

An Examination of Geography Teachers' Reflective Thinking Tendencies

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Abstract

This study is a descriptive research study executed using a scanning model with the purpose of examining geography teachers' tendencies towards reflective thinking according to different variables. The study group consisted of 218 geography teachers serving in schools under the Ministry of National Education in the 2016/2017 education period. For data collection, a personal information form was developed by the researcher, and a "Reflective Thinking Tendency Scale" was used. Mean, standard deviation, t-test, and one-way variance analysis were used in the analysis of the data obtained. Generally, geography teachers have a high degree of reflective thinking; female geography teachers have higher degrees of reflective thinking tendencies than male geography teachers. Professional seniority, place of duty, and faculty of graduation do not affect the tendency of reflective thinking of geography teachers. Although geography teachers serving in "other" high schools (fine arts high school, science high school, social sciences high school, private high schools) scored significantly higher in the sub-dimension critical and effective teaching than teachers in Anatolian high schools and vocational high schools, there is no significant difference in total scores or other sub-dimensions when the effect of duty school is analyzed.

Keywords: Geography teachers, Geography education, Reflective thinking, Thinking skills

1. Introduction

It can be said that reflective thinking is essential for teachers as they have a key role in realizing educational objectives, seeking solutions to problems, and evaluating their present situation. The process of teachers' expression of their ideas, attitudes and skills relevant to the topic is described as reflection (Semerci, 2007); reflective thinking is described as the process of solution making by thinking meticulously (Dewey, 1910). Reflective thinking is a process of remembering previous experiences, thinking about and discussing them, and re-evaluating them based on a certain objective (Atay, 2003). The basis of a reflective thinking process is determining the problem and seeking solutions. Lee (2005) focuses not only on the solution, but evaluates process and progress together.

Reflective thinking in the context of research and discipline helps individuals to develop alternative points of view (Rodgers, 2002). Reflective thinking is not an ordinary and spontaneous process; it is thought to be a conscious approach to problem solving (Gelter, 2003). The aim of reflective thinking is to focus on the problem and create solutions by considering all possibilities, developing alternatives, and evaluating the results obtained (Loughran, 1996).

Reflective thinking can be classified as an alternative solution for the problems encountered in education. In this context, Ünver (2003) describes reflective thinking in terms of the educational system as a process of detecting positive or negative situations and solving the detected problems. The reflective thinking process requires teachers to act systematically, continuously examining and researching to develop solutions. Teachers ask themselves questions, analyze their performance, and determine how to increase performance by rearranging their goals (Alp & Taşkın, 2008).

If teachers are not aware of their practical mistakes, they will not be aware of the measures required to prevent repetition of these mistakes, no matter how experienced they are in their field or teaching methods. When considered from this point of view, by using reflective thinking teachers can question what they do, restructure it, and apply these changes, and so they can improve (Bölükbaş, 2004). Therefore, reflective thinking is a skill that helps teachers to correlate between theory and practice, and contributes to their vocational improvement (Güney, 2008).

Teachers who think reflectively are open to questions and reactions about both their own ideas and educational practices. They take other colleagues' criticisms into consideration and use them constructively. They have a positive attitude towards their profession and are helpful towards other colleagues. They do not avoid taking responsibility in the educational environment, act frankly by thinking continuously and purposefully, use perceived problems as a catalyst for vocational improvement, and apply these changes in the educational environment. They know the content (what), the way (how), and the reason (why) they teach, and so can evaluate the efficiency of their educational practice (Ünver, 2003).

Teachers who think reflectively contribute to raising productive and highly qualified individuals, which is a need for society, by passing on this skill to their students (Duban & Yelken, 2010). Likewise, they strive to develop individuals who are complete learners (Semerci, 2007). They help their students to think consciously and systematically, and teach students to be aware of the connection between previous and future experiences (Yorulmaz, 2006). These teachers try to teach their students to be understanding and unprejudiced by preparing an environment for them in which to share their ideas freely (Ersöz, 2008). When considering these explanations, it can be said that geography teachers, who have a vital role in delivering educational programs with determined objectives, and in the success of students, should have an extensive content knowledge and be reflective thinkers.

Reflective thinking can be thought as an important research topic in terms of teachers and pre-service teachers since researches examining teachers' and teacher reflective thinking skills, levels and tendencies (Griffin, 2003; Lee, 2005; Pedro, 2005; İnönü, 2006; Larrivee, 2008; Vagle, 2009; Karadağ, 2010; Duban & Yelken, 2010; Kılınc, 2010; Ergüven, 2011; Hasırcı & Sadık, 2011; Şahin, 2011; Durdukoca & Demir, 2012; Aydın & Çelik, 2013; Yıldız, 2013; Gedik, Akhan & Kılıçoğlu, 2014; Gencil & Candan, 2014; Erdoğan & Şengül, 2014; Kandemir, 2015; Yumuşak, 2015; Grandy, 2016; Sağır & Bertiz, 2016; Atalay & Karahan, 2016) were executed with teachers and pre-service teachers from branches such as History, Turkish, Science, Math, Social Studies, English, Classroom Teaching, Religious Culture, Music, Art, Physical Education. However, after the relevant literature was reviewed, there is no research encountered examining geography teachers' and pre-service teachers reflective thinking skills, levels and tendencies. Therefore, it is thought that determining geography teachers' reflective thinking tendencies will contribute to research that will be executed for geography teachers' vocational development and to students' success relatedly, to academic geography education and literature.

1.1 Purpose of the Research

In this study, we aim to determine geography teachers' reflective thinking tendencies according to different variables. We will try to answer the following questions:

- 1) What level of reflective thinking tendencies do geography teachers have?
- 2) Do geography teachers' reflective thinking tendencies differ according to their gender?
- 3) Do geography teachers' reflective thinking tendencies differ according to their place of duty?
- 4) Do geography teachers' reflective thinking tendencies differ according to the faculty they graduated from?
- 5) Do geography teachers' reflective thinking tendencies differ according to their vocational experience?
- 6) Do geography teachers' reflective thinking tendencies differ according to the type of school they serve in?

2. Method

2.1 Research Model

This research aims to examine geography teachers' reflective thinking tendencies according to various variables and is a descriptive research study executed using the scanning model. The scanning model is a research model that aims to describe a past or present situation without any change (Karasar, 2011).

2.2 Study Group

The study group consists of geography teachers from the Turkish Union of Geography Teachers, member geography teachers from the web-based Google group <https://groups.google.com/forum/?hl=tr?hl%3Dtr#!forum/cografya-egitimi>, and other geography teachers that can be reached via email. A total of 218 geography teachers participated in the study group by voluntarily answering the electronic questions environment, according to the variables given in Table 1.

Table 1. Distribution of the study group according to the variables

		n	%
Gender	Female	84	38.5
	Male	134	61.5
	Total	218	100
Place of duty	Province	128	58.7
	County	90	41.3
	Total	218	100
Graduation faculty	Faculty of Education	128	58.7
	Faculty of Science and Literature	58	26.6
	Faculty of Science and Literature + Faculty of Education (4+1 or 3.5 + 1.5)	32	14.7
	Total	218	100
Vocational experience (years)	1–5	67	30.7
	6–10	32	14.7
	11–15	29	13.3
	16 or more	90	41.3
	Total	218	100
Duty school	Anatolian high schools	130	59.6
	Vocational high schools	53	24.3
	“Other” high schools (fine arts high schools, science high schools, social sciences high schools, private high schools)	35	16.1
	Total	218	100

2.3 Data Collection Tool

For the collection of data, a personal information form was developed by the researcher, and the “Reflective Thinking Tendency Scale” (YANDE) developed by Semerci (2007) was used. The Reflective Thinking Tendency Scale was designed as a 5-point Likert type scale and includes a total of 35 items (20 positive and 15 negative). There are seven sub-dimensions of the scale: continuous and intentional thinking; open-mindedness; inquiry and effective teaching; teaching and scientific responsibility; researcher; foresighted and friendly; and view of profession. Cronbach’s alpha coefficient is 0.908 for the general scale and 0.794; 0.712; 0.747; 0.776; 0.742; 0.668; and 0.357 for the sub-dimensions, respectively. In this scale, Cronbach’s alpha coefficient is 0.886 in general and 0.624; 0.717; 0.713; 0.583; 0.728; 0.674; and 0.273, respectively, for the sub-dimensions. Minimum and maximum points scored in the whole scale and in sub-dimensions are given in Table 2.

2.4 Data Analysis

In the analysis of the data obtained from the research, mean, standard deviation, independent groups t-test and one-way variance analysis (ANOVA) were used. The Bonferroni test was utilized to determine the significance of the difference in multiple comparisons. Significance level is taken as $p=0.05$ when evaluating the results.

3. Findings

Table 2. Descriptive statistics regarding the scores of geography teachers in the Reflective Thinking Tendency Scale.

Sub-dimensions	N	\bar{X}	Ss	Minimum score	Maximum score
Continuous and intentional thinking	218	28.76	3.47	7	35
Open-mindedness	218	26.96	3.16	6	30
Inquiry and effective teaching	218	23.19	2.26	5	25
Teaching and scientific responsibility	218	21.62	2.52	5	25
Researcher	218	26.42	2.84	6	30
Foresighted and friendly	218	17.27	2.14	4	20
View of profession	218	8.71	1.55	2	10
Total	218	152.94	13.10	35	175

Upon examining Table 2, when taking the minimum and maximum scores in total and sub-dimensions of reflective thinking tendency scale into consideration, 218 geography teachers in the study group got average scores (\bar{X}) close to the maximum scores in both the whole scale and sub-dimensions. In the light of these findings, it can be said that geography teachers have a high level of reflective thinking tendency.

Table 3. Gender analysis results considering the scores of geography teachers in the Reflective Thinking Tendency Scale.

Sub-dimensions	Gender	N	\bar{X}	Ss	t	p
Continuous and intentional thinking	Female	84	29.19	3.14	1.447	0.14
	Male	134	28.49	3.64		
Open-mindedness	Female	84	27.41	2.29	1.680	0.09
	Male	134	26.67	3.58		
Inquiry and effective teaching	Female	84	23.67	1.68	2.543	0.01*
	Male	134	22.88	2.51		
Teaching and scientific responsibility	Female	84	21.95	2.55	1.501	0.13
	Male	134	21.42	2.49		
Researcher	Female	84	26.88	2.57	1.898	0.06
	Male	134	26.13	2.97		
Foresighted and friendly	Female	84	17.61	1.89	1.910	0.04*
	Male	134	17.05	2.26		
View of profession	Female	84	9.00	1.43	2.191	0.02*
	Male	134	8.52	1.60		
Total	Female	84	155.73	10.64	2.518	0.01*
	Male	134	151.20	14.19		

According to Table 3, the average scores in the Reflective Thinking Tendency Scale of the sub-dimensions are not statistically significance for the continuous and intentional thinking, open-mindedness, teaching and scientific responsibility, or researcher sub-dimensions in terms of the gender variable ($p > 0.05$).

However, female participants score significantly higher in the difference in inquiry and effective teaching, foresighted and friendly, and view of profession sub-dimensions ($p < 0.05$). In other words, female teachers tend to think more reflectively than male teachers in these sub-dimensions.

Table 4. Analysis of geography teachers' Reflective Thinking Tendency Scale scores distributed according to place of duty.

Sub-dimensions	Place of duty	N	\bar{X}	Ss	t	p
Continuous and intentional thinking	Province	128	28.91	3.81	0.773	0.44
	County	90	28.54	2.92		
Open-mindedness	Province	128	27.00	2.92	0.247	0.80
	County	90	26.90	3.50		
Inquiry and effective teaching	Province	128	23.35	2.21	1.300	0.19
	County	90	22.95	2.31		
Teaching and scientific responsibility	Province	128	21.71	2.74	0.628	0.53
	County	90	21.50	2.19		
Researcher	Province	128	26.41	3.01	-0.049	0.96
	County	90	26.43	2.60		
Foresighted and friendly	Province	128	17.15	2.21	-0.938	0.34
	County	90	17.43	2.05		
View of profession	Province	128	8.67	1.53	-0.442	0.65
	County	90	8.76	1.59		
Total	Province	128	153.24	13.37	0.392	0.69
	County	90	152.53	12.76		

Upon examining Table 4, there is no statistically significant difference in geography teachers' average whole scores and average sub-dimension scores according to place of duty ($p > 0.05$).

Table 5. One-way variance analysis results of geography teachers' Reflective Thinking Tendency Scale scores according to graduation faculty.

Sub-dimensions	Graduation faculty	N	\bar{X}	Ss	F	p
Continuous and intentional thinking	Faculty of Education	128	28.98	3.17	0.691	0.50
	Faculty of Science and Literature	58	28.53	4.19		
	Faculty of Science and Literature + Faculty of Education	32	28.28	3.22		
Open-mindedness	Faculty of Education	128	26.85	3.03	0.212	0.80
	Faculty of Science and Literature	58	27.17	3.73		
	Faculty of Science and Literature + Faculty of Education	32	27.03	2.62		
Inquiry and effective teaching	Faculty of Education	128	23.06	2.44	0.822	0.44
	Faculty of Science and Literature	58	23.51	2.07		
	Faculty of Science and Literature + Faculty of Education	32	23.12	1.75		
Teaching and scientific responsibility	Faculty of Education	128	21.59	2.45	0.230	0.79
	Faculty of Science and Literature	58	21.55	2.65		
	Faculty of Science and Literature + Faculty of Education	32	21.90	2.68		
Researcher	Faculty of Education	128	26.42	2.80	0.290	0.74
	Faculty of Science and Literature	58	26.24	2.71		
	Faculty of Science and Literature + Faculty of Education	32	26.71	3.25		
Foresighted and friendly	Faculty of Education	128	17.22	2.05	0.522	0.59
	Faculty of Science and Literature	58	17.17	2.45		
	Faculty of Science and Literature + Faculty of Education	32	17.62	1.91		
View of profession	Faculty of Education	128	8.64	1.56	2.323	0.10
	Faculty of Science and Literature	58	8.56	1.63		
	Faculty of Science and Literature + Faculty of Education	32	9.25	1.27		
Total	Faculty of Education	128	152.78	13.30	0.106	0.90
	Faculty of Science and Literature	58	152.75	13.42		
	Faculty of Science and Literature + Faculty of Education	32	153.93	12.01		

When the results of one-way variance analysis in Table 5 are examined, the averages of the scores for the total and sub-dimensions in the Reflective Thinking Tendency Scale show that there is no statistically significant difference according to graduation faculty ($p > 0.05$).

Table 6. One-way variance analysis results of geography teachers' Reflective Thinking Tendency Scale scores in terms of years of seniority.

Sub-dimensions	Year of seniority	N	\bar{X}	Ss	F	p
Continuous and intentional thinking	1-5	67	28.68	3.46	1.264	0.28
	6-10	32	27.84	3.15		
	11-15	29	29.51	3.29		
	16 or more	90	28.90	3.62		
Open-mindedness	1-5	67	27.05	2.85	0.161	0.92
	6-10	32	27.12	2.77		
	11-15	29	26.62	3.48		
	16 or more	90	26.94	3.43		
Inquiry and effective teaching	1-5	67	23.29	1.91	0.301	0.82
	6-10	32	22.87	2.72		
	11-15	29	23.34	1.91		
	16 or more	90	23.17	2.44		
Teaching and scientific responsibility	1-5	67	22.00	2.41	1.161	0.32
	6-10	32	21.00	2.72		
	11-15	29	21.65	2.79		
	16 or more	90	21.56	2.44		
Researcher	1-5	67	26.58	2.94	0.818	0.48
	6-10	32	25.71	3.12		
	11-15	29	26.34	2.67		
	16 or more	90	26.57	2.71		
Foresighted and friendly	1-5	67	17.40	2.24	0.460	0.71
	6-10	32	16.90	1.97		
	11-15	29	17.44	1.99		
	16 or more	90	17.24	2.18		
View of profession	1-5	67	8.79	1.55	0.193	0.90
	6-10	32	8.56	1.54		
	11-15	29	8.62	1.61		
	16 or more	90	8.73	1.56		
Total	1-5	67	153.82	13.61	0.652	0.58
	6-10	32	150.03	13.38		
	11-15	29	153.55	11.67		
	16 or more	90	153.14	13.11		

Upon examining the results of the one-way variance analysis given in Table 6, geography teachers' mean total and sub-dimension scores on the reflective thinking tendency scale are not significantly different when analyzed by years of seniority ($p > 0.05$).

Table 7. One-way variance analysis results of geography teachers' Reflective Thinking Tendency Scale scores in terms of their type of duty school.

Sub-dimensions	Type of duty school	N	\bar{X}	Ss	F	p	Significant difference
Continuous and intentional thinking	Anatolian high school	130	28.56	3.66	2.464	0.08	-
	Vocational high school	53	28.45	2.96			
	"Other" high schools	35	29.94	3.29			
Open-mindedness	Anatolian high school	130	26.93	3.32	0.862	0.42	-
	Vocational high school	53	26.64	3.05			
	"Other" high schools	35	27.54	2.72			
Inquiry and effective teaching	Anatolian high school	130	23.19	2.10	6.393	0.00*	Other-Anatolian Other-Vocational
	Vocational high school	53	22.50	2.88			
	"Other" high schools	35	24.22	1.11			
Teaching and scientific responsibility	Anatolian high school	130	21.60	2.59	0.028	0.97	-
	Vocational high school	53	21.69	2.21			
	"Other" high schools	35	21.62	2.77			
Researcher	Anatolian high school	130	26.36	2.86	1.144	0.32	-
	Vocational high school	53	26.15	2.97			
	"Other" high schools	35	27.05	2.54			
Foresighted and friendly	Anatolian high school	130	17.35	2.16	0.241	0.78	-
	Vocational high school	53	17.15	2.09			
	"Other" high schools	35	17.14	2.18			
View of profession	Anatolian high school	130	8.75	1.51	1.622	0.20	-
	Vocational high school	53	8.41	1.69			
	"Other" high schools	35	9.00	1.45			
Total	Anatolian high school	130	152.76	13.36	1.920	0.14	-
	Vocational high school	53	151.01	13.80			
	"Other" high schools	35	156.54	10.33			

Upon examining Table 7, it is understood that the inquiry and effective teaching average sub-dimension scores of geography teachers are statistically significant different according to the type of duty school ($F=6.393$; $p<0.05$). There is no statistically significant difference in the total or other sub-dimension scores regarding the type of duty school ($p>0.05$). According to the Bonferroni test, teachers serving in "other" high schools have significantly higher scores in the inquiry and effective teaching sub-dimension than the teachers serving in Anatolian high schools and vocational high schools.

4. Discussion, Result and Suggestions

As a result of this study, which aims to examine geography teachers' reflective thinking tendencies, it is determined that geography teachers have a high level of reflective thinking tendencies. The results obtained show similarities with results from studies involving classroom teachers (Hasirci & Sadik, 2011; Dolapçioğlu, 2007; Ergüven, 2011), religious culture and moral knowledge teachers (Yıldız, 2013), Turkish and math teachers (Durdukoca & Demir, 2012), and social studies teachers (Karadağ, 2010).

As a result of analysis of the gender variable (Table 3), it is determined that female teachers' average total score is 155.73; male teachers' average total score is 151.20, and the difference between these scores is significant. Female geography teachers have a higher tendency to think reflectively. Female student geography teachers were found to have a more positive attitude towards their profession than their male counterparts in a study by Sezer, Kara and

Pinar (2011), which supports the findings in the current study. In this study, female teachers score significantly higher in the inquiry and effective teaching, foresighted and friendly, and view of profession sub-dimensions. Although female teachers' average scores in the continuous and intentional thinking, teaching and scientific responsibility, open-mindedness, and researcher sub-dimensions are higher than male teachers, this difference is not significant. While these results differ from the results of some previous studies (Dolapçioğlu, 2007; Durdukoca & Demir, 2012; Ergüven, 2011), which focused on teachers from other educational branches and showed that gender does not affect teachers' reflective thinking levels, they do agree with some other studies' findings (Yıldız, 2013; Hasırcı & Sadık, 2011; Karadağ, 2010; Aslan, 2009). The findings of previous studies (Duban & Yelken, 2010; Alkan & Gözel, 2012; Erdoğan & Şengül, 2014; Yumuşak, 2015; Kandemir, 2015; Sivacı, 2017) that focused on student teachers show that female student teachers' reflective thinking levels are higher than male student teachers. When the findings of this study and similar studies in the literature are reviewed in general, it can be concluded that female teachers have higher tendency to think reflectively. The high levels of reflective thinking in female teachers may be affected by the findings that they have a more positive attitude towards teaching (Gürbüz & Kışoğlu, 2007; Çapri & Çelikkaleli, 2008; Camadan & Duysak, 2010; Kılınç, 2010), prefer student-oriented classroom management (Süral, 2013), and the perception that teaching is a profession that can complement family life, an idea which may be internalized by female teachers and student teachers (Doğan & Çoban, 2009). Thus, as Ünver (2003) mentioned, teachers with high levels of reflective thinking tendencies tend to have a positive attitude towards their profession, do not avoid taking responsibility in teaching environments, and act friendly and sincerely.

The finding that geography teachers' reflective thinking tendencies are not affected by their place of duty (province, county) agrees with the findings of studies executed by Yıldız (2013) with religious culture teachers and by Karadağ (2010) with social studies teachers. Such a result could exist because geography teachers understand the importance of their profession during their undergraduate education and show positive attitudes towards their profession. Hence, Alım and Bekdemir (2006) determined in their study with student geography teachers that the student teachers are aware of the importance of their profession, chose it deliberately, and plan to still teach even if they are appointed somewhere far away from home. Keskin (2017) states that geography student teachers have a positive attitude towards their profession.

In the study, it is determined that the graduation faculty of teachers does not significantly affect their reflective thinking tendencies. This finding agrees with the finding that teachers' reflective thinking tendencies do not differ in terms of education level, in the study executed by Saygılı and Tehnelde (2014). The findings obtained in the study executed by Aslan (2009) also imply that graduation faculty does not affect teachers' reflective thinking tendencies. It can be said that science and literature students prefer the teaching profession after graduation, as with the students that graduated from the Faculty of Education, and internalize the teaching during their education can be effective on ineffectiveness of graduation faculty on teachers' reflective thinking tendencies. In their study, Bulut and Oral (2011) stated that science and literature graduates also have high levels of self-sufficiency perception regarding teaching. In the study executed by Gürbüz and Kışoğlu (2007) there is no significant difference between the Faculty of Science, Faculty of Literature and the Faculty of Education graduates in terms of their attitudes towards teaching. It also stated that science and literature graduates have difficulty in finding jobs in other fields, so they prefer to pursue teaching, and therefore develop a positive attitude towards the profession.

It is determined that professional seniority does not make a difference in geography teachers' reflective thinking tendencies. While that professional seniority does not make a difference in teachers' reflective thinking tendencies is an expectable, findings of the studies executed with classroom teachers (Hasırcı & Sadık, 2011; Dolapçioğlu, 2007) and Social Studies teachers (Karadağ, 2010) show that teachers' professional seniority does not make a significant difference in teachers' reflective thinking tendencies. In accordance with these findings, beginning teachers improve themselves, make effort to make up the difference between them and senior teachers can be stated. In this context, this result appearing in this study is thought to be encouraging in terms of efficiency and sustainability of education system.

Geography teachers' reflective thinking tendency scores, according to duty school, are not statistically significant different in the total or sub-dimensions continuous and intentional thinking, open-mindedness, teaching and scientific responsibility, researcher, foresighted and friendly, and view of profession. However, geography teachers serving in "other" high schools (e.g., fine arts high schools, social sciences high schools, private high schools) have higher levels of reflective thinking tendency in the inquiry and effective teaching sub-dimension than geography teachers serving in Anatolian high schools and vocational high schools. When items of the inquiry and effective teaching sub-dimension in the Reflective Thinking Tendency Scale are taken into consideration, it can be stated that geography teachers serving in "other" high schools have a higher tendency towards introducing material and

activities to students, emphasizing cooperative learning, caring about students' dreams, and having a critical point of view. This situation can be explained by opportunities and different student profiles at these schools. In the study executed by Meydan (2017) with the title "Investigating the activity design and development skills of geography teachers" it is mentioned that teachers should be supported financially and morally by their school to provide good in-class and out-of-class teaching activities. The support provided by the schools contributes to an increase in teachers' professional desire and enthusiasm. Karademir (2016) mentioned, when examining geography teachers' level of job satisfaction, that the opportunities provided by the school (tools and materials, etc.) affect teachers' job satisfaction levels.

Overall, we found that geography teachers' reflective thinking tendencies are at a high level. Female geography teachers' reflective thinking tendencies are higher than that of male teachers. The place of duty, graduation faculty, and professional seniority do not affect geography teachers' reflective thinking tendencies. While duty school makes a significant difference for teachers giving service in "other" high schools in the inquiry and effective teaching sub-dimension, there is no significant affect in the total or other sub-dimension scores. In the context of these results, the following suggestions can be made:

- As a result of this study, it is found that female geography teachers' reflective thinking tendencies are higher than male geography teachers. Therefore, studies examining the factors affecting geography teachers' reflective thinking tendencies and utilizing qualitative data could be executed.
- Studies examining the level of geography teachers' creative, critical and analytical thinking tendencies could be executed.

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