Examining Teachers' Participation in Professional Development in Terms of Their Demographic Characteristics

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Abstract

The study aims to examine teachers' participation in professional development (PD) in terms of gender, marital status, seniority, and content area. The causal-comparative model was used in the study. The sample of the study consists of 542 content area teachers working in K-12 schools in Turkey. Personal information form and a professional development activities scale developed by Kwakman (1999), updated by Dijkstra (2009), and adapted to Turkish by Eroğlu and Özbek (2020) was used to collect the data. Descriptive statistics, t-test, and Anova were used to analyze the data. Results of the study indicated that teachers' participation in PD activities and especially collaboration activities is lower. Teachers' participation in PD activities differ significantly in terms of their gender, marital status, seniority and branches. It is thought that the low participation of teachers in PD activities is due to the limited effective professional development opportunities and the lack of support for PD in Turkey.

Keywords: Teacher professional development, teacher characteristics, teacher demographics, Turkey

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Education is a phenomenon that has been important in every period of human history and shapes societies. However, it was very difficult for people to access education in the past. However, with the industrial revolution, schooling has increased and people have been provided with access to education. In today's world of rapid technological developments and changes, debates about the quality of education are coming to the forefront because only qualified and effective education can meet the needs of individuals of the 21st century. In this context, many research studies are carried out and policies are developed on what makes education effective and qualified. Studies indicate that the most important variable that makes education qualified and effective is teacher quality (Ambussaidi, & Yang, 2019; Bakar, 2018; Blömeke, et al., 2016; Gershenson, 2016). Effective teachers are professionals who are responsible for the achievement of students, have effective classroom management skills, organize and implement teaching effectively, monitor student development, and have high-level thinking skills (Stronge, 2018). In order for teachers to be effective, they need to have these skills and develop these skills. Professional development (PD) is the most important variable that enables teachers to develop these skills (Hamdan & Lai, 2015). An important component of successful teaching is learning (Polk, 2006). For this reason, it is important for teachers to learn professionally in order to make teaching effective. Teachers can be more effective teachers by improving their professional knowledge and skills through PD (Jacob, et al., 2017; Lu et al., 2019;). With the rapidly changing social, cultural, and political dynamics, PD has become mandatory for teachers to perform better (Krecic & Grmek, 2008). For this reason, the PD of teachers recently become an important issue (Bellibaş & Gümüş, 2016; Eroğlu & Özbek, 2020; Sandholtz & Ringstaff, 2013).

Professional Development

The teaching profession requires teachers to constantly update their professional knowledge and skills (Baştürk, 2012; Chang et al., 2011; Uştu et al., 2016) because teachers have responsibilities such as teaching, knowing the student, classroom management, management of student behavior, knowing different teaching strategies, and having knowledge of their subject matter (Goh & Wong, 2014). It is possible for teachers to fulfill these responsibilities well with PD. Professional development generally refers to the development of a person's professional role in a profession (Abou-Assali, 2014; Villegas-Reimers, 2003). It is defined as a lifelong process that develops professional knowledge and skills depending on the information demand of a person performing a profession (Hoque, et al., 2011). PD is a process that emphasizes the activities teachers participate in throughout their professional life to improve their professional skills (Craft, 2002; Day & Sach 2005; Wells, 2014).

Professional development is the processes and activities that aim to enable students to learn better by improving teachers' professional knowledge, skills, and attitudes (Guskey, 2000; Reese, 2010). PD increases the achievement of students by improving teachers' content knowledge and teaching techniques (Garet et al., 2001; Hoque, et al., 2011; Jacob, et al., 2017). Therefore, professional development enables teachers to become effective teachers by improving their professional knowledge, skills, and practices. Because student achievement is an important indicator of teachers' effectiveness (Kane, et al., 2013). PD is a process that enhances teachers' qualifications and contributes to students' better learning and achievement (Blank & De Las Alas, 2009; Garet et al., 2001; Isabel, 2010). Therefore, the ultimate goal of PD is to increase student achievement by improving teachers' professional knowledge and skills (Day & Sach, 2005; Guskey, 2000; Reese, 2010). Therefore, PD forms the basis of educational reforms,

practices, and policies aiming to increase the quality of education (Sandholtz & Ringstaff, 2013; Seferoğlu, 2001; Smith & Desimone, 2003).

Professional development of teachers is the process in which they develop their professional knowledge, skills, and practices through various activities (Chang et al., 2011; Craft, 2002;). Also, PD is defined as a systematic process that includes planned learning opportunities, experiences, and activities to ensure the PD of teachers (Guskey, 2000; Wells, 2014). Therefore, the most important component in ensuring PD is professional development activities (İlğan, 2013; Kwakman, 2003). There are differences in the classification of professional development activities in the literature. Lieberman (1995) classified learning activities related to PD as direct learning, learning at school, and learning out of school. Craft (2002) and Scales et al. (2011) also have similar professional development activities classification. These classifications include activities such as personal development opportunities, courses, workshops, updating, experience, reflection, collaboration, self-assessment, academic reading, action research. In some studies, professional development activities are classified as activities for updating knowledge and skills, reflective activities, collaboration activities with colleagues, sharing activities, and experiencing activities (De Vries et al., 2013a, 2013b; Kwakman, 1999, 2003; Timperley, et al., 2007). Although different professional development activities are defined in the literature, focus on content knowledge, collaboration, active learning, coherence, are the basic features of effective PD that increase students' achievement (Garet et al., 2001). Traditional professional development activities such as courses, seminars, and workshops are not effective in increasing the achievement of students (Bümen et al., 2012; Garet et al., 2001).

Teachers' Participation in Professional Development in Turkey

The quality of teachers in Turkey, as well as in many countries, is often a topic (Bellibaş & Gümüş, 2016; ; Eroğlu, 2019; Seferoğlu, 2004). PD of teachers in Turkey is provided mainly through in-service training (Bayrakçı, 2009; Bümen, et al., 2012; Sıcak & Parmaksız, 2016; Terzi, 2014). The Ministry of Education, working in state schools in Turkey, is obliged to provide in-service training of all teachers (Baştürk, 2012; Bayrakçı, 2009; Elçiçek & Yaşar, 2016). These activities do not provide effective PD (Akdemir, 2012; Bayrakçı, 2009; Bellibaş & Gümüş, 2016; Bümen et al., 2012; Sıcak & Parmaksız, 2016) because in-service training activities are conducted in the form of didactic and listening presentations that are disconnected from the context (Bayrakçı, 2009; Bümen et al., 2012). There are also problems such as planning, quality of experts, lack of materials, and lack of teacher motivation (Bayrakçı, 2009; Bümen et al., 2012; İzci & Eroğlu, 2016; Özen, 2006; Uysal, 2012). PD opportunities offered to teachers other than in-service training are limited and teachers' PD is not sufficiently supported by MoNE and Organizations (Bellibaş & Gümüş, 2016; Bümen et al., 2012; Eroğlu & Özbek 2020).

PD of teachers in Turkey depends on their own efforts due to the inadequacy and insufficiency of in-service training, insufficient PD opportunities, and insufficient support of PD by the MoNE and organizations (Bümen et al., 2012; İlğan, 2013). However, in recent years new practices such as school-based PD (Kaya & Kartallıoğlu, 2010), academic career levels and promotion (Gürcüoğlu & Özdemir, 2020) have been developed and as well as policies for the professional development of teachers in Turkey. PD is one of the areas highlighted in the 2023 education vision document that will give direction to education in Turkey. The results of this study revealed the effect of demographic characteristics of teachers on their participation in PD.

Determining the PD characteristics of teachers is important for resolving problems and developing policies related to professional development. Also, this study hopes to contribute to the literature on the development and individualization of PD programs.

Aim of The Study

The aim of the study is to examine Turkish teachers' participation in PD in terms of demographic variables (gender, marital status, seniority, and content area). In order to achieve these goals, the following questions were developed:

1. What is the level of teachers' participation in PD?
2. Does the participation of teachers in PD differ in terms of their gender?
3. Does the participation of teachers in PD differ in terms of their marital status?
4. Does the participation of teachers in PD differ in terms of their professional seniority?
5. Does the participation of teachers in PD differ in terms of their branches?

Method

The causal-comparative model was used in this study. Causal comparison is a research model that examines the causes and effects of a previously realized or existing event as it exists without intervention in its own conditions (Fraenkel, et al., 2011; Sözbilir, 2014).

Sample

Since causal comparison studies are conducted with a quantitative approach, the results obtained are desired to be generalizable. For this reason, it is necessary to select a large sample using random methods whenever possible among individuals in which variables can be observed and measured (Büyüköztürk et al., 2014; Tekbıyık, 2014). The sample of the study consists of 542 content teachers working in MEB schools in Elazig in Turkey.

In the selection of teachers participating in the study, it was tried to represent different demographic characteristics in the sample. Fifty-one percent of the teachers participating in the research were male and 49% were female. Fifty-one percent of the teachers work in secondary school and 49% work in high schools. Twenty percent of teachers have seniority of 1-5 years, 19% for 6-10 years, 19% for 11-15 years, 20% for 16-20 years, and 22% for 20 years. Eighty-three percent of the teachers hold an undergraduate degree, and 17% hold a graduate degree. According to the undergraduate faculties from their institutions, 49% of the teachers were graduated from the Faculty of Education, 37% from the Faculty of Arts and Sciences, and 14% from other faculties. While 81% of their teachers are married, 19% are single. The content areas of the teachers are 18% Turkish, 15% mathematics, 14% science, 14% social sciences, 13% English, 6% sports-arts, 5% religious culture and knowledge of ethics, 4% information technologies, and 3% guidance and counseling.

Data Collection Tools

Personal information form and a professional development activities scale developed by Kwakman (1999), updated by Dijkstra (2009), and adapted to Turkish by Eroğlu and Özbek (2020) were used to collect the data of the study. The personal information form includes questions about the participants' gender, professional seniority, content area, and marital status. Professional development activities scale adapted to Turkish by Eroğlu and Özbek (2020) consists of four factors (collaboration activities, update activities, sharing activities, and reflection activities) and 22 items that explain 59.4 % of the variance. Cronbach Alpha internal consistency coefficients is calculated as .88 for collaboration activities, .84 for update activities, .88 for sharing activities, .70 for reflective activities, and .92 for entire of the scale in adaptation

results. The four-point Likert type scale is a valid and reliable measurement tool that measures teachers' participation in PD.

Data Collection and Ethical Issues

Before collecting data, an ethical compliance report for research from İnönü University Scientific Research Commission and research permission from Ministry of National Education (MoNE) were obtained. Research data were collected by the researchers. Participants were informed about the research and a voluntary informed consent form was given to the participants with the measurement tools. 568 data were collected from 80 schools in Elazig in Turkey.

Data Analysis

The fact that the statistical tests used in quantitative research are parametric tests is desirable in terms of the reliability and generalizability of the research results (Can, 2014). Therefore, it was planned to use parametric tests in this study in terms of the reliability and generalizability of the research. However, in order for parametric tests to be used, the data should be at least in the range scale, show normal distribution, and assumptions of equal group variances should be ensured (Can, 2014). In order to provide these assumptions, the data were reviewed and descriptive statistics were made to determine whether the items' skewness and kurtosis values were in the "∓1.50" range (Çokluk et al., 2010), and whether z scores were in the range of "∓3.28" (Field, 2013). Data were primarily analyzed in terms of loss and extreme values. Then, the skewness and kurtosis values of the items were calculated. In addition, the distribution of the data was tried to be examined visually through histograms and P-P graphics. Twenty-six data were excluded from the analysis by controlling the control item, extremes, and other descriptors. As a result of the descriptive analysis, further analysis was made with the remaining 542 data. In the analysis of the research data, in addition to descriptive statistics such

as arithmetic mean, standard deviation, minimum and maximum score, independent sample t-test, and one-way Anova analysis effect size etasquare ($\eta 2$) analysis were performed.

Results

This section includes the findings obtained from the analysis in the order of the sub-problems.

Level of Participation of Teachers in Professional Development Activities

Mean and standard deviation were calculated to determine the level of teachers' participation in professional development activities. The analysis results regarding the participation level of teachers in professional development activities are shown in Table 1.

Table 1

Teachers' Level of Participation in Professional Development Zctivities

Factors	M	Sd	Min	Max
Update Activities	3.00	.50	1.00	4.00
Reflection Activities	3.30	.47	1.00	4.00
Sharing Activities	3.23	.51	1.00	4.00
Collaboration Activities	2.91	.64	1.00	4.00
Total	3.08	.42	1.00	4.00

M=mean, Sd=Standard deviation, Min= Minimum, Max= Maximum

As seen in Table 2, the mean of reflective activities, which are the professional development activities that teachers participate in most frequently, is M = 3.30 standard deviation Sd = .27. While the mean of sharing activities is M = 3.23, the standard deviation is Sd = .51, the mean of the update activities is M = 3.00 standard deviation Sd = .50. The mean of collaboration activities, which is the least professional development activity that teachers participated in, is M = 2.91, and their standard deviation is Sd = .64. The mean of participation of teachers in the total of professional development activities is M = 3.08, and their standard

deviation is Sd = .42. The low mean shows that the level of participation of teachers in professional development is not very high. In addition, low participation in cooperation activities can be considered as a striking finding.

Differentiation of Participation in Professional Development Activities In Terms Of Gender

Independent samples t-test results to determine whether teachers' participation in professional development activities differ in terms of their gender are shown in Table 2.

Table 2

t-test Results on the Differentiation of Participation in Professional Development in Terms of Gender

PD activities	Gender	N	M	Sd	t	p	Effect size (*η2*)
Update Activities	Male	276	3.03	.51	1,141	,252	
	Female	266	2.98	.48			
Reflection Activities	Male	276	3.25	.47	-2.442	.015*	.011
	Female	266	3.35	.47			
Collaboration Activities	Male	276	2.91	.64	-,121	,904	
	Female	266	2.92	.64			
Sharing Activities	Male	276	3.20	.49	-1,186	,236	
	Female	266	3.25	.53			
Total	Male	276	3.08	.44	-,440	,660	
	Female	266	3.09	.41			

N: sample size, M= mean, Sd= standard deviation, t= size of difference, etasqure(*η2*)= *effect size, * p < .05,*

A significant difference was found in favor of female teachers in the factor of participation in reflective activities only [t (540) = -2.442, p <.05] in terms of gender variable in teachers' participation in professional development activities. While the mean of female teachers' participation in reflective activities was M = 3.35, the mean of male teachers was M = 3.25. The findings show that female teachers participate in reflective activities more than male teachers. The effect size of the difference was calculated as $\eta 2 = 0.11$. The .01 value of the etasquare (*η2*)

used in the independent samples t test was interpreted as small, .06 as medium and .14 as large effect size (Salkind & Green , 2010). Therefore, the effect size of the difference is small.

Differentiation of Participation in Professional Development Activities in Terms of Marital Status

Independent samples t-test results to determine whether teachers' participation in professional development activities differ in terms of their marital status are shown in Table 3.

Table 3

t-test results on the Differentiation of Participation in Professional Development in Terms of Marital Status

	Gender	N	M	Sd	t	p	Effect size (*η2*)
Update Activities	Married	438	2.98	.50	-2,464	,014*	.011
	Single	104	3.11	.49			
Reflection Activities	Married	438	2.91	.63	-.455	.649	
	Single	104	2.94	.66			
Collaboration Activities	Married	438	3.22	.51	-,191	,848	
	Single	104	3.24	.54			
Sharing Activities	Married	438	3.28	.47	-1,947	,052	
	Single	104	3.38	.48			
Total	Married	438	3.07	.42	-1,555	,121	
	Single	104	3.14	.42			

N: sample size, M= mean, Sd= standard deviation, t= size of difference, etasqure(*η2)= effect size, * p < .05,*

A significant difference was found in favor of single teachers in the factor of participation in only update activities [$t_{(540)} = -2.464$, $p < .05$] in terms of a marital status variable in teachers' participation in professional development activities. While the mean of single teachers' participation in reflective activities was M = 3.11, the mean of male teachers was M = 2.98. The findings show that single teachers participate in update activities more than married teachers.

The effect size of the difference was calculated as $\eta 2 = 0.11$. Therefore, the effect size of the difference is small.

Differentiation of Participation in Professional Development Activities In Terms Of Seniority

One-way Anova test results to determine whether teachers' participation in professional development activities differ in terms of their seniority are shown in Table 4.

Table 4

Anova Test Results on the Differentiation of Participation in Professional Development in Terms of Seniority

Factors		Sum of squares	Df	Mean of squares	F	p	Difference[a]	Effect size ($\eta 2$)
Update Activities	Between groups	1,012	4	,253	1,023	,395		
	Within groups	132,756	537	,247				
	Total	133,768	541					
Reflection Activities	Between groups	2,061	4	,515	2,341	,054		
	Within groups	118,164	537	,220				
	Total	120,225	541					
Collaboration Activities	Between groups	3,355		,839	2,086	,081		
	Within groups	215,909		,402				
	Total	219,264						
Sharing Activities	Between groups	2,585	4	,646	2,478	,043*	1-5 > 6-10	.018
	Within groups	140,057	537	,261				
	Total	142,643	541					
Total	Between groups	1,143	4	,286	1,608	,171		
	Within groups	95,457	537	,178				
	Total	96,601	541					

Df= degree of freedom, F= Friedman test, etasqure($\eta 2$)= *effect size, * p < .05.*

According to the one-way Anova test result, only participation in sharing activities significantly [F (3, 539) = 2.478, p <.05] differed in terms of the professional seniority of teachers. In order to determine among which groups the difference existed, the Dunnett C test was used because the variances were not evenly distributed. According to Dunnett C test results,

the mean of teachers with 1-5 years of professional seniority participating in sharing activities was M = 3.33, while the mean of teachers with professional seniority of 6-10 years was M = 3.12. This finding showed that teachers with the lowest professional seniority participated in sharing activities more frequently than higher seniority groups. The effect size of the difference was calculated as $\eta 2 = 0.18$. The .01 value of the etasquare ($\eta 2$) used in the Anova test is interpreted as small, .06 as medium and .14 as large effect size (Salkind & Green , 2010). Therefore, the effect size of the difference is small.

Differentiation of Participation in Professional Development Activities In Terms Of Content Area

One-way Anova test results to determine whether teachers' participation in professional development activities differ in terms of their content area are shown in Table 5.

Table 5

Anova Test results on the Differentiation of Participation in Professional Development in Terms of Branch

Factors		Sum of squares	Df	Mean of squares	F	p	Difference[a]	Effect size ($\eta 2$)
Update Activities	Between groups	,866	9	,096				
	Within groups	132,902	532	,250	,385	,942		
	Total	133,768	541					
Reflection Activities	Between groups	4,567	9	,507				
	Within groups	115,567	532	,217	2,334	,014*		.038
	Total	120,225	541					
Collaboration Activities	Between groups	9,673	9	1,075				.044
	Within groups	209,591	532	,394	2,728	,004*		
	Total	219,264	541					
Sharing Activities	Between groups	4,332	9	,481				
	Within groups	138,311	532	,260	1,851	,057		
	Total	142,643	541					
Total	Between groups	3,121	9	,347				.032
	Within groups	93,480	532	,176	1,973	,040*	-	
	Total	96,601	541					

Df= degree of freedom, F= Friedman test, etasqure($\eta 2$)= *effect size, * $p < .05$.*

According to the one-way Anova test results, teachers' participation in reflection activities [F (3, 539) = 2.334, p <.05], collaboration activities [F (3, 539) = 2.728, p <.05] and participation in general professional development activities [F (3, 539) = 1.973, p <.05] differ significantly according to the content area of teachers. According to the results of the Dunnett C test conducted to determine between which groups the difference was, it could not be determined between which groups there was a difference. However, when the mean of the groups was examined, the mean of the foreign language teachers who most frequently participated in the reflective activities was M = 3.41, while the mean of the least participating guidance teachers was M = 2.93. While the mean of foreign language teachers who attend the collaboration activities most frequently was M = 3.07, the mean of the least participating arts/sports teachers was M = 2.63. The mean of the foreign language teachers who attend most frequently in all professional development activities was M = 3.19, and the mean of the least participating guidance teachers was M = 2.89. The most striking result emerging from this finding shows that foreign language teachers' participation in PD is higher than other content teachers. The effect size of the differences was calculated as for reflective activities $\eta 2 = 0.38$, for collaboration activities $\eta 2 = 0.44$, for general activities $\eta 2 = 0.32$. The effect size of the differences is small.

Discussion and Suggestion

In this section, the relationship between teachers' participation in PD and their demographic characteristics will be discussed in the context of the results of the current research and the results of the literature.

The results of the study show that the participation of teachers in PD is low and that the professional development activities in which teachers participate least are collaboration activities. This is a striking and remarkable result in the PD of teachers in Turkey because it

shows that participation in PD is not at the desired level and collaboration, which literature reveals is very important for effective PD (Garet, 2001; Kwakman, 2003). This finding aligns with current other studies indicating that teachers' participation in professional development activities is low, quality of professional development activities is low and opportunities for PD are limited in Turkey (Bellibaş & Gümüş, 2016; Ceylan & Özdemir, 2016;). Not only do the results of the studies align with the current finding, but they also contain important clues regarding the cause of the finding. It is thought that the low participation of teachers in PD is due to the limited number of professional development activities and opportunities, and also the inadequacy of effective professional development activities. It is striking that participation in collaboration activities is low because collaboration activities also form the basis of effective PD (Garet, et al., 2001). Notably, professional development activities that teachers most attended in Turkey are courses, seminars, workshops, conferences, etc (Akçay-Kızılkaya, 2012; Bümen et al., 2012; Ceylan & Özdemir, 2016; OECD, 2011;). These are also traditional professional development activities and not collaborative (Bayrakçı, 2009; Bümen et al., 2012). In fact, this shows why current professional development activities are also a quality problem. In this context, the results of the studies of Bayrakçı (2009), Altun and Cengiz (2012) also confirm the findings of the study and possible causes. These studies indicated that PD has structural problems, PD opportunities are inadequate and unqualified, collaborative PD is insufficient, and PD is not supported in Turkey.

The results of this study indicated that the participation of female teachers in reflective activities is higher than that of male teachers. However, participation in other professional development activities do not differ significantly in terms of gender. In the study of Çelen et al. (2016), no significant difference was found in teachers' participation in PD in terms of gender.

Reflective activities are mostly individually based activities. In addition, reflective activities require reflective thinking skills and self-evaluation (Kwakman, 2003). More studies are needed to determine the reason for the significant difference in favor of female teachers. In fact, the main reason for using the gender variable in the study is that it is thought that gender roles may have an effect on participation in PD since PD is a job that requires cost and especially time (Garet et al., 2001, Guskey, 2003). In Turkish society, women have more responsibilities at home besides their profession. This can hinder the PD of female teachers in Turkey. Notably, in the study of Badri et al. (2016), it was determined that there are more factors that prevent female teachers from participating in professional development. Although it is difficult to say that gender is a determining factor in the PD of teachers, this may differ according to the characteristics of the sample and professional development opportunities.

The results of this study show that the participation of single teachers in updating activities is higher than married teachers. As emphasized in the results regarding the gender variable, it is thought that marital status may be a factor in participation in PD, as PD requires cost and time (Garet et al., 2001; Guskey, 2003). In this context, it is thought that the responsibilities arising from the marital status may affect the time and cost that teachers devote to PD. Notably, the higher participation of single teachers in updating activities than married teachers may be associated with this situation. However, this result should be supported by other studies and qualitative studies.

The results of this study indicate that the teachers with the lowest professional seniority participated in sharing activities more frequently than all other groups. There are many studies in the literature that emphasize the relationship between PD participation and professional seniority. In the study of Mahmoudi and Özkan (2015), it was determined that both new and experienced

teachers frequently do sharing activities. Gümüş (2013) also found in his study that as the professional seniority of teachers increases, their participation in PD decreases. In the study of Richter et al. (2011), it was determined that as the age and seniority of teachers increase, they do academic reading activities more frequently, and formal learning activities are the most frequent in all seniorities. The results obtained from these studies indicated that the activities teachers participate in according to their professional seniority differ in terms of the context. Inexperienced teachers need more PD (TEDMEM, 2016) because they have little professional experience. Therefore, they try to increase their experience through professional development activities (Craft, 2002). When the findings obtained from this study are evaluated in this context, it is possible that teachers with low seniority share teaching materials, lesson plans, and measurement tools in order to benefit from the experiences of experienced teachers in their practices because the relationships between teachers' learning goals and professional seniority may differ in their career steps (Louws, et al., 2017). In this context, sharing activities can make important contributions to the PD of young teachers who are in the first steps of the profession. This result is related to the nature of professional development because inexperienced teachers need PD more and they can meet these needs by sharing professional experiences with other colleagues. Therefore, the first years of the teaching profession can be considered as a critical period in the context of PD. Therefore, inexperienced teachers need mentors to ensure their PD. The mentoring approach has also been partially implemented in recent years.

According to the results of the study, it was determined that foreign language teachers were the most frequent participants in reflective activities, collaboration activities, and general professional development activities. Guidance and counseling teachers were the least involved in collaboration activities and general professional development activities. Arts/sports teachers

were the least involved in collaboration activities. There are many professional development activities that will contribute to teachers being better teachers and meet the different needs of teachers (Guskey, 2002). Of course, effective content area PD primarily focuses on the subject matter (Garet et al., 2001). In this context, the PD needs of teachers in various content areas may be different. In addition, opportunities and PD opportunities offered may be effective in the emergence of this finding. The more intense participation of foreign language teachers in PD may be related to higher PD opportunities. Similarly, the less participation of arts/sports teachers in PD may be related to factors such as the low number of PD opportunities offered and their cost. However, this finding may be due to teachers' personal characteristics, abilities, attitudes, etc.

Limitations and Further Research

Data in this study were collected from teachers working in public schools in Turkey. Also, the effect sizes of the difference calculated are small. Therefore, further research should be conducted with larger and more diverse samples. Studies in different cultures should be conducted to further examine the effect of gender and marital status on teachers' participation in PD. Finally, there is a need for studies that will reveal the professional development needs and profiles of teachers in different professional seniority and branches.

Conclusion

The results of this study show that teachers' participation in PD and also the availability of effective PD is low in Turkey. This is thought to be due to the lack of sufficient effective PD opportunities other than traditional professional development activities for which the participation of teachers is mandatory. Teachers' participation in PD differs in terms of their content areas. It is thought that the high participation of foreign language teachers in PD is due to

the availability of opportunities and resources. Teachers' participation in PD also differs in terms of their seniority. As professional seniority increases, participation in PD decreases. Since PD requires time and cost, groups with advantages in terms of time and cost can participate more in PD. Many studies confirm that similar problems regarding the quantity and quality of PD exist in other countries. These results indicate that teachers should be provided with effective PD opportunities according to their content area and seniority. PD approaches such as coaching and mentoring should be implemented to ensure the PD of inexperienced teachers. Also, opportunities such as providing time and financial support for the PD of teachers can be helpful. In order for teachers to participate in professional development activities, it is necessary to provide effective professional development opportunities, to provide time, to support them financially, and to individualize professional development programs.

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