNE]). Education programs and activities to be implemented by teachers are of considerable importance for preschool children who are still in concrete operational period and who have difficulties in understanding and learning abstract concepts. At this stage, the preschool education program will help children learn abstract concepts such as values by "carrying out play-based activities, enabling children to learn by exploring, encouraging them to use their daily life experiences and close environment opportunities, and presenting concrete examples from life through activities involving family participation".

According to many scientists, although the critical age for moral development is often regarded as adolescence (Karabanova & Podolskij, 2003; Molchanov, 2013), the pre-pubertal childhood periods of individuals are also considered very important in terms of moral development (Burmenskaya, 2009; Bustamante et al., 2020; Fechter, 2014; Hasegawa, 2016; Hoffman, 2001; Karabanova, 2010; Stefanenko & Kupavskaya, 2010; Turiel, 1983; Wang et al., 2015).

In the literature, there are different studies about the acquisition of values in early childhood (Balat & Dağal, 2009; Civelek, 2006; Dereli, 2014; Dinç, 2011; Günindi, 2015; Macready, 2009; Öztürk Samur, & Deniz, 2014). Most of these studies emphasize that further studies should be carried out on values in early childhood and that values should be acquired beginning from early childhood (Alpöge, 2011; Atabey & Ömeroğlu, 2016; Neslitürk, Özkal & Dal, 2015; Sapasağlam, 2017). The relevant literature comprises children's perceptions of characters and themes in story books (Hsiao & Chen, 2015), children's perceptions of responsibility value (Sapasağlam, 2017), teachers as role models (Dağlıoğlu, 2011), emotions (Burkitt, Barrett, & Davis, 2009) as well as case studies on (Leslie, Knobe, & Cohen, 2006) children's perceptions of good and bad (Knobe & Roedder, 2009; Lee & Hyoung, 2012; Yüksel, Canel, Mutlu, Yılmaz, & Çap, 2015), family perceptions (Kaynak & Temel, 2015; Türkkan, 2004), love value (Günindi, 2015), and children's drawings of toys (Karaman & Akyol, 2011). On the other hand, no study was found to be conducted through interviews, story completion, and children's drawings with the purpose of revealing the perceptions of preschool children on benevolence and responsibility values and how children can put them into practice.

In this context, this study examined whether preschool children have the moral values that are very important when it comes to human skills, and their perceptions of such values and how they can put them into practice.

Method

This study employed the basic qualitative research method. In basic qualitative studies, data are collected through interviews, observations, and document review (Merriam, 2013). Participants of the present study were selected by purposive sampling technique. It is predicted that the people who are included in the purposive sample group will provide information willingly about the research problem (Creswell, 2013). For this reason, the study was carried out in 2 classes from the morning groups studying in the spring semester of the 2019-2020 academic year. Qualitative data collection techniques were used in the data collection process of the study. Necessary legal permissions were obtained from the Ethics Committee in Kilis University, and Kilis Provincial Directorate of National Education with the approval number, E.2047381. In addition, relevant consent forms were obtained from the parent.

Participants

This study consisted of 64 children who were being educated in kindergarten. Convenience sampling technique was used while determining the participants of the study. According to Yıldırım and Şimşek (2006), convenience sampling is less costly as it brings speed and practicality to the study. At this stage of the study, first of all, the demographic information of the participating children is presented as follows:

Table 1. Demographic Information about Participants

Demographic Information		N
Age	4.00	28
	5.00	36
Gender	Girl	30
	Boy	34
Total		64

As can be seen in Table 1, 28 of the children included in the study were 4 years old and 36 were 5 years old. Of the children participating in the study, 30 were girls, and 34 were boys.

Data Collection Tools

In order to establish the theoretical basis of the study, data were collected with demographic information form, semi-structured interview form, interactive stories and pictures during the implementation process in addition to the information obtained as a result of reviewing domestic and foreign literature. Interview forms and stories about benevolence and responsibility values were

prepared by the researchers with the purpose of data collection; expert opinions were taken and pilot applications were carried out. The forms were finalized in line with the feedback received. The data collection process started after the necessary legal permissions were obtained.

While collecting the research data, the validity and reliability of the study were strengthened by making use of measure triangulation (Kimchi et al., 1991), which is one of the methods of multiple triangulation (Campbell & Fiske, 1959; Denzin, 1970; Polit and Hungler, 1995). In measure triangulation, context is about the effect of the purpose of the measurement on the meaning it adds to the measurement. The framework of the study also enables to interpret the data obtained within the scope of the study (Flick, Kardorff, & Steinke, 2004). Besides this, it enables to conduct more than one measurement of any subject and to notice as many aspects as possible (Neuman, 2013).

During data collection, a focus group meeting was held with the children at the beginning of the day, followed by an interactive story being completed within the scope of Turkish language activities, and finally, children were asked to draw pictures related to the values during the art activities (See Figure 1).
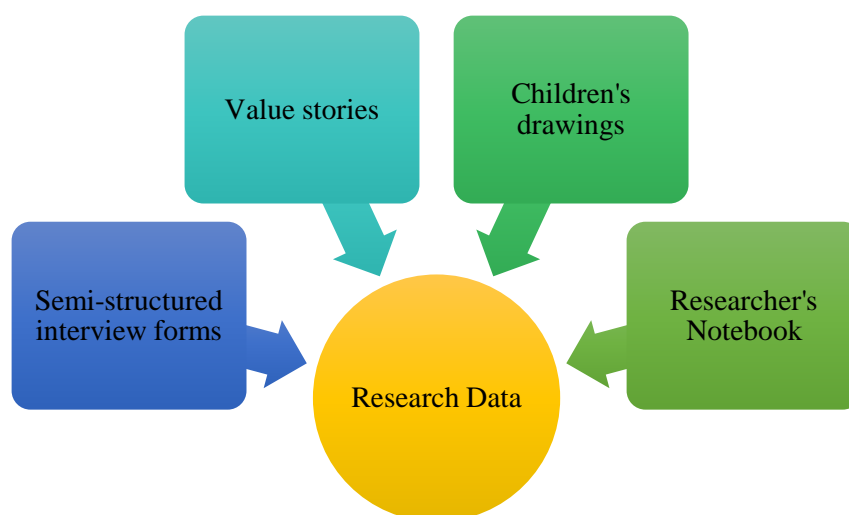
Figure 1. Data collection tools

Semi-structured interview form: A semi-structured interview form was developed by the researchers by reviewing the relevant literature and examined by seven preschool experts in terms of its suitability for the field as well as its purpose and clarity, and the necessary corrections were made to make it ready to collect data. This form tries to reveal the opinions of preschool children about benevolence and responsibility values, and consists of 12 questions in total, including six open-ended questions, i.e. "Which of your friends are helpful? Why?" and "What responsibilities do we have in our homes", and other six open-ended questions related to benevolence.

Stories about values: Frequently used in preschool education, story completion is one of the important activity types that develop children's language and speaking skills, help them express

themselves, and contribute to the development of children's creativity. The researchers created stories about each of the values of benevolence and responsibility for the purposes of this study. In certain parts of the story, the researcher stopped the story and asked the children about the story and how the story was likely to continue. The responses given by the children were noted by the researcher to prevent data loss.

Children's drawings: At the start of the day, after having conversations with children and the story completion activity within the scope of language activities of Turkish, an art activity was carried out on the values of benevolence and responsibility. Before starting to draw, the children were given preliminary information about the pictures they were going to draw by asking them questions such as "Children, what is benevolence in your opinion? Who are helpful people?" Furthermore, the children were expected to draw their thoughts, views and perceptions about the responsibility value after being asked some questions about it. The researcher interviewed each child who was painting, and asked what s/he was drawing or what s/he was thinking while painting, and took note of the child's thoughts and what s/he wanted to draw on the back of the drawing paper.

Researcher's Notebook: One of the most basic data collection techniques in qualitative studies is undoubtedly researcher observations (Ekiz, 2013). In qualitative studies, observations are performed in a less structured manner, and the researcher tries to observe the research process as naturally as possible, rather than observing according to the categories and classes determined previously (Punch, 2013). The researcher of the present study took notes from the beginning of the study to the end of data collection.

Data Collection

In this process, first of all, focus group discussions were held with teachers in order to learn the perspectives of preschool children on the values of responsibility and benevolence by informing especially the teachers of the classrooms where the study would be conducted. The data were completed in 4 separate classes with one-day intervals for a total of 4 days. Content analysis, one of the qualitative data analysis methods, was used for analysing the data obtained from the interviews and story completion.

Table 2. Data Collection Days

	Monday	*Tuesday*	*Wednesday*	*Thursday*
Morning attenders 1	X			
Morning attenders 2		X		
Morning attenders 3			X	
Morning attenders 4				X

Some strategies were used in the study to ensure validity and reliability. These are intra-method variability (triangulation), expert review, and observational reliability (Yıldırım & Şimşek, 2006). To this end, method diversification was achieved by making use of observation, interviews, and document analysis during the research process. In the presentation of the data obtained from the study, the data obtained from observation, interviews, story completion and children's drawings were presented in a qualitative perspective in a comparative manner.

Data Analysis

Content analysis method was used in the analysis of the data obtained from semi-structured focus interviews with children and interactive story completion activities conducted within the scope of Turkish language activities. In addition to this, an art activity was carried out with the children participating in the study to identify the extent of their benevolence and responsibility values. Before starting the art activity, the children were given some initial information about the pictures they would draw by asking them such questions as "Children, what is benevolence in your opinion? Who are helpful people?" Then the children were asked to draw a picture about the values of benevolence and responsibility by saying "*Would you draw a picture about benevolence*?" After that, the same process was carried out on the responsibility value and children were expected to portray their thoughts, opinions, and perceptions about the value in question. During the activity, the researcher interviewed each child who was painting, and asked what s/he was drawing or what s/he was thinking while painting, and took note of the child's thoughts and what s/he wanted to draw. The drawings of children collected at the end of this process were analysed using the document analysis method.

Validity and Reliability

Validity and reliability were ensured by some strategies, which are intra-method variability (triangulation), expert review and observational reliability (Yıldırım & Şimşek, 2005). In order to ensure validity in the study, the interview form and stories were examined by seven preschool education experts during the preparation process in terms of their suitability to the field, purpose, and comprehensibility, after which necessary corrections were made to make them ready to collect data. In the process of determining the participants, purposive sampling technique was used, and the data collection tool was explained in detail with examples of questions. In addition, direct quotes, which are frequently used in qualitative studies, were made, and validity studies of the study were carried out by explaining the data analysis method. In addition, detailed information was given on how data was collected and analysed during the data collection phase. The findings were used without comment to prevent data loss. Also, the study was supported by the researcher's notebook and reliability was strengthened by ensuring consistency among data.

Results

Activity 1

Results Obtained from the Interviews

In this part of the study, the interview findings were transcribed to the computer-based format to make content analysis, and the codes and themes were specified in line with the purpose of the research. Content analysis was conducted on the interviews in order to reveal the views on the benevolence and responsibility values of preschool children, and the interview documents were divided into codes and themes. Table 3 presents the preschool children's views on benevolence and responsibility values.

Table 3. *Results regarding the data obtained from the interviews*

Theme	Category	Code	*F*
Benevolence	People Other living beings	Helping family members	27
		Helping the elderly	22
		Helping animals	13
Responsibility	Tasks at school Tasks at home	Order	23
		Self-care	18
		Helping others	6

In order to determine the opinions of preschool children on benevolence and responsibility values, content analysis was performed on the interviews; relevant codes were created and classified under themes. In this regard, the views of preschool children on the value of benevolence were examined under three themes: "Helping Family Members, Helping the Elderly, and Helping Animals." Regarding the themes of helping family members and helping the elderly, which are under the heading of benevolence value, children mostly expressed their thoughts as helping parents at home, helping mother with cooking or making a cake, helping younger siblings with painting. In this context, Melisa said, "*My mother may need help while she is making a cake or cookies. At those times, I should help my mother,*" while Mahmut said, "*We should help the elderly, uncles, grandfathers, mothers. We should help old people cross the road*", and Mehmet said, "*When the weather is hot, some animals run out of water, we have to give them water then. We can leave water in a bowl*" to express their thoughts about the value of benevolence.

On the other hand, opinions of the preschool children in the study on the responsibility value have been examined under three themes: "Order, Self-care, and Helping Others." Regarding the themes of order, self-care and helping others, which are included under the value of responsibility, children mostly expressed their thoughts about the value of responsibility indicating such behaviours as knowing their responsibilities in the classroom, picking up their toys, keeping their rooms clean and tidy, and putting the items and toys they took back in their places. In this respect, Ece said, "*We*

should pay attention to what our parents say; we must not let go of their hands while walking on the road"; Elif Naz said, "*We should pick up our toys and put them in their places after playing games at home, we should not make a mess with them*". Furthermore, Emir expressed his responsibilities regarding nutrition and said, "*We should finish our fruits, we should finish our meal on our plate*", and Beyza expressed her opinions in relation the value of responsibility and said, "*We should sleep on time*".

In addition, a remarkable statement in the researcher's notebook regarding the interviews held at the start of the day is as follows:

> *"The interviews were less efficient than I expected. The children would not focus their attention on the situation. After the interviews, we had a short chat with the teachers. I also told them about the situation. I found out that the teachers, unfortunately, usually started the day allowing the children to play without having a start-the-day activity on the grounds that children cannot do activities without playing games first. In short, teachers do not follow the daily flow included in the 2013 preschool education program. Therefore, children do not know what it is to start the day, how to do it and what to talk about when starting the day. Despite this, we were able to collect satisfactory data"* (Researcher's notebook, 2019, p. 2).

Activity 2

Results Obtained from the Interactive Story Completion Exercise

At this stage of the study, the findings are related to the data obtained by reading the stories about the benevolence and responsibility values to the children as created by the researchers during the Turkish activities. The children were asked some questions about the values by stopping the stories at certain times and at the end of the story. The story about the value of responsibility was narrated as follows:

"Once there was a forest where everyone had a responsibility. There was an elephant called Tonton and a mouse called Vikvik, who took care of the cleaning of that forest. One day Tonton and Vikvik got bored of cleaning and started doing other things. Tonton and Vikvik just played games, and never cleaned up in the following days. Then the forest was so polluted that all the animals started to get sick. (1) Nobody understood what was happening. They did not understand why everyone started to get sick in the forest where no one had ever been sick before…

1- Why do you think the animals in the forest got sick?

2- Why was everywhere dirty in the forest?

3- Why do you think the order in the forest got deteriorated?"

The children were asked to answer the questions according to the flow of the story while telling them the story and at the end of the story. When asked "Why do you think the animals in the forest got sick?", Elif Nisa replied, "Because everywhere is full of garbage", and Asaf replied,

"Because they threw the garbage around", and Alperen said, "Because Tonton and Vikvik did not fulfil their responsibilities and they always played games". When asked "Why was everywhere dirty in the forest?", Elif Naz said, "Because they did not collect the garbage and threw it on the ground", and Ece said, "Tonton did not collect the garbage". All of the children who answered the question: "Why do you think the order in the forest got deteriorated?" stated that Tonton and Vikvik did not fulfil their responsibilities and therefore, the order was broken as a result of failing to collect the garbage.

The children were observed to answer the questions related to the story called, "Help and cheer up!", about the value of benevolence, in accordance with the flow of the story. As an answer to the question: "What do you think Tintin may have done when stuck in the tree" Eray said, "Tintin may have asked the squirrel to help him to be saved", while Semih said, "I think he said, brother Squirrel, I got stuck in the tree. Can you help me rescue?", and Elif said, "Tintin probably cried when he got stuck in the tree. He asked the squirrel for help and the squirrel saved him".

When asked "What do you think the squirrel may have done when he saw Tintin stuck in the tree?", all of the children said, "*The squirrel must have helped Tintin.", or "He helped and saved Tintin*". As an answer to the question: "Why didn't Tintin ask for help when he got stuck in the tree?", Beyza said, "*Because Tintin didn't help anyone either*", while Ayşe Tuba said, "*Because Tintin thinks helping is a bad thing*".

The findings about interactive story reading showed that the children who participated in the study gave proper answers to the questions in accordance with the purpose of the story. It was also observed that the children listened to the story carefully, and were able to establish a cause-effect relationship and make inferences in the context of the story. Based on this, it can be concluded that the children participating in the study have a certain level of morality regarding responsibility and benevolence values.

Activity 3

Results Obtained from the Children's Drawings

In order to determine the children's experiences on the subject and to understand what these values mean for them; the researchers used the children's drawings. Children were asked to portray what the values in question meant to them and what came to mind about responsibility and benevolence. After making the necessary explanations, the researchers did not interfere with the children. The children were, therefore, expected to portray their pure thoughts and perceptions of the values. In addition, the researchers took notes about the pictures by asking the children, whose picture was finished, what they had drawn.

In this section, there are findings of children's drawings about the responsibility value.

Picture 1. Tuba is 5 years old. In this picture, she tries to explain her sense of responsibility by indicating the necessity to keep her room clean and tidy. The lines depicted on the top of the closet represent her tidied-up clothes. Nothing seems messy in the room.
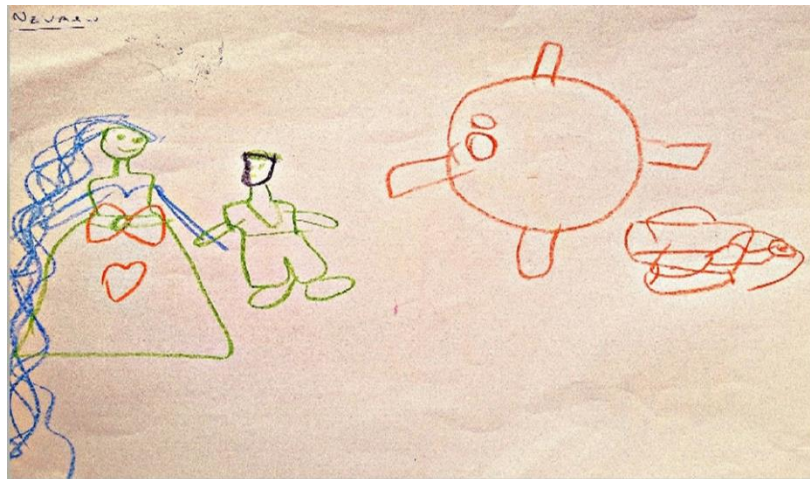
Picture 2. Neval is 5 years old. In this picture, she helps her mother with setting the table. She draws hearts on her mother's dress because she loves her very much. Her mother's hair looks very long and beautiful. Neval leaves the plates on the dining table in order.

Picture 3. Elif is 5 years old. In this picture, she gets up in the morning and tidies up her bed. The colour orange represents the toy locker and the colour blue the wardrobe. Everything is neat and in right place. Elif considers tidying up her room as her responsibility.

Picture 4. Egemen is 4 years old. In this picture, he and his brother are picking up the toys scattered around his room. The yellow circles represent the scattered toys. Egemen states that they will collect the toys and put them in the yellow closet. In his painting, Egemen seems to emphasize the value of responsibility by tidying up his room, and the benevolence and helping-others values by doing it with his brother.

Picture 5. Derya is 4 years old. In this picture, she goes out with her mother and does not let go of her mother's hand. Derya considers not leaving her mother's hand as a responsibility. She also tries to illustrate that they will water the flower. She states that because the weather is hot, the flower can dry out, so it should be watered.

As can be seen in the pictures above, the children mostly consider the responsibility value as tidying up their rooms, helping their mothers with the housework, and picking up their toys. These findings support each other with those obtained from the interviews and story completion activity.

Pictures on the Benevolence Value

In this section, there are findings of children's drawings about the benevolence value.
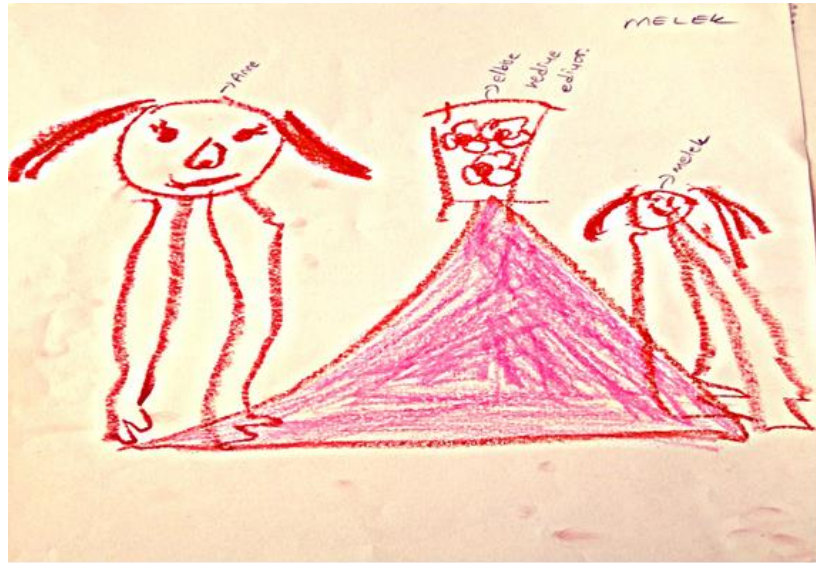
Picture 6. Melek is 4 years old. In this picture, her mother buys Melek clothes as a gift. Melek considers her mother's buying her clothes as a way of helping her. Melek expresses that she is happy when she receives a gift from her mother.

Picture 7. Ayşe is 5 years old. In this picture, her grandfather and grandmother are very old and have trouble walking. Ayşe takes them to the park and helps them walk. She expresses benevolence as helping her elders. Her grandparents do not see very well so Ayşe tells them what she sees outside.

Picture 8. İrem is 5 years old. In this picture, she gives an aid package to a person in need of help. She separates the concept of benevolence from the family context and considers it as helping people in need. She emphasizes that people in need of help should be helped. Helping people in need makes İrem happy.

Picture 9. Fuat is 4 years old. In this picture, Fuat helps a friend who falls to the ground and lifts him up. Similar to Figure 8, helping each other is expressed as helping other people outside of the family, showing us that children are able to relate some values to different people outside of the family.

Picture 10. Aysenur is 5 years old. In this picture, she waters the water-thirsty plants in the sun, showing that plants can also be helped. She states that if they are given no water, they can dry out. Pictures 8 and 9 represent that the children participating in the research can relate the values in question to other people apart from their family members. Picture 10, however, represents a higher-level mindset that cares about a non-human creature, is aware of its need for water for its survival, and tries to meet this need. Also, in this picture, Ayşenur demonstrates not only the responsibility value but also the benevolence value.

The pictures above show that the children participating in the research mostly consider the value of benevolence as something interpersonal and human-oriented such as helping the elderly, helping people in need, or helping a friend. A different result emerging from the findings of the study is that the preschool children participating in the study also depicted benevolence with nature and plants, that is, a non-human being. This finding is deemed very important as it may be an indication that it is possible to help all living beings apart from human beings, and that multi-dimensional thinking as well as a more universal and moral mindset can develop in children at this age.

Conclusion and Discussion

The findings obtained using multiple data collection methods by focus group interviews, interactive story activities, and art studies reveal that the perceptions of preschool children about the values of benevolence and responsibility support one another in 3 different data groups.

The Development of Responsibility Value in Children

The participants expressed their opinions about the responsibility value with acts such as picking up the toys at home and school, keeping their rooms clean and tidy, and putting the items and toys back in their places. In the literature, Chandler, Greenspan, and Barenboim (1973) stated that children under the age of 7 are often able to take into account the intentions behind actions rather than the results in value-laden actions, while Aydoğan (2020) stated that children aged 5-6 are able to

make a moral judgment, considering the intention of the behaviour resulting in either personal or property damage.

Similarly, theory of mind argues that preschool children with more advanced mental skills are able to distinguish knowingly or unknowingly between moral value-related actions, and that they make their moral judgments not only according to the result of the action but also by considering the intention under it (Killen, Mulvey, Richardson, Jampol, & Woodward, 2011). A variety of studies on children's moral development have shown that children aged 3 and 4 evaluate moral violations based on internal judgment rather than result-oriented perceptions such as a teacher's exercising his/her authority or punishment (Smetana, 2006; Turiel, 2006; Yuill, & Perner, 1988). In addition, there are many other studies reporting that preschool children are aware of moral rules (Meriç & Özyürek, 2018; Seçer, Çağdaş, & Seçer, 2006; Walker, 1984).

The Development of Benevolence Value in Children

The first notable result of the study on benevolence value is that children primarily define benevolence in their relationships with family members (helping siblings while doing activities, helping parents, helping mothers in the kitchen, etc.) The second important conclusion about benevolence is that children describe it as doing good to people who are older than themselves, people in need (homeless, economically disadvantaged people), and a classmate, apart from family members. The most important result that emerged from the findings of the study is that the children participating in the study also associated benevolence with nature and plants, that is, a non-human being. This finding is deemed very important as it may be an indication of young children's understanding that, apart from human beings, all living beings can be given help, as well as of multi-dimensional thinking and a more universal and moral mindset that can develop in children at this age.

In the literature, in a study of values conducted with preschool children aged three, four and five, Sapsağlam (2017) concluded that children perceive values correctly and demonstrate proper behaviours.

The study by Yüksel et al. (2015) conducted with children aged 5-6, children on the concepts of "good and bad" reported that children draw the values of love, friendship, responsibility and goodness in relation to the concept of "good". Günindi (2015), on the other hand, investigated the perceptions of preschool children about "love", and concluded that children describe the value of love in association with family members and friends by illustrating flowers, balloons, clouds, and hearts.

In general, values education is shared among three institutions, namely family, religion and school (Lickona, 1991). And parents are considered to be the closest people and first teachers of children in the 0-6 age group in terms of meeting all their needs (Gordon, 1993). Values education and consequently moral development are considerably influenced by family expectations (Wiley, 2000). Children can acquire skills, attitudes and moral values about society with the influence of

parents and social environment (UNICEF, 2012). In this context, contrary to the moral development theory of Piaget based on the belief that "*preschool children think in a result-oriented manner in moral situations because abstract thinking has not yet developed in them*", the preschool children in this study were observed to develop moral values and demonstrate such values in appropriate social environments. Based on this, it can be assumed that preschool education institutions equipped with proper social environments and rich stimulants can play an important role in moral development.

Moral Development in Early Childhood Education

The above-mentioned results for the moral development of children and the results of this research have been obtained on the basis of Piaget's moral development theory and can be expressed as an application of his ideas about children's cognitive development. In this context, Piaget's argument suggesting that the moral judgments of children differ depending on their age can be acceptable. However, the results of this study and the those of other scientific studies conducted in recent years have found different results from Piaget's moral development theory, and contrary to the theory, it has been concluded that children can have moral judgments in the preschool period. This can be explained by social learning theory. On the basis of this theory, there is an indirect learning based on observation and imitation of the behaviours of others (Bandura, 1977). In the theory suggesting that human beings learn as a result of the mutual interaction of individual, environmental, and behavioural factors, Bandura (1977) argued that an individual does not need to learn everything directly, but can learn many things by observing the experiences of others. Hence, it can be assumed that the communication and interaction of the children participating in the study with their friends, teachers and other social environment during the education process is effective in their development of moral judgments and moral values.

To date, many developmental studies conducted pertaining to early childhood have focused on children's emotional responses to the intention or result of blaming and punishment based on a single scenario (Killen, Mulvey, Richardson, Jampol, & Woodward, 2011). These have mostly been structured in such a way that contain situations forcing one to choose either of two situations, thus increasing the probability. Given that point of view, there are three remarkable factors to distinguish this study from the others. The first of these is that this study determined the real perceptions of children about the given situation by presenting them open-ended situations instead of a single scenario consisting of two structured situations. This technique revealed the real perceptions of the children regarding the values as the probability was considerably lowered. The second is that instead of collecting a single type of data from the children participating in the study, 3 different data groups (interviews, interactive stories, children's pictures) were used to verify one other. The most important feature that distinguishes this study from others is that the children participating in the study also associated moral values with nature and plants, that is, non-human beings. This finding is considered very important as it may be an indication that apart from human beings, children are capable of

considering that non-human beings can also be helped, and that multi-dimensional thinking and a more universal and moral mindset can develop in children at this age.

Disclosure statement

No potential conflict of interest was reported by the author.

Limitations

- This study is limited to:

  ❖ the pictures drawn by the children about the values in question,

  ❖ their responses to interactive value stories,

  ❖ and their responses in a semi-structured focus interview about values.

Recommendations

- This research was conducted in a moderate social and economic setting. The results can be compared by conducting other studies in different social and economic settings.

- Based on the limitations of this study, a further study can be planned in which data are collected both quantitatively and qualitatively. In this way, research results with higher validity and reliability can be obtained by achieving a method, data and observer triangulation, that is, complex triangulation.

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Why Do University Students Prefer YouTube to Learn and Study?

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Abstract

YouTube has over 2 billion users who watch YouTube videos regularly. It is one of the social media platforms that increase its popularity in the last years with its use in educational purposes in various grade levels. The purpose of this study is to investigate the factors that make university students use YouTube for learning and studying. Firstly, it looks into the reasons that make university students prefer YouTube for learning and studying. Secondly, it examines the factors that university students consider during content selection on YouTube. The qualitative research design methodology is used in the design of the study. Data is collected through the interviews that held on face to face. The study emerged that the reasons that motive university students to use YouTube in the learning process are individual learning needs, manageability, limitations of face to face education, and availability of conditions. Besides, the study showed that university students also consider some criteria while selecting content on YouTube. They mostly consider the appropriateness of content to their interest, popularity, thumbnail image, and reliability of sources. The results of the study can be helpful for content developers to understand the needs of university students in digital platforms. Furthermore, the results can give feedback to instructors on universities to understand the gaps in face-to-face education. Besides, the results also help to understand the mindset of university students during content selection in social media.

Keywords: YouTube, Content Selection, University Students, Studying and Learning

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Introduction

YouTube is one of the social media platforms that describe its mission to allow everyone to express themselves, make themselves heard, and know about the world we live in (YouTube, 2020). YouTube has over 2 billion users who watch YouTube videos regularly. Most of the users of YouTube are between 18-34 ages. According to statistics published by YouTube, people watch over one billion hours of video in a day via YouTube (YouTube, 2020).

YouTube is one of the social media platforms that increase its popularity in last years with its use in classrooms as an educational tool (Fleck, Beckman, Sterns & Hussey, 2014; Fleck, Richmond & Hussey,2013; Sherer & Shea, 2011). It is used for the instruction of different subjects like anatomy learning (Barry et al., 2016), mental health education (Lam & Woo, 2019), biology education (Dy, Aurand, & Friedman, 2019), clinical education (Rangarajan, Begg, & Somani, 2019), surgical education (Farag, Bolton, & Lawrentschuk, 2019; Rapp et al., 2016) and music education (Cayari, 2018).

YouTube not only used by university students its also used by children. A study conducted by Lien, Liew, Wong, Yee, & Yoon (2019) shows that 10-12 aged children use YouTube for information seeking, entertainment, and convenience of YouTube use. It means that YouTube is not only used for its funny and informative functions but also used for easiness and suitability for users even at young ages.

Besides, according to Duffy (2008), YouTube has the potential to create a learning community in which learners from all over the world come together and can create content, discover together and share their findings. These aspects of YouTube make it an informal learning space (Fisher & Ha, 2018). Therefore, it used widely by the persons who want to develop skills in particular areas or who want to learn activity for pleasure.

Social media platforms, including YouTube, become an alternative way to reach higher education. According to Gilroy (2010, p:22), social media has changed the way that "public interact with and perceives higher education." It means that higher education becomes more open to the public and more reachable for them with social media. In other words, social media gave a chance to reach the contents that are provided by the most prestigious universities in the world. Persons can reach the materials and videos presented by the faculty from the top-line universities like MIT via social media. When these are considered, YouTube becomes an attractive platform for learning and studying. Also, it plays a role in encouraging lifelong learning and meeting on-demand learning needs of persons.

To meet the learning needs of students, content developers should know the needs and the preferences of university students in social media platforms (Berk, 2009). This study attempted to investigate the factors that make university students use YouTube for learning and studying. Firstly, the study examines the factors that university students consider during content selection on YouTube.

Secondly, it looks into reasons that make university students prefer YouTube for learning and studying. The results of the study can be helpful for content developers to understand the needs of university students in digital platforms. Furthermore, the results can give feedback to instructors on universities to understand the gaps in face-to-face education. Besides, the results also help to understand the mindset of university students during content selection in social media

Method

Design of the Study

The qualitative research design methodology is used in the design of the study. The reason for selecting a qualitative design is to have a deeper understanding of the students' usage of YouTube as a source for learning and to understand the factors that make charming YouTube for them. We think that the qualitative study is the best way to understand the meaning of YouTube for university students (Maxwell, 2008).

The participants of the study are 16 university students who use YouTube actively to learn and study. Purposeful sampling is used in the selection of participants who uses YouTube regularly to learn and study.

Table 1. Personal Information About the Participants

		f (n=16)
Gender	Female	9
	Male	7
Grade Level	Prep. School	2
	Freshman	8
	Sophomores	2
	Juniors	2
	Seniors	2
Device	Smart Phone	11
	Desktop Computer	8
	Tablet PC	3

The personal information of the participants is given in Table 1. Participants have constituted nine female and seven male students. The vast majority of participants are freshmen (n=8), and there are two students from preparation school, sophomores, juniors, and seniors. The average age of the participants is 20. The ages are changed between 18 and 24. Most of the participants use a smartphone (n=11) during studying on YouTube. The majority of the participants are from the Faculty of Education (n=7), and it is followed by the faculty of Arts and Science (n=5) and the Faculty of Engineering (n=4).

Data Collection

Data is collected through the interviews that held on face to face. Each of the interviews has lasted an average of 10 minutes. A semi-structured interview form is used during the interviews. The interview form includes demographic questions and the questions that investigate the university students' YouTube usage behavior like how they select the video on YouTube, what factors they consider while choosing videos and why they apply to YouTube to learn and study.

Data Analysis

For analysis of the data, the procedures of qualitative data analysis that are proposed by Creswell (2009) are used. Firstly, data were transcribed and then read carefully. After that coding part was started. Maxwell (2008) defines the coding as the emerging of a set of categories from the raw data. For the categorization, the raw data is divided into small meaningful segments, and then the segments are named. These named segments constituted the codes. After that, the codes are read again and similar codes are collected together. The groups that constitute similar codes emerged the themes presented in the results section.

To ensure the reliability of the study, coding was made by two researchers. Some of the coding were made separately and then emerging codes were compared in a meeting. Remaining codes emerged in regular meetings with the participation of the two researchers. Furthermore, to calculate the agreement ratio between the two coders, the formula proposed by Miles and Huberman (1994) was used, and 82 % agreement was found between the coders.

Results

This study investigates the factors that orientate students learn from YouTube and the criteria they consider during content selection. We interviewed with the university students to explore these issues. The results of the interviews are presented in this section.

Reasons to Use YouTube in the Learning Process

The reasons that orientate university students to YouTube for studying and learning will be presented in this section. Table 2 shows the reasons that make university students use YouTube for studying and learning.

Table 2. The Reasons to Use YouTube for Learning and Studying

Theme	Code	*f*
Individual Learning Needs	Preparing for Exams	12
	Learning new subjects	12
	Recall of prior knowledge	8
	Absenteeism in Lecture	3
	Different instructional approach	2

	Doing homework	2
	Eliminating the misconceptions	1
	Reconstruction of knowledge	1
Manageability	Pausing/playing	6
	Skipping	3
	Adjustment of Pace	2
	Adding Subtitles	2
	Replaying	1
Limitations of Face-to-Face Education	Not being able to understand in lectures	8
	Lack of additional sources	3
	Not being able to meet individual learning needs	2
	Solving a limited number of questions in lectures	1
Availability of Conditions	Accessibility	12
	Diversity of choices	10
	Takes less time	9
	Flexibility in studying hours	2
	Networking with persons who are expert in the field	2

The reasons that orientate university students to YouTube for studying and learning are collected under four themes; individual learning needs, manageability, limitations of face-to-face education, and availability of conditions.

Individual Learning Needs

The first theme under the reasons to apply YouTube is individual learning needs. The results of the study showed that students are frequently using YouTube for preparing for exams (n=12). The research emerged that university students need a source that can summarize the subjects coherently and quickly, especially before the exams. Therefore, YouTube became an area that university students can find what they need before the exams. Participant 16 stated that "I apply for YouTube mostly during the midterms and final exam period." Exam preparation is one of the reasons that orientate students on YouTube.

They also indicated that the second reason for them to use YouTube for learning is to learn new subjects (n=12). University students reported that YouTube provides much further information about different topics. They also expressed that they can find information about a variety of subjects which are typically not related to their major, but they have an interest in it. Participant 9 expressed that s\he uses YouTube to learn about the topics that s\he interested in.

The other reason that university students use YouTube is the recall of prior knowledge (n=8). University students indicated that sometimes they need recalling previous knowledge that is learned

before current education. In such situations, they prefer using YouTube instead of looking at earlier notes or books. Participant 15 explained the case as the following;

Instructors assume that we know something, but I need to recall the previous topics. I will either look at high school notebooks or look at the videos for that. The videos are good for me as they give essential issues.

One of the reasons that make students use YouTube for learning is absenteeism in lectures (n=3). University students indicated that they could not attend all of the lectures due to several reasons, and in such times, they have a need to learn the topic from a source other than a book. In such a situation YouTube became a rescuer for them that enables them to learn the lesson from an expert like a professor in a famous university. Participant 11 indicated that "Something happened that day; you didn't go to class. Where else can you learn? If you tell your friend, he won't have time. After all, the person in the video is a faculty member and expert."

The other reason is the search for a different instructional approach (n=2). The participants of the study indicated that sometimes they have a need to learn the lesson from different lecturers, to see different viewpoints about the subject, and to learn different solutions about the problems they search for. In such times, YouTube allows them to reach a variety of experts and lectures about the issue they search for. Participant 15 expressed that "It is good to listen to the lesson from different teachers."

It is also found that one of the reasons to use YouTube in the learning process is doing homework (n=2). University students expressed that they are using YouTube as a source when they are doing homework. University students also think that YouTube can be a good source for eliminating misconceptions (n=1) and reconstruction of knowledge (n=1). They expressed that since they can see different viewpoints on YouTube, they can realize and fix the misconceptions, and they can reconstruct the knowledge in their mind.

Manageability

The second theme under the reasons to use YouTube in the learning process is manageability. This study revealed that students' ability to manage their learning processes on YouTube was one of the reasons that encouraged them to use YouTube in their learning process. The participants of the study indicated that, the chance to pause and play (n=6) when they need, the opportunity to skip (n=3) the parts they know or understand, the chance to adjust the pace (n=2) of the content, the opportunity to add subtitles (n=2) and the chance to replay the content (n=1), encourage university students to use YouTube in their learning process. Participant 11 says that

You can adjust the speed. For example, I usually watch at 1.25 speed; it gets shorter. You can pass where you want. You can take the video wherever you want. You control the time yourself. When you think it became more efficient.

As can be understood from the quotation, the manageability on YouTube becomes an incentive for university students to study and to learn from YouTube.

Limitations of Face-to-Face Education

The third theme under the reasons that make university students use YouTube is the limitations of face-to-face education. University students indicated that they apply YouTube when they do not understand in face to face lectures (n=8). Participant 4 stated that "I get support from YouTube when I have a problem on a subject or when I don't understand the subject."

The other reason that is stated by university students is the lack of additional sources (n=3). They expressed that they can find a vast number of sources, examples, and summary information on YouTube, and therefore, they prefer to use YouTube in their learning process. Participant 10 indicated that "Books are a bit heavy and difficult to find, of course, there are libraries, but sometimes we don't have time to go to libraries."

The other reason that emerged through the study is the inability to meet individual learning needs (n=3) and solving a limited number of sample questions in face-to-face lectures (n=3). Students reported that they apply YouTube to see more examples on the topic.

Availability of Conditions

The last theme under the reasons to apply YouTube is the availability of conditions. The first reason under the availability of conditions is accessibility (n=12). The study emerged that students use YouTube in their learning process due to they can reach it easily from anywhere and at any time. Participant 9 indicated that "It is easy to reach, I can reach it with my phone directly," and Participant 13 said that "I have easy and free access to open courses and expert content from best universities in the world."

The other reason that makes YouTube attractive for university students is the diversity of choices (n=10). Students indicated that since they can find several different contents in many different subjects, YouTube became an attractive learning tool for them.

One of the reasons that affect the use of YouTube in the learning process is it takes less time (n=9). Students indicated that since they can find the exact subject that they look for and there is the essence of what they need, it takes less time to study a subject from YouTube. Participant 15 stated that "We see more solutions in a short time… Thick book is intimidating, I save time there and learn in a short time."

Lastly, it has emerged that students use YouTube in their learning process due to flexibility in studying hours (n=2) and networking with persons who are experts in the field (n=2). University students indicated that chance to reach content whenever they want, and the opportunity to network with experts are good reasons for them to use YouTube for learning.

Content Selection Factors in YouTube

The factors university students have taken into consideration while selecting the content on YouTube were also investigated in the study. Table 3 shows the factors that university students consider while selecting digital content.

Table 3. *Content Selection Factors*

Theme	Code	*f*
Preference Factors	Appropriateness to interest	10
	Popularity	8
	Interesting topic	7
	Thumbnail image	6
	Reliability of sources	6
	Up-to-dateness	1
	Comments	1
	The language of the content	1

Results showed that university students often paid attention to the appropriateness of the content to their interest (n=10). They indicated that if the content seems appropriate to their interest, they choose the content for studying. Participant 3 stated that "I choose the videos that are appropriate in my interest."

The second issue that they pay attention to while selecting digital content is popularity (n=8) of the content. The study revealed that there was a perception in university students that if the number of views is high, the content is high quality. Participant 11 indicated that "ıf the number of views is high; this video is a good one."

The third issue that university students consider in selecting content is interesting topic (n=7). Students indicated that if they find the topic interesting, they choose the content. Participant 8 stated that "I watch the videos that are interesting."

The fourth issue that makes students select content is the thumbnail image (n=6). The study revealed that the thumbnail image is seen as a summary and representative of the content. Students expressed that if the thumbnail image is attractive, they open the content.

The other issue that university students pay attention to is the reliability of sources (n=6). University students indicated that they investigate the person who prepared the content and the sources used in the preparation of the content. Participant 1 noted that "I search about the person who prepared the video; I search for graduated university, department, and previous studies." Besides, participant 9 said that "I try to find the content that I believe in its reliability."

The other issues that university students pay attention to while selecting content are up-to-datedness (n=1) and comments (n=1). University students indicated that they have a quick look at the comment about the content before choosing the content.

The last issue is the language of the content (n=1). University students indicated that language is also crucial for university students. They are selecting the videos that are prepared in a language they can understand.

In conclusion, this study investigated the use of YouTube by university students as a learning tool. Results show that as well as university students use YouTube for relaxation and fun, they also use it for learning. The study emerged that the reasons that motive university students to use YouTube in the learning process are individual learning needs, manageability, limitations of face to face education, and availability of conditions. Besides, the study showed that university students also consider some criteria while selecting content on YouTube. They mostly consider the appropriateness of content to their interest.

Discussion, Conclusion and Recommendations

In this study, the opinions of university students about the reasons why they chose YouTube for learning and studying were investigated. YouTube is the most popular video platform for university students for both entertainment and education. Literature shows that there are studies about YouTube that focus on the educational aspect of YouTube (Burton, 2008; Clifton & Mann, 2011; Jones & Cuthrell, 2011; Murugiah, Vallakati, Rajput, Sood, & Challa, 2011). Studies show that YouTube can be used as an effective and innovative medium of instruction (Jaffar, 2012; Krauskopf, Zahn, & Hesse, 2012).

In this study, we investigated the factors that university students have taken into consideration while selecting the content on YouTube. University students mostly prefer the contents that are interesting for them or popular in social media. Furthermore, thumbnail image, reliability of sources, up-to-dateness, comments, and language of the content also has a vital role in the content selection of students on YouTube. Shoufan (2019) also found that interestingness and language is one of the factors that make university students like the content on YouTube. Researches on the literature show that when people are interested in something, they become more likely to pay attention to it, orient toward it, and eventually learn about it (Bergin, 1999; Hidi, 2001). The results of the study done by Bonk, Lee, Kou, Xu, & Sheu (2015) show that curiosity, desire to learn, information seeking, and need to self-improvement are effective in the usage of the web for learning. As proved with studies in the literature and showed in our study, the interest is one of the encouraging factors that make students use web environments, including YouTube for learning.

YouTube is a space for informal learning. Informal learning environments are not only learning environments but also has an entertainment dimension. Therefore, the quality, reliability, and

suitability of the content could vary in informal learning environments, including YouTube (Kocyigit, Nacitarhan, Koca & Berk, 2019; Tan, 2013). Hence, it is natural that participants stated that they consider the "reliability of sources" while selecting learning content on YouTube.

The reasons for university students' use of YouTube for learning and studying are collected under four themes. These can be listed as individual learning needs, manageability, limitations of face to face education, and availability of conditions.

There are studies in the literature that shows the first multimedia environment that students apply for their individual learning needs is YouTube (Mercer 2011). People can create a digital and social community of learning with others who have a similar interest or expertise via YouTube; therefore, it became a popular area for informal learning (Lee & Lehto, 2013). As supported by other research in the literature, YouTube is seen as an essential platform for persons to meet their individual learning needs. This study also shows that students generally use YouTube videos to meet their individual learning needs, such as preparing for the exams, learning new subjects, recall of prior knowledge, and the learn the subjects of the course that they did not attend. Richards-Babb, Curtis, Smith, & Xu (2014) also found in their study that students watched problem-solving videos for exam preparation. It means that YouTube is used for the persons both to meet the informal learning needs and meet deficiencies of formal learning needs.

The other reason for the use of YouTube videos for learning is manageability. The chance of pause and replay, skip, pace adjustment, and adding subtitles encourages students to use YouTube videos in their learning process. In a study done by Ranga (2017), YouTube videos are used instead of face-to-face sessions. Results show that pause and re-watch when they needed gave the students the chance to learn at their own pace. It means that, while learning from videos, students wanted to pause, skip, and adjust video according to their study plan; in brief, they want to manage the video.

The other reason that students orient in YouTube videos for learning is to meet needs that are not met in a face-to-face learning environment. Results indicated that students go to YouTube videos when they cannot understand in lectures and cannot find additional sources. Raikos and Waidyasekara (2013) found that students follow the videos when they are easy to interpret during their learning process. In addition, Chtouki, Harroud, Khalidi, & Bennani (2012) proposed that students easily comprehend and recall the complex concepts when they are studied with videos which have visual explanations. It can be interpreted that the facilities of YouTube, like having easily understandable videos, including visual representations, also make university students use YouTube for learning.

The other result of the study is university students use YouTube due to its availability. Students indicated that there are subjects that are not learned during face-to-face education, and YouTube is easy to access and has available conditions for learning. Jaggars (2014), in her study about the comparison of online and face-to-face courses, showed that online classes are found more

efficient in terms of it is flexibility, convenience and time efficiency by some of the college students. Also, Ranga (2017) proposed that YouTube gives students a chance to reach videos 7/24 without any time and place restrictions. Therefore, the accessibility of YouTube makes it a preferable learning area for university students. The other charming point about YouTube is the diversity of choices. Similar to the results of our study, Bonk, Lee, Kou, Xu, & Sheu (2015) found that an abundance of resources, having alternatives, having control over resources, and learning new subjects are essential for users to choose YouTube for studying and learning. In short, the factors such as accessibility, diversity of choices, and easiness to use of YouTube makes it available and preferable for university students.

University students are the members of the digital generation, they are always connected to the digital world, and they also expect to always-on learning environments. Karakas and Manisaligil (2012) have some advice to nurture the members of the digital generation; to give open access to educational resources, to give time and opportunity to learn at their own pace and according to their interests. Results show that YouTube has the potential to respond to these needs of the digital generation. In this platform, members of the digital generation have an opportunity to learn with the multimedia environment, share their ideas with people around the world, interact with the people who have similar interests. With this aspect, YouTube becomes a chance to overcome the gaps related to time and sources; furthermore, it brings flexibility and choice to learning environments.

It can be inferred from the results of this study that YouTube is preferred in the digital age we are in and will be preferred in the future for entertainment and reorienting self-directed learning. For university students, meeting individual learning needs and having control of the learning environment are essential reasons to prefer YouTube for learning and studying.

It is advised to instructional designers, researchers, and content developers, who develop multimedia content for YouTube and similar social media platforms, that they should consider university students' individual learning needs and their desire to have control over the learning environment. In short, designers and developers should consider the voices of university students while creating new content for digital platforms.

Directions for Future Research

We conducted qualitative research to understand the reasons for the university students to use YouTube to learn and study and the criteria they consider in the content selection process. One to one interview transcripts were the data sources of this study. In future researches, the analytics about the participants' online transactions on YouTube could be used as an additional source to triangulate the findings of the study.

Secondly, we investigated the reasons for university students to use YouTube for studying and learning based on qualitative data. Based on qualitative data analysis, some themes and codes were derived. These results can be used for the scale development of the online learning needs of university students. In this way, the results found in this study could be supported by the quantitative research findings.

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Good to Have an Ambitious Ranking Policy, but How about the Realities? Analysing the Ranking Goals for an Emerging Higher Education Hub

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Abstract

Within the global higher education structure, many nations have followed various strategies to become one of popular destinations for international students. Similarly, employing national strategy focusing on internationalisation, Turkey achieved to become an emerging regional hub as the tenth most popular destination for international students. Then, as its new national goal, Turkey recently announced ranking targets at the end of 2019 to have universities in the global top 100 until 2023. Therefore, Turkey's national targets present a suitable case to determine the areas of priority that are need for development and improvement in selected universities by comparing the input-output status of Turkish universities with its international competitors. Benefitting from their ranking scores and website reports, financial and human resources and scientific performance of designated universities were compared to be able to evaluate the attainability of these challenging ranking goals. The results revealed that although financial power is critical for examined universities, without talented research-workforce no chance to seriously improve ranking performance for any university. Considering its mid-profile to attract well-known international researchers, it seems Turkey as well as other emerging economies have to raise their own stars. Possible recommendations were then discussed to expedite universities' ranking performance.

Keywords: International University Rankings, National Ranking Policies, Turkey Ranking Targets, University Development Inputs, University Ranking Outputs.

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Introduction

Since the beginning of the 21st century, the increasing number of global funders and the circulation of a large international student body have led the field of higher education (HE) to become a global sector. Despite much technical and theoretical criticism (see details in Uslu, 2020), many universities highlight their position in the international rankings to convey the message that "we are better than others" in the global competition to attract funding and students (Hazelkorn, 2015; Heffernan & Heffernan, 2018). As a result, many countries such as Germany (DFG, n.d.), Australia (ERA, n.d.), China (PREC Edu Services, n.d.), Russia (5top100, n.d.) and Turkey (Presidency of Turkish Republic, 2019) have implemented national policies to support and further the international ranking of their universities. Naturally, the attainability of strategic goals related to rankings is always a challenging, open question for all countries.

Universities are institutions in the smokeless industry sector that host humanity's scientific quests and research (Ergüder, 2015). Through scientific, technological, or social achievements, universities make their name known and become brand institutions in their own countries and even all over the world (Angervall & Beach, 2020). Some countries are proud to have such brand universities and seek to continue this success with further innovations. For example, Germany had two of its universities and Australia had a total of five universities in the ARWU 2003, which is the oldest international university ranking system (ARWU, 2003). These two countries continue to implement similar policies to increase the success of their universities in international rankings. With the performance-based Excellence Initiative (DFG, n.d.) carried out since 2005, Germany achieved a similar accomplishment as in ARWU2003, being able to position seven German universities in the top 150 of ARWU 2020 (ARWU, 2020). Likewise, Australia managed to increase the number of universities in the top 100 to seven thanks to its Excellence in Research for Australia (ERA, n.d.) policy, which also includes performance-based budgeting. As the more-than-satisfactory yield of the adopted budgeting system based on performance criteria such as publications, citations and patents, the Australian government states that the majority of country-addressed publications (according to the number of citations they receive) are above the world average in terms of impact (ARC, 2018). For Germany, on the other hand, although performance-based budgeting contributes to an increase in the number of publications, its influence on citations is following a downward trend (Matthews, 2020).

Another country is China, which was perhaps the very first to develop and implement a national policy to improve its universities' position in international rankings. China's "World-Class University (WCU)" policy started in the mid-1990s (PREC Edu Services, n.d.). Through this WCU 1.0 policy, the Chinese government identified successful universities based on criteria such as publications, citations and patents and supported these universities with generously high budgets (Wang et al., 2011). With this policy, the first Chinese university was ranked in the top 100 (58th place) in 2016 (ARWU, 2016). As a result of the WCU 1.0 policy in China, some researchers (Wang

et al., 2011; Yang & Welch, 2012) point out the remarkable progress made by universities that are considered exemplary in China. However, others warn that the top-down operation of this policy implemented by the Chinese government creates unfair competition among Chinese universities due to extra support given to some universities, conflicts between different stakeholders of the benchmark-based staff regime adopted, and quality concerns brought on by the rapid increase in international student acceptance (Huang, 2015; Song, 2018).

Yet the Chinese government increased the number of universities selected through the policy of "Double World Class University (WCU 2.0)" in 2017 and continued to provide extra support for these universities (PREC Edu Services, n.d.). The result was that China succeeded in having 6 ranked universities in 2020. (ARWU, 2020). However, Xu Zhihong, a former President of Peking University, outlined three critical features of world-class universities, as follows: i. hosting famous professors with an international research profile, ii. achieving a profound impact on socio-economic development both in the country and globally, and iii. graduating students who can contribute to human civilisation (see Yang & Welch, 2012, p. 646). Considering these features, Song (2018) argued that "finding a way of coordinating the features of 'World-Class' and 'Chinese Characteristics' is not easily achieved" (p. 729).

Similarly, Russia, which preferred to financially support universities determined according to science-technology productivity and impact criteria, initiated its policy aiming to have 5 universities in the top 100 in 2013. (5top100, n.d.). Despite this country-wide policy, no Russian university appeared in the top 100 in the 2020 ranking except for one in the 2004 rankings (ARWU, 2004; 2020). Top universities competitively selected with Russia's Excellence Program since 2013 have received substantial financial support (Matveeva et al., 2019). Although this extra support contributed to the improvement of the publication performance of selected Russian universities (Poldin et al., 2017), so far it has been insufficient to place a second university from Russia in the top 100 rankings. Considering that countries such as Germany and Australia, which already had universities in the top rankings, continue to implement strategies for further development and it took 20 years with the WCU policy for China to gain a place with just one university in the top-100, it is not surprising that Russia's 5top100 policy has not achieved the expected success in about 7 years.

Although performance-based university selection and budgeting strategies produce slow results in terms of ranking success, they appear to be the most preferred policy around the world. Indeed, achieving previous national strategy focusing on internationalisation in higher education (Çetinsaya, 2014), as being the tenth most popular destination for international students (YÖK, n.d.a), Turkey has become one of emerging regional hubs of global higher education (Kondakci, Bedenlier, & Zawacki-Richter, 2018). Then, in July 2019, the Turkish government announced the new national goal of achieving success in rankings by 2023 (the 100th Anniversary of the Republic of Turkey), attaining places at least for two universities in the top 100 and for five in the top 500 (Presidency of

Turkish Republic, 2019). This appears to be a challenging target considering that the Turkish HE system, which consists of 207 universities, around 180,000 academic staff and 8 million students, has yet to claim a top-100 university. Nevertheless, with this ranking policy, the Turkish government has recently identified 10 research and 5 candidate research universities based on 'publications, citations, patents, and income generation' criteria (Gülbak, 2020). To increase the research capacity in these designated universities, similar to the four countries presented above, the Turkish government has started to provide additional support in the form of both financial and human resources (Uslu et al., in press). As such, Turkey's new ranking policy offers an up-to-date and appropriate case for "determining priority requirements for targeted success". Therefore, a case study on Turkey can help both Turkey and other countries who plan to determine or have already determined national goals in generating strategies on what kind of investment areas should be prioritized.

Considering the ambitions of the four countries mentioned above, it is possible to witness how evaluation of the policy outcomes often occurs after the investments have already been made. However, it is critically important to follow a policy for the success of HE institutions and to determine what is necessary beforehand, in terms of guiding the investment plans to be made. To identify priority investments needed to achieve the ranking target set by Turkey, it would be appropriate to compare the existing success of Turkey's universities with the success of their overseas rivals. Therefore, considering Turkey's ranking target to place two universities in the top100 and a total of five in the top 500, this study aims to compare the inputs and outputs of Turkish universities with its competitors and to determine the areas of priority that are open for development and improvement. For this purpose, the research questions are as follows:

(1) What is the input-output status of Turkey's current five highest ranking universities?

(2) Compared to the ranking targets determined by Turkey, what is the input-output status of five international universities occupying the related ranking positions?

(3) Compared with the related five international universities, what are the priority areas for development and investment in Turkey's five highest ranking universities?

Theoretical Approach

"World Class University (WCU)" is a longstanding phenomenon in the field of HE research as a reflection of internationalisation and global competition (Collins & Park, 2016). There are many well-known studies outlining the structure of WCUs (e.g., Alden & Lin, 2004; Hazelkorn, 2015; Liu et al., 2019; Salmi, 2009; Shin & Kehm, 2013). Not surprisingly, all these studies underlined the strong connection between WCU examples and their ranking achievements. Taking this fact into consideration and also benefiting from these studies, Uslu (2020) developed one of the most recent theoretical frameworks to discuss the characteristics of high-ranked universities. This framework

provides well-evinced components to evaluate the inputs and outputs/outcomes for a high-ranked university's structure (see Table 1).

Table 1. Composition of high-ranked universities*

General Characteristics of High-Ranked Universities

Input	*Output/Outcome*
National higher education policies (related to university rankings)	Reputation *reputation for its research *reputation for its teaching *recognition outside the world of HE *a number of world-class departments (that is, not necessarily all) *a distinctive reputation (focusing its research strengths) in its 'lead' subject areas *a long history of superior achievement *a number of research stars and world leaders in their fields *graduates occupying powerful positions (e.g., presidents)
Favourable governance	Publication *produces (basic and applied) research in abundance *produces ground-breaking research output recognized by peers *a number of research stars and world leaders in their fields
Supportive environment (both for students and staff)	Citation *produces ground-breaking research output recognized by peers *a number of research stars and world leaders in their fields
Abundant resources	Prize *produces research output recognized by prizes (e.g., Nobel Prize winners)
Concentration of talent	Internationalisation *can recruit staff from an international market *attracts a high proportion of students from overseas *operates international activities (e.g., international research links, internationally student/staff mobility)
External image management (referring ranking position(s))	Ratios/Degrees *attract and retain the best staff *attracts the most able students *attracts a high proportion of postgraduate (research) students
	Income *diversified sources of income (e.g., government, private sector, research income, overseas student fees, etc.) *receives large endowment capital and income

* derived from Uslu's (2020) conceptual framework (p. 952)

When looking at Table 1, national policies related to university rankings is one of the potential inputs having an influence, at least considering the selected university in terms of funding support. Yet it is not an easy task to directly explore the impact of national policies on universities' ranking performance (Salmi, 2009). Here, it is obvious that funding received from the government can increase the investment capacity of a university (Altbach & Salmi, 2011; Shin & Kehm, 2013). Therefore, it seems possible to identify the dimensions of financial resources and institutional facilities by means of the budget of a university. Against this connection between the budget and institutional facilities, it is not really possible to claim that these resources create a positive and supportive atmosphere in a university without evaluating the components of its organisation culture (Hazelkorn, 2015; Uslu, 2017). Further, having overwhelming financial power does not guarantee establishing favourable management practices in the university (Alden & Lin, 2004). In this respect, there is no direct indicator to assess and compare the positiveness of managerial approaches in universities, especially when considering international ranking tables.

External communication is an important administrative task for university management to brighten the public face of their universities, and they naturally highlight ranking outcomes on this issue (Uslu, 2017). However, it is not obvious how the announcement of ranking achievements influences the popularity of a university among potential staff and students (Heffernan & Heffernan, 2018; Shin & Kehm, 2013). At least some researchers (Altbach & Salmi, 2011; Delgado-Marquez et al., 2013; Tapper & Filippakou, 2009) have argued that a university's ranking position (particularly in subject-based rankings) is an impressive tool to attract not only domestic but also talented international researchers and postgraduate students.

Considering the potential outputs/outcomes of university rankings, one of the major indicators is the reputation of a university. However, many researchers (Collins & Park, 2016; Shin et al., 2011; Spence, 2019) identified reputation is a controversial issue, and Shin and Toutkoushian (2011) claimed that "reputation measures have [validity, sampling, and reliability] limitations in reflecting the quality of teaching and research" (p. 5). In terms of statistically measurable outputs, the number of publications produced by researchers in a university and the number of citations they receive can be re-checked through international databases such as Web of Science or SCOPUS (the same data source for international rankings) (Uslu, 2020). According to Table 1, awards (e.g., the Nobel Prize or Field Medals (ARWU, 2020)) is another output category for the international ranking scores of universities. The main issue here is that the limited number of awards potentially makes an unfair ranking contribution by winners against their competitors considering all the high-quality candidate research being published (Blackmore, 2016).

As an output in university rankings, income is also taken into consideration. However, Uslu (2020) explained that collecting income data from universities themselves is not a highly reliable strategy to fairly compare universities' grant/income acquisition from external providers or partners.

Further, it is open to discussion whether the student/staff ratio is an input or output for universities' ranking achievements while the postgraduate student cohort is one of their potential advantages in terms of research productivity (Horta & Santos, 2016). It also appears that international collaboration is another important strategy for universities to increase their research impact at global level (Abramo et al., 2011).

Given the above, it is hard to define how favourable governance practices including external image management constitute a supportive environment both for students and staff. However, national HE policies mostly involve providing extra financial support to universities to enhance their ranking performance. This sort of monetary support would be an important advantage to create abundant resources and attract talented researchers. Therefore, universities' annual budget and their staff capacity can be accounted as inputs for their scientific performance. Considering potential outputs/outcomes for universities' ranking achievement, reputation and income indicators are highly questionable in terms of their data sources and also preferred measurement techniques. Although prizes and awards can be accepted as directly countable output, it does not provide enough room for every academic to join this competitive process, even if they have proven research achievements. Other numerical outputs of scientific performance are publication and citation rates, both for academics and universities. Similar to these two outputs, internationally collaborative projects can also be observable output based on reliable sources used by ranking systems, such as the Web of Science or SCOPUS databases. In this respect, it would be meaningful to follow these observable and re-accessible inputs (annual budget, staff, international staff, international students, PhD student cohorts) and outputs (publications, citations, international collaborations) to compare various universities' ranking performance.

Methodology

This research was designed as a survey model which allows researchers to observe opinions and attitudes towards selected variables (Cohen et al., 2007). Surveying the existing indicators can provide a good basis to compare universities' ranking performance in terms of the dimensions of both input and output. Aiming to compare the recent positions of the most successful Turkish universities and their competitors according to Turkish national ranking goals, the researcher analysed secondarily the data of selected international rankings and the related universities' reports.

Rationales for Selected Data Sources

Looking at the potential resources, there are many different international university rankings. To be able to define a proper ranking system, the researcher checked various ranking systems and eliminated most of them for different reasons. For example, Quacquarelli Symonds (QS) and Times Higher Education (THE) rankings, two well-known global ranking systems, were eliminated because of the large reputation component in their system (e.g., 50% in QS and 33% in THE). Another

international ranking, CTWS Leiden Rankings, only provides data related to publications in top journals; hence, no other data is included in this ranking system. Similarly, CWUR Ranking System publishes only the list of universities without any extra data. When evaluating the US News Best Global Universities Rankings, this system only gives universities' ranking positions despite having more details about staff and student numbers. While the ARWU Ranking System focuses largely on the academic performance of universities in terms of publications and citations in the top quarter, ARWU includes one highly controversial indicator (prizes, with 30% significance). However, the system of URAP World University Rankings provides a full score on each indicator by their weight, including normalised calculation in 23 scientific fields (see https://www.urapcenter.org/Methodology). URAP Rankings also covers Articles (with Article Impact Total), Citations (Citation Impact Total), Total Documents, and International Collaboration indicators; all of which criteria meet our selected outputs (publications, citations, internationally collaborated publications). Therefore, the researcher decided to take URAP ranking data into consideration to be able to analyse the output (according to the 2019 ranking goals of Turkey).

For the input dimension of university ranking performance, two main variables were considered: budget and human talent. To obtain data on the universities' budget, the researcher benefitted from the related universities' annual reports or their websites (see Table 2). Focusing on human resources, the number of academic staff, doctoral students, and the international portion of this population (in terms of number of international staff and students) were included in the dataset, using the numbers given in the QS ranking system (see Findings section).

Data Analysis

Looking at the URAP Rankings (2019-2020), the top five Turkish universities and the universities occupying positions targeted in the Turkish ranking goals are listed in Table 2. The budgets of the related universities were converted to US dollars (taking the yearly average currency for 2019 into consideration), then these budgets were compared by simple calculation. In a similar vein, the researcher compared the number of academic staff (including international personnel) in these universities through the given numbers in the QS ranking system. Benefitting from the same data source, the portion of international students and also the postgraduate student cohort were compared, and their relative ratios were calculated. Focusing on the output dimension, the researcher listed articles (multiplied by article impact scores), citations (multiplied by citation impact scores), and international collaboration scores from the URAP rankings and then calculated the ratios dividing the scores for international competitors with the relevant scores of Turkish universities. All descriptive and comparative values and calculation examples are presented in the next section.

Table 2. Situation in the URAP World University Rankings 2019-20*

Turkish Universities	Position	Position	International Universities
Hacettepe U.	#534	# 99	Erasmus U., Rotterdam (Netherlands)
Istanbul U.	#582	#100	Uppsala U. (Sweden)
Istanbul Technical U.	#698	#498	Universidade Federal de Santa Catarina (UFSC) (Brazil)
Middle East Technical U.	#706	#499	Martin Luther U., Halle Wittenberg (Germany)
Ankara U.	#787	#500	University of Hawaii, Manoa (USA)

* retrieved from https://www.urapcenter.org/Rankings/2019-2020/World_Ranking_2019-2020

Budget sources for the above universities

All Turkish universities: https://www.sbb.gov.tr/wp-content/uploads/2019/02/3-b-2018-2020-D%C3%B6nemi-Gelir-ve-Net-Finansman-Tablolar%C4%B1.pdf

Erasmus University, Rotterdam: https://www.eur.nl/en/about-eur/facts-and-figures/annual-reports

Uppsala University: https://www.uu.se/en/about-uu/quick-facts/

Universidade Federal de Santa Catarina: https://structure.paginas.ufsc.br/files/2020/09/UFSC-in-numbers-2019.pdf

Martin Luther University, Halle Wittenberg: https://www.pr.uni-halle.de/publikationen/jahresmagazin/

University of Hawaii, Manoa:
http://www.hawaii.edu/budget/sites/www.hawaii.edu.budget/files/FY20_OpBudgetNarrative.pdf

Findings

Parallel to the research questions, the input dimension was first evaluated through two indicators, budget and human resources. As an initial indicator, the annual budget of the selected Turkish universities and their international competitors were cross-checked, and the comparative findings are presented in Table 3. Then, focusing on human resource indicators, Table 4 includes a comparison of the number of academic staff, also considering international staff in the same universities.

Table 3. Comparisons of financial input for Turkish vs Competitor universities

Turkish Universities	Budget (US$)	Comparison	Budget (US$)	International Competitors
Hacettepe U.	180,078,482	(x) 4.13 (=)	743,420,316	Erasmus U., Rotterdam
Istanbul U.	244,975,540	(x) 3.16 (=)	773,882,854	Uppsala U.
for "2-top100" goal	425,054,022	(x) 3.57 (=)	1,517,303,170	*Last two of top100*
Istanbul Technical U.	95,230,696	(x) 4.28 (=)	407,133,390	UFSC
Middle East Technical U.	94,088,653	(x) 2.57 (=)	241,908,388	Martin Luther U.
Ankara U.	180,458,401	(x) 5.94 (=)	1,071,682,750	U. of Hawaii, Manoa
for "3top101-500" goal	369,777,750	(x) 4.65 (=)	1,720,724,528	*Last three of top500*
for "2top100" + "3top101-500" goals	794,831,772	(x) 4.07 (=)	3,238,027,698	*"last2top100" + "last3top101-500"*

As can be seen in Table 3, the highest budget belongs to the University of Hawaii, Manoa, against the biggest of Istanbul University, Turkey (as 4.37 times smaller than the University of Hawaii, Manoa). Considering the top two Turkish universities' total budget compared to their competitors in the last two positions of the top 100, the ratio shows that these Turkish universities spent nearly 28% of their competitors' budget. When looking at the total budget of the five Turkish universities and their designated competitors, Turkish universities only had a quarter of their competitors' total budget.

Table 4. Comparison of human inputs

Human Resources	Turkish Universities	Total Number	Comparison	Total Number	International Competitors	Human Resources
Academic Staff	Hacettepe U.	2,474	(x) 1.00 (=)	2,471	Erasmus U., Rotterdam	Academic Staff
	Istanbul U.	1,916	(x) 1.39 (=)	2,659	Uppsala U.	
	Istanbul Technical U.	1,795	(x) 1.34 (=)	2,404	UFSC	
	Middle East Technical U.	1,270	(x) 2.32 (=)	2,942	Martin Luther U.	
	Ankara U.	4,209	(x) 0.39 (=)	1,640	U. of Hawaii, Manoa	
	for "2top100" + "3top101-500" goals	11,664	(x) 1.04 (=)	12,116	*"last2top100" + "last3top101-500"*	
International Staff	Hacettepe U.	53	(x) 14.92 (=)	791	Erasmus U., Rotterdam	International Staff
	Istanbul U.	193	(x) 3.42 (=)	661	Uppsala U.	
	Istanbul Technical U.	54	(x) 0 (=)	0	UFSC	
	Middle East Technical U.	52	(x) 0 (=)	0	Martin Luther U.	
	Ankara U.	70	(x) 5.11 (=)	358	U. of Hawaii, Manoa	
	for "2top100" + "3top101-500" goals	422	(x) 4.29 (=)	1,810	*"last2top100" + "last3top101-500"*	

Human Resources	Turkish Universities	Percentage	Comparison	Percentage	International Competitors	Human Resources
International Students	Hacettepe U.	2.83	(x) 7.69 (=)	21.77	Erasmus U., Rotterdam	International Students
	Istanbul U.	7.32	(x) 2.18 (=)	16.01	Uppsala U.	
	Istanbul Technical U.	4.78	(x) 0.62 (=)	3.00	UFSC	
	Middle East Technical U.	6.70	(x) 1.27 (=)	8.57	Martin Luther U.	
	Ankara U.	4.99	(x) 2.17 (=)	10.85	U. of Hawaii, Manoa	
	"2top100" + "3top101-500" goals	(mean) 5.60	(x) 2.14 (=)	(mean) 12.01	*"last2top100" + "last3top101-500"*	

Postgraduate Students		Score	Comparison	Score	International	Postgraduate Students
	Hacettepe U.	23.00	(x) 1.48 (=)	34.00	Erasmus U., Rotterdam	
	Istanbul U.	25.00	(x) 1.20 (=)	30.00	Uppsala U.	
	Istanbul Technical U.	35.00	(x) 0.74 (=)	26.00	UFSC	
	Middle East Technical U.	31.00	(x) 0.65 (=)	20.00	Martin Luther U.	
	Ankara U.	27.00	(x) 0.85 (=)	23.00	U. of Hawaii, Manoa	
for "2top100" + "3top101-500" goals		(mean) 34.00	(x) 1.00 (=)	(mean) 34.00	*"last2top100" + "last3top101-500"*	

Table 4 shows that the top five Turkish universities employed nearly the same number of academic staff in total compared to their international competitors (with a ratio of 0.96). However, the proportion of international staff in these Turkish universities (average 85) is less than one fourth of their international competitors (averaging 362). Similarly, the Turkish universities attracted less than half of the international students in their competitors in total (ratio 0.47). Comparing the postgraduate students' cohorts, on the other hand, these five Turkish universities trained on average the same ratio (34%) as the postgraduate students in their international competitors.

The output dimension includes articles (with their impact total), citations (and their impact score), and international collaboration scores. The comparison of all these indicators for the top five Turkish universities and their international competitors are presented in Table 5.

Table 5. Comparison of output dimensions

Output	Turkish Universities	Score		Comparison	Score		International Universities	Output
Publication (Article x Article Impact Total)	Hacettepe U.	58.01 43.54	x	(x) 2.57 (=)	91.89 70.55	x	Erasmus U., Rotterdam	Publication (Article x Article Impact Total)
	Istanbul U.	60.36 44.33	x	(x) 2.55 (=)	93.02 73.32	x	Uppsala U.	
	Istanbul Technical U.	55.84 42.01	x	(x) 1.39 (=)	66.31 49.09	x	UFSC	
	Middle East Technical U.	54.78 42.14	x	(x) 1.27 (=)	58.58 50.22	x	Martin Luther U.	
	Ankara U.	50.23 39.53	x	(x) 1.55 (=)	62.04 49.58	x	U. of Hawaii, Manoa	
for "2top100" + "3top101-500" goals		(total) 2,368.27		(x) 1.91 (=)	(total) 4,523.40		*"last2top100" + "last3top101-500"*	+
Citation (Citation x Citation Impact Total)	Hacettepe U.	73.77 60.09	x	(x) 1.96 (=)	101.92 85.40	x	Erasmus U., Rotterdam	Citation (Citation x Citation Impact Total)
	Istanbul U.	68.93 56.12	x	(x) 2.21 (=)	100.69 85.01	x	Uppsala U.	
	Istanbul Technical U.	64.37 53.12	x	(x) 1.26 (=)	72.02 59.91	x	UFSC	

Middle East Technical U.	63.57 53.62	x	(x) 1.35 (=)	74.31 62.09	x	Martin Luther U.
Ankara U.	61.41 49.79	x	(x) 1.48 (=)	73.16 61.74	x	U. of Hawaii, Manoa
for "2top100" + "3top101-500" goals	(total) 3,637.35		(x) 1.69 (=)	(total) 6,141.83		*"last2top100" + "last3top101-500"*

International Collaboration					International Collaboration
Hacettepe U.	50.64	(x) 1.40 (=)	71.06	Erasmus U., Rotterdam	
Istanbul U.	43.40	(x) 1.59 (=)	69.20	Uppsala U.	
Istanbul Technical U.	41.58	(x) 1.18 (=)	49.12	UFSC	
Middle East Technical U.	41.92	(x) 1.24 (=)	52.10	Martin Luther U.	
Ankara U.	38.74	(x) 1.34 (=)	51.74	U. of Hawaii, Manoa	
for "2top100" + "3top101-500" goals	(mean) 43.26	(x) 1.36 (=)	(mean) 58.64	*"last2top100" + "last3top101-500"*	

Table 5 above, in summary, indicates that the mean article score for the top five Turkish universities (55.84) is roughly two thirds of their international competitors (74.37) while their article impact scores are as follows: 42.31 for Turkish universities and 58.55 for the international competitors. Regarding the citation scores, these Turkish universities achieved 66.41 against 84.42 for their competitors, and the designated international competitors displayed a higher citation impact of around 30% compared to the Turkish universities. As the last output, the score for Turkish universities in terms of their internationally collaborated articles was roughly three quarters of their designated international competitors (ratio 0.74) in the 2019-2020 URAP rankings.

Conclusions

This research focuses on the evaluation of international rankings' components for Turkish universities in terms of national ranking goals. To comparatively illustrate the recent situation of Turkish universities, input-output calculations were performed for the top five Turkish universities and also their designated competitors according to Turkish national ranking goals, as follows: two universities in the top 100 and three more universities in the top101-500. When collecting input data (budget and human resources) from the websites of the relevant universities, output data (publications and citations as well as international collaboration) were retrieved from the URAP World University Rankings 2019-2020. Through the input-output dimensions of a theoretical framework for high-ranked universities (see Table 1), the comparative results obtained in the research are discussed below.

As many countries have done (e.g., China, Germany, Russia, etc.), the Turkish government also selected 10 universities (with 5 more as candidates) to give extra support to enable them to achieve a better ranking performance, parallel to the national ranking goals (YÖK, 2017). All five Turkish universities analysed in this study were already selected within the "research universities"

scheme. The result of the analysis showed that the designated international competitors had, on average, a budget four times larger than the top five Turkish universities in 2019. When assessing the official data (SBB, 2019), it was found that the public budget for Turkish universities increased by roughly 9% from 2019 to 2020 (in fact, re-calculating due to a fluctuating currency rate, the budget for Turkish universities decreased 13.6% in terms of US$). Considering the huge financial support from the Russian government to their selected universities (33 million US$ per institution, and 1.9 billion US$ for 57 selected universities (Smolentseva, 2010)), it is difficult to believe that no new Russian university could manage to appear in the top 100, despite their improved scientific performance since 2013 (Guskov et al., 2016). This example clearly reveals that the Turkish government has to seriously increase their extra support for the selected "research universities", not only in financial terms.

Looking at the theoretical frame developed by Uslu (2020), a significant financial investment helps universities to be able to ensure other input criteria. For example, having "abundant resources", university managers can invest more in infra-/supra-structure development to institute a highly supportive environment for their students and staff. There is no direct evidence, but it is a well-known fact that having academic support mechanisms (for teaching, research, and services, e.g., well-equipped laboratories) allows more effective leadership in universities to flourish. Academics see both administrative mechanisms and favourable management approaches (e.g., rewards and recognition, well-designed career planning, etc.) as organisational components which can enhance their scientific performance (Hazelkorn, 2015; Salmi, 2009; Uslu, 2017). Yet, a higher budget, well-established institutional support mechanisms, and favourable governance strategies have little meaning without qualified human resources at work in the operating core of universities.

In terms of knowledge and technology production, it is obvious that the main part of the operating core is the academic staff in universities. The analysis in this research evinced that compared with their international competitors, the top five Turkish universities have almost the same number of academic staff in total. However, these Turkish universities have "24 students per tutor" against the lesser "10 students per tutor" for international competitors (QS, 2019); this means that academics have less research time because of their higher teaching load in Turkey (Calikoglu et al., 2020). Further, the finding of the current research showed that even these top Turkish universities employed just a quarter of their competitors in terms of international academic staff. On this point, the Turkish government can follow similar initiatives with other countries to attract internationally-known star researchers to their universities. For instance, China started their "Thousand Talents Programme" in 2008 to recruit high-level overseas scientists and experts and replaced this policy with the "High-end Foreign Experts Recruitment Plan" in 2019 (Thousand Talents Plan, n.d). Yet, to attract international researchers, no one can say that Turkey is one their primary choices, considering the less-than-lavish salaries in academia (i.e., roughly equal to GDP per capita, 10-12,000 US$ per

year (The World Bank, 2019)) and also being in 54th position in the Human Development Index (HDR, 2020).

Accordingly, rather than attempting to transfer internationally well-known and productive researchers, Turkish universities have to raise their own star academics, benefitting from the extra employment rights for these "research universities" in Turkey. Naturally, this needs a longer period to materialise, considering the short time to achieve the national ranking goals of Turkey (by the 100th centenary of the Republic's foundation, in 2023). To train the next generation of academics, not only Turkish universities but also all other countries' universities need to expand their postgraduate (particularly PhD) student population as another input of human resources, whereas some ranking systems evaluate this as an output (e.g., QS and THE rankings). Looking at the numbers in this research, the top five Turkish universities display a head-to-head percentage with their designated competitors. In fact, all these well-established and older Turkish universities have already succeeded in attracting more PhD students (YÖK, 2019). These universities are also major beneficiaries of the "100/2,000 Doctoral Students Programme" and are able to employ PhD researchers in disciplines defined by YÖK (n.d.b), including most basic sciences, ICT related fields, and medical areas.

However, only 1.28% of the 8 million students (101,242 students) continue their education with PhD programmes at the 207 Turkish universities. Examining the ratio of PhD students in STEM fields, which are the front-runner disciplines in terms of high-impact publications (CWTS, 2020), less than half (48%) of the PhD students have been trained in these fields at Turkish universities (YÖK, 2019). Turkish universities may increase the ratio of PhD students by attracting internationally mobile postgraduate students from other countries. According to the theoretical frame, ironically, highlighting their ranking achievements is the main strategy for universities' external image management (Hazelkorn, 2015; Heffernan & Heffernan, 2018; Uslu, 2017). Given all the above, the limitation of Turkey's international profile is also a handicap to attracting better students from foreign countries. To overcome these deficiencies, the Turkish government may consider establishing various scholarship opportunities and also increase the financial limits for each international student, as many countries have already done around the world (e.g., DAAD, Humboldt, and the DFG scholarships in Germany (Study in Germany, n.d.) or the Australia Awards, Destination Australia, RPT Scholarships in Australia (Study Australia, n.d)).

Although not the main concern of this research, but similar to the case of China as previously described, the extra support (both financially and with staff appointments) for the selected "research universities" deepens the gap with other Turkish universities, especially for the 130 young universities established after 2005 (Özoğlu et al., 2016). Nevertheless, to have a chance to attain the targeted national ranking goals, obviously the Turkish government must increase tremendously their investments in the selected universities' institutional development and also in the training of highly qualified researchers. In essence, to be able to achieve their ranking goals during the next three years

(until the end of 2023, the centenary year of the Turkish Republic) would appear to be a miracle, considering the time necessary to research, write and publish quality research publications and receive citations for these high-impact publications (Callaham et al., 2002).

Another alternative for the Turkish government is to continue their initial investment plans related to the "research universities" scheme without making any remarkable enhancement. In this scenario, at the end of their proposed target of 2023, they will possibly be able to make only a verbal explanation similar to the Russian experience, as follows: "Russia may still have no universities in the world's top 100, but its 5-100 Project has made progress, says Philip Altbach, research professor and distinguished fellow in the Center for International Higher Education at Boston College and a member of the 5-100 International Council" (Altbach, 2021). As a more realistic option, as for other countries following similar ranking policies, the Turkish government should re-evaluate the existing conditions related to their top universities, as well as in comparison with their potential competitors, as we did in this research, and revise their ranking vision such as aiming for inclusion in the top 500 first and then in next 100 group (i.e., 300-400) a couple of years later.

All in all, this research assumed *ceteris paribus* conditions for potential competitors when comparing Turkey's top universities' ranking outputs. Therefore, similar research can be designed including the rates of change in terms of the input-output criteria for both Turkish and international universities, focusing on a certain time period (e.g., since 2013, the initial year of URAP rankings). Moreover, the researchers in other countries (i.e., Chile (Salmi, 2013), India (DrEducation, 2018), and South Korea (Byun et al., 2013)) which have ranking policies may carry out similar studies to assess the achievability of the national goals for their universities in the initial phase. It may also be worthwhile to inquire in depth the influence of such national ranking policies on the academics working in the related universities by employing qualitative data analysis.

Disclosure Statement

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The Impact of Science Teaching based on Science-Technology-Society (STS) Approach to Elementary School Students*

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Abstract

The aim of this study is to find out effects of science teaching through Science-Technology-Society [STT] approach on elementary school students' creative thinking skills, attitudes towards science lesson, and academic success. To this end, a quasi-experimental pretest-posttest design without the control group was used among quantitative research models. The study particiants were composed of 6 classroom teachers who had previously taken in-service training [IST] on STS approach and their students (N=273) selected through random sampling. Study data were collected by using the Creative Thinking Skills Scale (CTSS), Science and Technology Course Attitude Survey [STCAS], and Academic Achievement Test [AAT]. The data were analyzed by conducting one-way ANOVA test with SPSS. The results showed that the students in STT classes could improve their creative thinking skills, attitudes towards science course, and academic achievement compared to their peers in the classes. It can thus be useful to encourage teachers to perform teaching based on approaches addressing science-tehcnology-society relation. As another recommendation, it is suggested to prepare professional development programs.

Keywords: STS Approach, Science Education, Elementary School Students, In-Service Training.

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Introduction

STS approach is grounded in associating knowledge with everyday life, assuring interdisciplinary cooperation, making sense of learned information by students, the individual's learning from a critical perspective, and developing creative thinking skills (Amirshokoohi, 2016; Hacıeminoğlu, Alı, Yager, Oztas & Oztas, 2015). The underlying principle of STS is constructivist learning theory, which emphasizes students' prior knowledge and everyday life experiences (Enger & Yager, 2009; Halwany, Zouda, Pouliot & Bencze, 2017). According to Aikenhead (2006), STS is a good example of the application of the constructivist theory in classrooms (Cho, 2002; Kousa, Aksela & Savec, 2018; Tsai, 2002). According to Kotkievicz (2021), STS studies aim to understand how society, culture, scientific research and technological development all affect and relate to each other. In classrooms where STS-based science program is implemented, the learning environment is structured around the science-technology-society theme and social issues originating from science and technology are used as an interdisciplinary pedagogical tool (Kousa, Aksela & Savec, 2018; Primastuti & Atun, 2018; Tsai, 2002). In such an environment, students start their science education with a personal or social matter of curiosity in science and technology, then research the problem, discuss and produce solutions in a group, and then they reach a conclusion on the solution and announce it (Enger & Yager, 2009). During this process, students also employ many mental activities as a part of identifying and resolving problems, such as;

- ✓ Utilizing their own knowledge in defining and solving the problem,

- ✓ More creative thinking

- ✓ Taking action based on information and evidence,

- ✓ Communicating effectively with science,

- ✓ Positive attitude towards science and technology,

- ✓ Knowing how they learn (Firmino et al., 2019; Nuutinen, Kärkkäinen & Keinonen, 2011; Pimvichai, Yuenyong & Buaraphan, 2019; Primastuti & Atun 2018; Wongsila & Yuenyong, 2019).

STS is not a prescriptive approach to science teaching. Rather, it is an interdisciplinary understanding that includes issue-oriented activities that are appropriate for students and begin with a problem or situation appealing to the students. According to the current trends in the field of education, it has taken its place in science curriculum with different names such as "Context-Based Learning Approach", "Socioscientific Subject-Based Teaching Approach", and "Science-Technology-Engineering-Mathematics [STEM] Approach" (York, 2018). To exemplify, STS approach was introduced by the Ministry of National Education [MoNE] in Turkey in 2005 to teach students the knowledge and skills necessary to solve local and national problems through an interdisciplinary

perspective, and it was incorporated in the science curriculum with the title of Science-Technology-Society [STS] relationship. However, in 2013, the curriculum of science and technology course was restructured to cover the same learning domain under the name of Science-Technology-Society-Environment [STSE] as a result of the increased interest in environmental problems. Later, in 2017, Science-Engineering-Technology-Society [SETS] was introduced as a learning domain to the science course curriculum after integrating engineering applications with the effect of 4.0 industry-industrial revolution. The purpose of the SETS learning domain is to enhance students' levels and strategies of making innovation and invention by improving their creativity founded on acquired knowledge and skills (MoNE, 2018). For a clearer depiction of the relationship between STS approach and creativity, general characteristics of an STS-based science lesson learning environment (Enger & Yager, 2009) and the principles that should be existent in teaching that supports creativity (Aslan, 2007) are compared in Figure 1.

Basic principles of creativity-enhancing teaching	General characteristics of STS-based science learning environment
To respect unconventional ideas and questions: Asking a good question can open up a good research path. Children should be taught respect and tolerance for different thoughts.	Local/regional issues or problems related to a matter of interest or curiosity are identified.
To respect and give support for imagination: Imagination frees thoughts from pressure and gives unlimited thinking power.	The student uses local resources to obtain information and to solve the problem/issue.
To show that their ideas are valuable: It should be made them feel that the basic task of the human mind is not only to store information, but also to generate information. Searching for and trying to find information will make it more valuable than accepting easy-to-grasp information.	The student takes an active part in researching the information to be used in solving the problem.
	Learning also occurs outside of class time.
	The teacher focuses on personal attention and puts the student's creativity to work.
	The student does not only see science content as the knowledge that is necessary to be successful in exams.
Doing exercises that are not grade-oriented: That everything is planned around grading in school poses an obstacle to revealing new and unfamiliar ideas. The process of presenting ideas and thinking without the threat of assessment is necessary for students especially when doing creative activities and acquiring a new skill.	The student focuses on a variety of careers in science and technology.
	Students become aware of their role of citizenship while attempting to solve the problem(s) they identified.
Being flexible in time: Students need to take time to put forward a creative product, the teacher spreads the activities over time by extending them beyond school time.	The student sees and understands the importance of science in their lives.

Figure 1. Comparison of STS-based science teaching and creative thinking principles

As can be seen above, the locus of both creativity-enhancing teaching and STS-based science teaching is to identify a problem and to produce solutions to it. In classes planned around STS approach, the students engage in a long-term problem solving process where they take action to solve the problem related to the topic of science in question. The process both improves the students' attitudes towards science course as it is initiated with a personal or local problem they observe, and

boosts their creativity since the students explore various aspects of the problem within the process (Chowdhury, 2016; Firmino et al., 2019; Nuutinen, Kärkkäinen & Keinonen, 2011; Pimvichai, Yuenyong & Buaraphan, 2019; Primastuti & Atun 2018; Wongsila & Yuenyong, 2019; Yager, Choi, Yager & Akcay, 2009; Yalaki, 2014). Moreover, the students learn the information in the best way possible as they are really involved in the learning process since they offer solutions to the problem by referring to their knowledge and implement these solutions after analyzing them (Bishop & Denley, 2007; Enger & Yager, 2009; Koch, 2000; Rule, 2005). The study by Mulyanti, Halim, Murniati , Ilyas, Syukri and Mursal (2021) shows that the STS approach can improve students' critical thinking ability and better learning outcomes. Some researchers (Akçay & Akçay, 2015; Ayua & Tartenger, 2020; Kapici, Akçay & Yager, 2017; Lee & Erdoğan, 2007; Tete, 2011; Yager et al., 2009) have argued that the academic achievement of students in STS classes is higher than those in conventional classes.

Problem Statement

Science learning environment in the elementary school as the first academic experience of childhood must be designed in a way to present events and phenomena as a whole rather than separately because pupils of this age are not capable of conceiving the information presented in separate pieces integratedly and they get are mentally caught up in the features of the pieces (Sönmez, 2005). In addition, primary school curriculum is founded on the idea of the students' wish for learning and their kicking off the learning by themselves (Lee & Park, 2012). Therefore, science teaching at elementary level should be carried out with an instructional mind set based on an interdisciplinary approach that gives the central role to children's interests and developmental characteristics, attaches particular importance to their effectiveness and researching and problem solving skills, and makes their decisions the centrepiece. STS approach builds a bridge between science course and other fields mainly including social studies, mathematics as well as applied fields like technology and engineering. In order to maintain this interdisciplinary relationship, it uses social issues around students and their lives, which develops students' attitudes towards the lesson and their creative thinking skills (Kapici, Akçay & Yager, 2017; Nuutinen, Kärkkäinen & Keinonen, 2011). It is very important for raising creative, active and social individuals that these social problems or problems include disciplines such as the environment, art, and ethics (Kotkievicz, 2021).

In this regard, there is an abundance of STT studies regarding secondary school and upper level students in the literature (Akçay & Akçay , 2015; Amirshokoohi, 2016; Neguda et al., 2016; Prismistuai & Atun, 2018; Vazquez-Alonso, Garcia-Carmona, Manassero-Mas & Benassar-Roig, 2013; Yager & Akçay 2008; Yager et al., 2009) while an only small number of studies have delved into elementary school students' creative thinking skills, attitudes to science lesson, and academic achievement as a result of teaching with STS (Nuutinen, Kärkkäinen & Keinonen, 2011; Yager, Choi, Yager & Akcay, 2009).

Within the framework of the theoretical explanations above, the main problem of the study was set as follows: ''What impact does teaching of science course based on STS approach bring to elementary school students' creative thinking skills, attitudes towards science course, and academic achievement?''

Method

This study was designed as a single group pretest-posttest quasi-experimental research without control group. Experimental design refers to research designs used to discover the cause-effect relationships between variables (Büyüköztürk, 2007). It has the same purpose as experimental design with the only difference that the experimental groups are selected not by chance, but by certain criteria in quasi-experimental design (Ekiz, 2003; Karasar, 2012). The study sample here included six out of 15 classroom teachers who had attended the STS course held by Ministry of National Education and the students in their classrooms. The participant teachers (T2, T5, T8, T9, T12, and T15) took part in the study on a voluntary basis. The sampling of the students was done with no selectiveness. The independent variable of the study is the science lessons taught with STS approach. These lessons were conducted for four weeks by the six classroom teachers who had completed their STS training. Apart from this, the study was carried out with a large experimental group in order to check whether the change in the dependent variables of the research was at a similar level in all of the six groups treated with the same independent variable. The demographic profile of the participating classroom teachers is shown in Table 1.

Table 1. Participants' Demographics

Code name	Gender	Professional experience	Location of school	No of students
T2	Male	10 years	Center of district	26
T5	Female	4 years	Rural area	22
T8	Female	12 years	Center of district	30
T9	Male	8 years	Center of district	31
T12	Male	12 years	Center of district	30
T15	Female	13 years	Center of district	33

As seen in Table 1, the sample consists of three males and three females, and only one participant works in the rural side of the city while the others work in the district center. As for the students, they are equivalent in terms of the developmental characteristics as far as it is reported by the classroom teachers.

STS Course

STS course is an in-service training (IST) program targeted at primary school teachers and devised by the authors with the support of the Ministry of National Education. The course was

organized by taking into account the system approach model, which sees the education process as a system and encourages joint and effective functioning of all elements that make up the system to achieve the goals (Yalın, Hedges, & Özdemir, 1996). The training was comprised two stages: a *practical training* to teach knowledge and skills about STS approach to the trainees and a *monitoring and evaluation* to follow up the extent at which the trainees apply the learned knowledge and skills in their classrooms after the practical stage.

The practical training stage of the course; at this stage, 15 classroom teachers were given practical training for nine days (36 hours) at Recep Tayyip Erdogan University. It consisted of four parts; (1) "STS Relationship Awareness" for trainees' figuring out the relationship among science, technology, and society; (2) "Teaching of STS" to teach trainees knowledge and skills on methods and techniques that will help them integrate the STS relationship into science course; (3) "STS Assessment and Evaluation" to teach trainees the knowledge and skills necessary for measuring and evaluating the learning outcomes of students in the STS learning environment; and (4) "STS Lesson Planning Workshop" to teach trainees how to prepare a science learning environment according to STS approach.

Monitoring and evaluation stage of the course; during this stage, the four-week (16 lesson hours) science lesson applications of six classroom teachers were evaluated. The teachers participated in this stage voluntarily. The evaluation focused on the classroom teachers' levels of practising the knowledge and skills gained from the IST course in their classes. This aspect was measured by using the "Constructivist Learning Environment Observation Survey-BORAN" developed by Keser (2003). BORAN survey findings obtained from the teachers are given in Table 2.

Table 2. BORAN Results

Teacher	Steps of 5E model Observation	Engage	Explore	Explain	Elaborate	Evaluate	General
T2	I. Observation	2.0	2.2	2.3	2.1	1.5	2.0
	Observation	2.0	1.5	1.0	1.0	1.5	1.4
	Observation	2.5	2.0	2.5	2.5	2.0	2.3
	Observation	2.0	1.0	3.2	2.1	1.5	2.0
T5	Observation	3.3	3.1	3.5	2.5	2.5	3.0
	Observation	3.3	3.4	3.5	2.4	2.5	3.1
	Observation	3.8	3.0	3.3	3.2	2.5	3.2
	Observation	3.6	3.5	3.8	3.5	3.0	3.5
T8	Observation	3.6	3.0	3.7	3.0	2.0	3.1
	Observation	3.6	3.2	3.5	3.2	2.3	3.2
	Observation	3.8	3.5	3.6	3.4	3.0	3.6
	Observation	3.2	3.1	3.7	3.7	3.0	3.3
T9	Observation	3.0	3.7	3.3	3.2	3.0	3.2

	II. Observation	3.7	3.3	3.3	3.2	2.5	3.1
	III. Observation	3.7	3.5	3.6	3.2	2.5	3.3
	IV. Observation	3.8	3.5	3.6	3.8	3.3	3.6
T12	Observation	1.5	2.0	1.5	1.4	1.2	1.5
	II. Observation	2.5	3.0	1.2	2.5	2.5	2.3
	Observation	3.0	2.2	3.2	3.3	3.0	3.0
	Observation	3.0	2.2	3.3	3.1	3.1	3.0
T15	Observation	3.0	1.5	2.5	1.0	2.0	2.0
	Observation	3.2	1.2	1.5	1.0	1.0	1.6
	Observation	2.0	1.0	2.0	2.0	2.0	1.8
	Observation	1.2	2.0	2.2	3.0	2.0	2.1

According to the scale put forward by Keser (2003), the scores of the 5E steps in the BORAN questionnaire which are equal to and above 3 mean that the course is realized at the desired level. In this context, when Table 2 is examined, it can be said that some of the teachers (T5, T8, T9 and T12) teach science based on the STS approach and the others (T2 and T15) teach science based on the traditional approach.

Data Collection Process

Pre- and post-test procedure was applied to see the variance in creative thinking skills, attitudes towards science course, and academic achievement of the students in the classrooms owned by the 6 trainee teachers before and after the training given. During the 4-week monitoring and evaluation process, the teachers called T5, T8, T9, and T12 applied STS teaching strategies such as problem solving, project-based learning, and collaborative learning in science classes. Contrarily, T2 and T15 preferred teacher-centred and traditional methods such as lecturing, question-answer, and demonstration in the same context. The distribution of students by gender, socioeconomic levels, and class sizes was almost the same in the STS and conventional classes. The same textbooks were also used for teaching of the science course in both types of classes. The only difference between them was that various exercises were planned based on the STS approach to motivate students to ask questions and discuss with their classmates in the STS classes. The students in those classes basically used the textbook to search for information and arguments on the problem instead of following the flow of the lesson. The teacher assumed the role of facilitator for learning and tried to create a learning environment where students would actively research and have debates with other students. On the other hand, the teachers in the other classrooms mostly acted like a supervisor and conveyed the information to the students in detail through direct instruction or demonstration method. In order to overcome potential internal validity threats such as practice or practitioner bias, the teachers were reminded to minimize such threats and appropriate guidance was given.

Data Collection Tools and Data Analysis

Creative Thinking Skills Survey [CTSS]: This tool was obtained by looking at the "Assessment of Student Creativity" questionnaire in the "Iowa Assessment Book" (Enger & Yager, 2009). The CTSS instrument includes three different subscales: Questioning, Reasoning, and Predicting Consequences. Students are instructed to ask questions, guess the answers and causes, and predict consequences relative to the situation statements. Enger and Yager (2009) suggest connecting in the mind the learnt module with the sitution expression that will be used to measure creativity so that they can note the relationship between what they have learnt and what is being measured. During the analysis, the responses given by the student at each stage are divided into three groups as "irrelevant", "relevant" and "creative", where each irrelevant response is rated 0 point, relevant one is rated 1 point, and creative one is rated 2 points (Enger & Yager, 2009). Inter-rater reliability was established as 0.89 on the classification of levels of questions and statements in the current study. The CTSS was filled out by all classrooms as pre- and post-test, and the responses were analyzed with one-way ANOVA using SPSS.

Science and Technology Course Attitude Survey (STCAS): STCAS, developed by Özsevgeç (2007), consists of 13 positive and 4 negative items. A 3-point Likert type rating scale is used in the questionnaire. The responses are rated by giving 3 points to every "yes", 2 points to "medium", and 1 points to "no". The negative statements are scored in the opposite way giving the highest value to a negative response till the lowest value for an affirmative answer. The Cronbach-alpha reliability coefficient of the scale was found to be .70. Since the survey was originally applied to elementary school pupils in the source, it was not deemed necessary to repeat the reliability analysis in the current study. The STCAS was answered in all of the classrooms pre- and post-test, and the collected data were analyzed by one-way ANOVA using SPSS.

Academic Achievement Test (AAT): The academic achievement test developed by the researchers consists of 10 open-ended questions. The questions were prepared in line with the acquisitions in the science program. The construct and content validity of the test was ensured by taking opinions of two lecturers specialized in the field of primary school education and assessment and evaluation, and two experienced primary school teachers. In addition, the pilot study of the test was conducted and the wording of the items was improved to eliminate any misunderstanding or extreme difficulty of questions.

Student responses were categorized into 5 levels based on the taxonomy of Abraham, Williamson, and Westbrook (1994). Total scores were calculated by counting up scores from the categories of complete comprehension (4 points), partial comprehension (3 points), partial understanding with a specific misconception (2 points), specific misconceptions (1 point), and non-

comprehension (0 point). The data collected from the pre- and post-test were processed by one-way ANOVA using SPSS, and the results are presented in the following section.

Results

Findings from the Creative Thinking Skills Survey [CTSS]

In order to compare the creative thinking skills of the student groups before the training, the pre-test scores of the CTSS were analysed using one-way ANOVA. ANOVA results of pre-test are displayed in Table 3.

Table 3.CTSS Pre-test ANOVA Results

Classroom	N	Mean	Std. deviation	Sum of squares		sd	F	p
				Intragroup	Intergroup			
T2	26	9.96	2.69			5		
T5	22	10.00	3.410	1891,75	36.065		.583	.713
T8	30	9.96	4.27					
T9	31	10.38	3.63			158		
T12	22	10.31	3.53					
T15	28	11.25	3.21					

When table 3 is examined, it is understood that there is no significant difference ($F_{(5,158)}$= .538, p>0.05) between creative thinking skill levels of the student groups taught by the teachers before the applied training.

As a result of the applications of teachers, the post-test scores of the student groups were compared. Post-test results were analysed by one-way ANOVA. In addition, multiple comparisons between groups were made by Tukey-HSD. ANOVA results of post-test are displayed in Table 4.

Table 4. CTSS Post-test ANOVA Results

Classroom	N	Mean	Std. Deviation	Sum of squares		sd	F	p
				Intragroup	Intergroup			
T2	26	14.34	2.13					
T5	22	21.13	4.90	2159.92	1981.03	5	28.06	.000
T8	30	23.36	4.93					
T9	31	20.77	3.63					
T12	22	19.04	3.86			158		
T15	28	14.17	2.16					

Table 4 indicates a significant difference ($F_{(5,158)} = 28.06$, p<.05) between the creative thinking skill levels of the student groups in the post-test. The results of multiple comparisons between the CTSS post-test scores of the groups are demonstrated in Table 5.

Table 5. CTSS Post-Test Tukey-HSD Results

(I)	(J)	Mean difference (I-J)	p
T2	T5	-6.79*	.000
	T8	-9.02*	.000
	T9	-6.43*	.000
	T12	-4.70*	.000
	T15	.167	1.000
T5	T8	-2.23	.285
	T9	.36	.999
	T12	2.09	.440
	T15	6.96*	.000
T8	T9	2.60	.082
	T12	4.32*	.001
	T15	9.19*	.000
T9	T12	1.72	.567
	T15	6.60*	.000
T12	T15	4.87*	.000

* The mean differences are significant at the 0,05 level.

When the post-test scores of the groups are compared, it is seen that there is a significant difference between them (p <.05) and this difference is in favour of the four student groups (T5, T8, T9, T12) who received STS education. When these four student groups are further compared among themselves, T8 is seen to have the highest creative thinking skills.

Findings from the Science and Technology Course Attitude Survey (STCAS) The difference between the student groups' attitudes towards science course before the training was checked by performing one-way ANOVA analysis on STCAS pre-test. ANOVA results of pre-test are displayed in Table 6.

Table 6. STCAS Pre-test ANOVA Results

Classroom	N	Mean	Std. deviation	Sum of squares		sd	F	p
				Intragroup	Intergroup			
T2	26	34.73	5.48					
T5	22	36.31	4.50			5		
T8	30	34.76	6.1	28.957	24.056		.831	.530
T9	31	36.32	5.67			158		
T12	22	36.30	4.94					
T15	28	37.00	5.22					

As understood from Table 6, there is no significant difference (F $_{(5,158)}$ = .831, p>0.05) between the student groups' attitudes in the pre-test.

As a result of the teachers' applications, the *STCAS* post-test scores of the student groups were analysed by one-way ANOVA. In addition, multiple comparisons between groups were made by Tukey-HSD. Post-test scores of the groups are compared and shown in Table 7 in terms of ANOVA results.

Table 7. STCAS Post-test ANOVA Results

Classroom	N	Mean	Std. Deviation	Sum of squares		sd	F	p
				Intragrou	Intergrou			
T2	26	35.19	5.30					
T5	22	42.86	3.38			5		
T8	30	43.20	4.14	21.129	254.062		12.062	.000
T9	31	40.70	4.68			158		
T12	22	40.21	5.31					
T15	28	37.38	4.22					

Table 7 indicates a significant difference ($F_{(5,158)}$= 12.062, p>0.05) between the student groups' attitudes in the post-test. The other set of results, which indicate multiple comparisons between the STCAS post-test scores of the groups, is demonstrated in Table 8.

Table 8. STCAS Post-Test Tukey-HSD Results

(I)	(J)	Mean difference (I-J)	p
T8	T9	2.71	.197
	T5	.336	1.00
	T12	2.98	.109
	T15	5.81*	.000
	T2	8.00*	.000
T5	T9	2.37	.432
	T12	2.65	.295
	T15	5.47*	.001
	T2	7.67*	.000
T9	T12	.271	1.00
	T15	3.09	.120
	T2	5.29*	.000
T12	T15	2.82	1.20
	T2	5.01*	.001
T15	T2	2.91	.521

* The mean differences are significant at the 0,05 level.

Comparison of the post-test results revealed a significant difference between the groups, and this difference was found to be in favour of the student groups (T5, T8, T9, and T12) receiving STS training (p <.05).

Findings from the Academic Achievement Test (AAT)

This test was applied to all of the classrooms before the training and the pre-test data were analysed by one-way ANOVA to calculate the variance, if any, between the groups' academic achievement levels. ANOVA results of the pre-test application are shown in Table 9.

Table 9. AAT Pre-test ANOVA Results

Classroom	N	Mean	Std. Deviation	Sum of squares		sd	F	p
				Intragroup	Intergroup			
T2	26	23,73	6,45					
T5	22	23,19	4,89			5		
T8	30	24,03	6,03	4720,19	1595,71		10,345	,000
T9	31	24,65	6,00			158		
T12	22	28,32	5,04					
T15	28	31,96	4,34					

As can be seen in Table 9, there is a significant difference between the student groups' academic success levels in science classes before the training ($F_{(5,158)}$ = 10.345, p<0.05). Also, multiple comparisons were examined by applying Tukey-HSD to the pre-test scores in the AAT. The results of this statistical test are given in Table 10.

Table 10. AAT Pre-test Tukey-HSD Results

(I)	(J)	Mean difference (I-J)	p
T8	T9	-,61183	,998
	T5	,85152	,994
	T12	-4,28485	,072
	T15	-7,93095*	,000
	T2	,30256	1,000
T5	T9	-1,46334	,999
	T12	-5,13636*	,030
	T15	-8,78247*	,000
	T2	-,54895	,999
T9	T12	-3,67302	,173
	T15	-7,31912*	,000
	T2	,91439	,989
T12	T15	-3,64610	,199
	T2	4,58741	,055
T15	T2	8,23352*	,000

When the pre-test results of the groups were compared, a significant difference was found between the groups (p <.05), and this difference was in favour of the student groups (T12 and T15) who received the conventional education.

After the training, AAT was administered as a post-test and the collected data were subjected to one-way ANOVA for the difference between the student groups. ANOVA results regarding the comparison of the groups are demonstrated in Table 11.

Table 11. AAT Post-test ANOVA Results

Classroom	N	Mean/Average	Std. Deviation	Sum of squares		sd	F	p
				Intragroup	Intergro			
Ö2	26	39,1154	4,63					
Ö5	22	44,0000	6,13			5		
Ö8	30	44,4333	4,92	3424,409	604,081		5,398	,000
Ö9	31	42,6452	5,25			158		
Ö12	22	39,7727	2,94					
Ö15	28	41,8571	3,79					

Looking at Table 11, it is found that there is a significant difference (F $_{(5,158)}$ = 12.062, p> 0.05) in academic success between student groups after the application. Multiple comparisons between the AAT post-test scores of the groups were made by Tukey-HSD, and the data obtained are given in Table 12.

Table 12. KKT Post-test Tukey-HSD Results

(I)	(J)	Mean difference (I-J)	p
T8	T9	1,78817	,680
	T5	,43333	1,000
	T12	4,66061*	,008
	T15	2,57619	,307
	T2	5,31795*	,001
T5	T9	1,35484	,908
	T12	4,22727*	,040
	T15	2,14286	,607
	T2	4,88462*	,006
T9	T12	2,87243	,254
	T15	,78802	,988
	T2	3,52978	,062
T12	T15	-2,08442	,635
	T2	,65734	,997
T15	T2	2,74176	,279

* The mean differences are significant at the 0,05 level.

Comparison of the post-test results of the groups reveals that there is a significant difference between the groups, and this difference is in favour of the student groups receiving science education based on the STS approach (p <.05).

Discussion, Conclusion and Recommendations

This section is devoted to the general evaluation of the study results.

Firstly, when examining the science teaching approaches applied by primary school teachers in their classrooms after the FTT course, it was determined that the teachers with the codes of T5, T8, T9 and T12 taught science based on the FTT approach while the teachers with the codes of T2 and T15 taught science based on the traditionalist approach. It can be inferred from the literature that the teachers might avoid using FTT approach as a teaching strategy because of the fear that applying the FTT approach in classrooms will not allow in-depth coverage of the course content or it will decrease student success (Amirshokoohi, 2016; Autieri, Amirshokoohi & Kazempour, 2016; Enger & Yager, 2009).

Secondly, a closer look at the creative thinking skills of the students taught by classroom teachers suggests that the groups were equivalent with quite close scores before the training (Cho, 2002; Enger & Yager, 2009; Lee & Erdogan, 2007; Şen & Baz, 2018). However, a significant difference emerged between creative thinking skills of the groups after the training, and the imbalance was in favour of the classes taught by Ö5, Ö8, Ö9, and Ö12. It can be suggested that the creativity of those students may have increased since they identified the problems related to the subject and did research to solve the problems on their own, and they speculated about the causes and results of the selected problem in the STS-based setting designed by their teachers (Hacıemınoglu et al., 2015; Lee & Erdoğan 2007). Yet this result does not seem surprising because critical thinking by nature means looking critically, being authentic, spotting the problem, and drawing new conclusions via different paths (Mulyanti, et al., 2021). Another possible explanation for this difference may be the fact that Ö5, Ö8, Ö9, and Ö12 applied teaching techniques inspired by 5E model such as projects, problem solving, sample events, and debate whereas the others, i.e. Ö2 and Ö15, predominantly taught science by lecturing and demonstration in their classes (Tsai, 2002). Other researchers also (Chantaranima & Yuenyong, 2014; Cho, s2002; Hacıemınoglu et al., 2015) found that students' creative thinking skills improved, and their subject concept knowledge increased in STS classrooms. Hence, it can be said that creative thinking skills can advance as a result of specific activities in the classroom and that STS approach has a noticeable influence on the development of students' creative skills (Yager, Yager & Lim, 2006).

Thirdly, with respect to the change in the participant students' attitudes towards science course, there was not a significant difference among the groups before the teachers attended the STS training. This implies that there is no considerable difference between the teachers' ways of teaching

(Akçay & Akçay, 2015; Lee & Erdogan; 2007). But a significant difference was noted in the students' attitudes towards science course when the teachers completed their in-service training. The post-test averages in the STCAS prove that the students of Ö5, Ö8, Ö9, and Ö12, who employed STS approach in their classes, experienced notable progress in attitudes to science course. This change can be accounted for by a number of factors in STS classrooms such as the teachers' role of facilitator and mentor besides the students' facing a real problem of interest and curiousity, class discussions, group discussions, and democratic activities like voting (Akçay & Akçay, 2015; Devi & Aznam, 2019; Cho, 2002, Enger & Yager, 2009, Lee & Erdoğan, 2007; Smitha & Aruna, 2014). According to Davasligil (1991), learning environments which allow free discussion of problems and solutions related to the learning topic help pupils develop positive attitudes towards learning and those settings offer an effective motivating ambiance to make learning fun.

When the changes in the academic achievement of students were examined after the classroom teachers' science teaching, it was seen that there was a significant difference between student groups both before and after the training. Before the training, the significant difference was in favour of the student groups T12 and T15. Contrarily, the significance turned in favour of the T5, T8 and T9 after the training.

In STS classrooms, the teachers introduced the students to a social issue from their real life connected with the topic of science teaching. Then, the students read up on the problem before offering solutions, and finally used the information to solve the problem. This series of actions might have enabled students to develop the concepts in their cognitive structures independently (Nuutinen, Kärkkäinen & Keinonen, 2011; Primastuti & Atun, 2018). Kapici, Akçay and Yager (2017) found in their study that students in STS classrooms proved to be more successful with regard to knowledge of concepts than those in classrooms where the traditional approach was applied. Further similar findings are also available in the literature (Ayua & Tartenger, 2020; Lee & Erdoğan, 2007; Negedu et al., 2016; Nuutinen, Kärkkäinen & Keinonen, 2011; Primastuti & Atun, 2018; Tete 2011; Wongsila & Yuenyong, 2019; Yager, Yager & Lim, 2006).

Given that the main goal of any newly-proposed science curriculum is to educate individuals to possess the 21st century skills, formal teaching plans should be based on Science-Technology-Society approach (STS) (Devi & Aznam, 2019; Yalaki, 2014). Several governmental organizations and science education institutions including the National Science Teachers Association [NSTA] (2010) and the National Research Council [NRC] (2013) declared that it is an essential way to build curricula on STS philosophy for promoting and actualizing individuals' 21st century skills. In this context, in Turkey, it is strongly emphasized that teachers should give place to learning strategies that improve students' inquisition and creativity in order to meet the requirement of raising individuals with skills of the 21st century as pointed by the Ministry of National Education (2018). To this end, the use of approaches and methods relating to science-technology-society relation by teachers should

be explicitly encouraged and reinforced. In this scope, professional development courses should be planned to help teachers teach in their own classrooms based on approaches relying on the relation of science, technology, and society. It should be also made sure that teachers attend such events. As mentioned earlier, this study explores the impact of STS approach on elementary school students' creative thinking, attitudes towards science course, and their academic achievement. Since the approach grants students a free learning environment in which they become responsible for their own learning, future researchers can examine the effect of STS approach on learner skills such as communication and collaboration, entrepreneurship, and responsibility. Lastly, quantitative research approach was adopted in this study. It is recommended that researchers try mixed research methods to collect a greater amount of qualitative and quantitative data on dependent variables under scrutiny.

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Pre-Service Science Teachers' Images and Misconceptions About Chemical Equilibrium*

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Abstract

Determining pre-service teachers' images and removing their misconceptions with scientifically true ones are very important so that these teachers could bring up students without misconceptions. In the current study, it was aimed to highlight pre-service science teachers' images and misconceptions about chemical equilibrium together and in detail. For this purpose, qualitative research was employed. The research was conducted on 20 pre-service science teachers educating at a university in middle Anatolia region. Worksheets were utilized as data collecting tools. In worksheets there was a question about making pre-service teachers draw four different scenarios for a given chemical equilibrium reaction at different times; at the beginning of the reaction, before the chemical equilibrium, at the chemical equilibrium, after the chemical equilibrium, but at a common temperature and then making them explain their drawings. Data was analysed through content analysis. The results lightened that pre-service science teachers' chemical equilibrium concept images were inadequate since their mental images about the concept were scientifically wrong. On the other hand, the pre-service science teachers had different misconceptions. The most common misconceptions of pre-service science teachers were as "Diatomic molecules form atoms and then these atoms form new chemicals (f:10).", "There are only products or activated complexes in the tank during and/or afterwards of the chemical equilibrium (f:15).", "Atoms could disappear and/or reappear (f:14).", and "Products are formed at the chemical equilibrium (f:17)."

Keywords: Chemical Equilibrium, Image, Misconception, Qualitative Research, Pre-Service Science Teachers

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Introduction

Why some students are not able to learn chemistry. Some students try hard to learn chemistry but they are unsuccessful because of the difficulty of understanding the chemistry's submicroscopic nature (Nakhleh, 1992). The students have serious difficulties of understanding the submicroscopic nature of chemistry since the submicroscopic nature of chemistry could not be seen. Nevertheless, sometimes they could a bit understand the submicroscopic nature of chemistry, this would not mean they could construct the chemistry concepts properly in their mental schemes, in other words they could not imagine the concepts properly, because they could have misconceptions about the chemistry concepts due to the chemistry concepts' invisibility, due to the chemistry concepts' submicroscopic nature (Nakhleh, 1992). Today we as scientists still explain the submicroscopic nature of chemistry on the basis of matter's beam-particle interactions outcomes or chemical separation pics' retention times or current caused pics' interpretations. So how the educators must teach these chemistry concepts for making students understand the chemistry concepts properly so to help them to construct proper mental images and schemes without misconceptions. One of the basic ways is to teach to the students by keeping the concepts definitions simple (Taber, 2002, p. 22). Another way for constructing proper teaching environments which would not only make students understand and imagine the chemistry concepts properly but also would prevent their misconceptions, first the educators have some ideas about the students' previous concept images and misconceptions they came with to the teaching domains. For preventing the students' misconceptions, it is needed to bring up candidate teachers without misconceptions. Because for planning their future teaching domains they needed to know the concepts properly (Babacan & Şaşmaz-Ören, 2015). So, it is very important to lighten the pre-service science teachers' current understandings and misconceptions about chemistry concepts too, then academicians could construct proper teaching environments to change their misconceptions with scientifically true imagined chemistry concepts in their mental schemes. Then these candidate teachers without misconceptions would be ready to construct proper teaching environments for their students. In other words, their experiences about chancing the misconceptions with the scientifically proper ones would be base to their teaching experiences. So, in the current study, it was aimed to lighten pre-service science teachers' images and misconceptions on the topic of chemical equilibrium. The reason for selecting "chemical equilibrium concept" was that this concept was much more complex than the other chemistry concepts.

Images are mental pictures formed when we hear or imagine a concept. For example, if a student has an image about an iron atom, then this student could think this iron atom on the basis of a nucleus and electrons, could also imagine the atomic shape and its dimension, and also could have an idea about the metallic mesh formed by lots of iron atoms (Atasoy, 2004, p. 23). Then mental schemas are for encoding, assimilating, and consolidating these newly learned and adopted mental images (Tse et al., 2007). Whereas misconceptions are the ideas, images that provide an incorrect

understanding, an unscientifically understanding constructed based on a person's prior experience (Martin et al., 2002, cf., Thompson & Logue, 2006). So proper science learning environments must be designed for making students gain scientific images without misconceptions so then construct proper schemas. A study in literature showed that younger students are much more willingness to put a scientific concept instead of its misconceptions to have a proper scheme whereas the older ones were unwilling to put a scientific concept instead of a misconception in their mental schemas (Thompson & Logue, 2006).

In literature there are various studies for determining secondary and high school students' chemistry concept images and misconceptions. Yakmacı-Güzel (2013) conducted her study on 465, 12th grade students via "chemistry concept test" consisted of six questions, each of two per a chemistry topic which were particular nature of matter, chemical equilibrium, and acidic force. The chemistry concept test questions made the students either explain their answers or draw their answers. Lots of misconceptions about the topics were found. The investigator highlighted that the misconceptions were universal ones. Eryılmaz-Muştu and Ucer (2018) studied with 90 secondary school students for determining their atom concept images. The students were given two open-ended questions; first making them to draw the atomic image in their mental schemes and then to give an answer where they learned this knowledge. The categorized results showed that the students rarely drew electrons and nucleus, instead they usually drew atom as sphere. The students said that they learned the knowledge from different textbooks and internet. In another study, the 250 high school students' understanding of the particle nature of matter was researched. There were four questions about daily life scenarios making students explain their answer and there was one last question making students draw the states of matter. The analyzed via categories results showed that the students understanding of the concept was insufficient (Ayas & Özmen, 2002). The misconceptions of high school students on the topic of the rate of chemical reactions were searched via "speed and concept of chemical reaction test" developed for this research. 120 students participated in this research and it was found that students had misconceptions about reaction rate, collision theory, activated complex, temperature effect to reaction rate, concentration effect to reaction rate, and equation for reaction rate (Uysal-Bilgin, 2010). Akkuş et al. (2013) revealed the high school students' covalent bonds concept images and misconceptions in their research. 104, ninth grade students from a high school participated in this qualitative study, worksheets for making drawings and explanations, and semi-structured interview forms were utilized, and findings highlighted that the students' covalent bond images were insufficient, and also, they had lots of misconceptions. Yalçın and Kılıç (2005) investigated high school students' misconceptions about radioactivity and the effect of textbooks on these misconceptions. In their research they found misconceptions about radiation, radioactivity, natural and artificial radioactivity, nuclear reactions, half-life, and radioactivity exposure. They also stated that textbooks' explanations and figures fed these misconceptions.

In literature there are also various studies searching pre-service science teachers' chemistry concept images and misconceptions. In one of these studies, Geçgel and Şekerci (2018) adopted survey method for determining 222 pre-service primary and science teachers' misconceptions via "diagnostic branch tree" as an evaluation technique. According the descriptive statistics analysis results, the pre-service teachers have misconceptions in various topics such as matter, elements, compounds, colligative features, physical and chemical changes, acid and base, temperature and heat topics. In another study, 107 pre-service science teachers' concept images and misconceptions about ionic and molecular dissolution were investigated via worksheets allowing them to draw the concepts, and then write their explanations about the drawings. Semi-structured interview forms were also utilized as data collection tools. The findings showed that pre-service science teachers' images about molecular and ionic dissolution were inadequate, and also, they had lots of misconceptions such as "When NaCl (salt) dissolves in water, HCl (hydrochloric acid) and NaOH (sodium hydroxide) are formed." or "Sugar melts in water." (Eyceyurt-Türk et al., 2014). In much more specific research, Eyceyurt-Türk and Tüzün (2017) conducted a study with 68 pre-service science teachers for determining their concept images and misconceptions about ionic structure, diffusion, and allotropy. The pre-service teachers drew and then explain the concepts on worksheets, the results showed that 63 percentages of teachers had scientifically wrong images about diffusion, 60 percentages of teachers had scientifically wrong images about allotropy, and 98 percentages of teachers had scientifically wrong images about ionic structures. It was also found that they had misconceptions such as 'Molecular weight was same with molecular mass', 'Chemical reaction was adjunction', 'Atoms and electrons were same', 'Ionic structure was formed by elements.' Yalçın-Çelik et al. (2017) studied with 109 pre-service chemistry teachers for determining their understanding of acid concept via drawings. An open-ended questionnaire with two questions was used as data collecting tool, and it was determined that the teachers understanding about acidity was not coherent with scientific one. Also, they had misconceptions such as "Strong acids do not ionize." "Acidity increases as the number of H_3O^+ in a solution increase." and, "Concentrated acids do not ionize, but diluted acids do." In another study Eyceyurt-Türk and Tüzün (2018) researched pre-service science teachers' images and misconceptions regarding atomic orbital and self-ionization concepts. The pre-service science teachers made drawings about the concepts according to their mental schemes then they explained their drawings. The results lightened the pre-service science teachers' images about atomic orbital and self-ionization concepts were inadequate and they had different misconceptions about orbital and self-ionization concepts. Ekiz-Kıran et al. (2018) searched four pre-service chemistry teachers' mental images about the factors effecting chemical equilibrium on the basis of phenomenological research design. Open-ended questions and semi-structured interviews were utilized and content analysis was used for the gathered data. The findings showed that the teachers were able to explain the factors effecting the chemical equilibrium on the basis of Le Chatelier principle but they were insufficient while explaining on the basis of the submicroscopic nature of chemistry. Also, Andriani et al. (2020)

studied teachers' chemical equilibrium misconceptions via $CaCO_3$ equilibrium system, NO_2-N_2O_4 equilibrium system, and $FeSCN^{2+}$ equilibrium system. The common misconceptions were about chemical equilibrium, the constancy of equilibrium constant, and the shift of equilibrium.

On the basis of the literature, studies searching pre-service science teachers' chemical equilibrium image and misconceptions together were limited, so in this research it was aimed to highlight pre-service science teachers' images and misconceptions about chemical equilibrium together and in detail. The research question was determined as "What were the pre-service teachers' images and misconceptions about chemical equilibrium concept?"

Method

Research Design

In this research, qualitative research was employed. The pre-service teachers' images and misconceptions were determined on the basis of qualitative research. In qualitative researches, facts and states are researched in their natural domains on the basis of holistic perspectives via observations, interviews, and/or document analysis (Yıldırım & Şimşek, 2008, p. 39).

Case study was employed as being one of the qualitative researches in the current study. In case studies, the cases are people or situations. The cases are being studied in detail. The cases' stories are just wanted to hear in detail (Stake, 1995). So, in the current study the case being studied in depth was "the pre-service teachers' images and misconceptions."

The Participants of the Research

The research was conducted on 20 pre-service science teachers educating at a university in education faculty in middle Anatolia region. The research's academic year was also the pre-service teachers' first year at university. In other words, the pre-service teachers' class level was one and their age average was 19. The 16 of the participants were female and the four of the participants were male. The sample type was "convenience sample" which meant "easy-reachable, accessible subjects". The criteria for determining the participants, was their willingness for the study. The participants were told that they would have every right for the study so whenever they wanted, they would be able to leave the study. Also, they were told that codes would be used instead of their names in means of research ethics.

Data Collection Tools

Worksheets were utilized as data collecting tools. In worksheets there was a question about making pre-service teachers draw four different scenarios for a given equilibrium reaction at different times, but at a common temperature and then making them explain their drawings. The four different scenarios were about given times, which were at the beginning of the reaction, before the equilibrium,

during the equilibrium, and after the equilibrium. The data collection tool's content validity was guaranteed by two different science educators. The data collection tool was given in Figure 1.

Suppose $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$ reaction comes to an equilibrium point at a common temperature in 30 seconds. Draw the reaction states at submicroscopic level for given times. Then do an explanation for your drawings.

Determine notation for the particles: ……………………………………………………………

Draw your scenarios

0 second	15 seconds	30 seconds	45 seconds

Explanation:

………………………………………………………………………………………………………

………………………………………………………………………………………………………

………………………………………………………………………………………………………

Figure 1. Data collection tool

Data Analysis

Data was analysed through content analysis. Codes and categories were constructed according with pre-service teachers' drawings. Then frequencies and percentages were calculated. The cross-content analysis was done for determining whether the categories contained all the codes or not (Erickson, 2004). For the validity of the data collecting tool, two science educators checked the tool whether it provided the aim of the study or not. For the reliability of the data collecting tool, the two science educators coding and categorizing consistency was used. The science educators did the coding and categorizing individually but whenever they had a different coding, they argued with each other and came to a consensus which was only once that means the consistency between the researchers

was 95 percentages. They came to a consensus that the pre-service teacher's drawing was "a scientifically wrong one."

It would be meaningful to explain the categories' meanings in this section. "Scientifically correct images" were based on current scientific explanations. "Partly scientific images" were based on current scientific knowledge but with some missing parts. Also, "scientifically wrong images" were images not coherent with current scientific knowledge or just containing some misunderstandings.

Results

The Pre-service Teachers' Images About Chemical Equilibrium Concept

The pre-service teachers' drawings and explanations were coded, and then categories were constructed. At the end frequency and percentage calculations were made. The findings were shown in Table 1.

Table 1. The analysis of the pre-service teachers' images about chemical equilibrium

Categories	Codes	Frequencies and percentages
Scientifically correct images	-	-
Partly scientifical images	-	-
Scientifically wrong images	The code of not being able to show atomic/molecular sizes	19 – 95% T1, T2, T3, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20
	The code of not being able to show elastic collisions among particles and collisions with proper geometries, in other words not being able to show kinetic theory	20 – 100% T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T20
	The code of not being able to picture the chemical equilibrium's stoichiometry	10 – 50% T2, T5, T7, T11, T13, T14, T16, T18, T19, T20
	The code of picturing no products before the chemical equilibrium	17 – 85% T1, T3, T4, T5, T6, T8, T9, T10, T12, T13, T14, T15, T16, T17, T18, T19, T20
	The code of picturing only the products or activated complexes at the chemical equilibrium and/or afterwards	15 – 75% T1, T3, T5, T6, T8, T9, T10, T11, T12, T13, T15, T16, T17, T18, T19
	The code of increasing/decreasing the product's concentration after the chemical equilibrium	7 – 35% T1, T2, T5, T7, T11, T12, T20

The code of picturing only the products at the beginning of the reaction	1 – 5%	
	T2	
The code of picturing only the reactants through all the chemical equilibrium reaction	2 – 10%	
	T4, T14	
The code of drawing activated complexes at the chemical equilibrium	2 – 10%	
	T5, T18	
The code of drawing wrong products	6 – 30%	
	T2, T5, T15, T16, T18, T20	
The code of drawing atoms instead of molecules	11 – 55%	
	T1, T2, T8, T9, T10, T12, T15, T16, T17, T18, T20	
The code of disappearing/reappearing of the atoms	14 - %70	
	T1, T2, T4, T5, T7, T10, T11, T12, T13, T14, T16, T18, T19, T20	
The code of not being able to draw the gas particles at a homogeneous state at the tank	2 – 10%	
	T7, T19	

As could be seen in Table 1, the whole pre-service science teachers' images about chemical equilibrium concept were under the category of "scientifically wrong images" which's total frequency was 20 that meant 100 percentages. The main codes made up this category were "not being able to show atomic and molecular sizes" (f:19, 95%), "not being able to show elastic collisions among particles and collisions with proper geometries, in other words not being able to show kinetic theory" (f:20, 100%), "not being able to picture the chemical equilibrium's stoichiometry" (f:10, 50%), "picturing no products before the chemical equilibrium" (f:17, 85%), "picturing only the products or activated complexes at the chemical equilibrium and/or afterwards" (f:15, 75%), "increasing/decreasing the product's concentration after the chemical equilibrium" (f:7, 35%), "drawing atoms instead of molecules" (f:11, 55%), and "disappearing/reappearing of the atoms" (f:14, 70%). The other codes were such as "picturing only the products at the beginning of the reaction" (f:1, 5%), "picturing only the reactants through all the chemical equilibrium reaction" (f:2, 10%), "drawing activated complexes at the chemical equilibrium" (f:2, 10%), "drawing wrong products" (f:6, 30%), and "not being able to draw the gas particles at a homogeneous state at the tank" (f:2, 10%). From all these findings it could be said that the participant pre-service teachers' images about the chemical equilibrium concept were inadequate.

In figure 2, 3, and 4, the examples from pre-service teachers' drawings were given for making roots for the findings.
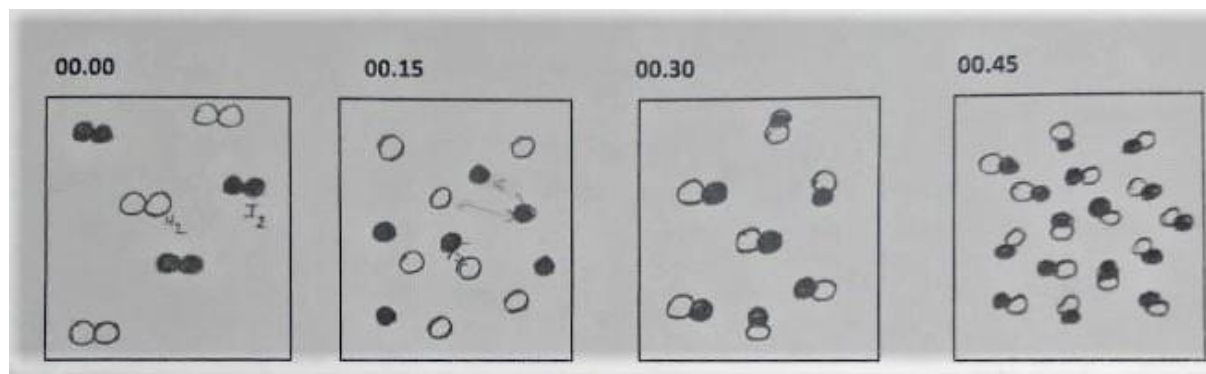
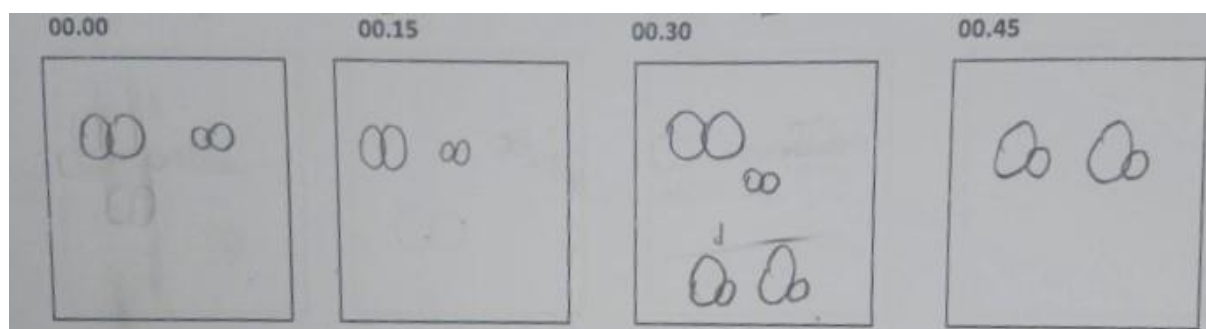**Figure 2.** T1 coded pre-service science teacher's drawing

In Figure 2, it could be seen that the pre-service science teacher (T1) could not show the molecular sizes properly at the first scenario, also T1 did not have a proper kinetic theory image which could be seen from all scenarios especially at the second scenario. Because there were no kinetic movements showed by arrays. First the pre-service teacher tried to something but then erased, also kinetic movements must be according to molecular movements in the first and second scenarios not for atomic movements. The second and third scenarios also told the reader that T1 thought that first the diatomic molecules formed atoms and then these atoms formed the products which of both were not scientifically true. Before the chemical equilibrium which was the second scenario, there were no formed products, and during and after the chemical equilibrium which were third and fourth scenarios there were no reactants, which of whole were also scientifically incorrect. In the third scenario the atoms total number was incoherent with the previous one that meant of reappearing new atoms which was not a scientifically proper status. In the fourth scenario, one could see that the products' concentration increased that meant reappearing of new atoms which was not also a scientifically proper status, on the other hand increasing the products' concentration after the chemical equilibrium was not likely.
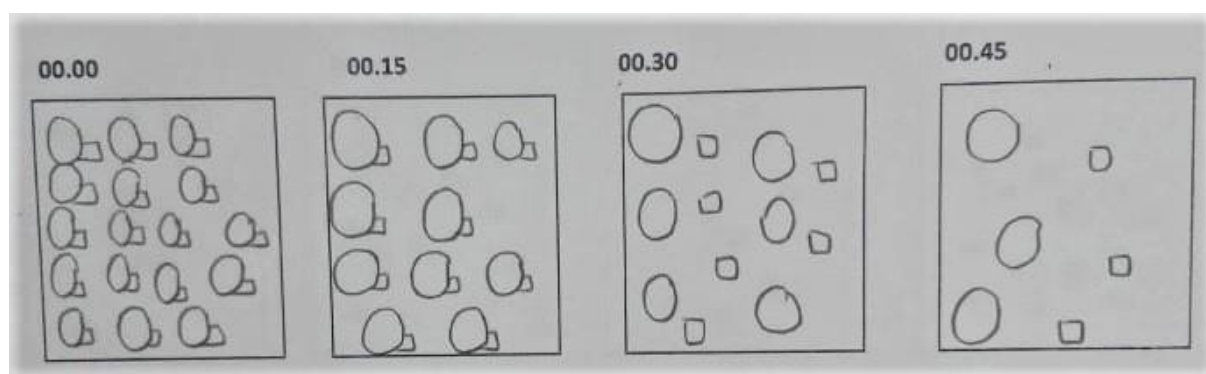
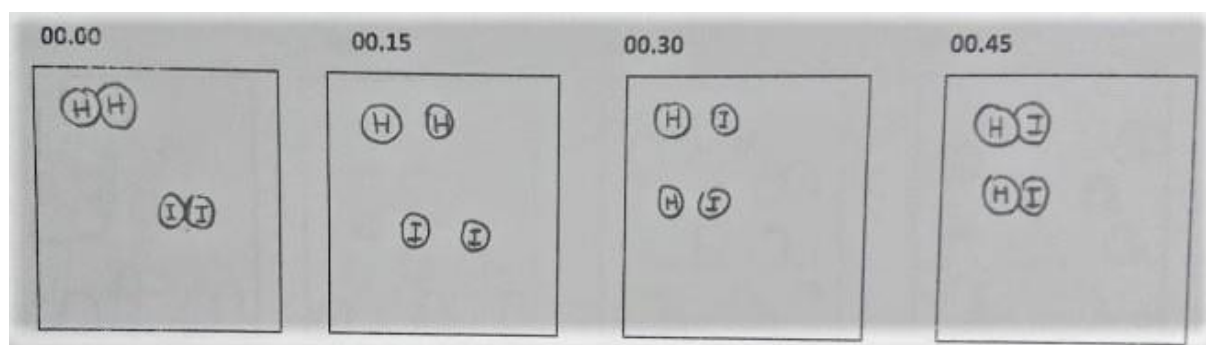**Figure 3.** T2 coded pre-service science teacher's drawing

In Figure 3, it could be understood that the whole of the scenarios was scientifically wrong since the pre-service science teacher (T2) thought that at the beginning of the chemical equilibrium reaction, there were products at the tank. The products decreased in the second scenario but there

were no other chemicals in the tank. So where were the other particles? According to T2's mental scheme, the disappearing of the atoms was not a scientifically proper situation. In the third and fourth scenarios, decreasing the atom numbers continued which was not a scientifically proper situation too. Also, the atomic sizes were not proper, whereas hydrogen was represented with big sphere and iodine was represented by small sphere on the basis of pre-service science teacher's explanations. And also, in the third scenario molecules formed new chemicals but without collisions which was not also scientifically likely on the basis of kinetic theory. There were atoms instead of molecules in the third and fourth scenarios which were not scientific. The whole scenario also told nothing to reader about the stoichiometry.

Figure 4. T3 coded pre-service science teacher's drawing

In Figure 4, it could be understood that the whole of the scenarios was scientifically wrong since the pre-service science teacher (T3) thought that only in the equilibrium point the products formed. According to T3's scheme, before the chemical equilibrium point, there were no products, and after the chemical equilibrium point there were no reactants which of both were not scientifically logical. Then the molecular sizes were not proper too whereas hydrogen molecule was represented much bigger than the iodine molecules on the basis of pre-service science teacher's explanations. Also, in the third scenario molecules formed new chemicals but without collisions which was not also scientifically likely on the basis of kinetic theory.

Figure 5. T8 coded pre-service science teacher's drawing

In Figure 5, the pre-service teacher (T8) had not also a scientifically proper image about chemical equilibrium concept like the previous examples. T8 drew the molecular sizes incoherent. The molecule numbers also were inadequate for modelling a chemical equilibrium in the first

scenario. In the first, second, third and fourth scenarios there were no collisions, so it was meaningless according to kinetic theory. T8 also had a mental scheme supporting the scientifically wrong situation that "The diatomic molecules could form first atoms then molecules." Which could be said by looking at the second, third, and fourth scenarios. Before the chemical equilibrium there must be some formed products, at the chemical equilibrium and after the chemical equilibrium the concentration of the products must be same, also at the chemical equilibrium and after the chemical equilibrium there must be reactants too, which of whole could not be seen above.

The Pre-service Teachers' Misconceptions About Chemical Equilibrium Concept

The pre-service teachers' drawings and explanations were coded on the basis of scientifically wrong explanations. At the end frequency and percentage calculations were made. The findings were shown in Table 2.

Table 2. The analysis of the pre-service teachers' misconceptions about chemical equilibrium

| Misconception	Frequencies and percentages
1.Diatomic molecules form atoms and then these atoms form new chemicals.	10 – 50%
	T1, T8, T9, T10, T12, T15, T16, T17, T18, T20
2.The atoms adjust during the chemical reactions.	5 – 25%
	T1, T5, T15, T16, T18
3.There are only products or activated complexes in the tank during and/or afterwards of the chemical equilibrium.	15 – 75%
	T1, T3, T5, T6, T8, T9, T10, T11, T12, T13, T15, T16, T17, T18, T19
4.After the chemical equilibrium, the products' concentration increases.	4 – 20%
	T1, T5, T7, T20
5.After the chemical equilibrium, the products' concentration decreases.	3 – 15%
	T2, T11, T12
6.Atoms could disappear and/or reappear.	14 – 70%
	T1, T2, T4, T5, T7, T10, T11, T12, T13, T14, T16, T18, T19, T20
7.The reactants and products' concentrations were equal during the chemical equilibrium.	1 – 5%
	T7
8.Products are formed at the chemical equilibrium.	17 – 85%
	T1, T3, T4, T5, T6, T8, T9, T10, T12, T13, T14, T15, T16, T17, T18, T19, T20

In Table 2, it was seen that the pre-service science teachers had misconceptions about chemical equilibrium concept. "There are only products or activated complexes in the tank during and/or afterwards of the chemical equilibrium." (f:15, 75%), "Products are formed at the chemical equilibrium." (f:17, 85%), "Atoms could disappear and/or reappear." (f:14, 70%), and "Diatomic molecules form atoms and then these atoms form new chemicals." (f:10, 50%) were the most common misconceptions among the participants. On the other hand, "The atoms adjust during the chemical reactions." (f:5, 25%), "After the chemical equilibrium, the products' concentration increases." (f:4, 20%), "After the chemical equilibrium, the products' concentration decreases." (f:3, 15%), and "The reactants and products' concentrations were equal during the chemical equilibrium." (f.1, 5%) were much more rare misconceptions among the participants.

The quotations from pre-service science teacher's explanations could be given for illustrating the misconceptions.

T1: "The diatomic molecules form elements (1st misconception), these elements concentrations would increase, then during the chemical equilibrium point these elements would adjust with each other (2nd misconception, 3rd misconception, 8th misconception) so would be able to form equilibrium constant, after the equilibrium point the products concentration would increase much more (4th misconception, 6th misconception)".

T7: "The reactants and products' concentrations were equal during the chemical equilibrium (7th misconception)."

T8: "Hydrogen and iodine molecules' atoms depart from each other (1st misconception). Hydrogen and iodine atoms form hydrogen iodide at the chemical equilibrium (3rd misconception, 8th misconceptions)."
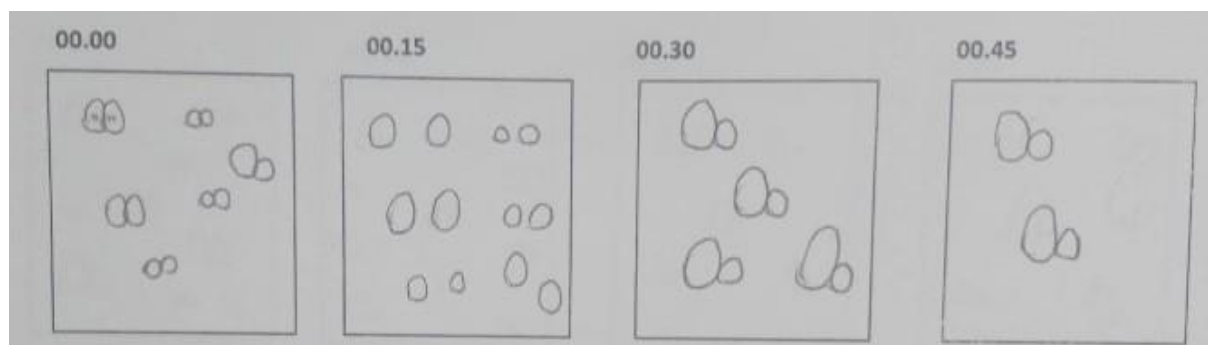
Figure 6. T12 coded pre-service science teacher's chemical equilibrium image

In Figure 6, as could be seen 1st misconception (Diatomic molecules form atoms and then these atoms form new chemicals), 3rd misconception (There are only products or activated complexes in the tank during and/or afterwards of the chemical equilibrium), 5th misconception (After the chemical equilibrium, the products' concentration decreases), 6th (Atoms could disappear and/or reappear), and 8th misconception (Products are formed at the chemical equilibrium), were available.

Discussion, Conclusion and Recommendations

In this study pre-service science teachers' images and misconceptions about chemical equilibrium were researched together and in detail since Mai et al. (2021) stated that determining the misconceptions especially in the topic of chemical equilibrium was very important. The current study results showed that pre-service science teachers' images about chemical equilibrium concept were insufficient since their mental images about the concept were scientifically wrong. On the other hand, the pre-service science teachers had different misconceptions. The most common misconceptions of the participants were such as

"There are only products in the tank during and afterwards of the chemical equilibrium."

"Products are formed at the chemical equilibrium."

"Atoms could disappear and/or reappear."

"Diatomic molecules form atoms and then these atoms form new chemicals."

The reasons for pre-service science teacher wrong images, unproper metal schemes, and misconceptions could be reasoned because of the pre-service science teachers' previous inadequate chemistry learning experiences.

In literature the studies investigating pre-service teachers or in-service teachers' chemical equilibrium concept images or chemical equilibrium misconceptions were about equilibrium shift (Ekiz-Kıran et al., 2018; Andriani et al., 2020). There was also a study determining university students' cognitive structures about chemical equilibrium (Şen et al., 2019). But in this study being different from these studies, the pre-service science teachers' images and misconceptions about the chemical equilibrium process; the particular nature of the chemical equilibrium reaction on the basis of kinetic theory at the beginning of the reaction, after a time, at the chemical equilibrium and afterwards, was researched together and in detail and was found some misconceptions about the "conceptualization of chemical equilibrium". Being alike with the current study Betancourt (2021) found alternative conceptions about "conceptualization of chemical equilibrium" in the research that was conducted with 15 university students who were in the first academic semester of their teaching career in Chemistry.

As academicians or educators or candidate teachers, being aware of in-service teachers, pre-service teachers or students' concept images and misconceptions was so important. But then what? Designing educating environments removing these misconceptions with scientifically true ones or preventing further misconceptions were needed. For example, in this research as a complex concept chemical equilibrium concept images and misconceptions of pre-service teachers, were studied in detail. Then constructivist or innovative or student-based learning domains or the whole of them together could be offered to remove the current misconceptions or prevent the future ones. For an illustration, Akkuş (2004) designed an innovative and specific game with marbles for teaching the

participants chemical equilibrium concept by making them play with marbles for representing the particles' situations for a chemical equilibrium reaction; at the beginning of the reaction, after a time, at the chemical equilibrium, and afterwards. There were some rules. Each time a common percentage of reactants formed products and also a common percentage of products reformed the reactants. When the both reactants and products concentrations came to a stability but with different concentrations, the participants would understand the chemical equilibrium and afterwards. The illustration could prevent this study's misconceptions of

"There are only products in the tank during and afterwards of the chemical equilibrium."

"Products are formed at the chemical equilibrium."

"Atoms could disappear and/or reappear."

"After the chemical equilibrium, the products' concentration increases."

"After the chemical equilibrium, the products' concentration decreases." And

"The reactants and products' concentrations were equal during the chemical equilibrium."

The limitation of the current study was the participant number which was 20 since the student number educating at this university were limited. So, for further studies, big participant numbers for searching pre-service teachers or in-service teachers or students' images and misconceptions about chemical equilibrium concept could be offered, in the same time for further chemistry concepts the same suggestion could be offered too.

In literature there was a study of teacher education for enhancing teachers' visual literacy skills via visual images (Özsoy & Saribaş, 2021). So, for further studies it could be suggested that these study's illustrated images with codes could be given to pre-service teachers for making them being aware of what was wrong for the images so gain scientific literacy knowledge. Also, in literature candidate teachers' metaphorical perceptions about education system was not positive (Tekel & Öztekin-Bayır, 2021). So as academicians, maybe being aware of the pre-service teachers' probable misconceptions, so then arranging them much more qualified teaching domains could cause them to have much stronger positive metaphorical perceptions in means of education for their future without bias.

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The Effect of Social Support Perception and Resilience Levels of Prospective Teachers on Academic Burnout during the Pandemic Period

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Abstract

While the Covid-19 pandemic caused a sudden transition to online education in higher education, university students faced many unexpected situations. In this direction, in this study, it was aimed to determine the resilience, academic burnout and perceived social support levels of teacher candidates during the adaptation process to online education and to reveal the effect of perceived social support and resilience on academic burnout. This study was designed according to the relational survey model and 'Maslach Burnout Inventory-Student Form' and 'Multidimensional Scale of Perceived Social Support' and 'Short Psychological Resilience Scale' were used as data collection tools. The sample of the research consists of 367 education faculty students who are studying at a private university in the 2020-2021 academic year, determined by the random sampling method, one of the purposeful sampling methods. According to the results obtained from the research findings perceived social support and resilience variables together explain approximately 3% of the total variance in burnout.

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Introduction

It can be said that the Covid-19 epidemic has caused major and important changes in education systems around the world. During the epidemic, many countries had to take a break from face-to-face education and switch to the online education model. In this direction, states have taken decisions regarding the implementation of online education systems for the sustainability of education within the framework of health measures. In Turkey, on Monday, March 23, 2020, it has been decided by the Higher Education Institution to start the distance education process at associate, undergraduate and graduate levels in all universities with distance education capacity. In order for online education to become more efficient and functional for students, it is important to reveal the academic burnout, resilience and perceived social support levels of university students in this process and the relationships between these levels.

Resilience

Resilience can be defined as the ability to quickly get rid of diseases, psychological problems, negative experiences or stress, to heal and to recover oneself (Carver, 1998; Smith et al, 2008; Tusaie & Dyer, 2004). In other words, resilience is one's ability to successfully overcome adverse conditions and adapt to new situations; (Doğan, 2015); it is the state of a person to recover, focus on success and continue his purpose in order to achieve success when faced with difficulties and problems; (Richardson, 2002); features and protective mechanisms that enable adaptation to danger, threats, and challenges (Benard, 1991). Psychological resilience makes it easier to resist stressful situations and events (Terzi, 2008). Since individuals with high resilience have a higher stress threshold, they are expected to perform with higher motivation in conflict, crisis, change and other critical situations. (Bitmiş et al, 2013).

The concept of resilience is a personality trait consisting of three sub-dimensions: attachment, difficulty and control (Crowley et al, 2003). The control dimension of resilience is related to the belief in the controllability of events and individual reactions. Those who have this belief think that they can control the stressful situation and turn it to their advantage. The control dimension is associated with the concepts of self-control, achievement motivation, autonomy and willingness (Crowley et al, 2003; Motan & Gençöz, 2009). The difficulty dimension consists of the individual's ability to adapt to change and to see the change process as an opportunity to improve himself (Crowley et al, 2003; Kayacı & Özbay, 2016). The Attachment dimension can be defined as the individual's finding his/her life meaningful, having a purpose, and doing his best as a result of his commitment to life (Crowley et al, 2003).

The individual's attachment to different relationships, beliefs and value judgments such as his/her social environment, work environment and family creates a source of strength for the

individual to cope with stressful situations and events (Işık, 2016). At this point, it is necessary to mention the concept of social support, which is another subject of this research.

Perceived social support

In recent years, research on social support has focused on whether a person's social relationships are supportive enough, that is, one's own impressions of perceived support. In addition to having social support quantitatively, the individual must perceive the existence of social support or feel social support (Bayrak & Bülbül, 2013). The existence of social support for university students facilitates the student's adaptation to university life by affecting their academic and social relations at the university (Baş & Kabasakal, 2013; Dikmen et al, 2017; Topkaya & Kavas, 2015). Studies have reported that as the social support of university students increases, their life satisfaction and ability to empathize with the other person increase, and their feeling of loneliness and hopelessness decreases (Bayrak & Bülbül, 2013; Kacur & Atak 2011). In addition, it was concluded that the decrease in the perception of the social support of university students negatively affects the quality of life of the students, and as a result, mental health problems occur in the students (Alsubaie et al. 2019).

Perceived social support is expressed as the cognitive evaluation or impression of individuals' social networks established with each other in terms of quality and existence (Aydıner Boylu et al., 2019; Yıldız & Dirlik, 2019). In the formation of evaluations and impressions, the past experiences, current cognitive structure and emotional state of the person can be determinative. In this context, it is possible to say that the family, which is the first source of early experiences, has a strong role in the formation of the mentioned evaluations and impressions. The family is an important actor in the development of social support skills (Taylor, 2011). study conducted by Wang et al. (2018), in which they examined studies on perceived social support, results were obtained regarding the negative effects of recovery and social functionality in addition to depression symptoms in groups with low perception of social support. In addition, in many studies in the literature, it has been observed that there is a negative relationship between the perception of social support and the level of depression (Gökdağlı, 2014). Similarly, in a study conducted with university students, it was concluded that the perception of social support has a role in reducing depression and anxiety symptoms (Shao et al., 2020). In different studies in the literature, it has been determined that the level of anxiety decreases as the perceived social support level increases (Zhou et al., 2013).

Social support is all kinds of personal, social, psychological and economic assistance processes such as honest and empathetic response, interest, trust, respect, appreciation, information and financial assistance that the individual receives from his/her environment (Hefner & Eisenberg, 2009). The balance between the student's wishes and the expectations of environment from the student is among the factors affecting academic burnout.

Academic Burnout

Freudenberger (1974) considered burnout only from an emotional point of view and defined it as a negative state that occurs as a result of failure, fatigue, loss of energy and power or unmet demands. On the other hand Maslach and Jackson (1981), defined burnout in three sub-dimensions: emotional exhaustion, depersonalization, and the feeling of falling in personal achievement. According to Maslach and Jackson (1981), burnout is a physical and mental syndrome that includes physical exhaustion, long-term fatigue, feelings of helplessness and hopelessness, as well as negative attitudes towards work, life and other people. School burnout, or academic burnout, which is a valid concept for students, arises from the discrepancy between students' own deficiencies in their studies at school and the expectations of their environment and their own wishes. School burnout can be defined as a decrease in students' belief and interest in school, which is associated with academic stress (Schaufeli et al., 2002). Zhang, Gan, and Cham (2005) suggested that the symptoms of academic burnout are feeling tired, apathy towards homework, indifferent attitudes and behaviors towards lessons, depersonalization, feeling inadequate, and decreased productivity. Studies show that academic school engagement, stress, relationship with teachers and friends, academic self-efficacy and academic achievement predict burnout (Schaufeli et al, 2002; Zhang et al, 2005). Breso et al. (2007) found that female students had higher burnout levels. When the research findings of Stoeber et al., (2011) are examined, it is seen that willing work creates a significant difference in burnout levels and academic achievement depending on individual differences among students. Ören and Türkoğlu (2006), in their study on academic burnout in prospective teachers, concluded that male students experienced higher levels of academic burnout in the personal achievement and depersonalization dimension of burnout, and female students in the emotional exhaustion dimension. In the same study, it was concluded that students older than 23 years of age had higher academic burnout levels. In the study examining the relationship between high school students' academic burnout and their perceived social support level (Kutsal & Bilge, 2012), it was seen that students' perceived social support levels predicted their burnout scores.

Due to the sudden transition to online education due to the Covid19 epidemic, all stakeholders of the education system have had many positive and negative experiences regarding online education. University students had to learn all the positive and negative effects of the online education process by experiencing them personally. Considering that the online education model is likely to be used together with the face-to-face education model after the epidemic, examining the academic burnout, social support perceptions and psychological resilience of teacher candidates in the online education process will contribute to minimizing the problems experienced by the students in the online education process and completing the inadequate elements.

Purpose of the research

In this context, the aim of this study is to examine the relationships between teacher candidates' social support perception, psychological resilience and academic burnout levels during the pandemic period and to determine the predictive value of teacher candidates' social support perception and resilience levels on academic burnout. In line with this main purpose, answers are sought for the following research questions:

RQ1: To what degree do prospective teachers resilience, academic burnout and perceived social support?

RQ2: Are there any significant difference in prospective teachers' levels of psychological resilience, academic burnout and perceived social support in terms of gender, grade, section?

RQ3: Are there any significant relationship among resilience, academic burnout and perceived social support levels of prospective teachers?

RQ4: Do prospective teachers' perceived social support and resilience levels predict academic burnout?

Method

Research Model

In this study, predictive research design, which is one of the quantitative research correlation scanning models, was used. The predictive research model is a preferred research model to predict or understand future behavior and to identify the independent variables that predict the dependent variable (Creswell, 2017). With the predictive research model, it is aimed to analyze the relationships between the social support perception, resilience and academic burnout levels of prospective teachers' and to determine the predictive value of prospective teachers' social support perceptions and resilience levels on academic burnout during online education.

Participants

The universe of the research consists of 1496 teacher candidates studying at the education faculty of a private university in Istanbul in the 2020-2021 academic year. 291 prospective teachers randomly selected from this universe constitute the sample of the research. Using an online survey tool with simple random sampling produced a large dataset, but we have no way of knowing what the response rate was or how many students saw the online survey invitation and chose not to respond. Information about the gender, grade and section of the students is shown in Table 1.

Table 1. Frequency and percentages of reported amount of gender, grade and department (N=291).

		Frequency	Percent
Gender	Female	239	82,1
	Male	52	17,9
	Total	291	100
Grade	1-2	132	45,4
	3-4	159	54,6
	Total	291	100
Department	Basic Education	106	36,4
	Psychological Counseling	48	16,5
	Language Teaching	65	22,3
	Preschool Education	72	24,7
	Total	291	100

Table 1 shows that 82.1% of the participants are women and 17.9% are men. 45.4% of these participants completed the first two years of university education, and 54.6% completed the last two years with the online education process. When the sections of the participants are examined, it is seen that 36.4% of the participants are in the basic education department, 24.7% from the pre-school education department, 22.3% from the language education department and 16.5% from the psychological counseling department.

Data Collection Tools

The materials of the study include the following scales administered as part of an online questionnaire. A personal information form was used to obtain information about the participants' genders, departments and which grade they were in.

Turkish Adaptation of the Short Resilience Scale (Doğan, 2015). A six-item scale of resilience was used. Higher total scores indicated higher resilience. Cronbach's alpha= 0.83.

Revised Form of Multidimensional Scale of Perceived Social Support *(*Eker et. al, 2001). A 13-item scale of perceived social support was used. The scale has 13 questions rated on a 5-point Likert-type scale (1 = strongly disagree; 7 = totally agree). Three subscales were included: family support, friend support and special person support. Cronbach's alpha= 0.89.

Turkish Adaptation of the Maslach Burnout Inventory: Student Survey (Çapri, et. al, 2011). A 12-item scale of bunout for students was used. The scale has 12 questions rated on a 5-point Likert-type scale (1 = never happens; 5 = always happens). Higher scores indicated a more serious degree of academic burnout. Three subscales were included: exhaustion, cynicism and inefficiency. The Cronbach Alpha internal consistency coefficient was 0.76 for the first sub-factor, 0.82 for the second sub-factor, and 0.61 for the third sub-factor. The survey, which was administered through Google

Docs between March 29 and April 12, 2021, was shared via the e-mail addresses of education faculty students to create a simple random sample. During the web survey, which received 291 responses, the participants were told that they could stop participating in the research at any time if they were uncomfortable sharing information about themselves.

Findings

The data on the levels of resilience, burnout and perceived social support of teacher candidates are shown in Table 2.

Table 2. Descriptive analysis results of prospective teachers' scores for resilience, burnout and perceived social support.

Variable/Subscales	N	M	SD	Min.	Max.
Academic Burnout	291	3,08	,63	1,83	4,75
Exhaustion	291	3,11	1,09	1,00	5,00
Cynicism	291	2,89	1,11	1,00	5,00
Inefficiency	291	3,24	,74	1,25	5,00
Perceived social support	291	4,88	1,36	1,00	7,00
Family support	291	5,06	1,57	1,00	7,00
Friend support	291	5,27	2,18	1,00	7,00
Special person support	291	4,32	1,52	1,00	7,00
Resilience	291	2,97	,37	1,50	5,00

According to Table 1, the average general academic burnout level of the participants is between 3.00 and 4.00 points. In other words, the academic burnout level of undergraduate students is between "sometimes" and "always" (mean=3.08, SD=0.63). The academic burnout variables with the highest scores were inefficiency variable (mean=3.24, SD=0.74), emotional exhaustion variable (mean=3.11, SD=1.09) and cynicism variable (mean=2.89, SD=1.11), respectively. It is seen that the perceived social support levels of teacher candidates are between 4.00 and 5.00 (mean=4.88, SD=1.36) and the highest scored perceived social support variable is peer support (mean=5.27, SD=2.18). Perception of friend support is followed by family support (mean=5.06, SD=1.57) and personal support (mean=4.32, SD=1.52). The mean score of the resilience variable is moderate (mean=2.97) and the standard deviation score is 0.37.

Table 3. t-test values of academic burnout and perceived social support in terms of gender

Variable	Subscale	Female (n=239)	Male (n=52)	t-value
Academic Burnout	Exhaustion	3,10±1,09	3,16±1,12	-,338
	Cynicism	2,84±1,11	3,12±1,05	-1,648
	Inefficiency	3,25±0,75	3,21±0,70	,340
	Total	3,06±0,63	3,16± 0,66	-1,015

Perceived social support	Family	5,11±1,55	4,83±1,66	1,188
	Friend	5,36±1,49	4,83±1,58	2.284
	Special person	4,36±2,21	4,18±2,06	,528
	Total	4,94±1,35	4,61±1,41	1.584

Data are presented as mean±standard deviation. *p<0.05.

According to Table 3, no significant difference between genders was found in terms of academic burnout and perceived social support. The differences in resilience variable according to gender is shown in Table 4.

Table 4. Mann Whitney U-test values of resilience in terms of gender

Variable	Gender	Mean Rank	Sum of Ranks	U-value	Significance
Resilience	Female (n=239)	146,20	34942,00	6166,000	,929
	Male (n=52)	145,08	7544,00		

Data are presented as mean rank-sum of rank. *p<0.05.

According to table 4, no significant difference between genders was found in term of resilience. The differences in academic burnout and perceived social support variables according to grade are shown in Table 5.

Table 5. t-test values of academic burnout and perceived social support in terms of grade

Variable	Subscale	1st and 2nd Grade (n=132)	3rd and 4th Grade (n=159)	t-value
Academic Burnout	Exhaustion	3,1864±1,06	3,0629±1,12	,958
	Cynicism	2,8225±1,07	2,9484±1,13	-,963
	Inefficiency	3,3621±,75	3,1473±,72	2,470*
	Total	3,1236±,61	3,0529±,65	-,169
Perceived social support	Family	4,9435±1,60	5,1700±1,55	-1,129
	Friends	5,3490±1,45	5,2045±1,57	,806
	Special person	4,3298±2,14	4,3296±2,22	,001
	Total	4,8741±1,36	4,9014±1,36	,943

Data are presented as mean±standard deviation. *p<0.05.

According to table 5, no significant difference between grades was found in terms of the variables of academic burnout and perceived social support. However, it was observed that the students who studied their first two years at the university had higher scores on the inefficiency dimension than the students who studied the last two years. The differences in resilience variable according to grade is shown in Table 6.

Table 6. Mann Whitney U-test values of resilience in terms of grade

Variable	Grade	Mean Rank	Sum of Ranks	U-value	Significance
Resilience	1st and 2nd Grade (n=132)	146,02	19275,00	10491,00	,997
	3rd and 4th Grade (n=159)	145,98	23211,00		

Data are presented as mean rank-sum of rank. *p<0.05.

According to table 6, no significant difference between grades was found in term of the variable of resilience. The differences in academic burnout and perceived social support variables according to department are shown in Table 7.

Table 7. F values of academic burnout and perceived social support in terms of department

Variable	Subscale	Basic Ed. (n=106)	Psychological Counseling (n=48)	Language Teaching (n=65)	Preschool Education (n=72)	F	Bonferroni
Academic Burnout	Exhaustion	3,01 ±1,06	3,25 ±1,12	3,16 ±1,10	3,13 ±1,11	,585	
	Cynicism	2,89 ±1,08	3,06 ±1,11	3,06 ±1,15	2,60 ±1,07	2,518	
	Inefficiency	3,14 ± ,71	3,20 ± ,78	3,18 ± ,71	3,46 ± ,76	3,037*	Preschool>Basic
	Total	3,02 ± ,60	3,17 ± ,61	3,14 ± ,69	3,07 ± ,64	,846	
Perceived social support	Family support	5,32 ±1,39	4,91 ±,81	4,93 ±1,68	4,91 ±1,55	1,443	
	Friend support	5,46 ±1,33	5,14 ±1,73	5,03 ±1,67	5,27 ±1,47	1,216	
	Special person sup.	4,59 ±2,12	4,35 ±2,39	3,88 ±2,27	4,31 ±2,03	1,441	
	Total	5,12 ±1,21	4,80 ±1,59	4,61 ±1,40	4,83 ±1,35	2,060	

Data are presented as mean±standard deviation. *p<0.05.

According to Table 7, academic burnout differs significantly according to the department of education (F=3.037, p<0.05). As a result of the Bonferroni test, it was shown that the students in the preschool department experienced more academic burnout than the students in the basic education department, and these showed a significant difference in terms of inefficiency. There was no significant difference in perceived social support levels between departments. The differences in resilience variable according to department is shown in Table 8.

Table 8. Kruskal Walls H-test values of resilience in terms of department

Variable	Department	Mean Rank	H	df
Resilience	Basic Education (n=106)	138,40	3,312	3
	Psychological Counseling (n=48)	159,22		
	Language Teaching (n=65)	155,33		
	Preschool Education (n=72)	139,96		

Data are presented as mean rank-sum of rank. *p<0.05.

According to table 8, no significant difference between departments was found in term of the variable of resilience. The results of the correlation analysis conducted to determine the relationships among the resilience, academic burnout and perceived social support levels of prospective teachers are given in Table 9.

Table 9. Correlation analysis results

Variables		Burnout	Perceived Social Support	Resilience
Burnout	r	1	-,152**	,099
	p		,009	,090
	n	291	291	291
Perceived Social Support	r	-,152**	1	,026
	p	,009		,653
	n	291	291	291
Resilience	r	,099	,026	1
	p	,090	,653	
	n	291	291	291

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

According to Table 9, it is seen that there is a negative and low level relationship between teacher candidates' perceived social support and burnout levels. (r= -.152; p<.01). The hierarchical multiple analysis for exploring the effect of academic burnout on the relationship between resilience and perceived social support are demonstrated in Table 10.

Table 10. Regression analysis results

Independent Variable	Dependent Variable	Unstandardized Coefficients		Standardized Coefficients	t-value	p
		β	Standart Error	β		
Academic Burnout	Constant	2,912	,322		9,053	,007*
	Perceived Social Support	,072	,027	-,155	-2,678	,008*
	Resilience	,177	,099	,104	1,788	,075

R= ,184 R² = ,027 Sd:2/288 F: 5,060
*p<0.05

Table 10 shows that perceived social support contribute significantly to the explanation of variance, as it predicted academic burnout at p>.05. Perceived social support and resilience variables together explain approximately 3% of the total variance in burnout.

Discussion, Conclusion and Recommendations

In this study, besides examining the resilience levels, academic burnout and social support perceptions of teacher candidates according to various variables, it was tried to reveal the effect of students' social support perceptions and resilience on academic burnout during the pandemic process. Our results are summarized in the following.

Firstly, the results showed that the level of student burnout among students was not serious in general. A similar conclusion was reached in the study of Lin and Huang (2013). The highest level of academic burnout was obtained in the inefficiency subscale. This situation can be interpreted as prospective teachers feel academically inadequate because they had to conduct all their theoretical and practical courses online during the pandemic process.

Secondly, academic burnout significantly differed according to grade. In the sub-scale of academic inefficiency 1st and 2nd grade students get significantly higher scores than 3rd and 4th grade students. Similarly, it was concluded in the studies that the burnout levels of the 3rd and 4th grade students were higher than the 1st and 2nd grade students (Balkıs et al, 2011; Guthrie et al, 1995; Guthrie et al, 1998; Gündüz et al, 2012; Kutsal & Bilge, 2012; Küçüksüleymanoğlu & Eğilmez, 2013; Ören & Türkoğlu, 2006; Seçer, 2015; Şentürk, 2016; Tansel, 2015). In addition to having more specialized and relatively more comprehensive courses in upper grades; It can be thought that students' burnout levels are high due to factors such as school completion, preparation for central exams and employment uncertainty. While interpreting the result that the burnout levels of upper-class students are high in this research, it is necessary to consider the factors that may affect the burnout level of students in the online education process. Many factors such as digital skills and knowledge deficiencies, financial inadequacies, family-related problems, and system-based technical problems can be counted among the factors that will affect students' burnout levels in the online education process. We can interpret the result that the burnout levels in the lower classes are higher in the dimension of inadequacy, with the feeling of academic inadequacy given by the university students' transition to the online education process without establishing a solid communication network with other students and educators, lacking the benefits of face-to-face education in the first steps of higher education.

Academic burnout differs significantly according to the department student's study. It is seen that the academic burnout levels of the students in the preschool department are higher than the students in the basic education departments, and this differentiation is highest in the inefficiency sub-dimension. According to the findings obtained from Seçer (2015) and Ören & Türkoğlu's (2016)

studies, the school burnout levels of the students of literature teaching and mathematics teaching departments were higher than the students of other departments. The longer undergraduate education period of these two departments can be interpreted as a reason why students experience more burnout.

In this research no significant difference between genders was found in terms of the variable of academic burnout. It is expected that the causes and results of academic burnout experienced by students during the online education process applied during the pandemic period and the causes and consequences of academic burnout in the face-to-face education process are different from each other. Different results were obtained for the determination of significant differences in the level of burnout by gender. While some of the studies emphasized that the level of burnout does not differ according to the gender variable (Breso et al, 2007; Guthrie, 1998; Kutsal & Bilge, 2012; Naçar et al. 2012; Ören and Türkoğlu, 2006; Santen, et al. 2010; Schorn & Buchwald, 2007; Sepehrmanesh et al, 2010; Tümkaya & Çavuşoğlu, 2010), another group of studies emphasize that the level of burnout is higher in female students (Çağatay İn & Şanlı Kula, 2019; Gündüz et al. 2012; Salmela-Aro et al., 2009) and another group of studies emphasize that the level of burnout is higher in male students (Tansel, 2015; Uludağ & Yaratan, 2010; Yang, 2004). In order to obtain clearer results regarding the gender variable, it is thought that conducting quantitative and qualitative research on different student groups in the online education process will further illuminate the subject.

In our study, it was concluded that the prospective teachers' perception of social support during the pandemic was moderate, and they received the most social support from their friends. According to our research, it is seen that the social support received from school or privately identified people before the pandemic was replaced by the social support received from friends during the pandemic period. In previous studies on social support, different results were obtained regarding friend support. In the study of Kutsal and Bilge (2012), it was determined that the support received from the teacher was more effective than the support received from family and friends in order to prevent students from experiencing burnout. There are also studies in the literature that support this result (Özer, Gençtanırım, & Ergene, 2011). It is a remarkable finding that in the study of Kutsal and Bilge (2012), the support of friends ranks third after teachers and family. Halbesleben (2006) concluded that work-related social support sources such as colleagues and managers are more closely related to the emotional exhaustion dimension of burnout, while non-work social support sources such as family and friends are more closely related to depersonalization and personal development dimensions. In Ho's (2016) study, perceived social support from family did not emerge as a significant mediator between humor and burnout components. Taylor et al.'s (2004) research also shows that social support from friends and family is used less in coping with stress. In the online education process, teachers should take their place as the first source from which students easily receive social support with online activities such as projects, competitions and interviews. School

management and teachers should improve themselves in this regard. The fact that the duty of teachers is not just to transfer information is a fact that maintains its validity in the online education process.

In our study, no significant difference was found between genders, classes and departments for the perceived social support variable. In studies on perceived social support, different results were obtained according to the gender variable. Iraz, et al. (2021) and Çeçen (2008) found that social support levels did not differ according to gender in their research; Rani (2016) states that women receive more social support than men and this support comes from family and friends and Talwar et al. (2013) found that women received more social support than men.

According to another research finding, it is seen that the resilience level of prospective teachers is moderate. And no significant difference between genders, grades and departments was found in terms of the variable of resilience. Similarly, there are studies that conclude that university students' levels of resilience do not differ according to gender (Arslan, 2019; Aydın & Egemberdiyeva, 2018; Chan, 2003; Crowley et al, 2003; Sezgin, 2009). Unlike these results, there are also studies showing that resilience may differ according to gender (Aydın, et al, 2019; Eroğlu, 2020; Hoşoğlu, et al, 2018; Sarwar, et al, 2010). Geyik Koç (2020) also concluded that the psychological resilience levels of female participants were found to be higher than male participants. On the other hand, Eker et al. (2020) concluded that male participants have a higher level of psychological resilience than female participants.

Individuals with a high level of resilience use more active and problem-focused strategies when faced with any problem situation and they prefer to use more active coping strategies such as problem solving and planning (Klag & Bradley, 2004). Individuals with high psychological resilience can take active steps to control stressful life events and consider such negative events as a kind of development and learning tool (Florian et al, 1995). In other words, psychological resilience functions to reduce the negative impact of any life event that can be evaluated as stressful or negative. In this case, carrying out studies to increase the psychological resilience levels of students during the pandemic period will improve the ability of students to cope with negative situations (Hanton et al, 2002).

Finally, it was concluded that there is a negative and low-level relationship between the social support perceived by the prospective teachers and their burnout levels. Similarly, in the study of Kutsal and Bilge (2012), it was concluded that students' burnout levels were predicted by their perceived social support. Also, Jacobs & Dodd's (2003) study concludes that students with higher perceived social support experience lower levels of burnout.

In studies supporting this result, it has been reported that teachers who need social support are more prone to burnout symptoms than their other colleagues (Brouwers et al., 2001); It was stated that

teachers with high burnout levels received lower levels of social support from various sources (Burke and Greenglass 1993; Burke et al. 1996; Cheuk & Wong 1995).

Perceived social support significantly contributed to the explanation of the variance, as it predicted academic burnout at p>.05. Perceived social support and resilience variables together explain approximately 3% of the total variance in burnout. Although the variance rates explained by the variables are low, they are statistically significant. This finding is important in that it shows that there are other factors that affect prospective teachers' academic burnout, apart from the variables of resilience and perceived social support. In addition, there is a need for new studies on which variable or variables affect the burnout level of students in order to increase the effectiveness of the research results.

It is seen that there is a need for new studies that examine various factors and variables related to these factors to better understand academic burnout especially during the pandemic process. With new studies to be carried out in this direction, it will be possible to develop a broad perspective on academic burnout during the pandemic process. In order to increase the efficiency of online education processes, the application of which is becoming increasingly widespread, the online education process, which is applied in various times and forms in every country during the pandemic period, needs to be examined in detail.

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Development of a Rubric to Evaluate the Critical Writing Skills Levels of Fourth-Grade Primary School Students*

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Abstract

In this study, it was aimed to develop a rubric for evaluating the critical writing skills of primary school fourth-grade students. The research was designed in quantitative research method and scanning design. The study group of the research consists of 215 students studying in the fourth grade of five different primary schools determined by the purposeful sampling method, taking into account their gender and socioeconomic status. Research data were collected during the development stages of the rubric and lasted for four weeks. In this process, opinions were received from 54 classroom teachers, 12 Turkish teachers, 8 doctoral students continuing their graduate education in the field of Classroom Education and Turkish Education, and 16 academicians who are experts in the field of Basic Education. In addition, the students in the study group were asked to write critical articles and the written products were evaluated through the developed scoring key. The collected data were analyzed with a statistical program. In order to ensure internal consistency in the research, Cohen's Kappa coefficient was determined in order to determine the reliability of the evaluations of the raters who scored the data. Cronbach Alpha coefficient was determined in order to determine that the dimensions and items in the developed rubric were items that were consistent with each other and that examined the same feature. As a result of the findings, it was concluded that there was a high level of consistency between the evaluations made by different raters. In addition, in line with the expert opinions received during the development of the rubric, It was concluded that the rubric exactly measured what was intended to be measured and the rubric was valid and reliable.

Keywords: Writing, Critical Writing, Rubric

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Introduction

Education systems should raise individuals who can meet the demands of the twenty-first century, cope with the problems of the age, and thus have the skills of the twenty-first century, with the methods they have developed in accordance with the requirements of the age. In this direction, the education of the new age should aim to raise individuals who know the importance of continuous learning, learn where and how to use information, activate their intrinsic motivation, take responsibility for learning by directing themselves, and who can think creatively, innovatively, questionably and critically. Because in this period, which is called the information age and where knowledge is accepted as "power", individuals are faced with a lot of information that is very difficult to distinguish between right and wrong. Individuals need to think, question, criticize and interpret in order to reach the correct information in this information pollution. This is possible with the development of reading and writing skills on the basis of a critical perspective. For this reason, it is necessary to acquire critical thinking, critical reading and critical writing skills, which are among the most important skills to be acquired and developed in the twenty-first century.

Among these skills, critical writing has a special importance. Demirel &Şahinel (2006, p. 113) emphasize that the writing methods and techniques used since the first grade of primary school have been replaced by the fourth and fifth grades to critical writing, which is a questioning and planned writing type in which problems can be solved by establishing cause-effect relationships. For this reason, it is necessary to build writing activities, which are one of the basic dynamics of Turkish education and one of the basic skills in language teaching, on a critical basis. In this direction, critical writing has been included in our curriculum with the 2005 Turkish Curriculum (The Ministry of National Education, 2005, p. 365), and it is aimed to create a critical and creative perspective in students and to enable them to produce new and different thoughts on the subject at the stage of gaining this skill to students.

Paul &Elder (2005) defined critical writing as a skill in which the writer makes a plan by analyzing her thoughts before writing them down, and then creates content and makes assumptions, defends his point of view and arrives at a conclusion by presenting evidence and arguments. Critical writers who use these skills in their writing create a content to put forward the evidence, assumptions and discussions and come to a conclusion from this content (Karabay, 2013, p. 1731). In addition, the critical writer evaluates his/her text on the basis of criteria such as clarity, precision, depth, originality, logic, importance and objectivity. Based on this information, it can be said that there are some issues that an author should pay attention to when writing a critical article.

When the literature is examined, we can find some studies in which some definitions of critical writing and determinations about the elements of critical writing are made (Akınoğlu, 2001, p. 20; Alan, 1994, p. 179; Göçer, 2010, p. 181; Karabay, 2013, p. 754; Karaca, 2019, p. 22; Kurland, 2000; MONE, 2006, p. 72; Paul &Elder, 2005, p. 40; Topçuoğlu &Tekin, 2013, p. 1600; Wallace

&Wray, 2008, p. 12) In line with the information about critical writing in these studies, the dimensions of critical writing are;

- ➢ Planning
- ➢ Presenting evidence and persuading,
- ➢ Inquiry
- ➢ Multidimensional thinking
- ➢ Objectivity
- ➢ Consistency
- ➢ Clarity and fluency
- ➢ It can be expressed as shape and form.

Planning is an important stage where writing work begins. Many researchers (Akyol, 2008, p. 54; Bağcı, 2011, p. 96; Göçer, 2005, p. 241; Kantemir, 1997, p. 143; Karabay, 2013, p. 1731; Karadağ &Maden, 2019, p. 271; Keskinkılıç &Keskinkılıç, 2005, p. 154; Özbay, 2011, p. 33; Sever, 2004, p. 26; Tama &Mc.Clain, 1998, p. 157; Tekşan, 2013, p. 75) specify planning in writing as the stage in which a general draft about the writing is created, and they state that there must be a planning about the writing in a good writing. Planning, as in other types of writing, is a narrative order that is necessary to convey the emotions, thoughts and ideas that are desired to be expressed in an easier, understandable and effective way (Bağcı, 2011, p. 96; Yıldız, Okur, Arı, &Yılmaz, 2013, p. 217).

In a critical article, the feelings and thoughts to be expressed after the planning, the ideas and assumptions to be defended should be expressed with evidence in a way that convince the reader. As a matter of fact, Karabay (2013, p. 1736) states that it is very important to present evidence in a critical article; Okur, Göçen, and Suğumlü (2013, p. 194) emphasize that persuasive writing practices are important in order to improve students' comprehension, interpretation and communication skills, and it would be beneficial to use the concept of persuasion in writing education.

In critical articles, interrogative expressions must be used in the process of convincingly explaining what is intended to be conveyed to the reader with evidence. Thus, questions about the text should be created in the mind of the reader and the reader should be made to question what was conveyed to her. As a matter of fact, in the Turkish Curriculum (MONE, 2005, p. 115), one of the primary school fourth grade writing achievements is "She/He writes questioning articles." The presence of the expression indicates the importance of questioning in writing education. For this reason, in a critical article, interrogative expressions should be used frequently in order to achieve the desired goal (Karadağ &Maden, 2019, p. 280).

In a critical article, in order for the inquiry to be carried out at the desired level, the article should be developed in line with the information obtained from many different sources (Yıldız, Okur, Arı, &Yılmaz, 2013, p. 233). Karabay (2013, p. 1736) states that the ability to develop a critical writing through different sources will contribute to the formation of the article from different

perspectives and thus enrich the article in terms of ideas. For this reason, it is important to include different perspectives in critical writings.

Articles that offer different perspectives to the reader have the quality of an impartial, objective article independent of the individual's personal opinion. Akınoğlu (2001, p. 20) and Aydın (2019, p. 89) state that there must be objectivity in critical writing, emphasizing that a critical writer should be able to write critical writings without being under any influence, completely getting rid of his own feelings, thoughts, perspectives and value judgments. In this respect, it can be stated that objectivity is an important element that should be present in critical writings.

In critical writings, it is necessary to convey these expressions in a certain unity and integrity, as well as to have an objective feature. As a matter of fact, Topçuoğlu and Tekin (2013, p. 1600) state that writing activities for the theme of consistency should be included in critical literacy education programs. For this reason, a critical writer should give importance to the harmony, connection and consistency between sentences (Keskinkılıç &Keskinkılıç, 2007, p. 201).

In the writing process, expressing the writing subject with objective expressions, in a consistent, clear and fluent manner, is an important criterion in evaluating the writing holistically (Akyol, 2008, p. 244; Demirel &Şahinel, 2006, p. 119). In order to ensure fluency in the writing, it is necessary to establish semantic relations between events and thoughts, and to find appropriate transitional expressions between paragraphs Calp (2010, p. 228). In this direction, it can be stated that the sentences should be neat, clear and understandable in critical writings, which is a type of writing.

Demirel &Şahinel (2006, p. 119) state that it is important to use punctuation marks correctly and appropriately during the control of writing assignments. "Uses capital letters and punctuation marks in appropriate places." and "He/she organizes his/her writings with spelling and punctuation rules appropriate for the grade level."(MONE, 2018, p. 34-35) means that students should pay attention to spelling and punctuation rules. Thus, the text can be made more comprehensible by ensuring the integrity of meaning in the article and making the language and expression fluent in the article. Considering that critical writing should be fluent and understandable in the literature, it should be ensured that students follow the rules of spelling and writing principles while writing a critical article.

In the light of this information, it can be said that the dimensions of critical writing in the literature are important elements that form the basis of a critical writing and must be present in a critical writing. Considering these dimensions in critical writings, especially in the process of evaluating a critical writing, will be beneficial for the correct evaluation of written products.

During the writing process, students' writing activities should be examined, evaluated and corrected by the teacher (Demirel, 2003, p. 72). Ferris (2003, p. 30) states that students find teachers' evaluations and feedback valuable, they pay attention to follow them, they tend to use feedback as an aid in the development of their writing, and they attach importance to these feedbacks. In addition,

measurement and evaluation studies to be carried out in writing education will contribute to measurement and evaluation activities in the development of other language skills.

Evaluation of written products is a complex process in which many variables must be considered. It is important to make this evaluation with tools that allow to evaluate both the content of the written expression product and the functioning of the writing process in various dimensions. Demir &Yıldırım (2019, p. 461) state that it would be a correct approach to use rubrics, which are a tool in which the criteria and definitions for students' work are determined and their performance levels are measured by the scoring process, in the evaluation of writing products.

Rubrics are a kind of scoring tools that shows the dimensions of the feature to be measured in the evaluation of students' performance in different fields and consists of evaluation criteria, criterion definitions and a scoring strategy (Popham, 1997). When the literature is examined, it is seen that the rubrics; it enables valid and reliable assessments of student work (Duran &Özdil, 2020; Mertler, 2021; Moskal &Leydens, 2000; Popham, 1997); it is more suitable and reliable for classroom applications by providing more useful information about students' writing skills (Ülper, 2009); it allows reliable, accurate, detailed and unbiased scoring, gives explanatory feedback to students, teachers, parents and school management about student achievements, and provides self-control when presented to students (Kutlu, Doğan, &Karakaya, 2010); It has been determined that it allows the products to be evaluated consistently and the evaluation process to be documented (Çepni, 2012).

In the light of this information, it can be said that the use of rubric would be beneficial in evaluating students' critical writing performances. However, when the literature was examined, no rubric was found to evaluate the critical writings of primary school students. For this reason, it is anticipated that the critical writing rubric developed in the research will contribute to primary school teachers, fourth grade students and researchers working in this field. In this direction, the aim of the research is to develop a rubric to evaluate the critical writing skills of primary school fourth grade students.

Method

Research Design

In this study, scanning design, which is one of the quantitative research approaches, was used. In survey studies, it is aimed to reveal the determined characteristics of a group such as attitudes, opinions and behaviors, the data are analyzed statistically and the results are interpreted by considering previous studies (Creswell, 2012, p. 376).

Study Group

The study group of this research consisted of a total of 215 fourth grade students studying in the fourth grade in the 2020-2021 academic year, determined by purposive sampling technique, taking into account gender (110 girls and 105 boys) and socioeconomic levels (75 low, 69 medium, 71 high) consists of students.

Development of Data Collection Tool and Data Collection Process

The data of the research was developed in line with the opinions of 54 classroom teachers, 12 Turkish teachers, 8 doctoral students continuing their graduate education in the field of Classroom Education and Turkish Education, and 16 academicians who are experts in the field of Basic Education; It was collected through a rubric consisting of 8 dimensions, 19 items and 5 levels. In the development of the scoring key and in the data collection process of the research, the following steps were followed by examining the literature (Çepni, 2012; Moskal, 2000):

- ➢ Needs analysis
- ➢ Stage of creation of dimensions and items
- ➢ The stage of determining the criteria and levels of the rubric
- ➢ Finalizing the scoring key and making its application
- ➢ Ensuring the validity and reliability of the scale

Needs analysis

The researcher has a master's degree in Classroom Education and is doing her doctorate in Turkish Education. In addition, he has been working as a classroom teacher at (a public school) the Ministry of National Education for 12 years. In this process, the researcher observed that primary school fourth grade students had difficulties in critical writing activities and that students were reluctant to participate in these activities. The researcher shared these observations with other colleagues at the same school and firstly interviewed classroom teachers with fourth grade experience. As a result of the interview, the teachers stated that they did not give much place to critical writing activities in Turkish lessons. As a result of the conversations with the teachers about the reasons for this situation, it was determined that the teachers had difficulties in critical writing studies because they did not know what kind of activities to implement related to critical writing, the students were reluctant and find these activities boring and therefore the lesson time devoted to critical writing was inefficient. In addition, as a result of the interview, the teachers emphasized that one of the biggest reasons why they could not adequately include critical writing activities in Turkish lessons was the lack of an existing measurement tool to evaluate students' critical writings. Although the teachers partially did the activities related to critical writing in Turkish lessons, they stated that they could not give enough space to (include) critical writing activities because they did not know how to evaluate the products that the students put forward after the critical writing activities and therefore could not give feedback to the students.

Based on these views of the teachers, the researcher decided to develop a rubric to evaluate critical writing studies. For this, first of all, the literature on critical writing was examined.

Phase of Creation of Dimensions and Substances

In the process of creating the dimensions and items in the critical writing rubric, Turkish and classroom teachers' opinions, literature, expert opinions and student products were consulted. The following steps were followed in this process:

➢ The opinions of Turkish and classroom teachers about which criteria should be included in the evaluation of students' critical writings were taken. In order to get their opinions, a form was prepared and feedback was received from 27 Turkish teachers and 73 classroom teachers. In line with the opinions received, a draft was created about the points to be considered while writing a critical article.

➢ Then, 21 fourth grade students were asked to identify three issues that they observed in their environment or that they saw as a problem, and they were asked to write a critical article on a topic they wanted from among the topics they determined. The written products of the students were examined by the researcher and it was determined which points the students paid attention to or which elements they ignored while writing a critical article.

➢ The achievements in 2005, 2015 and 2018 Primary School Turkish Curriculums were examined, articles in peer-reviewed journals on critical writing were scanned, and the researcher created an item pool by examining master's and doctoral theses on critical writing and books on critical writing.

➢ The researcher examined the items in the item pool and determined 10 dimensions and 29 items for the scale. Then, the study was presented to the opinion of 8 doctoral students continuing their postgraduate education in the field of Classroom Education and Turkish Education and 16 academicians who are experts in the field of Basic Education. Dimensions and items were examined by experts in terms of content and level compliance, and they were reduced to 9 dimensions and 22 items due to reasons such as not being suitable for the level of primary school fourth grade students and not matching the definitions of critical writing skill in the literature.

➢ In line with the expert opinions, the researcher made the necessary arrangements regarding the dimensions and items of the rubric and finalized the critical writing scoring scale with 8 dimensions and 19 items in the rubric.

The Stage of Determining the Criteria and Levels of the Rubric

During the determination of the dimensions in the rubric and the scores of the items related to the dimensions, the literature was examined and the opinions of 12 classroom teachers, 8 Turkish teachers, 5 doctoral students continuing their graduate education in Turkish Education, and 4 academicians were sought. In line with the opinions received, the scores of the dimensions of the scoring key; planning (10), presenting evidence, persuading (15), questioning (20), multidimensional thinking (15), objectivity (15), consistency (15), clarity and fluency (5), shape, form (5) determined.

Since the target audience of the scoring key is primary school students, it was deemed appropriate to give 1 point instead of 0, in line with the practices of the Ministry of National Education, for the students with a low level in scoring. Thus, the lowest score a student can get from the scoring key was determined as 20 and the highest score as 100.

At the stage of determining the levels of the scoring key, expert opinion was taken from 4 academicians who are experts in the field of measurement and evaluation, and the scoring key; It was decided to rate it with a 5-point Likert scale as 1 (strongly disagree), 2 (disagree), 3 (partially agree), 4 (agree) and 5 (strongly agree).

Finalization and Application of the Scoring Key

Dimensions, items, dimension and item scores and levels of the scale were rearranged in line with according to expert opinions and the rubric was finalized. Finally, an application was made in order to ensure the validity and reliability of the rubric, and the critical writings of primary school fourth grade students were evaluated with the rubric.

For the application, he asked the students in the study group to list some situations that they observed in their close environment or that they saw as a problem. The lists related to the problems determined by the students were examined by the researcher and the three issues that the students considered as the most problematic parts were determined. The teacher asked the students to write a critical article on any of these three subjects during two course hours (30+30). Finally, as a result of the application, the critical writings written by the students were scored with the critical writing rubric developed by the researcher. The results obtained regarding the validity and reliability of the scoring key are given below.

Ensuring the Validity and Reliability of the Scale

Some steps were followed to ensure the validity and reliability of the critical writing rubric. These steps can be listed as follows:

Steps for validity:

➢ *Scope validity*

In order to ensure the content validity of the scoring key, expert opinions (Classroom teachers, Turkish teachers, Classroom and Turkish Education doctoral students and academicians) were taken about whether the dimensions and items in the scale were suitable for the purpose intended to be measured. As a result of the expert opinions, it was determined that the content validity of the scale was sufficient.

➢ *Criterion validity (Relevance and predictive validity)*

In order to ensure the validity of the scale, the scale was compared with the criteria made in the past, whose validity has been proven, and it was compared to similar measurement tools related to writing in the literature (Akyol, 2008; Calp, 2010; Demirel &Şahinel, 2006; Göçer, 2007; Güzel

&Karatay, 2019; Karatay, 2019; Keskinkılıç &Keskinkılıç, 2007; Kılınç &Şahin, 2012; Yıldız, 2013) were found to be appropriate.

In order to ensure the predictive validity of the scale, a pilot application was made and student products were evaluated with a scoring key developed by different raters. As a result of the evaluations of different raters, it was predicted that the measurement of the current scoring key would predict future measurements.

Steps for reliability:

➢ The fact that the expert opinions taken during the development of the rubric were emphasized that the dimensions and items in the scale were written in a clear and understandable way, and that the dimension and item definitions at the end of the application fully reflected what was intended to be measured, shows that the item discrimination power of the scale is high. This situation contributes to the reliability of the scale.

➢ The creation of the rating levels in the scoring key in the form of a 5-point Likert indicates that the scale is at a level that will minimize the scoring biases. This situation contributes to the similarity of the results in the process of scoring a product by more than one rater.

➢ In order for the measurement tool to measure a feature it tries to measure in a way that gives the same result every time, the consistency between the raters should be reflected statistically. In this direction, first of all, the kurtosis and skewness coefficients of the distribution of the scores given by both raters were examined in order to determine the statistical methods to be made regarding the obtained data. Huck, (2012) and Hair, Black, Babin, Anderson, and Tatham (2013) found that the skewness and kurtosis values were between -1 and +1; Tabachnick and Fidel (2013) stated that it has a normal distribution in the range of +1.5 -1.5. It was determined that the values obtained from the data in the study showed a normal distribution for both rater data (skewness=,197 kurtosis=,392).

➢ In order to ensure internal consistency, Cohen's Kappa statistics (κ) were used to determine the coefficient for the reliability of the evaluations of the raters who scored the data (p<.05). Test results are presented in Table 1:

Table 1. Concordance Between Rateers

Categories	Kappa Statistics Value (κ)	P
Draft	,70	,000
Aim	,71	,000
Presenting evidence	,80	,000
Persuasive expression	,81	,000
Questioning thoughts	,77	,000

Interrogative expression	,77	,000
Expose the problem	,84	,000
Solution to the problem	,87	,000
Different thought	,86	,000
Observation experience	,85	,000
Join the discussion	,85	,000
Impartiality	,85	,000
Objective language	,80	,000
Conflicting expression	,83	,000
Logical integrity	,83	,000
Sentence sorting	,90	,000
Plain language	,81	,000
Punctuation	,86	,000
Spelling	,72	,000

When Table 1 is examined, it is seen that there is a statistically significant and significant level of agreement between the raters, since the Kappa statistical value is more than .70 and .70 in all categories. As a result of the analysis, a significant level of draft, purpose, questioning of thought, interrogative expression, spelling items; It has been determined that there is a very high level of agreement in the items of presenting evidence, persuasive expression, revealing the problem, solving the problem, different thinking, agreeing to an opinion, impartiality, objective language, contradictory expression, logical integrity, sentence ordering, plain language and punctuation. This situation contributes to the reliability of the scale.

➤ Seçer (2017) states that the Cronbach Alpha coefficient of a reliable measurement tool should be .70 and above, while Özdamar (2004) states that .80 and above is a highly reliable scale. The Cronbach Alpha coefficient of the developed rubric was calculated as .86. This contributes to the reliability of the scale.

It can be said that the rubric developed as a result of expert opinions and statistical measurements is valid and reliable.

Data Analysis

In the research, in order to determine the statistical methods to be made regarding the data obtained, a critical article was written to the fourth grade students of primary school and the articles were evaluated by different raters. The kurtosis and skewness coefficients related to the distribution of the scores given by the raters were analyzed with the statistical program.

Cohen's Kappa coefficient in order to determine the coefficient for the reliability of the evaluations of the raters who scored the data in order to ensure internal consistency in the research; Cronbach Alpha coefficient was determined with the statistical program in order to determine that the

dimensions and items in the rubric developed were consistent with each other and that the items were testing the same feature.

Discussion, Conclusion and Recommendations

In the study, a rubric was developed to measure and evaluate the critical writing skill levels of primary school fourth grade students. Expression of measurement and teaching activities with numerical data; evaluation is the interpretation of these numerical expressions according to certain criteria (MONE, 2005, p. 10). Measurement and evaluation studies in writing education are important in terms of determining whether students' written expression skills are developed correctly or not and carrying out necessary development studies. For this reason, it can be said that measurement and evaluation practices are an indispensable element of the learning-teaching process. In this respect, it minimizes the measurement errors caused by the rater and negatively affects the accuracy of the measurement results (Dunbar, Brooks, &Miller, 2006), has a reflective function about the writing performance of the students (Goodrich-Andrade, 2001), and allows for valid and reliable evaluations (Dunbar, Brooks &Miller, 2006). Moskal &Leydens, 2000), a rubric was developed in this study to measure and evaluate the critical writing skills of primary school fourth grade students (Appendix-1).

Developed rubric; It consists of eight dimensions: "planning", "presenting evidence and persuading", "inquiring", "multidimensional thinking", "objectivity", "consistency", "clearness and fluency", "shape / form". In the process of creating these dimensions; The achievements in the Primary Education Turkish Curriculum were determined, articles in peer-reviewed journals on critical writing were scanned, master's and doctoral theses on critical writing and books on critical writing were examined. Below are the reasons for the dimensions determined at the end of this process to be included in the critical writing scale.

A plan is among the basic principles of writing education, as it enables the formation of a subject unity and contributes to the achievement of the foreseen goals of the writing. As a matter of fact, it is stated in the Turkish Curriculum (MONE, 2005, p. 17) that the writing process should start within a certain plan by reviewing the emotions, thoughts and prior knowledge structured in the mind. In this direction, in critical writing, which is one of the writing types, a plan suitable for the purpose of writing must be prepared before writing, and a planning section must be organized in which thoughts are analyzed and physical and mental preparations are completed before writing. For this reason, it was decided that the "planning" dimension should be in the critical writing scoring key.

Alan (1994, p. 179) emphasizes that in a critical article, after the writing plan and purpose are revealed, the thoughts in the article should be expressed with clear and understandable evidence in a way that will convince the target audience. The concept of evidence expressed by Larson (2001, p.8) and Mortensen (2004, p. 21) as influencing the behaviors, attitudes and judgments of others without coercion, by speaking or writing, is applied to MONE (2005, p. 115) and Kurland (2021), it is a fundamental element that must be present in a critical article. As a matter of fact, Wallace &Wray (2008, p. 12) emphasize the necessity of supporting his claims with appropriate evidence in order to

convince the readers in a critical article. In this direction, it can be stated that in a critical article, it is necessary to put forward the evidence, assumptions and arguments with appropriate examples in order to convince the reader. For this reason, it has been decided that the dimensions of "presenting evidence and persuading" must be absolutely necessary in the evaluation of critical writings.

The writing methods and techniques used by primary school students from the first grade differ from the fourth grade and leave their place to critical writing, which is a questioning and planned writing type in which cause-effect relationships are established and problems are resolved (Demirel &Şahinel, 2006, p. 113). In this direction, it can be said that questioning is an important element in critical writing, which is one of the types of writing in which mental skills such as objectively looking at events and situations, making comments, generating ideas and finding solutions are used most intensively (Chamberlain &Burrough, 1985, p. 214; Karabay, 2013, p. 1736; Karaca, 2019, p. 22; Kılınç &Tok, 2012, p. 274; Topçuoğlu &Tekin, 2013, p. 1600). Critical writing; since it is a type of writing in which prejudices, assumptions and all kinds of information presented are questioned and discussed, it has been decided that there should be an "inquiry" dimension in the evaluation of a critical writing.

The basis of questioning is to look at events from different perspectives and to think multi-dimensionally. One of the writing types in which multidimensional thinking is felt most intensely is critical writing (Nas, 2003, p.205). Topçuoğlu &Tekin (2013, p. 1600) state that different perspectives are an important element of critical writing instead of accepting without questioning the information obtained through observation, experience, intuition, reasoning and other channels, he tries to evaluate and draw conclusions from different aspects (Özdemir, 2008, p. 95; Özden, 2008, p. 139). Since it is important for the individual to express what he/she wants to convey in his/her critical writings from different perspectives by thinking from multiple perspectives, it has been decided that the "multidimensional thinking" dimension should be included in the evaluation of a critical writing.

Critical writings that offer different perspectives by allowing the reader to think multi-dimensionally are also verifiable and provable, objective writings that are independent of the author's personal opinion. Topçuoğlu &Tekin (2013, p. 1601) and Paul &Elder (2005, p. 40) state that objectivity is an important component of critical writing skills, and that a critical writer can base a text on criteria such as clarity, precision, depth, freedom, logic, and objectivity. They say they should write. Critical writings play an important role in the development of students' ability to look at events and situations impartially, to make comments, to produce ideas and solutions; Göçer, 2010, p. 181; Karaca, 2019, p. 22; MONE, 2005, p. 66-68). For this reason, it was decided that there should be a dimension of "objectivity" in the evaluation of a critical article.

In a critical article, it is important for the statements to be in integrity in terms of meaning and to be consistent with the purpose of writing the article in the process of conveying what is wanted to be told to the reader in an objective style. The connection and consistency between the ideas in the text is of great importance in the interpretation of the text by the reader. Demirel (1999, p. 80) and

Kuşdemir &Bulut (2008, p. 291) state that consistency is one of the main features expected to be in the writing content of primary school students. For this reason, it was decided that the "consistency" dimension, which is also the basis of critical writing skills, should be included in the evaluation of critical writings.

In a successful article, the author's expression must be clear, plain, simple, effective and fluent (Raimes, 1993, p.6). As a matter of fact, Karabay (2013, p. 1731) emphasizes that an author should evaluate his writing in terms of clarity, integrity and organization after finishing writing. For this reason, a critical writer should also review what he has written by considering the element of clarity and fluency in his critical writing, identify the expressions that disrupt the integrity of meaning, if any, and correct them (Paul &Elder, 2005, p. 40). In this direction, it can be said that clarity and fluency are important elements in a critical writing. In addition, due to the fact that the event or work is written in accordance with the order of occurrence in an article, the establishment of meaning relations between events and thoughts, and the presence of appropriate transition expressions between paragraphs are among the main features expected to be in the writing content of primary school students (Deniz, 2003, p. 242; Kavcar, 2002, p.12; Kuşdemir &Bulut, 2018, p. 290; MONE, 2015, p. 25) it was decided that the dimension of "openness and fluency" should be included in the evaluation of a critical article.

Spelling and punctuation in an article is an important and necessary element in writing the language according to certain rules and in creating the writing standards of the language (Özbay, 2011, p. 181; Parlatır, 2010, p. 315). Akyol (2008, p. 248) stated that the correct use of punctuation marks in the text is an important criterion in writing evaluations; Göçer (2005, p. 241) and Calp (2010, p. 231) emphasize that attention should be paid to spelling and punctuation in the evaluation of written expression. As a matter of fact, in the Primary Education Turkish Curriculum (MONE, 2015, p. 25) "Identifies, corrects, and rewrites/edits the text if there are spelling and punctuation errors." The inclusion of the outcome emphasizes the importance of spelling and punctuation in an article. Considering that a critical writing should be fluent and understandable, it is important to follow the rules of spelling and writing principles in critical writings. For this reason, it was decided that the "form/form" dimension should be included in the evaluation of a critical article.

During the development of the rubric, the field experts expressed their opinions about the dimensions and items of the rubric being suitable for the purpose to be measured. Based on these views, it was concluded that the content validity of the scoring key was sufficient. In addition, the experts stated that the developed rubric is suitable for similar measurement tools in the literature and that the measurement results of the current rubric will predict future measurements. These statements of the experts give the result that the rubric is at a sufficient level in terms of criterion validity.

During the development of the rubric, field experts state that the dimensions and items in the rubric are clear and understandable, and that the dimension and item definitions fully reflect what is

intended to be measured. These statements of the experts show that the item discrimination power of the rubric is high, and this gives the result that the rubric is reliable.

Forming the rating levels in the scoring key in the form of a 5-point Likert shows that the scale is at a level that will minimize the scoring biases and gives the result that it will contribute to the similarity of the results in the process of scoring the written products by more than one rater. This gives the result that the scoring key is reliable.

According to the findings obtained from the data in the study, it was concluded that the data of different raters showed normal distribution, and the Cohen's Kappa and Cronbach Alpha coefficients, which were determined to provide internal consistency and to determine the coefficient for the reliability of the rubric, were statistically significant.

The data obtained as a result of the expert opinions taken during the development of the rubric and the evaluation of the students' critical writings with the developed rubric show that the rubric is valid and reliable. It has been concluded that the rubric developed in this direction can be used as an alternative measurement tool to evaluate the critical writing skill levels of primary school fourth grade students. In addition, current studies on the age and developmental characteristics of primary school students should be conducted, and scoring keys for critical writing for different grade levels should be developed, taking into account the results of these studies.

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Appendix.1. Fourth Grade Students of Primary School the Key to Scoring Critical Writing Skills

Student name and surname:

Extent	Items	I strongly disagree 1	I do not agree 2	I partially agree 3	I agree 4	Absolutely I agree 5	EXTENT TOTAL SCORE
Planning 10 point	*She/He wrote her/his article within a certain plan by creating a draft for writing. (5 points)*						
	She/He determined the purpose of writing. (5 points)						
Providing Evidence and Persuasion 15 point	*In her/his article, she/he made claims supporting her thoughts (5 points)*						
	In her/his article, she/he presented evidence in line with the claims that support her/his thoughts. (5 points)						
	She/he used persuasive expressions in her/his article (Isn't it? Am I not right? We have to admit that it is a fact, although, etc.). (5 points)						
Questioning 20 point	*In her/his article, she/he questioned the relationship between thoughts on the subject. (5 points)*						
	She/he used interrogative expressions in her/his article. (5 point)						
	She/he outlined a problem that was the subject of her/his article. (5 points)						
	In her/his article, she/he produced solutions to the problem she/he put forward on the subject. (5 points)						
Versatile Thinking 15 point	*In her/his article, she/he included expressions that lead to different thinking (but, but, but, nevertheless, or, whereas, etc.). (5 points)*						
	In her/his article, she/he included her opinions based on her/his observations and experiences. (5 points)						
	In her/his article, she/he expressed whether she/he agreed with an opinion or not, along with the reasons. (5 points)						
Objectivity 15 point	*In her/his article, she/he approached events and situations with an impartial point of view. (7.5 points)*						
	She/he used an objective language in her article, not including subjective expressions (I think, if it were me, etc.). (7.5 points)						
Consistency 15 point	*She/he did not include contradictory statements in her/his article. (7.5 points)*						
	She/he wrote her/his article in logical integrity without deviating from the subject. (7.5 points)						

Clarity and Fluency 5 point	*She/he arranged the sentences and paragraphs in her/his article in accordance with the flow of thought. (2.5 points)*						
	She/he wrote her/his article in a clear, understandable and simple way. (2.5 points)						
Shape/ Format 5 point	*She/he used punctuation marks appropriately in her/his article. (2.5 points)*						
	She/he wrote her/his text in accordance with the rules of spelling. (2.5 points)						
GENERAL TOTAL SCORE							

The Relationships Between Global Citizenship, Multicultural Personality and Critical Thinking[1]

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Abstract

The purpose of this study is to examine the relationship between global citizenship, multicultural personality and critical thinking in preservice teachers. The study group consisted of 363 preservice teachers who attend different departments of Faculty of Education in Kutahya. Data collection was done through Scale Universal Citizenship, Multicultural Personality Questionnaire and Critical Thinking Disposition Scale. Because the data exhibited a normal distribution because of preliminary analysis, Pearson product-moment correlation analysis of parametric tests and multiple regression analysis were used for data analysis. According to the findings, there is positive relationship between critical thinking and multicultural personality trends and global citizenship. In other words, as multicultural personality scores increased, level of global citizenship also increased. Or as critical thinking tendencies decreased, the level of universal citizenship decreased. In a society where people adopt universal values and can think critically, democracy, justice and tolerance become dominant. And in a globalized world where there is no critical thinking, consequences of wrong thinking and wrong decisions will end up with global violence, intolerance, injustice, and war that has high destructive power.

Keywords: Global Citizenship, Multiculturalism, Critical Thinking

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Introduction

Although many different definitions have been put forward regarding the concept of globalization, a common definition has not been achieved. This is thought to be due to the fact that most researchers are from different fields of social studies or they look at the issue from different political perspectives (Elçin, 2012). Rapid change and development in technology and transportation have increased political, social and economic contacts among nations and have created the concept of globalization by increasing the interaction of different cultures, ways of life and beliefs. In the most common sense, globalization can be expressed as the world becoming a small dwelling or people belonging to different cultures and nations in the world sharing common behaviours (Bayar, 2008). With globalization, basic dynamics such as democracy, freedom and human rights have taken on a universal dimension (Köse, 2003). In multicultural societies that have emerged with globalization, national dimension of citizenship has started to be questioned. The concept of citizenship, which became a kind of belonging in nation states with the French Revolution, has been exposed to efforts of re-meaning with globalization since the weakening of national states has also weakened this sense of belonging. Economy-based transnational associations have changed the structure of the national state. The most important example of this is the European Union. As many nations embody the EU identity, people from different cultures, identities and beliefs have evolved into a new citizenship (Esendemir, 2008). With this evolution, the world that has been becoming a global village has made it necessary to create a portrait of a citizen who is sensitive not only to his own country but to the whole world. This means a global citizenship. A universal citizen aims to create global citizenship by creating a higher identity besides national identity and aims to raise people who can view the developments in the world with the eyes of humanity and universal values (Kan, 2009).

Since ancient times, states have followed very different policies regarding people of different identities and cultures living within their borders. While some states tried to implement genocide, others tried to get their language, religion and customs adopted. In some places, such minority groups have been subjected to all kinds of educational, economic and political discrimination within states (Kymlicka, 1988). The concept of multiculturalism emerged as a model in order to eliminate these historically developing negative scenes. In addition to these historical developments, multiculturalism is an important concept for disciplines such as economics, education and psychology as well as being an important sociological phenomenon especially for developed and developing countries. Multiculturalism is a condition that has existed in countries such as America, CanadaCanada, and Australia, which have been called countries of immigrants for a long time and could not assume a national state identity due to immigration. (Arabena, 2006). Along with these, developments especially in communication and transportation technology, theses that nation states have completed their lives, erosion of national identity and global human discourses have recently increased (Dağ, 2012; Üstel, 1999). Tourists, immigrants, refugees, exiles and workers form the basis of these

discourses. All these developments constitute the basis of multiculturalism and have led to the emergence of the concept of multiculturalism, which is against all kinds of discrimination and monotony in society (Canatan, 2009; Erbaş, 2019).

In order to talk about culture or multiculturalism, it is essential to mention the social identity shaped by culture or the concept of personality that constitutes the essence of social identity. However, just like culture, it is not that easy to define personality. It has been preferred to group or classify the personality of human beings, which can vary in different environments or in different people and are highly complex. Still, in its broadest definition, personality is the characteristics that distinguish an individual from other individuals. These characteristics are better understood if exemplified in the context of emotion, thought and behaviour. In terms of emotion, some people get angry more quickly, while others are more patient. In the thought dimension, some people can look at the events from a positive perspective, while pessimistic thinking is dominant in others. In terms of behaviour, some try new things while others do similar things. These features are innate while some can be acquired later, so the personality is an active and developing structure. Based on all these expressions, personality can be defined as an active set of systems that includes individual feelings, thoughts and behavioural structures. There are many theories explaining personality and personality development such as Psychoanalytic approach, Genetic approach, Cognitive approach, Behavioural approach, Social learning approach, Life cycle approach, Humanistic approach, Limited space approach. For example, Freud argued that unconscious forces, biologically induced sexual and aggressive drives, and inevitable conflicts in early childhood constitute personality. Jung stated that personality emerges through the interaction of consciousness (ego), personal unconscious (complexes) and collective unconscious (archetypes) or consists of a series of systems that function alone within these three different levels (Geçtan, 2014; Lazarus, 1961; Hall & Nordby, 1999). According to social learning theory, external stimuli and reinforcers affect the behaviour of the individual. In addition, the person or people taken as a model in the outside world affect not only behaviour but also feelings and thoughts. Therefore, while the outside world forms the self-efficacy belief of the individual, it also shapes the personality. When considered in the context of this theory, it would not be wrong to say that culture guides personality (Bandura, 1995). Van der Zee and Van Oudenhoven (2001) discussed personality in the context of cultural interaction and stated that personality has five dimensions: 1-Cultural empathy: the ability to empathize with the feelings and thoughts of people from different cultures, 2-Openness: being open to knowing and understanding the cultural values and norms of people from different cultures as well as his/her own cultural values, 3-Social initiative: the tendency to actively approach social situations or initiate communication instead of waiting and watching in such situations, 4-Emotional stability: the ability to remain calm in new and stressful situations, 5-Flexibility: the ability of an individual to switch from one behavioural

strategy to another, that is, the ability of the individual to adapt to difficulties, new and unknown situations (Bulut & Sarıçam, 2016; 2017).

One of the important challenges in today's societies is "to ensure the coexistence of ethnic, cultural, linguistic, religious etc. diversity among the members of the society, to ensure its legalization and at the same time to create a sense of national unity among these different structures" (Özensel, 2012, p. 4). Another important argument that can significantly solve the problems encountered in the coexistence of differences is critical thinking. In some approaches, critical thinking is defined as a skill. For example, Chance (1986) described critical thinking as a whole of analysing facts, generating and organizing ideas, defending ideas, making comparisons, making inferences, evaluating arguments, and problem solving. Critical thinking is a way of thinking individuals do purposefully and under their own control, where the repetition of habits and stereotypes are prevented, where prejudices, assumptions and all kinds of information presented are tested, evaluated, judged and their different aspects, expansions, meanings and consequences are discussed, where ideas are analysed and evaluated, where reasoning, logic and comparisons are used and as a result, certain ideas, theories or behaviours are reached (Oğuz, & Sarıçam, 2016). Critical thinking is extremely important in terms of citizenship. "If individuals needed by contemporary democracies are sensitive to social problems, socially responsible, away from all kinds of dogmatic thoughts, active, knowledgeable and willing to participate, able to achieve informed/intelligent participation, able to form their own thoughts, able to question and evaluate others based on data, evidence, etc. in terms of consistency, solidity, etc., able to empathize, with a culture of discussion and compromise, then critical thinking is in the focus of being a citizen as well as being an individual" (Gürkaynak et al., 2008, p.16).

The present study

Civil wars, which caused human tragedy as in the Middle East, brought the problem of immigration and immigrants back to the agenda. Therefore, multicultural education has become mandatory in many countries, particularly in Turkey. Although serious progress has been made in multicultural education practices, some deficiencies remain. Prejudices against immigrants and refugees in the society are particularly important obstacles to the success of multicultural education. There are similar obstacles all over the world. Especially racist attacks against the blacks in the USA, xenophobic discourses in Germany, France and the Netherlands increase the tension, threatening global peace and harming multiculturalism. Racism in the USA, the genocide in East Turkestan, the nuclear efforts of Iran and North Korea, human trafficking, depletion of water resources, global warming and the global pandemic are not problems to be tackled locally, but as they threaten the future of humanity and global peace, they need to be tackled globally. In this context, since the responsibility of citizenship goes beyond national borders, it brings with it the responsibility of global citizenship. Hjerm, et al., (2018) state that critical thinking skills reduce xenophobia and racist thoughts. Therefore, it is thought that critical thinking dispositions may be a component of

multicultural personality and affect the perception of global citizenship. It is thought that studying the effects of personality traits and critical thinking on university students who have important opportunities to become global citizens will contribute to the literature. Interaction with people from different cultural backgrounds has become inevitable due to globalization, international mobility, migration and digitalization. As such, some adapt quickly to this cultural diversity, while others resist. Wilson, et el., (2013) stated that this situation, which they call cultural competence, stems from personality trait. So, what are the personality traits of global citizens? There are huge gaps in the literature in this regard. Global citizenship education practices Turkey has recently become widespread (İçen & Akpinar, 2012; Kan, 2009a, 2009b; Oğurlu, et al., 2016; Uydaş & Genç, 2015), but these studies don't focus on factors affecting global citizenship. Considering that higher education and education faculties aim to raise critical thinking individuals and teachers, this study will reveal the contribution of critical thinking to global citizenship. Therefore, this study will show the place of personality and critical thinking in global citizenship and multiculturalism policies, which are inevitable today, thus serving as a source for future studies. The main purpose of this study is to examine the relationship between global citizenship, multicultural personality and critical thinking in pre-service teachers.

Method

The model of this research is relational survey method, one of the descriptive research methods within the scope of quantitative method. "Descriptive research is generally carried out to enlighten a given situation, make evaluations in line with standards and reveal possible relationships between events. The main purpose in such studies is to describe and explain the situation under study in detail" (Çepni, 2012, p. 74). It is known that there are two methods of revealing the possible relationships between these events within the scope of quantitative method: the Relational Survey Method and the Causal Comparison Method. In this study, it is aimed to reveal the interaction between the multicultural personalities of the pre-service teachers, critical thinking dispositions and global citizenship without establishing a cause-effect relationship (Çepni, 2012), so the relational survey method was deemed appropriate for the study. Since the purpose of survey studies is to describe a phenomenon, situation or event, descriptive statistics are generally used in the analysis of survey studies (Özdemir, 2014).

Study Group

The study group of the research consists of a total of 363 university students, 212 females and 151 males, enrolled in different programs of the Faculty of Education in the Aegean Region. Participants' ages range from 18 to 25 years.

Data Gathering Tools

Multicultural Personality Scale-Short Form: In the study, in order to determine the multicultural personality traits of teachers and pre-service teachers, The Multicultural Personality Scale (MPS) Short Form-40 developed by Van der Zee, et al., (2013) and adapted into Turkish by Sarıçam (2014) was used. The MPS is a 5-point Likert-type scale consisting of 40 items, with the highest possible score 200 and the lowest possible score 40. The scale examines multicultural personality in the following sub dimensions; cultural empathy, flexibility, social initiative, openness, and emotional stability. The construct validity of the Turkish form was tested with the data obtained from 407 university students with RMSEA= .076, GFI= .90, CFI= .90, NFI= .91, RFI= .89, IFI= .88 and SRMR = .054. As a result of the analyses regarding the reliability of the MPS, the Cronbach alpha internal consistency reliability coefficient was determined as .84 for the whole scale. Besides, it was determined that the corrected item total correlations ranged between .24 and .61. Since the psychometric values of the scale provide the criteria accepted in the field, it can be said that the Multicultural Personality Scale-Short Form adapted to Turkish is a valid and reliable measurement tool.

Critical Thinking Dispositions Scale (CTDS): The CTDS was developed by Sosu (2013) and consists of 11 items and 2 sub-dimensions (openness to criticism, reflective skepticism). The scale for self-assessment is a 5-point Likert type (1=strongly disagree, 5=strongly agree). The scale was adapted to Turkish by Akın, et al (2013). As a result of the confirmatory factor analysis applied to the data obtained from 509 university students for the construct validity of the scale, the adaptive index values of the 2 sub-dimension models were found as NFI= .92, CFI= .93, IFI= .93, RFI= .89, SRMR= .026. In a similar scale validity study, a positive relationship of r= .29 was found between the Critical Thinking Dispositions Scale and the Self-criticism Scale. The Cronbach Alpha internal consistency reliability coefficient of the scale was .97 for the whole scale, .95 for the openness to criticism sub-dimension, and .96 for the reflective skepticism sub-dimension. Test-retest reliability correlation coefficient of the scale was calculated as .62. Corrected item-total correlations of the scale range from .71 to .94 and lower-upper 27% levels differ significantly.

Global Citizenship Scale: The scale developed by Morais and Ogden (2011) was adapted to Turkish culture was by Akın, Sarıçam et al. (2013). As a result of the confirmatory factor analysis applied for the construct validity of the scale, it was found that the three-dimensional (social responsibility, universal competence and universal citizenship commitment) and the 30-item model is well-adaptive (χ^2= 562.22, sd= 395, RMSEA= .038, NFI= .90, CFI= .90, IFI= .91, SRMR= .066). The factor loads of the scale range between .10 and .88. Internal consistency reliability coefficients of the scale were found as .60 for social responsibility subscale, .69 for universal competence subscale, and .86 for universal citizenship commitment subscale. Corrected item-total correlations of the scale range between .16 and .65.

Data Analysis

Since survey studies have the feature of describing a phenomenon, situation, event in detail, descriptive statistics are generally used in such studies. However, when it is desired to describe the relationship between subgroups or measures, inferential or relational statistical analysis can also be used (Özdemir, 2014). In the light of this information, firstly, the appropriateness of the scores obtained from the applications of the Multicultural Personality Scale, Critical Thinking Dispositions Scale, Global Citizenship Scale, to the parametric tests of the pre-service teachers were tested. In order to use parametric tests, the data must show a normal distribution (Büyüköztürk, 2012). In order to determine whether this condition was fulfilled, the kurtosis-skewness coefficients of the data were examined and the findings are given in Table 1.

Table 1. Skewness and Kurtosis Results of the Participants' Scores from the Multicultural Personality Scale, Critical Thinking Dispositions Scale, Global Citizenship Scale in terms of Gender

Variable	N	Median	Mode	Skewness		Kurtosis	
				Coefficient	Std. error	Coefficient	Std. error
Cultural empathy	363	32	32	-.505	.130	.420	.260
Flexibility	363	22	22	-.120	.130	-.418	.260
Social initiative	363	29	29	-.127	.130	-.258	.260
Openness	363	30	30	-.173	.130	.291	.260
Emotional stability	363	27	27	-.276	.130	.072	.260
Global citizenship	363	118.23	118.37	-.460	.127	.180	.246
Critical thinking dispositions	363	44	44	-.708	.117	.179	.234

According to Table 1, it can be said that the data have a normal distribution since the skewness values of the sub-dimensions critical thinking dispositions, global citizenship, multicultural personality are in the range of ±3 (can also be ±2). In addition, when the skewness values are divided by the standard errors of skewness and kurtosis values are divided by kurtosis standard errors, the result is between +1.96 and -1.96, and also because the median and mode values are overlapping, it is seen that the data show a normal distribution (Albayrak, 2006; Yıldız, et al., 1998). Based on these findings, parametric tests were used to analyse the pre-service teachers' scores of critical thinking dispositions, global citizenship, multicultural personality and sub-dimensions of these scale according to different variables. P<.05 was taken as the confidence interval.

Findings

Comparison analysis

T-test was used for independent samples to determine whether pre-service teachers' critical thinking dispositions, global citizenship, multicultural personality scores differ according to gender, and the results are given in Table 2.

Table 2. T-test Results of Students' Critical Thinking Dispositions, Global Citizenship, Multicultural Personality Scores in Terms of Gender

	Gender	N	$\overline{X}$	Ss	t	p
Cultural empathy	Female	212	31.96	4.31	2.66*	.01
	Male	151	30.30	4.03		
Flexibility	Female	212	21.93	4.94	1.69	.09
	Male	151	23.05	4.21		
Social initiative	Female	212	29.27	5.29	.48	.63
	Male	151	28.90	5.01		
Openness	Female	212	28.77	5.00	.59	.55
	Male	151	29.20	4.67		
Emotional stability	Female	212	26.27	5.44	2.18*	.03
	Male	151	27.92	4.82		
Global citizenship	Female	212	102.30	14.09	1.83	.07
	Male	151	105.05	8.98		
Critical thinking dispositions	Female	212	39.92	6.47	3.51**	.00
	Male	151	41.84	2.85		

*p< .05; **p< .01

According to Table 2, female students' cultural empathy scores ($\overline{X}$ = 31.96) are higher than males' cultural empathy scores ($\overline{X}$ = 30.30). This difference is statistically significant at p<.05 level. In other words, women's cultural empathy levels are higher than men. On the other hand, emotional stability scores of male students ($\overline{X}$ = 27.92) are higher than females' emotional stability scores ($\overline{X}$ = 26.27). This difference is statistically significant at p<.05 level. In other words, the level of balancing the emotions is higher in men than in women. The sub-dimensions of multicultural personality, such as flexibility, social initiative and open-mindedness, do not differ statistically according to gender. On the other hand, males' global citizenship scores ($\overline{X}$ = 105.05) are higher than females' global citizenship scores ($\overline{X}$ = 102.30). This difference is statistically insignificant at p> .05 level. Males' critical thinking dispositions ($\overline{X}$ = 41.84) are higher than females' critical thinking dispositions ($\overline{X}$ = 39.92). This difference is statistically significant at the p <.01 level.

Correlation Analysis

Pearson Product Moment Correlation Analysis was applied to determine whether there is a relationship between pre-service teachers' critical thinking dispositions, global citizenship, and multicultural personality levels, and the results are shown in Table 3.

Table 3. Correlation Analysis Results Regarding the Relationship Between Critical Thinking Dispositions, Global Citizenship, Multicultural Personality

Variables	1.CE	2.F	3.SI	4.OM	5.ES	6.GC	7.CTD
1. Cultural empathy	-	.305**	.535**	.608**	.240**	.449**	.303**
2. Flexibility		-	.168**	.159**	.203**	.396**	.124*
3. Social initiative			-	.653**	.379**	.528**	.330**
4. Openness				-	.300**	.530**	.348**
5. Emotional stability					-	.411**	.336**
6. Global citizenship						-	.337**
7. Critical thinking dispositions							-
$\overline{X}$	31.74	22.08	29.23	28.83	26.94	102.67	40.17
SD	4.30	4.86	5.25	4.96	5.39	19.54	6.14

**p<.01; *p< .05

According to Table 3, there are positive relations between the levels of global citizenship of pre-service teachers and critical thinking dispositions, cultural empathy, flexibility, social initiative, openness, and emotional stability at p<.01 significance level (r= 34; .45; .40; .53; .53; .41 respectively). There is a positive relationship between critical thinking dispositions and cultural empathy, flexibility (p<.05), social initiative, openness, and emotional stability at p<.01 significance level (r= .30; .12; .33; .35; .34). In addition, sub-dimensions of multicultural personality have positive relationships among themselves.

Regression Analysis

Before performing a multiple regression analysis, according to Tabachnick and Fidell (2001), some assumptions should be provided. Among these, the reliability of the normality estimation results (normality), being free from errors (autocorrelation) and multicollinearity were checked in this study. After the multiple regression analysis criteria were met, global citizenship was taken as dependent variable while critical thinking dispositions and multicultural personality scores were taken as independent variables. Results are given in Table 4.

Table 4. Multiple Regression Analysis Results Related to the Role of Critical Thinking Dispositions and Multicultural Personality in Predicting Global Citizenship

Sub dimensions	Non-standardized common effect		Standardized common effect				
	B	SE_B	β	t	R	R^2	F
1.CE, F, SI, OM, ES	.52	.034	.65	15.29			
2. Critical thinking dispositions	.13	.094	.06	1.41	.68	.46	154.91*

* p< .01

According to Table 4, sub-dimensions of critical thinking dispositions and multicultural personality seem to explain 46% of the total variance of global citizenship (R^2= .46, F= 154.91, p= 0.000). Cultural empathy, flexibility, social initiative, openness, emotional stability are important predictors of global citizenship. Especially social initiative and openness have a big share.

Discussion, Conclusion and Suggestions

In this study, which examines the relationship between global citizenship, multicultural personality and critical thinking in pre-service teachers, firstly the scores of these concepts were compared according to gender. It was found that women got higher scores than men in the cultural empathy sub-dimension. Similarly, Bulut and Sarıçam (2016) found that female preschool teachers got higher scores than men in the cultural empathy subdimension. Emotional intelligence may be the cause of this differentiation, because emotional intelligence increases intercultural interaction competence (Washington, et al., 2013). There are many studies claiming that women's emotional intelligence scores are higher than men's (Arteche, et al., 2008; Fernández-Berrocal, et al., 2012; Meshkat & Nejati, 2017; Sánchez-Núñez, et al., 2008). For example, Meshkat and Nejati (2017) found that female university students' interpersonal relationships, emotional awareness and empathy scores are higher than male university students. All these studies coincide with the research finding.

Within the scope of the study findings for the emotional stability sub-dimension of multicultural personality, it was found that the emotional stability levels of male pre-service teachers were higher than those of females. The emotional stability scores of male counselor candidates were found higher than the scores of females in the study implemented by Ağ (2017), which examined the multicultural personality levels in psychological counselor candidates. Deniz and Kesicioğlu (2012) stated that neuroticism scores of female pre-school pre-service teachers are higher than men. Similarly, Tatlılıoğlu (2014) found female university students' emotional instability scores higher than men and considered women's being more self-critical and their lower self-compassion as the reason for this. Another reason is that while men suppress their emotions, women tend to reappraisal. In fact, Kwon, et al., (2013) argued in their study with university students in the USA and South Korea that women tend to have more depression due to the re-evaluation emotional stability strategy. On the other hand, there are studies that do not coincide with this finding of the study (Bulut & Sarıçam, 2016; Şahin & Kılınç, 2016). For example, Bulut and Sarıçam (2016) found the emotional stability scores of female preschool teachers higher than male teachers. The reason for this may be that female preschool teachers have to control their emotions both because of their classroom management and their status. We cannot say the same for male preschool teachers because there is a prejudice in the society that male pre-service teachers cannot work as preschool teachers (Haskan Avcı, et al., 2019; Koçak & Kaykusuz, 2019). Therefore, male preschool teachers release their emotions for children to

prove themselves. However, since the sampling of the current study is pre-service teachers from many branches, it is normal to have differentiation.

The sub-dimensions of multicultural personality, such as flexibility, social initiative, and openness, do not differ statistically according to gender. Şahin and Kılınç (2016) examined the multicultural personality scores of the students of education faculty and found no statistical difference by gender in the sub-dimensions of flexibility, social initiative and openness. In the studies of Yazıcı et al. (2009), it is seen that gender does not cause a significant differentiation on multiculturalism. In their study on pre-service teachers, Akkaya, et al., (2018) found that their levels of feelings about multiculturalism did not differ significantly in terms of gender. Similarly, Özdemir and Dil (2013), in their study on teachers, saw that teachers do not have a significant difference regarding multiculturalism in terms of gender. In similar studies on multiculturalism in the literature, it is seen that the perception of multiculturalism does not differ significantly according to gender (Bulut & Başbay, 2014; Çalışkan & Gençer, 2016; Çoban, et al., 2010; Karakaş & Erbaş, 2018; Munroe & Pearson, 2006; Polat and Barka, 2012; Toprak, 2008; Taşar, 2012;). This can be evaluated as that the male and female pre-service teachers have similar perspectives about multiculturalism. Also, the fact that students have the same cultural backgrounds, the schools they study and the regions they live in do not diffirentiate may also be factors in these findings. However, there are studies in the literature that indicate the opposite. Ergin and Genç (2015) concluded in their study on pre-service teachers that female pre-service teachers' attitudes towards multicultural education are more significant than men. In the study conducted by Güngör, et al., (2018) on pre-service teachers, it was determined that the scores obtained in the knowledge dimension of the scale were in favor of female teachers. Therefore, it can be said that female pre-service teachers have more positive attitudes towards multiculturalism than men. In the light of these results, it is important to conduct studies with larger samples and heterogeneous groups in future studies.

Although the global citizenship scores of men were not statistically significant, they were higher than women. Şahin, Şahin, and Göğebakan-Yıldız (2016) examined world citizenship competency perceptions of pre-service teachers. They found that there was no significant difference in the world citizenship competency perceptions in terms of gender. Özkan (2020), in his research on pre-service teachers' perceptions of global citizenship, found that the classroom pre-service teachers' views of global citizenship did not differ significantly according to gender variable. In the study conducted by Engin and Sarsar (2015) on pre-service teachers, it was found that compared to female pre-service teachers, male pre-service teachers think that globalization has positive effects and in the sub-factor of helping others, male pre-service teachers are more helpful than female pre-service teachers. Genç, Şahin, Tutkun, et al., (2012), in their study on pre-service teachers, showed that male students have a higher average than female students in items related to "women's position in political life". The reason for this is put forward as that competency of female pre-service teachers in

participation in political life is lower than male students and that the education, they receive in university life cannot adequately prepare female students for political life. Another reason for this is that in patriarchal societies, men are more prominent than women in both politics and laws (Kaya & Kaya, 2012). On the other hand, there are studies that are the opposite in the literature. Kan (2009) found that there is a significant difference in favor of women in his research on social studies pre-service teachers. Özkan (2006), in his research on global citizenship, revealed that female students had a more significant differentiation than male students. Durmuş (2017) found a significant difference in the global citizenship attitude levels of the pre-service teachers according to their gender in his research, which examined the global citizenship attitudes of the pre-service teachers. The study revealed that female pre-service teachers had a higher average in justice, ecological integrity, peace and respect for life dimensions.

In the current study, it was seen that men had more critical thinking dispositions than women. In terms of the averages of critical thinking dispositions, Kahraman (2016) found that male pre-service teachers had statistically significantly higher averages than female pre-service teachers. Although there was no significant difference in their research on pre-service teachers' critical thinking dispositions, Can and Kaymakçı (2015) found that the difference in the pre-service teachers' critical thinking dispositions, openness, truth-seeking, and systematicity sub-dimensions were in favor of male pre-service teachers. In most studies, no significant difference was found between male and female pre-service teachers (Adams, et al., 1999; Çetin, 2008; Çıkrıkçı, Kürüm, 2002; 1996; Şen, 2009 Walsh & Hardy, 1999;). Considering that critical thinking disposition is a concept that can be learned later, it is normal that there is no differentiation according to gender in individuals who have university education in the same environment. In fact, when we look at the literature, most of the studies argue that there is no relationship between critical thinking and gender variable. In the present study, a different finding emerged in critical thinking, and it was determined that the gender variable had a significant difference in favor of male pre-service teachers. How can the critical thinking disposition of two genders who have been educated by the same instructors at the same university level be different? One reason for this differentiation is predicted to be gender roles. In Dökmen's (1991; 1999) studies on BEM gender roles, submissive and loyal features for femininity and logical, sociable and courageous features for masculinity draw attention. Therefore, when a woman thinks critically, she contradicts to such gender roles as obedience and loyalty that society expects of her. On the other hand, it is okay for a man to think critically because it seems reasonable. These roles are still up-to-date in Turkey, where traditional culture is dominant.

There are positive relationships between pre-service teachers' global citizenship, multicultural personality and critical thinking dispositions. Hjerm, et al., (2018) stated that critical thinking skills are an important factor for the success of multicultural education studies. Multicultural personality is an important factor for global citizenship. It becomes easier for an individual who grows up in a

multicultural environment to interact and adapt to different cultures. Most of today's civilized and contemporary world states have a heterogeneous structure in ethnic, religious and sectarian terms. This has led to multiculturalism and naturally globalization in the path to become a world citizen (Özensel, 2012). Uydaş and Genç's (2015) study on secondary school students found that global citizenship is related to multiculturalism, which coincides with the results of the present research. Akar (2017) concluded in his research on classroom teachers that critical thinking disposition is an important predictor of multiculturalism. Similar results were obtained with this finding in the studies conducted by Polat (2012), Toprak (2008), Anıl and Yavuz (2010), Çoban et al. (2010) on similar subjects. Consequently, multiculturalism and critical thinking are important for the phenomenon of global citizenship. These three concepts are important in complementing each other. People who grow up in a multicultural structure and individuals who have critical thinking skills have fewer problems in adapting to societies and their cultures, and they can become world citizens more easily.

Suggestions

Multicultural personality and critical thinking tendencies should be supported in order to increase global citizenship in pre-service teachers. It is an attitude against education to teach women to think critically and then, expecting them to obey, to find it odd when they think critically. Therefore, it is as important to provide critical thinking as well as to prepare an environment to think critically. Critical thinking is a need for thinking and it is paranoia and delusion to think that it will raise anarchists by creating an atmosphere of chaos. By providing a democratic atmosphere thanks to critical thinking, not only the inner peace of individuals but also their social well-being will increase. Besides, it will contribute positively to global citizenship awareness as well as national citizenship. Although the university period is a late period for critical thinking and global citizenship awareness, it has become necessary today to add these courses at least as elective courses in all departments and branches. Since the personality of university students has been completed to a great extent, it will be too late for multicultural personality moves. The number of Syrians registered under temporary protection in Turkey are a total of 3 million 656 thousand 525 people as of February 24th, 2021. With Syrians and other refugees and asylum seekers who are not under protection or unregistered, it will be understood how serious the number is. On the other hand, negative attitudes towards refugees and asylum seekers increase due to nationalist-based political approaches. All of these should be put aside and multicultural education practices should continue without slowing down. For this purpose, emphasis should be given to respect for differences, empathy and critical thinking skills, especially in the context of personality. Therefore, future studies can be expanded by adding different variables affecting global citizenship like respect for differences, cultural intelligence, emotional intelligence, etc.

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An Examination of Graduate Theses Completed Between 2010 and 2020 about Academic Procrastination[1]

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Abstract

This study aims to analyze graduate theses completed between 2010 and 2020 about academic procrastination. Qualitative survey method was used in the study. In the study, document analysis was used as the analysis method. After an initial search made using "academic procrastination" keyword in Council of Higher Education Thesis Center's Web Page (CoHE-thesis) 97 theses completed between 2010 and 2020 were found and analyzed. Primarily, graduate theses were analyzed according to their types, topics of study, methods, number of samples and sample group distribution. Afterwards, the methods, sample distributions and sample numbers of the theses according to their types were examined. Majority of these 97 completed theses are postgraduate theses (n=83), secondly doctoral theses (n=12), and thirdly specialty in medicine theses (n=2). As for the methods used, relational method (n=68) was seen to be the most used method after which comes descriptive method (n=15), thirdly interventional method (n=6), fourthly descriptive and relational method (n=3), and fifthly relational and interventional method (n=1). As for sample groups, the most researched sample group was university students (n=49). The most researched topics in theses on the subject of academic procrastination were educational and socio-demographic characteristics.

Keywords: Procrastination, Academic Procrastination, Document Analysis, Postgraduate Theses, Cohe-Thesis

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Introduction

The needs and expectations of society change over time. Today educated people are expected to possess a variety of skills including reaching valid and reliable information, planning and doing research, having responsibility and awareness of their duties, and managing their time effectively. Improving these skills is vital for individuals to reach their goals. Academic duties of students increase and differ with each grade as they move to higher levels of education and eventually evolve to advanced tasks which require meticulous attention. It is necessary for students to learn managing their time effectively in order to carry out these tasks (Akbay and Gizir, 2010). Academic procrastination is defined as delaying academic based tasks (carrying out projects, preparing for exams) for various and illogical reasons. (Akbay and Gizir, 2010; Albayrak, Yazıcı and Reisoğlu, 2016; Bulut and Ocak, 2017; Kağan, 2009; Senecal, Julien and Guay, 2003). Individuals' preference to delay their academic duties to the last-minute despite being aware of their responsibilities is related to behavior of procrastination (Vural and Gündüz, 2019). Every individual can sometimes exhibit behavior of procrastination regardless of age, gender, or type of the work they are occupied with (Öztürk Başpınar, 2020). It is a well established fact that procrastination causes negative impacts on individuals (Johnson and Bloom, 1995). An increased number of social activities, occupational and academic duties (projects, presentations, assignments, exams) brought by university life as well as economic and occupational difficulties make academic procrastination a very common problem observed among university students. (Akbay and Gizir, 2010; Berber Çelik and Odacı, 2015; Kaya and Odacı, 2019; Odacı and Kaya, 2019). As a result, students tend to perform lower than their actual levels and have low academic satisfaction. Academic procrastination which causes academic failure is very often observed among university students (Berber Çelik and Odacı, 2015). Although academic procrastination is a common behavior among university students it can also be observed among students at other levels of education (Yaycı and Düşmez, 2016). Academic procrastination behavior affects students' academic life as well as their psychological state. Delaying duties caused by procrastination behavior results in being obliged to complete their responsibilities in a short time which in turn causes them to feel stressed. Despite feeling relieved for a short time, academic procrastination causes negative feelings such as anxiety and stress in the long term (Akbay ve Gizir, 2010). Academic procrastination behavior may originate from nature of assigned duty as well as personal characteristics (cognitive, affective) of individuals (Vural and Gündüz, 2019). Some of the variables causing academic procrastination behavior are low level of motivation and responsibility, lack of time management and self-regulation skills (Engin and Genç, 2020), setting unrealistic goals and perfectionism (Gürgan and Gündoğdu, 2019; Solomon and Rothblum, 1984; Odacı and Kaya, 2019), anxiety, difficulty in making decisions, and opposing control (Solomon and Rothblum, 1984).

Review of related literature indicates that studies address not only underlying causes of procrastination behavior but also they emphasize variables related to this behavior. Self-efficacy

(Akbay and Gizir, 2010; Aydoğan and Özbay, 2012; Berber Çelik and Odacı, 2015), perfectionism (Gürgan and Gündoğdu, 2019; Odacı and Kaya, 2019), responsibility (Çelikkaleli and Akbay, 2013; Özer and Altun, 2011), time management (Balkıs, Duru, Buluş and Duru, 2006; Bulut and Ocak, 2017; Kağan, 2009), fear of failure (Bulut and Ocak, 2017; Özer and Altun, 2011; Uzun Özer, 2009; Senecal, Koestner and Vallerand, 1995), motivation (Balkıs et al., 2006; Kağan, 2009; Senecal, Koestner and Vallerand, 1995), self-esteem (Beck, Koons and Milgrim, 2000), anxiety Senecal, Koestner and Vallerand, 1995; Solomon and Rothblum, 1984) are some of the variables studied in the related literature.

Methods

Qualitative survey method was used in the study. In the study, document analysis was used as the analysis method. Document analysis is a method in which written documents related to subject of the study is analyzed (Yıldırım and Şimşek, 2018, p.187). In this method researchers must determine the steps they follow according to research problem, data they aim to reach, and depth of the study (Yenilmez and Sölpük, 2014). Data can easily be accessed from written documents. Some examples to these documents are novels, autobiographies, documents written by institutions, newspaper reports, and dairies (Merriam, 2013). In the current study, theses related to academic procrastination uploaded to Council of Higher Education Thesis Center's Web Page which has free access were used as documents.

Research Questions

1. How is the distribution of graduate theses completed between 2010 and 2020 according to types of theses?

2. How is the distribution of graduate theses completed between 2010 and 2020 according to methods of theses?

3. How is the distribution of graduate theses completed between 2010 and 2020 according to sample groups of theses?

4. How is the distribution of postgraduate theses completed between 2010 and 2020 according to sample groups of theses?

5. How is the distribution of postgraduate theses completed between 2010 and 2020 according to methods of theses?

6. How is the sample group distribution of postgraduate theses completed between 2010 and 2020 according to methods of theses?

7. How is the distribution of doctoral theses completed between 2010 and 2020 according to sample groups of theses?

8. How is the distribution of doctoral theses completed between 2010 and 2020 according to methods of theses?

9. How is the sample group distribution of doctoral theses completed between 2010 and 2020 according to methods of theses?

10. How is the distribution of specialty in medicine theses completed between 2010 and 2020 according to methods of theses?

11. How is the distribution of specialty in medicine theses completed between 2010 and 2020 according to sample groups of theses?

12. How is the distribution of specialty in medicine theses completed between 2010 and 2020 according to sample numbers of theses?

13. How is the distribution of graduate theses according to their topic of study?

Population and Sampling

The population of the study consists of theses published in Council of Higher Education Thesis Center's Web Page (CoHE-thesis) which use the keyword "academic procrastination". The sample group of the study is 97 theses completed between 2010 and 2020 years which can be accessed via Council of Higher Education Thesis Center. The criterion selected for analysis of the data is categorization of theses according to their types, number of sample groups, type of sample groups and methods used for the study.

Limitations

The study includes 97 theses completed between 2010 and 2020 which are accessed from Council of Higher Education Thesis Center's Web Page by using "academic procrastination" keyword. 83 of these theses are postgraduate, 12 are doctoral, and 2 are specialty in medicine theses. The study is limited to specified years and free access theses.

Data Analysis

Descriptive analysis method is used to analyze the data. Descriptive analysis method includes four stages: Drawing a general framework according to themes, processing the data in accordance with this framework, explaining the findings, and commenting on the findings. (Yıldırım and Şimşek, 2011). Primarily, a framework is specified for this study. The themes for the study are determined as types of theses, research methods, sample numbers of theses, sample types, and related variables. These themes were selected as they were among the titles which scientific studies should include.

Results

In this part of the study findings of the study are presented under thirteen categories. These categories include: Distribution of graduate theses completed between 2010 and 2020 according to their types, methods and sample groups, distribution of post graduate theses completed between 2010 and 2020 according to their sample group distribution, research methods and sample groups distribution according to research method, distribution of doctoral theses according to their types,

sample groups and sample group distributions according to type of theses, distribution of specialty in medicine theses according to their methods, sample groups, and sample group numbers, and distribution of graduate theses according to their fields of study.
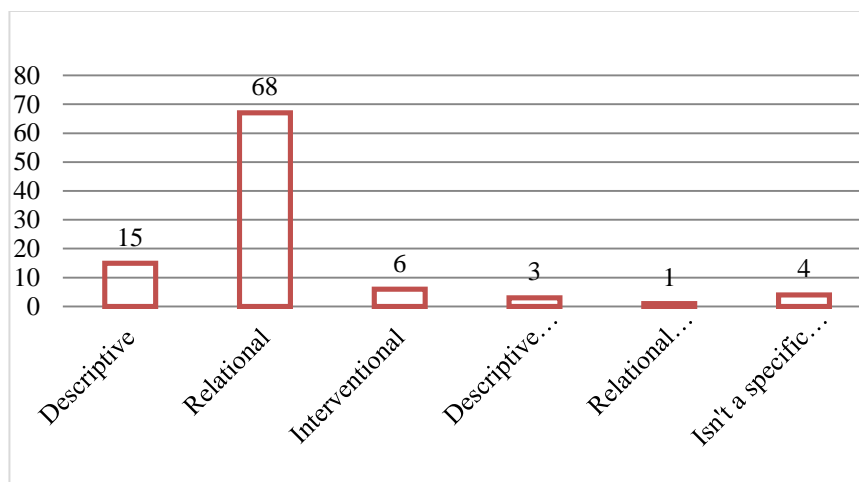
Distribution of Graduate Theses Completed Between 2010 and 2020 According to Types of Theses

A total number of 97 graduate theses related to academic procrastination are completed between 2010 and 2020; 83 theses are post graduate, 12 of them are doctoral, and 2 of them are specialty in medicine.

Distribution of Graduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Information related to distribution of graduate theses completed between 2010 and 2020 according to methods of theses is presented in the Table 1.

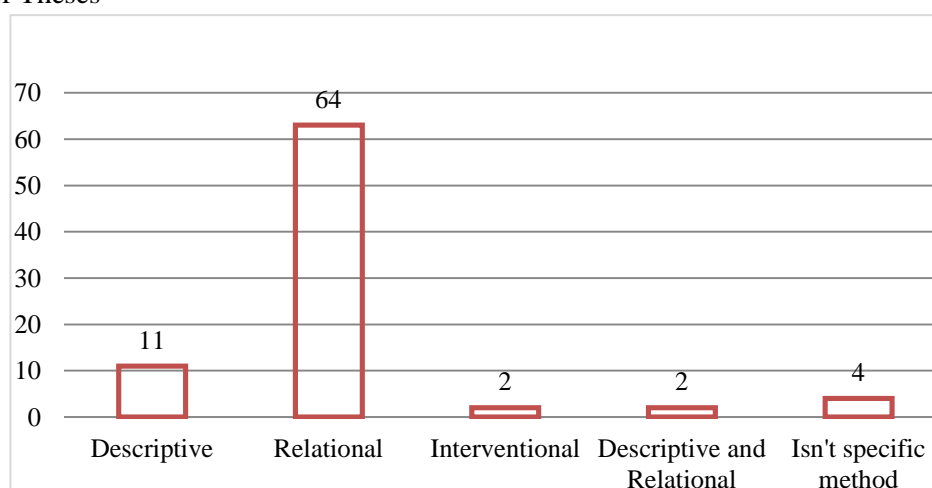**Table 1.** Distribution of Graduate Theses Completed Between 2010 and 2020 According to Methods of Theses

As seen in table 1, there isn't a specific method stated for 4 of the theses completed between 2010 and 2020. 15 of the theses use descriptive method, 68 of the theses use relational method, 6 of the theses use interventional method, 3 of the theses use descriptive interventional method, and 1 of the theses uses relational interventional method.

Distribution of Graduate Theses Completed Between 2010 and 2020 According to Sample Groups of Theses

Information related to distribution of graduate theses completed between 2010 and 2020 according to sample groups of theses are presented in Table 2.

Table 2. Distribution of Graduate Theses Completed Between 2010 and 2020 According to Sample Groups of Theses
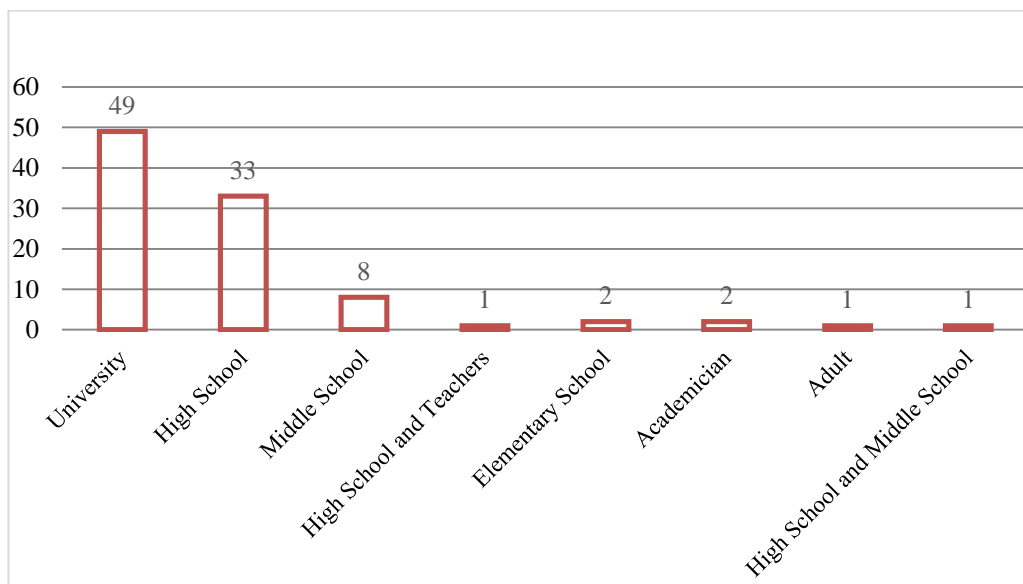
As seen in table 2, of all 97 theses completed between 2010 and 2020 there are 49 theses working with university groups, 33 theses working with high school groups, 8 theses working with middle school groups, 1 thesis working with high school and teacher groups, 2 theses working with elementary school groups, 2 theses working with academician groups, 1 thesis working with adult groups, and 1 thesis working with high school and middle school groups.

Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Sample Groups of Theses

Information related to distribution of postgraduate theses completed between 2010 and 2020 according to sample groups of theses is presented in Table 3.

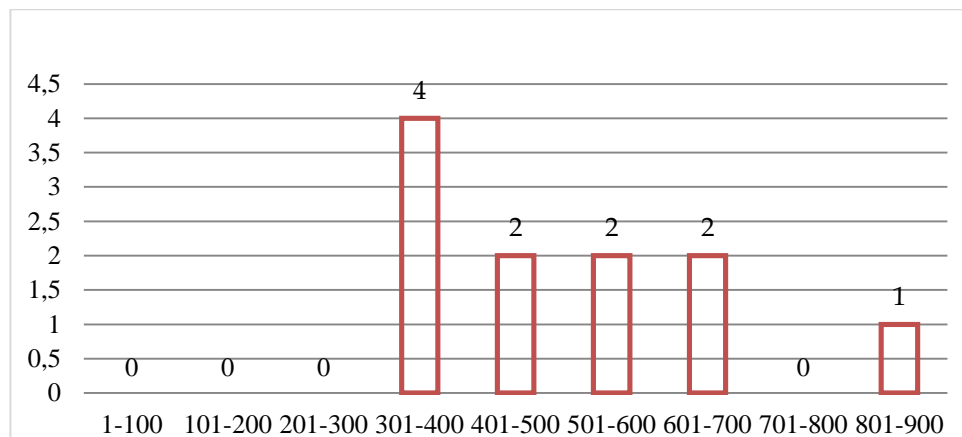**Table 3.** Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Sample Groups of Theses
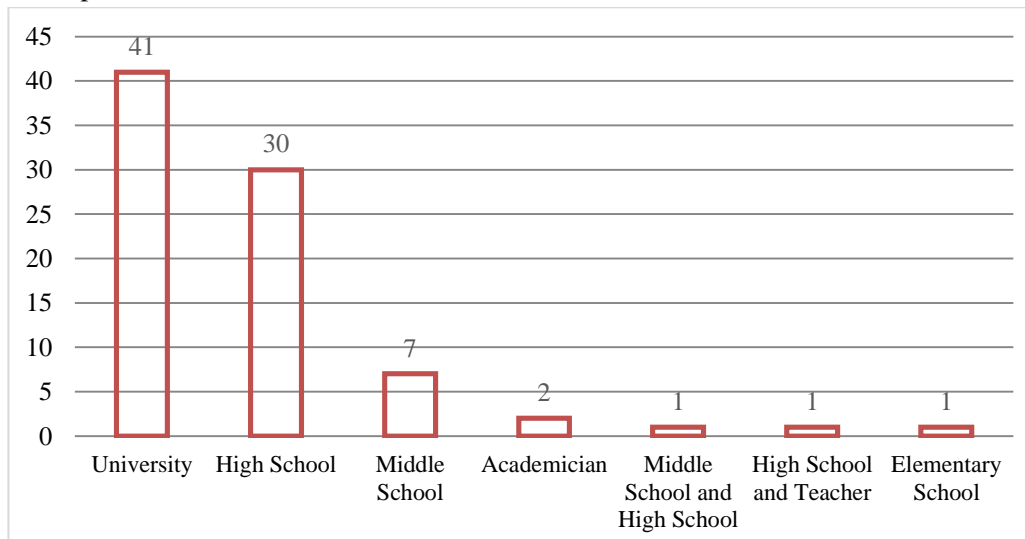
As seen in table 3, of all 83 postgraduate theses completed between 2010 and 2020 there are 41 theses working with university students, 30 theses working with high school students, 7 theses working with middle school students, 2 theses working with academicians, 1 thesis working with high school and middle school students, 1 thesis working with high school students and teachers, and 1 thesis working with elementary school students.

Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Information related to distribution of postgraduate theses completed between 2010 and 2020 according to methods of theses is presented in Table 4.

Table 4. Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

As seen in table 4, of all 83 postgraduate theses completed between 2010 and 2020, 11 of the theses use descriptive method, 64 of the theses use relational method, 2 of the theses use interventional method, 2 of the theses use descriptive and relational method. There is no specific method stated for 4 of the theses.

Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Sample group distribution of postgraduate theses completed between 2010 and 2020 using descriptive method are presented in Table 5.

Table 5. Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 Using Descriptive Method
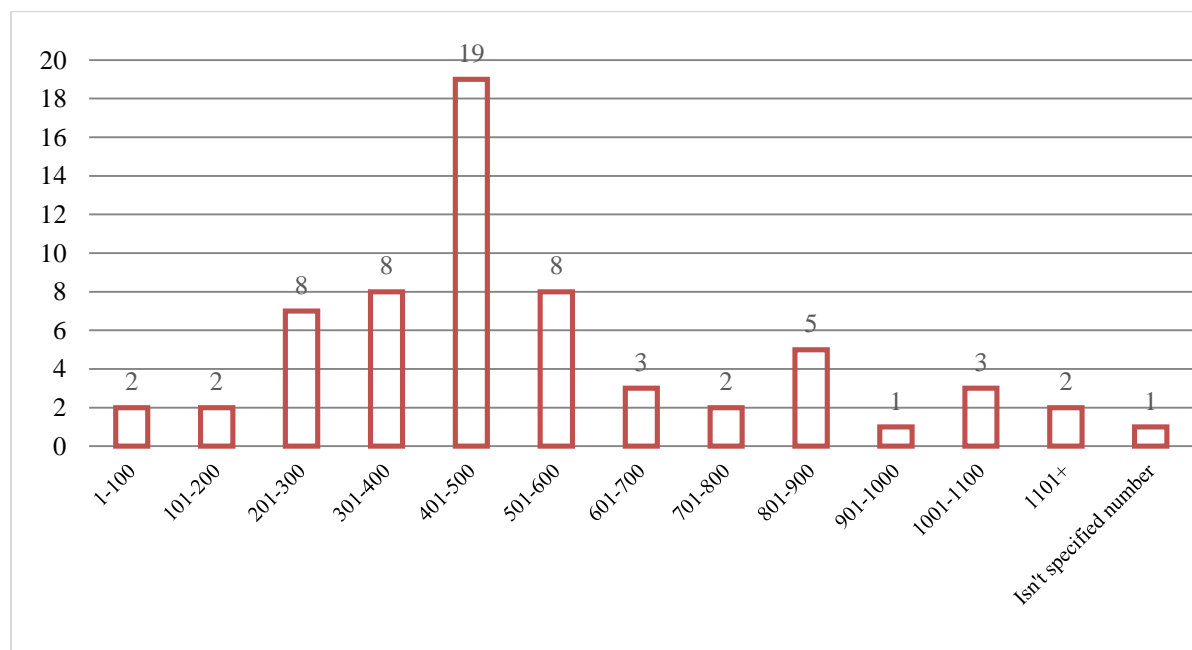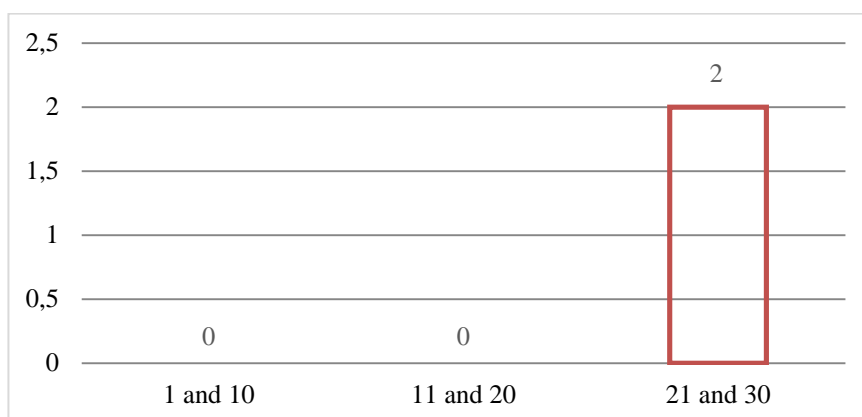

As seen in table 5, sample group distribution of 11 postgraduate theses completed between 2010 and 2020 using descriptive method is as follows: 4 theses working with 301-400 people, 2 theses working with 401-500, 2 theses working with 501-600, 2 theses working with 601-700, and 1 thesis working with 801-900.

Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Sample group distribution of postgraduate theses completed between 2010 and 2020 using relational method are presented in Table 6.

Table 6. Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 Using Relational Method

As seen in table 6, sample group distribution of 64 postgraduate theses completed between 2010 and 2020 using relational method is as follows: 2 theses working with 1-100 people, 2 theses working with 2,101-200, 8 theses working with 201-300 people, 8 theses working with 301-400 people, 19 theses working with 401-500 people, 8 thesis working with 501-600 people, 3 theses working with 601-700 people, 2 thesis working with 701-800 people,5 theses working with 801-900 people, 1 thesis working with 901-1000 people, 3 theses working with 1001-1100 people, 2 theses working with 1101 and a higher number of people. There is no specified number for sample group in 1 thesis.

Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Sample group distribution of postgraduate theses completed between 2010 and 2020 using interventional method are presented in Table 7.

Table 7. Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 Using Interventional Method
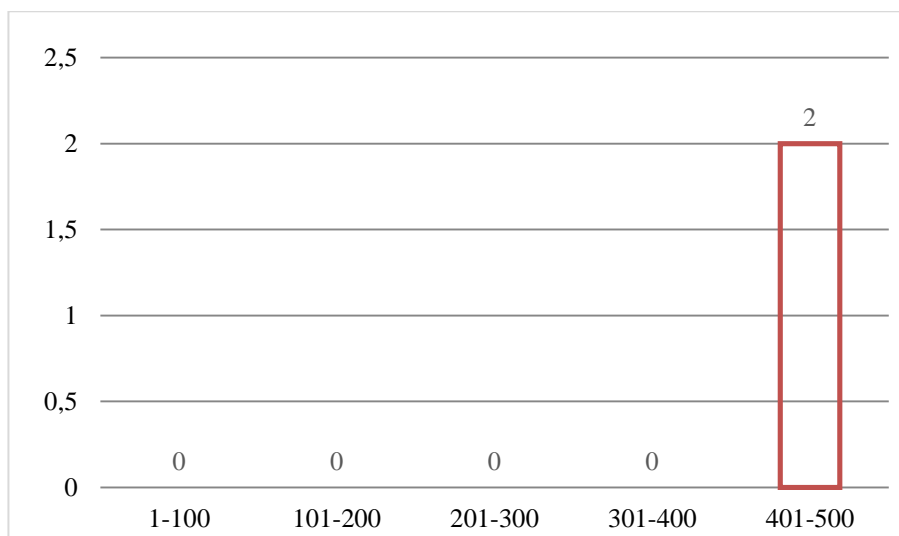

As seen in table 7, there are 2 theses using interventional method completed between 2010 and 2020 and both theses work on 21-30 people.

Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Sample group distribution of postgraduate theses completed between 2010 and 2020 using descriptive and relational method are presented in Table 8.

Table 8. Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 Using Descriptive and Relational Method


As seen in table 8, there are 2 theses using descriptive and relational method completed between 2010 and 2020 and both theses work with 401-500 people.

Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 According to Methods of Theses

Sample group distribution of postgraduate theses completed between 2010 and 2020 in which there isn't a specified method is presented in Table 9.

Table 9. Sample Group Distribution of Postgraduate Theses Completed Between 2010 and 2020 in Which There isn't a Specified Method
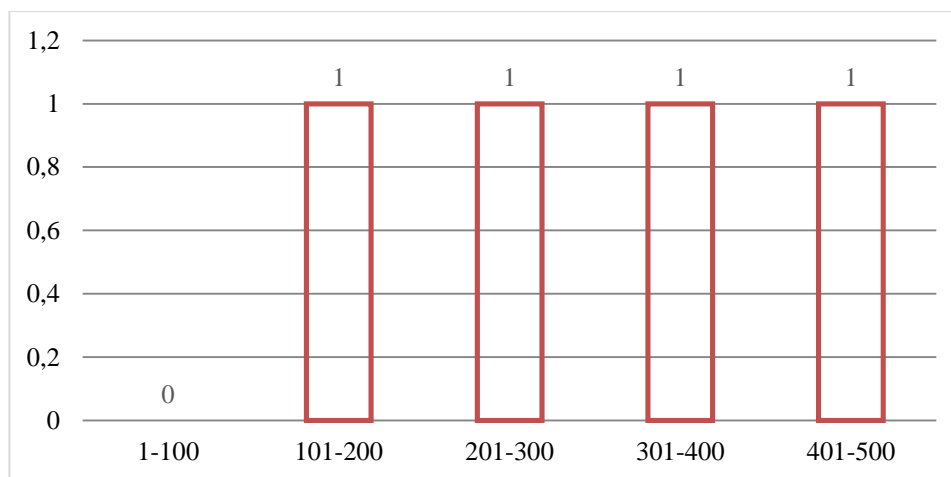

As seen in table 9, there are 4 theses in which there isn't a specified method and 1 thesis works with 101-200 people, 1 thesis works with 201-300 people, 1 thesis works with 301-400 people, and 1 thesis works with 401-500 people.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020

Information related to sample group distribution of doctoral theses completed between 2010 and 2020 is presented in Table 10.

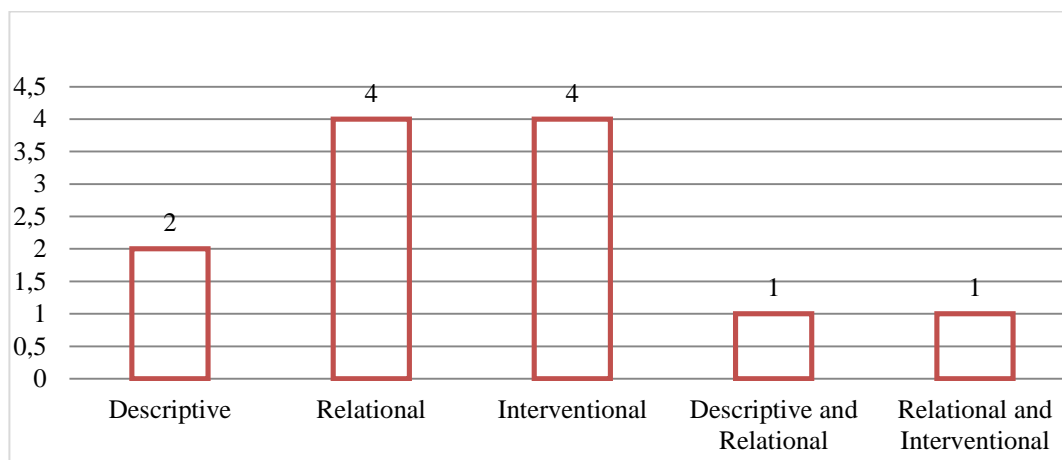**Table 10.** Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020
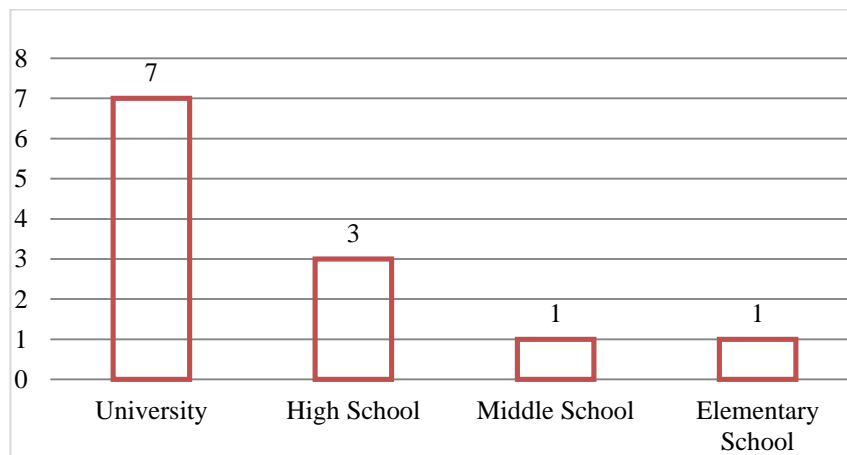
As seen in table 10, there are 12 doctoral theses completed between 2010 and 2020. 7 theses work with university students, 3 theses work with high school students, 1 thesis works with middle school students, and 1 thesis works with elementary school students.

Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

Information related to distribution of doctoral theses completed between 2010 and 2020 according to methods of theses is presented in Table 11.

Table 11. Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Their Methods

As seen in table 11, there are 12 doctoral theses completed between 2010 and 2020. 2 theses use descriptive method, 4 theses use relational method, 4 theses use interventional method, 1 thesis uses descriptive and relational method, and 1 thesis uses relational and interventional method.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

There are two doctoral theses using descriptive method completed between 2010 and 2020 and both theses work with a sample group of 1001-1500 people.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

There are 4 doctoral theses using relational method completed between 2010 and 2020. 3 of the theses works with a sample group of 601-900 people and 1 thesis works with a sample group of 901 and higher number of people.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

There are 4 doctoral theses using relational method completed between 2010 and 2020. 3 of the theses work with a sample group of 31-40 people, and 1 thesis works with a sample group of 21-30 people.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

There is 1 doctoral thesis using relational and interventional method completed between 2010 and 2020 and it works with a sample group of 1001-1500 people.

Sample Group Distribution of Doctoral Theses Completed Between 2010 and 2020 According to Methods of Theses

There is 1 doctoral thesis using descriptive and relational method completed between 2010 and 2020 and it works with a sample group of 2001-3000 people.

Distribution of Specialty in Medicine Theses Completed Between 2010 and 2020 According to Methods of Theses

There are 2 specialties in medicine theses completed between 2010 and 2020 use descriptive method.

Distribution of Specialty in Medicine Theses Completed Between 2010 and 2020 According to Sample Groups of Theses

There are 2 specialties in medicine theses completed between 2010 and 2020. 1 thesis works with university students and 1 thesis works with adults.

Distribution of Specialty in Medicine Theses Completed Between 2010 and 2020 According to Sample Group Numbers of Theses

There are 2 specialties in medicine theses completed between 2010 and 2020. 1 thesis works with a sample group of 1-100 people and 1 thesis works with a sample group of 401-500 people.

Distribution of Graduate Theses According to Topics Studied

Information related to distribution of graduate theses completed between 2010 and 2020 according to their field of study is presented in Table 12.

Table 12. Distribution of Graduate Theses According to Their Field of Study
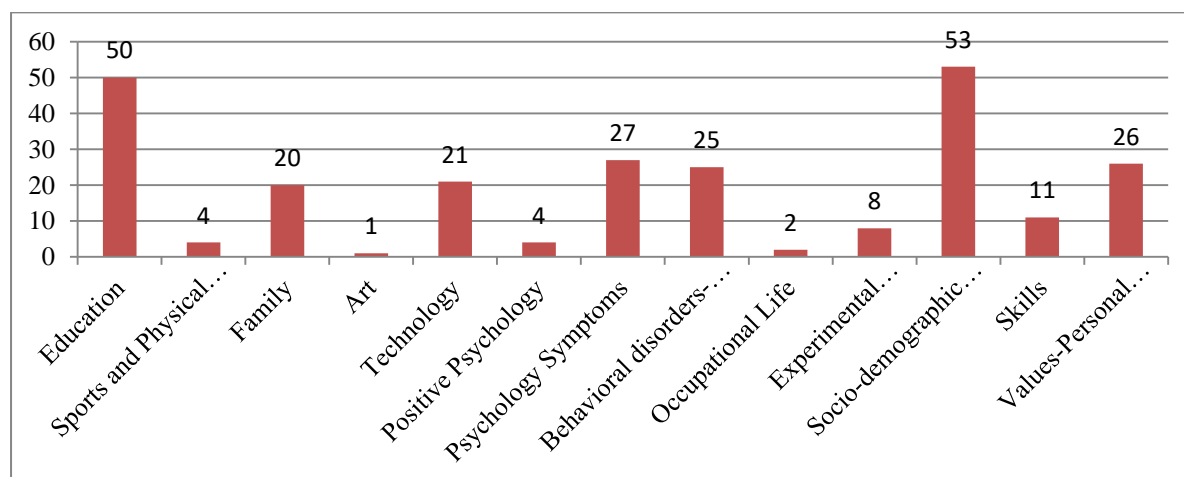
Topics of study are specified after a review of related literature with the help of specialists. The topics of study researched in theses related to academic procrastination are specified as: Education, sports and physical education, family, art, technology, positive psychology, psychological symptoms and behavioral disorders, behavioral problems, occupational life, experimental practices and trainings, socio-demographic factors, skills and values, personal characteristics. Analysis of theses completed between 2010 and 2020 revealed that topics studied are as follows: 50 topics related to education, 4 topics related to sports and physical education, 20 topics related to family, 1 topic related to art, 21 topics related to technology, 4 topics related to positive psychology, 27 topics related to psychological symptoms and behavioral disorders, 25 topics related to behavioral problems, 2 topics related to occupational life, 8 topics related to experimental practices and training, 53 topics related to socio-demographic factors, 11 topics related to skills, 26 topics related to values and personal characteristics.

Discussion and Conclusion

This study aims to analyze graduate theses completed between 2010 and 2020 on the subject of academic procrastination. 97 theses completed between 2010 and 2020 were analyzed according to their distribution of topics they studied, distribution of types of theses, distribution of sample numbers, distribution of sample groups, methods: sample number distributions, sample numbers according to methods of theses. Analysis revealed that majority of these 97 completed theses are postgraduate theses (n=83), secondly doctoral theses (n=12), and thirdly specialty in medicine theses (n=2). As for the methods used, relational method (n=68) was seen to be the most used method after which comes descriptive method (n=15), thirdly interventional method (n=6), fourthly descriptive and relational method (n=3), and fifthly relational and interventional method (n=1). Such a low usage of interventional method is predicted to be a result of difficulties experienced in using interventional method.

Review of related literature showed that various studies analyzing graduate theses also express those quantitative studies are favored over qualitative studies (Balta and Kanbolat, 2020; Kütükcü, 2017; Özenç and Özenç, 2018). Studies also state that there is a tendency to believe using quantitative methods gives more reliable and valid outcomes (Balta and Kanbolat, 2020; Kütükcü, 2017). Analysis of sample groups showed that university students (n=49) are the most studied group. 49 of 97 completed theses studied university students which indicates that social, occupational and academic responsibilities (projects, assignments, presentations, exams) of university students are higher than high school students as well as occupational and economic difficulties they experience which in turn make academic procrastination a very common and important problem (Akbay and Gizir, 2010; Berber Çelik and Odacı, 2015; Kaya and Odacı, 2019; Odacı and Kaya, 2019). This situation is believed to be the main consideration for researchers to prefer university students as sample groups. The most preferred sample group for postgraduate theses is also university students (n=41). Among 83 postgraduate theses, the most used research method is relational method (n=64) and the least used method is interventional method (n=2). The reason for post graduate degree researchers to prefer interventional method less than the other methods is believed to be the necessity of following all processes during all academic processes and focusing attention on academic writing and interventional method can require more time than other methods. Among 64 post graduate theses using relational method, the most studied sample group number is 401-500 (n=19). 2 post graduate theses using interventional method worked with 21-30 people. The most researched sample group among 12 doctoral theses is university students (n=7), and the least researched groups are middle school (n=1) and elementary school (n=1). The most used methods are interventional (n=4) and relational (n=4) methods. The most preferred sample group number is 31-40 people for doctoral theses using interventional method (n=3). The most preferred sample group number for doctoral theses using relational method is 601-900 people. Also, 2 specialties in medicine theses use

descriptive method. Academic procrastination is related to a wide range of variables such as self-efficacy (Akbay and Gizir, 2010; Aydoğan and Özbay, 2012; Berber Çelik and Odacı, 2015), perfectionism (Gürgan and Gündoğdu, 2019; Odacı and Kaya, 2019), responsibility (Çelikkaleli and Akbay, 2013; Özer and Altun, 2011), time management (Balkıs et.al. 2006; Bulut and Ocak, 2017; Kağan, 2009). As a result, it is possible for researchers to explore these relations by using relational method. All these considerations can be underlying cause for a higher usage of quantitative methods.

Another finding of the study shows that the most researched topics in completed graduate theses are educational topics and socio-demographic characteristics. Second most researched topic is psychological symptoms and behavioral disorders which is followed by topics related to values and personal characteristics. And the least studied topic is behavioral problems. Topics related to education include academic achievement, attitudes towards school and lessons. Analysis of topics studied in graduate theses revealed that topics related to socio-demographic characteristics include age, gender, level of income; psychological symptoms/behavioral disorders include anxiety, depression, and indecisiveness; values and personal characteristics include self-esteem and character traits; behavioral problems include perfectionism, and common procrastination behavior. The most studied sample group in graduate theses is university students which can be as a result of convenience sampling. Analysis of completed theses revealed that 49 of 97 theses studied university students which indicates that academic procrastination is a serious problem among university students.

Recommendations

Following recommendations are presented for future research based on findings of this study:

- Increasing number of theses using qualitative and mixed methods.
- Developing models to explain the concept of academic procrastination.
- Increasing the number of studies using interventional method to develop programs and models which aims to decrease academic procrastination behavior.
- Increasing sample numbers of studies.

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