

## Comparison of Effective Professional Development Activities for Teachers According to Demographic Variables in Qualitative Design\*

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### Abstract

This study aims to determine teachers' views on the features of effective professional development activities. To this end, the study employed the nested single-case design, which is one of the case study designs. The study group consisted of seven hundred and sixty-seven teachers selected from different provinces according to the maximum variation sampling method. The results of the analysis have shown that prominent common features of effective professional development activities are the teacher's influence on teaching practices, allowing active participation and practice, usefulness, addressing the needs of the participant, up-to-date content given by experts and specific to the branch and field, student-centered approach, and a positive effect on the learning outcomes of the students. The analysis also has revealed the following two themes related to the common features of effective professional development activities. Common characteristics of effective professional development activities varied in terms of gender, educational level, educational status, and seniority. Based on the results of the research, a revision is recommended for professional development programs developed for teachers to standardize them and improve their quality.

**Keywords:** Professional development, Teacher professional development, Teacher improvement, Effective development, Teacher learning

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## Öğretmenler İçin Etkili Mesleki Gelişim Faaliyetlerinin Nitel Desende Demografik Değişkenlere Göre Karşılaştırılması \*

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### Özet

Bu araştırmanın amacı öğretmenlerin etkili mesleki gelişim faaliyetlerine yönelik görüşlerini belirlemektir. Araştırmada, durum çalışması desenlerinden iç içe geçmiş tek durum deseni kullanılmıştır. Araştırmanın çalışma grubunu maksimum çeşitlilik örnekleme yöntemine göre farklı illerden seçilen yedi yüz atmış yedi öğretmen oluşturmuştur. Veri toplama aracı olarak görüşme formu kullanılmıştır. Veriler içerik analizi yöntemi ile analiz edilmiştir. Analiz sonuçlarına göre, etkili mesleki gelişim faaliyetlerinin ortak özellikleri olarak öğretmenin öğretim uygulamalarına etkisinin olması, aktif katılım ve uygulama yapmaya imkânı vermesi, işe yaraması, katılımcının ihtiyacına hitap etmesi, içeriğinin güncel olması, uzman kişilerce verilmesi, branşa ve alana özgü olması, öğrenci merkezli olup öğrencinin öğrenme çıktılarında olumlu etki etmesi gibi özellikler öne çıkmıştır. Yapılan analizler sonucunda etkili mesleki gelişim faaliyetlerinin sahip olduğu ortak özellikler kapsamında; mesleki gelişim faaliyetlerine ilişkin öğretim programları ve mesleki gelişimi kolaylaştıran unsurlar olmak üzere iki tema ortaya çıkmıştır. Etkili mesleki gelişim faaliyetlerinin ortak özelliklerinin cinsiyet, eğitim kademesi, eğitim durumu ve kıdem bakımından değiştiği belirlenmiştir. Araştırma sonuçlarına dayalı olarak, öğretmenlere yönelik mesleki gelişim faaliyetlerinde nitelik ve standartların sağlanması için, mesleki gelişim programlarının ve içeriklerinin gözden geçirilmesi önerilmektedir.

**Anahtar Sözcükler:** Mesleki gelişim, Öğretmen mesleki gelişimi, Öğretmen gelişimi, Etkili gelişim, Öğretmen öğrenmesi.

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## Introduction

Teachers' professional competencies and experiences have an important effect on students' academic achievement (Gess-Newsome et al., 2019). It has been stated that the common feature of the education systems of countries that are successful in international tests is qualified teachers (Sahlberg, 2011). For this reason, training qualified teachers is among the primary objectives of countries' education policies (Darling-Hammond et al., 2017).

Content knowledge, pedagogical skills, and general culture, the basic components of pre-service education, are indisputably important for the performance of competent teachers and students' learning outcomes. However, these alone are far from being sufficient indicators for performance. In addition to professional cognitive competencies, the teacher's artistic behaviors in the classroom also have an effect on the performance and success of the teacher (İlğan, 2021). The artistic part of the teaching profession is mainly based on the ability to apply emotional and social intelligence, which is one of the eight types of intelligence, in classroom management. Effective classroom management incorporates professional skills such as inspiring and giving life energy to students, motivating students, delivering fun lessons, teaching with passion and enthusiasm, interfering with undesirable behaviors by using appropriate strategies, refocusing students with unexpected, short activities, knowing where to stand in the classroom and with which student to make eye contact, and changing the tone of voice according to the flow of the lesson (İlğan, 2020; Gultom et al., 2021). These skills require practice, and teachers need qualified professional development activities to master the specified skills (İlğan, 2021).

Professional development (PD) incorporates long-term, systematically planned professional opportunities and experiences aimed at ensuring professional development (Wells, 2014). PD activities aim to improve teachers' knowledge and skills to help students learn better (Avalos, 2011) and thus have a positive impact on students' learning outcomes (Darling-Hammond et al., 2017). Effective PD activities increase teachers' knowledge and enrich their experience in teaching practices, and as a result, teachers receive positive feedback on professional development and student learning in and out of school (Guskey, 2003).

Previous studies have highlighted the following as common features of effective PD activities. PD activities need to be practical and ensure teachers' active involvement (Desimone, 2009; Hunzicker 2011), facilitate collaboration with co-workers and school administrators (Ambler, 2016; Hunzicker 2011), and have content that addresses the professional needs of teachers (Desimone and Garet 2015; Hunzicker 2011; Karlberg & Bezzina, 2020). Furthermore, it has been stated that effective PD activities should be implemented at times appropriate for teachers (Hunzicker 2011; Zepeda 2017), have a positive effect on students' learning outcomes (Avalos 2011), and be built on the existing knowledge and skills of teachers (DeMonte 2013; Zepeda, 2015). Also, it has been revealed that effective PD activities should raise awareness for professional development, be need-oriented, allow stakeholders' participation in the planning process, enrich teachers' knowledge and experience, and involve participation on a voluntary basis (Zepeda, 2015).

To develop themselves professionally, teachers turn to PD activities such as effective in-service training opportunities (Avalos, 2011), mentoring practices (Evers et al., 2016; Pennanen et al. 2016), experience sharing, peer observation, peer coaching, and peer supervision (Desimone & Pak, 2017; Hooker, 2013; Zepeda vd., 2013), and graduate education (Aktan, 2020; Kovalchuck & Vorotnykova, 2017). PD activities for teachers in Turkey are generally carried out in the form of in-service courses and seminars. While 86% of Turkish teachers attend such training programs, 21% attend peer learning and coaching-based training programs (OECD, 2018).

It has been found that teachers in the early years of the profession need to attend PD activities more often due to the lack of teaching experience and of practical pre-service training and this need has also been shown to decrease as their professional experience increases (Cooc, 2019). It is seen that teachers teaching at primary and middle schools attend PD activities more actively (OECD, 2009;

2018). Also, it can be said that teachers holding graduate degrees have higher levels of awareness of PD activities (Aktan, 2020). PD activities developed for teachers can achieve the desired goals by including content tailored to teachers' needs as well as by using modern techniques that require the active involvement of teachers. Additionally, while planning PD activities, taking into account the variables of gender, education levels, teaching specialties, educational backgrounds, and teaching experiences can make PD activities more effective. Since teachers have different teaching specialties, teaching experiences, teaching performances, and workplace problems, work in different school types, and teach students with different profiles and readiness levels, they need PD activities in different content, subjects, and durations (İlğan, 2017). It has been determined that PD activities developed without taking into account teachers' genders, teaching specialties, and teaching experiences fail to yield effective outcomes (Bellibaş & Gümüş, 2016). Taking these as a starting point and based on the PD activities teachers have attended so far, the present study aims to determine the common features that make PD activities effective, reflect on teacher's classroom practices, and increase student learning. To this end, the following research questions were addressed:

1. What do teachers think about the common features of effective PD activities?

2. Do teachers' views on the common features of effective professional development activities vary depending on the education level where they teach and their genders, educational backgrounds, and teaching experiences?

### Research Design

The study employed the nested single-case design, which is one of the case study designs. Case studies seek to examine phenomena, situations, individuals, environments, or processes in detail. The nested single-case design, on the other hand, incorporates an in-depth examination of more than one sub-case that makes up the main case in order to describe the main case in detail (Merriam, 2009). In this study, teachers' views on effective PD activities were dealt with as a single case, whereas the distribution of their views according to the education levels where they teach and their genders, educational backgrounds, and teaching experiences were studied as the sub-cases.

### Participants

The study group comprised teachers working in different provinces of Turkey in the fall semester of the 2020-2021 academic year. To create the study group, the maximum variation sampling method, one of the purposeful sampling methods, was used in the study. The maximum variation sampling method seeks to ensure the variation of the units included in the sample, thus addressing the problem from different dimensions (Suri, 2011). The study group consisted of seven hundred and sixty-seven teachers selected by considering different characteristics such as gender, marital status, the education level where they teach, educational background, and teaching experience. Table 1 presents participants' demographic characteristics.

**Table 1:** Participating Teachers' Demographic Characteristics

Variable	Frequency (f)	Percentage (%)	Variable	Frequency (f)	Percentage (%)		
<b>Professional Seniority</b>	0-5 Year	101	13.17	<b>School type</b>	Primary school	262	34.16
	6-10 Year	170	22.16		Middle School	334	43.55
	11-15 Year	156	20.34		General high school	61	7.95
	16-20 Year	146	19.04		Vocational high School	54	7.04
	21-30 Year	194	25.29		Other	56	7.30
<b>Gender</b>	Male	314	40.94	<b>Level of education</b>	Bachelor's	518	66.54
	Female	453	60.37		Graduate Students	171	22.29
<b>Marital</b>	Singl	155	20.21		Master's Degree	78	10.17

status	e		and above
	Married	612	79.79

### Data Collection Method and Tool

Interview forms were used as the data collection tool in the study. Teachers were asked to describe their views on the common features of effective PD activities they attended. In this context, the participants were asked a single open-ended question: "Among the professional development activities you have participated in so far, what are the common features of the activities that have contributed to you?". The interview, which is widely used in qualitative research, is a data collection technique that involves seeking answers to specific questions developed for a predetermined purpose (McMillan & Schumacher, 2010). The content and face validity of a measurement tool can be evaluated with expert opinions (Cohen et al., 2011). The following steps were followed in the development of the interview form and in testing its validity and reliability:

- A draft interview form was developed.
- Opinions about the draft form were taken from different experts, one of whom was a language expert.
- Based on the feedback of the experts, necessary revisions were made, and the form was finalized.
- A pilot study was conducted with 10 teachers in order to test the validity and reliability of the interview form.
- The comprehensibility of the questions in the interview form was checked, and its validity and reliability were tested. It was determined that the interview form was suitable for the research purpose.
- After receiving expert opinions and conducting the pilot study, the questions in the interview form were finalized.

Interview forms were administered online in the spring semester of the 2020-2021 academic year. The data were obtained from the interview forms filled out by the participating teachers.

### Data Analysis

The raw data obtained in the research were analyzed by the content analysis method. The inductive content analysis method was used to create themes and sub-themes. This analysis technique enables reaching codes from raw data, and sub-themes and themes from codes (Elo et al., 2014). While coding and creating themes and sub-themes, care was taken to the fact that they stick to the raw data (Auerbach & Silverstein, 2003). Participating teachers were coded as T1, T2, T3, ..., and the data were described in detail. Three faculty members experienced in qualitative research were also consulted in the creation of codes, themes, and sub-themes. Table 2 presents a sample excerpt from the interviews and the codes created from the excerpt.

**Table 2:** Sample Excerpt and Coding based on the Excerpt

Excerpt (Verbatim)	Codes
The subject of PD activities should be interesting <sup>(1)</sup> , the educator should be competent <sup>(2)</sup> , PD activities should be specific to teaching specialties <sup>(3)</sup> , they should affect students' academic achievement <sup>(4)</sup> , be implemented at times appropriate for teachers <sup>(5)</sup> , make one feel motivated to learn <sup>(6,7)</sup> , be participant-centered and activity-based <sup>(8)</sup> , and be in the group work/workshop format <sup>(9)</sup> .	<ol style="list-style-type: none"> <li>1. Addresses participants' needs,</li> <li>2. Delivery by experts</li> <li>3. Specific to various teaching specialties</li> <li>4. Affects teaching practices positively,</li> <li>5. Implementation at times appropriate for teachers,</li> <li>6. Encourages teachers to research/learn,</li> <li>7. Motivates teachers,</li> <li>8. Offers an opportunity for active involvement,</li> <li>9. Involves group work,</li> </ol>

## Validity and Reliability in Research

In qualitative research, validity refers to the credibility and transferability of the data, and reliability refers to the consistency and verifiability of the data (Creswell, 2013; Merriam, 2013). In this study, to ensure credibility, long-term interaction, data triangulation, expert reviews, and participant confirmation were used (Merriam and Tisdell 2016). Long-time, active interaction with the participants was achieved at every stage from the beginning to the completion of the study. In the analysis of the data, the analyst triangulation was used and the codings made by each researcher were tested by the other two (Creswell, 2013). To measure the quality of the analyses, the expert triangulation was used and three experts (two associate professors and one professor) with expertise in the field of qualitative research were consulted. The obtained codes, themes, and sub-themes were finalized based on the experts' feedback. To prevent errors arising from subjective assumptions and to determine participants' views accurately, the analyses were presented to thirty participants who were asked to express their opinions regarding the accuracy of the analyses. Thus, participant confirmation was obtained.

To ensure the transferability of the research data, the obtained raw data were described and coded independently of researchers' interpretations and prejudices. While coding and creating themes, care was taken to stick to the raw data. To ensure the data triangulation of the research, the purposeful sampling method was used in accordance with the qualitative research tradition. To ensure the consistency of the obtained data, qualitative data were reviewed by experts (Gentles et al., 2015).

## Findings

This part of the article presents the features of effective PD activities that emerged from the data obtained from the interviews, as well as the two themes created based on teachers' views, the sub-themes of these two themes, and the distribution of the features of effective PD activities by gender, the educational level where teachers teach, educational background, and teaching experience.

### Features of effective PD activities

Table 3 presents the codes obtained regarding the features of effective PD activities.

**Table 3:** Codes Obtained Regarding the Features of Effective PD Activities

Features	f	%	Features	f	%
1. Teacher's having an effect on teaching practices positively,	139	13.89	23. Providing an opportunity to exchange ideas/experience with stakeholders,	9	0.90
2. Offering an opportunity for active involvement,	129	12.89	24. Being online,	8	0.80
3. Being useful,	121	12.09	25. Offering problem-oriented solutions,	7	0.70
4. Addressing participants' needs,	110	10.99	26. Improving teachers' communication skills,	6	0.60
5. Having an up-to-date content,	76	7.90	27. PD activities' being improvable,	6	0.60
6. Being given by experts,	43	4.30	28. Enabling personal development,	6	0.60
7. Being specific to various teaching specialties,	36	3.60	29. Developing attitude towards the profession,	5	0.50
8. Being student-centered and positively affecting students' learning outcomes,	34	3.40	30. Being planned,	5	0.50
9. Involving collaborative learning,	24	2.40	31. Offering an opportunity for professional self-criticism,	5	0.50
10. Including real case studies,	23	2.30	32. Being implemented in suitable places,	4	0.40
11. Building on existing knowledge,	22	2.20	33. Ensuring collaboration among stakeholders,	4	0.40
12. Motivating teachers,	21	2.10	34. Being sincere,	4	0.40
13. Offering the ability to use technology effectively,	21	2.10	35. Including smooth presentations,	4	0.40
14. Raising awareness about the need for professional development,	16	1.60	36. Being free of charge,	3	0.30
15. Allowing for different teaching techniques in presentations,	15	1.50	37. Being implemented in holiday regions/In-Service Training Centers,	2	0.20
16. Being face-to-face,	15	1.50	38. Being paid,	2	0.20
17. Being fun,	15	1.50	39. Improving project writing skills,	2	0.20

18. Being appropriate about time,	12	1.20	40. Caring about teachers,	2	0.20
19. Prompting teachers to research/learn,	12	1.20	41. Ingratiating the profession,	1	0.10
20. Participants' being willing,	11	1.10	42. Improving presentation skills,	1	0.10
21. Being efficient,	9	0.90	43. Boosting professional self-confidence,	1	0.10
22. Being done as group work,	9	0.90	44. Being international.	1	0.10
<b>Total</b>				1001	100

As can be inferred from Table 3, the most frequent codes obtained from the common features that make PD activities effective are as follows: "affects teaching practices positively" (f=139), "offers an opportunity for active involvement" (f=129), "useful" (f=121), "addresses participants' needs" (f=110), "up-to-date content" (f=76), "delivery by experts" (f=43), "specific to various teaching specialties" (f=36), and "student-centered and positively affects student learning outcomes" (f=34). Accordingly, the common features that make PD activities most effective, according to the participating teachers, are "student-centered and positively affects student learning outcomes," "affects teaching practices positively," "offers an opportunity for active involvement," "addresses participants' needs," and "up-to-date content."

### Thematic analysis of features of effective PD activities

Analysis of the participants' views yielded two themes: the sub-themes and related codes of each theme are given in Table 4 and Table 5. The sub-themes and codes of the "Curricula related to Professional Development Activities" theme are given in Table 4.

**Table 4:** Sub-themes and Codes of the "Teaching Programs for PD Activities" theme

Theme	Sub-themes	Codes	f	%
Curriculum for PD Activities	Function / Objectives of PD Activities	Teacher's having an effect on teaching practices positively,	139	13.89
		Being useful,	121	12.09
		Offering the ability to use technology effectively,	21	2.10
		Being efficient,	9	0.90
		Improving teachers' communication skills,	6	0.60
		Improving project writing skills,	2	0.20
		Improving presentation skills,	1	0.10
	<b>Total</b>	<b>299</b>	<b>29.87</b>	
	Administration of PD Activities	Being given by experts,	43	4.30
		Being student-centered and positively affecting students' learning outcomes,	34	3.40
		Involving collaborative learning,	24	2.40
		Being fun,	15	1.50
		Being done as group work,	9	0.90
		Being online,	8	0.80
		Offering problem-oriented solutions,	7	0.70
	Ensuring collaboration among stakeholders,	4	0.40	
	<b>Total</b>	<b>144</b>	<b>14.39</b>	
	Methods and Techniques Using in PD Activities	Offering an opportunity for active involvement,	129	12.89
		Allowing for different teaching techniques in presentations,	15	1.50
		Being face-to-face,	15	1.50
Providing an opportunity to exchange ideas/experience with stakeholders,		9	0.90	
Including smooth presentations,		4	0.40	
<b>Total</b>	<b>172</b>	<b>17.18</b>		
Content / Curriculum of PD Activities	Addressing participants' needs,	110	10.99	
	Having an up-to-date content,	76	7.59	
	Being specific to various teaching specialties,	36	3.60	
	Including real case studies,	23	2.30	
<b>Total</b>	<b>245</b>	<b>24.48</b>		
<b>Theme General Total</b>			<b>860</b>	<b>85.91</b>

As can be inferred from Table 4, the most frequent codes under the sub-theme of "Functions/Objectives of PD Activities" are "affects teaching practices positively" (f=139) and "useful" (f=121), while those under the sub-theme of "Process of Execution of PD Activities" are "student-centered & positively affects student learning outcomes" (f=43) and "involves collaborative

learning” (f=43). The most frequent codes under the sub-theme of “Methods and Techniques Used in PD Activities” are “offers an opportunity for active involvement” (f=129), “use of different teaching techniques in presentations” (f=15), and “involves face-to-face training” (f=15), and those under the sub-theme of “Content/Curriculum of PD Activities” are “addresses participants’ needs” (f=110) and “up-to-date content” (f=76). It can be said that the participating teachers highlighted more features about the functions/objectives of PD activities and about the methods and techniques used in PD activities. This may be due to the fact that PD activities do not meet the expectations of teachers in terms of their functions, that there is no method variety in PD activities, and that they are generally based on the speaker-centered presentation technique. The sub-themes and codes of the “Factors that Facilitate Professional Development” theme are given in Table 5.

**Table 5:** Subthemes and Codes of the “Factors that Facilitate Professional Development” Theme

Theme	Sub-themes	Codes	f	%
Facilitating PD Activities	Planning of PD Activities	Being appropriate about time,	12	1.20
		Participants' being willing,	11	1.10
		Being implemented in suitable places,	4	0.40
		Being planned,	5	0.50
		Being implemented in holiday regions/In-Service Training Centers,	2	0.20
		Being international,	1	0.10
		<b>Total</b>	<b>35</b>	<b>3.5</b>
	Financing of PD Activities	Being free of charge,	3	0.30
		Being paid,	2	0.20
		<b>Total</b>	<b>5</b>	<b>0.5</b>
	Developing Positive Attitude and Awareness Regarding PD Activities	Motivating teachers,	21	2.10
		Raising awareness about the need for professional development,	16	1.60
		PD activities' being improvable,	6	0.60
		Developing attitude towards the profession,	5	0.50
		Offering an opportunity for professional self-criticism,	5	0.50
		Being sincere,	4	0.40
		Caring about teachers,	2	0.20
		Boosting professional self-confidence,	1	0.10
		Ingratiating the profession,	1	0.10
		<b>Total</b>	<b>61</b>	<b>6.09</b>
	Advancement of Professional Competencies	Building on existing knowledge,	22	2.20
		Prompting teachers to research/learn,	12	1.20
Enabling personal development,		6	0.60	
	<b>Total</b>	<b>40</b>	<b>4.0</b>	
<b>Theme General Total</b>			<b>141</b>	<b>14.09</b>
<b>Theme 4 and Theme 5 General Total</b>			<b>1001</b>	<b>100</b>

As can be inferred from Table 5, the most frequent codes under the sub-theme of “Planning of PD Activities” are “implementation at times appropriate for teachers” (f=12) and “willingness of participants” (f=11). On the other hand, the most frequent codes under the sub-theme of “Financing of PD Activities” are “free of charge” (f=3) and “paid” (f=2). The most frequent codes under the sub-theme of “Helping Develop Positive Attitudes towards and Raise Awareness about PD Activities” are “motivates teachers (f=21) and “raises awareness about the need for professional development” (f=16), while those under the sub-theme of “Improves Professional Competencies” emerged as “helps build on existing knowledge” (f=22) and “encourages teachers to research/learn” (f=12). It can be said that the participating teachers generally underlined the feature of PD activities that helps develop positive attitudes towards and raise awareness about PD activities.



### Distribution of the Features of Effective PD Activities by Gender

Table 6 presents the distribution by gender of the twenty features of effective PD activities most frequently stated by the participating teachers.

**Table 6:** Distribution of the Features of Effective PD Activities by Gender

Features	Male		Features	Female	
	f	%		f	%
3. Being useful,	58	13.62	1. Teacher's having an effect on teaching practices positively,	90	15.65
4. Addressing participants' needs,	55	12.91	2. Offering an opportunity for active involvement,	81	14.09
1. Teacher's having an effect on teaching practices positively,	49	11.50	3. Being useful,	63	10.96
2. Offering an opportunity for active involvement,	48	11.27	4. Addressing participants' needs,	55	9.57
5. Having an up-to-date content,	26	6.10	5. Having an up-to-date content,	50	8.70
6. Being given by experts,	22	5.16	7. Being specific to various teaching specialties	25	4.35
12. Motivating teachers,	14	3.29	6. Being given by experts,	21	3.65
8. Being student-centered and positively affecting students' learning outcomes,	13	3.05	8. Being student-centered and positively affecting students' learning outcomes	21	3.65
7. Being specific to various teaching specialties,	11	2.58	10. Including real case studies,,	19	3.30
20. Participants' being willing,	10	2.35	11. Building on existing knowledge,	17	2.96
16. Being face-to-face,	10	2.35	9. Involving collaborative learning,	16	2.78
9. Involving collaborative learning,	8	1.88	13. Offering the ability to use technology effectively	14	2.43
18. Being appropriate about time	8	1.88	19. Prompting teachers to research/learn,	10	1.74
17. Being fun,	8	1.88	14. Raising awareness about the need for professional development,	10	1.74
13. Offering the ability to use technology effectively,	7	1.64	15. Allowing for different teaching techniques in presentations,	9	1.57
22. Being done as group work,	7	1.64	17. Being fun,	7	1.22
25. Offering problem-oriented solutions,	7	1.64	12. Motivating teachers,	7	1.22
14. Raising awareness about the need for professional development	6	1.41	23. Providing an opportunity to exchange ideas/experience with stakeholders,	6	1.04
15. Allowing for different teaching techniques in presentations	6	1.41	16. Being face-to-face,	5	0.87
24. Being online,	5	1.17	27. PD activities' being improvable,	5	0.87
<b>Total</b>	378	88.73	<b>Total</b>	531	92.36
<b>Male All Codes Total</b>	426	100	<b>Female All Codes Total</b>	575	100

As can be inferred from Table 6, the twenty features of effective PD activities most frequently stated by both genders are similar to the most frequently stated features indicated in Table 3. In addition, it was seen that features such as “willingness of participants,” “motivates teachers,” and “offers solutions to problems” were underlined more frequently by male teachers. On the other hand, features such as “offers the ability to use technology effectively” and “encourages teachers to research/learn” were highlighted more frequently by female teachers. In light of these findings, it can be said that female and male teachers have similar views about the features of effective PD activities.

### Distribution of the Features of Effective PD Activities by Education Level

Table 7 presents the distribution of the features of effective PD activities by the education level where the participating teachers teach. The codes for primary school teachers are expressed together with the code numbers, while the codes for teachers working at other education levels are expressed as only code numbers in order to fit in the table, and the same method was also applied in Tables 8 and 9.

**Table 7:** Distribution of the Features of Effective PD Activities by Education Level

Features	Primary School		P D	Middle High School		P D	High school		P D	Vocational high School		P D	Other	
	f	%		f	%		f	%		f	%		f	%
2. Offering an opportunity for active involvement,,	53	14.8	1.	65	15.2	3.	12	16.0	3.	14	19.7	3.	11	16.1
1. Teacher's having an effect on teaching practices positively,	49	13.6	2.	55	12.9	4.	11	14.6	1.	11	15.4	4.	10	14.7
3. Being useful,	38	10.6	4.	47	11.0	1.	7	9.3	2.	6	8.4	2.	9	13.2
4. Addressing participants' needs,	36	10.0	3.	46	10.8	5.	7	9.3	4.	6	8.4	1.	7	10.2
5. Having an up-to-date content,	20	5.5	5.	39	9.1	2.	6	8.0	7.	5	7.0	5.	5	7.3
6. Being given by experts,	18	5.0	7.	20	4.6	6.	6	8.0	5.	5	7.0	8.	3	4.4
8. Being student-centered and positively affecting students' learning outcomes,	17	4.7	6.	14	3.2	14.	4	5.3	6.	4	5.6	16.	3	4.41
7. Being specific to various teaching specialties,	10	2.7	8.	10	2.3	9.	3	4.0	22.	3	4.2	15.	2	2.94
12. Motivating teachers,	8	2.2	12.	10	2.3	8.	2	2.6	8.	2	2.8	25.	2	2.94
13. Offering the ability to use technology effectively,	8	2.2	13.	9	2.1	40.	2	2.6	9.	2	2.8	6.	1	1.47
18. Being appropriate about time	7	2.24	14.	7	1.64	7.	1	1.33	10.	2	2.8	10	1	1.47
16. Being face-to-face,	7	2.24	10.	7	1.64	11.	1	1.33	13.	2	2.8	12.	1	1.47
20. Participants' being willing,	6	1.68	19.	7	1.64	12.	1	1.33	17.	2	2.8	13.	1	1.47
9. Involving collaborative learning,	5	1.40	15.	6.	1.41	13.	1	1.33	20.	2	2.8	17.	1	1.47
23. Providing an opportunity to exchange ideas/experience with stakeholders,	5	1.40	18.	5	1.17	19.	1	1.33	11.	1	1.41	20.	1	1.47
17. Being fun,	4	1.12	16.	5	1.17	27.	1	1.33	12.	1	1.41	22.	1	1.47
19. Prompting teachers to research/learn,	4	1.12	37.	5	1.17	10.	1	1.33	29.	1	1.41	7.	0	0
21. Being efficient,	4	1.12	5.	4	0.94	23.	1	1.33	16.	0	0			
14. Raising awareness about the need for professional development,	4	1.12	35.	4	0.94	34.	1	1.33						
32. Being implemented in suitable places,	4	1.12	4.	3	0.70	29.	1	1.33						
<b>Total</b>	307	85.8		362	85.9		70	93		69	96.7		59	86.4
<b>General Total</b>	359	100		428	100		75	100		71	100		68	100

As can be inferred from Table 7, the most frequently stated codes for the features of effective PD activities are quite similar among different education levels where the participating teachers teach. Nevertheless, some differences in priority attract attention in terms of school types. Accordingly, teachers working in primary and middle schools have similar views. However, the codes most frequently stated by teachers working in K8 schools are “affects teaching practices positively” and “offers an opportunity for active involvement,” while those most frequently stated by teachers working at the upper secondary education level (high schools) are “useful” and “affects teaching practices positively.” Another noteworthy finding of the study is that features such as “implementation

at times appropriate for teachers” and “involves face-to-face training,” which were underlined by teachers working in K8 schools, were not mentioned at all by teachers working in high schools. Accordingly, it can be said that teachers working in high schools emphasized the features related to the quality of PD activities more than the features related to the planning of PD activities.

### Distribution of the Features of Effective PD Activities by Educational Background

Table 8 presents the distribution of the features of effective PD activities by participating teachers' educational background.

**Table 8:** Distribution of the Features of Effective PD Activities by Educational Background

Features	Bachelor's Degree		PD	Graduate students		PD	Master's Degree and above	
	f	%		f	%		f	%
3. Being useful,	103	15.73	<b>1.</b>	40	18.02	<b>1.</b>	18	14.52
2. Offering an opportunity for active involvement,	86	13.13	<b>2.</b>	27	12.16	<b>2.</b>	16	12.90
1. Teacher's having an effect on teaching practices positively,	81	12.37	<b>5.</b>	24	10.81	<b>5</b>	15	12.10
4. Addressing participants' needs,	83	12.67	<b>4.</b>	23	10.36	<b>6.</b>	13	10.48
5. Having an up-to-date content,	37	5.65	<b>6.</b>	10	4.50	<b>3.</b>	12	9.68
8. Being student-centered and positively affecting students' learning outcomes,	28	4.27	<b>7.</b>	9	4.05	<b>7.</b>	7	5.65
6. Being given by experts,	20	3.05	<b>9.</b>	9	4.05	<b>13.</b>	5	4.03
7. Being specific to various teaching specialties,	20	3.05	<b>11.</b>	9	4.05	<b>4.</b>	4	3.23
10. Including real case studies,	17	2.60	<b>12.</b>	7	3.15	<b>17.</b>	3	2.42
9. Involving collaborative learning,	13	1.98	<b>13.</b>	7	3.15	<b>19.</b>	3	2.42
11. Building on existing knowledge,	12	1.83	<b>3.</b>	6	2.70	<b>12.</b>	3	2.42
16. Being face-to-face	12	1.83	<b>15.</b>	5	2.25	<b>10.</b>	3	2.42
17. Being fun,	11	1.68	<b>27.</b>	5	2.25	<b>20.</b>	3	2.42
12. Motivating teachers,	11	1.68	<b>19.</b>	4	1.80	<b>9.</b>	2	1.61
14. Raising awareness about the need for professional development,	10	1.53	<b>8.</b>	4	1.80	<b>8.</b>	2	1.61
15. Allowing for different teaching techniques in presentations,	10	1.53	<b>14.</b>	4	1.80	<b>22.</b>	2	1.61
18. Being appropriate about time,	10	1.53	<b>35.</b>	4	1.80	<b>14.</b>	2	1.61
13. Offering the ability to use technology effectively,	9	1.37	<b>10.</b>	3	1.35	<b>23.</b>	2	1.61
21. Being efficient,	7	1.07	<b>16.</b>	3	1.35	<b>25.</b>	2	1.61
20. Participants' being willing,	7	1.07	<b>22.</b>	2	0.90	<b>42.</b>	1	0.81
23. Providing an opportunity to exchange ideas/experience with stakeholders,	7	1.07	<b>28.</b>	2	0.90	<b>18.</b>	1	0.81
24. Being online,	6	0.92	<b>25.</b>	2	0.90	<b>7.</b>	1	0.81
19. Prompting teachers to research/learn,	5	0.76	<b>39.</b>	2	0.90	<b>21.</b>	1	0.81
22. Being done as group work,	5	0.76	<b>18.</b>	1	0.45	<b>26.</b>	1	0.81
31. Offering an opportunity for professional self-criticism	5	0.76	<b>17.</b>	1	0.45	<b>11.</b>	1	0.81
33. Ensuring collaboration among stakeholders	4	0.61	<b>7.</b>	1	0.45	<b>38.</b>	1	0.81
<b>Total</b>	619	94.5		208	96.3		124	100
<b>General Total</b>	661	100		216	100		124	100

As can be inferred from Table 8, the ten features of effective PD activities most frequently stated by teachers from different educational backgrounds are similar. Nevertheless, some differences in priority attract attention in terms of educational backgrounds. The six features most emphasized by undergraduate teachers are “useful,” “offers an opportunity for active involvement,” “affects teaching practices positively,” “addresses participants’ needs,” “up-to-date content,” and “student-centered & positively affects student learning outcomes.” On the other hand, the three features most emphasized by the teachers who are currently continuing their graduate education and those who have completed their graduate education are “affects teaching practices positively”, “offers an opportunity for active involvement,” and “up-to-date content.” Accordingly, it can be said that compared to undergraduate teachers, the teachers who are currently continuing their graduate education and those who have completed their graduate education underlined the features related to the quality of training programs and educators as well as specialization in a field. This may be due to the skills and competencies such

as researching, obtaining up-to-date information about the field, specialization in a field, and cognitive literacy provided by postgraduate education.

### Distribution of the Features of Effective PD Activities by Teaching Experience

Table 9 presents the distribution of the features of effective PD activities by teaching experience.

**Table 9.** Distribution of the Features of Effective PD Activities by Teaching Experience

Features	0-5 Year			6-10 Year			11-15 Year			16-20 Year			21-30 Year	
	f	%	PD	f	%	PD	f	%	PD	f	%	PD	f	%
1. Teacher's having an effect on teaching practices positively	34	21.52	1.	30	13.57	1.	37	17.87	2.	33	17.55	1.	30	13.22
4. Addressing participants' needs,	17	10.76	3.	30	13.57	2.	29	14.01	4.	24	12.77	4.	29	12.78
2. Offering an opportunity for active involvement,	15	9.49	2.	24	10.86	3.	26	12.56	3.	20	10.64	2.	28	12.33
3. Being useful,	15	9.49	4.	19	8.60	4.	21	10.14	1.	19	10.11	1.	19	8.37
8. Being student-centered and positively affecting students' learning outcomes,	13	5.70	5.	19	8.60	5.	16	7.73	5.	13	6.91	5.	16	7.05
5. Having an up-to-date content,	12	7.59	7.	12	5.43	8.	8	3.84	6.	9	4.79	13.	14	6.17
6. Being given by experts,	11	6.96	6.	10	4.52	6.	7	3.38	7.	8	4.26	10.	9	3.96
7. Being specific to various teaching specialties,	5	3.16	8.	10	4.52	15.	6	2.90	10.	6	3.19	7.	7	3.08
18. Being appropriate about time,	4	2.53	11.	9	4.07	14.	6	2.90	11.	6	3.19	16.	7	3.08
17. Being fun,	3	1.90	9.	9	4.07	11.	5	2.42	9.	5	2.66	6.	6	2.64
19. Prompting teachers to research/learn,	3	1.90	17.	7	3.17	12.	4	1.93	20.	5	2.66	9.	6	2.64
12. Motivating teachers,	3	1.90	19.	6	2.71	10.	4	1.93	13.	4	2.13	12.	5	2.20
16. Being face-to-face,	3	1.90	12.	6	2.71	7.	4	1.93	12.	3	1.06	21.	4	1.76
26. Improving teachers' communication skills,	3	1.90	14.	6	2.71	20.	4	1.93	21.	3	1.06	9.	3	1.32
15. Allowing for different teaching techniques in presentations,	3	1.90	27.	3	1.36	13.	3	1.45	9.	3	1.06	15.	3	1.32
24. Being online,	2	1.27	23.	3	1.36	9.	3	1.45	19.	2	1.06	31.	3	1.32
10. Including real case studies,	2	1.27	30.	3	1.36	18.	3	1.45	17.	2	1.06	25.	3	1.32
25. Offering problem-oriented solutions	2	1.27	10.	2	0.90	27.	2	0.97	8.	2	1.06	18.	2	0.88
21. Being efficient,	1	0.63	29.	2	0.90	17.	2	0.97	14.	2	1.06	29.	2	0.88
9. Involving collaborative learning,	1	0.63	9.	2	0.90	26.	2	0.97	15.	2	1.06	24.	2	0.88
36. Being free of charge,	1	0.63	35.	2	0.90	16.	2	0.97	16.	2	1.06	37.	2	0.88
22. Being done as group work,	1	0.63	18.	1	0.45	23.	2	0.97	23.	2	1.06	32.	2	0.88
14. Raising awareness about the need for professional development,	1	0.63	24.	1	0.45	19.	1	0.48	28.	2	1.06	28.	2	0.88
11. Building on existing knowledge,	1	0.63	26.	1	0.45	42.	1	0.48	35.	2	1.06	34.	2	0.88
20. Participants' being willing,	1	0.63	15.	1	0.45	36.	1	0.48	18.	2	1.06	33.	1	0.44
<b>Total</b>	157	96.82		218	97.67		199	94.69		181	94.64		207	91.16
<b>General Total</b>	162	100		223	100		210	100		188	100		218	100

As can be inferred from Table 9, the five features of effective PD activities most frequently stated by teachers with different levels of teaching experience are similar. Nevertheless, some differences in priority attract attention in terms of different levels of teaching experience. Teachers with 0-5 years, 6-10 years, and 11-15 years of teaching experience underlined the feature of “affects teaching practices positively” more frequently, while those with 16-20 years and 21-30 years of teaching experience primarily highlighted the features of “offers an opportunity for active involvement” and “useful.” The fact that teachers with less teaching experience stated “affects teaching practices positively” more frequently may have been due to insufficient professional/teaching experience. This factor also manifests itself in the preferences for “student-centered & positively affects student learning outcomes.” It is seen that teachers with less teaching experience prioritize student-centered PD activities that positively affect students' learning outcomes compared to teachers with more teaching experience. On the other hand, it is seen that teachers with 21-30 years of teaching experience, who are the most experienced group, prioritize the feature of “offers the ability to use technology effectively” more than those with less teaching experience. This can be explained by the fact that teachers in this age group are worse at digital literacy skills than younger teachers.

## Conclusion and Discussion

In the present study, the common features of effective PD activities emerged as “affects teaching practices positively,” “offers an opportunity for active involvement,” “useful,” “addresses participants’ needs,” “up-to-date content,” “delivery by experts,” “specific to various teaching specialties,” and “student-centered & positively affects student learning outcomes.” Indeed, previous research has revealed the common features of effective PD activities as “practical & offering an opportunity for teachers’ active involvement” (Desimone 2009; Hunzicker, 2011), “addresses teachers’ professional needs” (Desimone & Garet, 2015; Hunzicker, 2011), “including up-to-date content” (Murphy & Calway, 2008), and “delivery by experts” (Bellibaş & Gümüş, 2016).

In this study, the “Curricula related to Professional Development Activities” theme contained four sub-themes. The most frequent codes under the sub-theme of “Functions/Objectives of PD Activities” are “affects teaching practices positively” and “useful,” while those under the sub-theme of “Process of Execution of PD Activities” are “student-centered & positively affects student learning outcomes” and “involves collaborative learning.” On the other hand, the most frequent codes under the sub-theme of “Methods and Techniques Used in PD Activities” are “offers an opportunity for active involvement,” “use of different teaching techniques in presentations,” and “involves face-to-face training,” and those under the sub-theme of “Content/Curriculum of PD Activities” are “addresses participants’ needs” and “up-to-date content.” Accordingly, the codes (i.e., features) that emerged under the sub-theme of “Functions/Objectives of PD Activities” are consistent with the literature findings discussed in the previous paragraph.

In this study, the “Factors that Facilitate Professional Development” Theme contained four sub-themes. The most frequent codes under the sub-theme of “Planning of PD Activities” are “implementation at times appropriate for teachers” and “willingness of participants,” and those under the sub-theme of “Financing of PD Activities” are “free of charge” and “paid.” Indeed, previous research has revealed similar features of effective PD activities, such as “implementation at times appropriate for teachers” (Zepeda, 2017), “willingness of participants” (İlğan, 2021), and “free of charge” (Naizer et al., 2017). Although the literature emphasizes the “free of charge” feature of effective PD activities, in this research, some participants mentioned the “paid” feature. The reason for the differences of opinion on the financing of PD activities among teachers may have arisen from the paid but quality PD activities held for teachers in private institutions in recent years. On the other hand, it is also possible to infer that teachers attach more importance to the PD activities for which they pay.

The most frequent codes under the sub-theme of “Helping Develop Positive Attitudes towards and Raise Awareness about PD Activities” are “motivates teachers and “raises awareness about the need for professional development,” while those under the sub-theme of “Improves Professional Competencies” emerged as “helps build on existing knowledge” and “encourages teachers to research/learn.” Indeed previous research has also underlined similar features of effective PD activities: “motivates teachers and raises awareness about professional development” and “helps build on existing knowledge” (DeMonte 2013; Zepeda 2015), and “encourages teachers to research/learn” (Desimone & Garet, 2015).

Regarding the distribution of the features of effective PD activities by gender, it can be said that it is consistent with the literature findings discussed in the previous paragraph and that both female and male teachers underlined similar features of effective PD activities (Abu-Tineh & Sadiq, 2017). In addition, it was seen that features such as “willingness of participants,” “motivates teachers,” and “offers solutions to problems” were underlined more frequently by male teachers. It has been found that male teachers are less motivated than their female counterparts (Aziz et al., 2012). This can be attributed to the fact that male teachers’ intrinsic motivation for the teaching profession, including professional development, is lower than that of female teachers (Göçer Şahin & Gelbal, 2016). Based on the results of the research, it can be said that male teachers experience more professional challenges. Indeed, previous research has shown that female teachers have higher job satisfaction than

male teachers (Liu & Ramsey, 2008) and attach more importance to professional development (Toropova et al., 2020).

On the other hand, features such as “offers the ability to use technology effectively” and “encourages teachers to research/learn” were highlighted more frequently by female teachers. Previous studies have shown that female teachers are generally worse at using technology in the classroom (Zhao et al., 2021). The fact that female teachers attach more importance to PD activities that lead teachers to research and learn can be explained by their higher levels of professional motivation (Aziz et al., 2012) and the fact that they care more about PD than male teachers (Toropova et al., 2020).

In the study, it was found that the ten most frequently stated features of effective PD activities were quite similar among different education levels where the participating teachers teach. Nevertheless, some differences in priority also attract attention in terms of school types. Accordingly, “offers an opportunity for active involvement” was the feature most emphasized by primary school teachers, “affects teaching practices positively” by middle school teachers, and “useful” by teachers working at other education levels. Indeed, according to the literature, primary school teachers mostly underline “offers an opportunity for active involvement” as the feature of effective PD activities (Murphy et al., 2020; Stevenson et al., 2019). This finding can be attributed to teachers’ desire to be actively involved in seeking solutions to the professional challenges they face. In Turkey, students who have completed the lower secondary education level (middle schools) are required to take a centralized nationwide test to be placed in high schools. It can be said that the results of the centralized test point to the performance of teachers and schools as well as to the performance of students. This can be the reason why teachers working in middle schools have higher levels of motivation for PD activities aimed at increasing students’ learning outcomes. Indeed, previous research has shown that teachers working in primary and middle schools attend PD activities more often than their counterparts working at other education levels (OECD 2009; 2019). In addition, features such as “improves students’ learning outcomes” (Avalos, 2011) and “useful” (Desimone & Garet, 2015; Hunzicker, 2011) are consistent with the literature findings.

The six features most emphasized by undergraduate teachers are “useful,” “offers an opportunity for active involvement,” “affects teaching practices positively,” “addresses participants’ needs,” “up-to-date content,” and “student-centered & positively affects student learning outcomes.” On the other hand, the features most emphasized by the teachers who are currently continuing their graduate education and those who have completed their graduate education are “affects teaching practices positively,” “offers an opportunity for active involvement,” and “up-to-date content.” It can be said that the stated features of effective PD activity are consistent with the literature findings discussed in previous paragraphs. Additionally, the teachers primarily underlined features such as “delivery by experts” and “specific to various teaching specialties” as the features of effective PD activities. Accordingly, it can be said that compared to undergraduate teachers, those who are currently continuing and those who have completed their graduate education prioritized the features related to the quality of training programs and educators as well as specialization in a field. This finding may be attributed to the personal and professional skills and competencies as well as specialization in a field provided by graduate education (Aktan, 2020).

In the study, the five features of effective PD activities most frequently stated by teachers with different levels of teaching experience were similar. Nevertheless, some differences in priority attract attention in terms of different levels of teaching experience. Teachers with less teaching experience underlined the feature of “affects teaching practices positively” more frequently, while those with more teaching experience primarily highlighted the features of “offers an opportunity for active involvement” and “useful.” The fact that teachers with less teaching experience stated “affects teaching practices positively” more frequently may have been due to insufficient professional/teaching experience. This factor is also evident in the preferences for “student-centered & positively affects student learning outcomes.” It is seen that teachers with less teaching experience prioritize student-centered PD activities that positively affect students’ learning outcomes compared to teachers with

more teaching experience. This finding can be attributed to young teachers' insufficient teaching experience and need for professional development (Cooc, 2019).

On the other hand, it is seen that teachers with 21-30 years of teaching experience prioritize the feature of "offers the ability to use technology effectively" compared to those with less teaching experience. This finding can be attributed to the increasing importance of digital literacy skills (Aydın, 2021) as well as to the fact that older teachers with more teaching experience are worse at digital literacy skills than their younger counterparts (Dong et al., 2019). On the other hand, the features such as "up-to-date content," "delivery by experts," and "specific to various teaching specialties," which were stated by all teachers regardless of their teaching experience, are also some features of effective PD activities revealed in the literature.

### Implications

- Based on the sub-themes that emerged in this research, it is recommended that PD activities, just like the educational activities in K-12 schools, be planned with a curriculum that takes into account goals such as improving teacher quality and classroom practices.
- It is recommended that PD activities be planned to help participants develop positive attitudes and awareness about PD activities.
- It is recommended that PD activities be planned and delivered in a way that positively affects classroom practices.
- It is recommended that PD activities be planned by considering teachers' professional needs and by including content that increases their professional competencies.
- It is recommended that PD activities be diversified to address various needs, expectations, and suggestions of teachers, as well as their teaching specialties, genders, school levels, teaching experiences, and educational backgrounds.

### Limitations

Investigating teachers' views on the features of effective PD activities, this study is limited to the findings obtained with the case study design, one of the qualitative research methods. The use of the interview form alone as a data collection tool, that is, the failure to provide data triangulation, can be expressed as another limitation.

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