

## **Teacher Performance and Professional Development as Predictors of School Effectiveness**

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With the rapid changes in information societies and the mission of raising individuals who will adapt to this change, the concept of school effectiveness has come to the fore recently. This study aims to examine the extent to which the performance and professional development of teachers, who play the most important role in achieving school goals, influence school effectiveness. The predictive survey model, a subtype of the relational survey model, which is one of the quantitative research methods, was used within the scope of the research. The data were collected from 392 teachers working in public schools in Istanbul. As a result of the research, it was determined that there was a positive and significant relationship between teachers' perceptions of school effectiveness and their performance and professional development. The professional development of teachers positively affects their performance and school effectiveness. For this reason, policymakers need to carry out studies on the professional development of teachers in a much more comprehensive and planned manner to increase the effectiveness of schools. It should also be considered that the effect of in-service training should be measured with concrete measurement tools.

*Keywords:* professional development, performance, school effectiveness, effective school

### **Introduction**

Education is the main determinant of development (Tam & Cheng, 2007). This mission imposed on education is only possible if schools reach the determined goals. Effective schools are those that achieve the set goals. However, many factors affect the effectiveness of schools. The greatest impact on school effectiveness comes from grade-level factors rather than school-level factors (Jones, Jenkin, & Lord, 2006). The teachers are the most important factor affecting the grade level. In other words, since teachers are the most important factors affecting the quality of education (Hattie 2003; Darling-Hammond, 2006), qualified teachers are needed to increase the quality of education, that is, the effectiveness of schools (Ginott, 1972; [Organisation for Economic Co-operation and Development] OECD, 2005). For example, the role of talented teachers and administrators is highlighted based on the successes of schools that have succeeded in The Programme for International Student Assessment (PISA) (OECD, 2013). For this reason, governments thought that investing in teachers' professional development and performance could ensure school development effectiveness (Atkinson et al., 2009). At the heart of such initiatives is the idea that

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policy investments to improve teachers' professional development and competencies/qualities directly affect student performance (Darling-Hammond, 2000; Ferguson, 1991) and indirectly improve school effectiveness. In other words, the effectiveness of a school is directly proportional to the effectiveness of its human resources. In this context, it is known that successful schools have high-performing teachers. The high performance of teachers depends on the relationship between their knowledge, skills, and competencies and their motivation to use their potential. High performance of teachers is possible with the continuous improvement of their knowledge, skills, and competencies, that is, with their professional development. In this study, the relationship between teachers' professional development and school effectiveness and performance was tried to be revealed.

## Literature Review

### School Effectiveness

The concept of effectiveness in organizations dates back almost a century. In the 1930s, Barnard defined effectiveness as the efficiency with which an organization meets the needs of its members and achieves its goals. Achieving a balance between these two concepts within the organization should be among the most fundamental tasks of organizational managers (Barnard, 1938). An effective school is a student-centered, contemporary education and training environment where students are prepared for their future roles and can achieve higher levels of success than expected in terms of different background knowledge (Balci, 1995, 2022). It is a structure that embodies a set of actions that will enable students to fulfill themselves (Ada & Akan, 2007), and meets the demands of education and training at the highest level (Baştepe, 2009). In effective schools, an appropriate learning environment is created to support students' intellectual, emotional and social development. Students are encouraged (Özdemir, 2013), realistic and pragmatic goals are created and these goals are easily and accurately communicated to all students (Karşlı, 2004). Social inclusion is increased, discrimination is reduced, and essential life and work skills, which are characterized by different definitions, are provided (Grant & Francis, 2016). An effective school can create additional value for its students compared to other schools with the same environment and opportunities.

The basic starting point for effective school research is the research of Coleman et al. (1966) and Jencks (1972). Their research claims that the school has little effect on the student's success and that the most effective is the child's cultural capital brought from their family and environment. Effective school studies, which have accelerated since this date, have shown that schools have a very important effect on children's education while not ignoring non-school factors in student success.

The basis of effective schooling is the assumption that all students can learn and that all teachers can teach. In other words, it is accepted that effective schools will make a difference in students and teachers. Considering the duties that are socially imposed on schools, it can be said that the effectiveness of schools can be measured by the level of achievement of the expected results (Özgenel, 2020; Yağan, 2020). One of the most important criteria in measuring the effectiveness of

schools is the educational achievement levels of their students (Witmer, 2005). Students are enabled to develop emotionally as well as cognitively (Özdemir, 2013).

While effective school research began in the 60s, it is seen that research in Turkey started in the 90s. Balcı's (1988) and Şişman's (1996) studies revealing the effectiveness of schools, are pioneering studies on effective schooling in Turkey. Researchers identified the key characteristics of effective schools as; (a) strong leadership, (b) high expectations for students, (c) a safe and orderly school climate, (d) high expectations for teachers, (e) monitoring and evaluation of student progress, (f) effective classroom management, (g) belief in student learning potential, (h) emphasis on the acquisition of basic skills, (i) parental involvement, (j) clarity of a shared vision and mission, (k) maximum use of instructional time, and (l) well-organized educational programs (Chandler, 1984; Edmonds, 1979; Hallinger & Murphy, 1986; Hoffman, 1991; Karip & Koksall, 1996; Mortimore, 1993; Ozdemir, 2013; Reynolds, 1995; Scheerens & Creemers, 1989). School effectiveness is how the school can achieve its goals (Balcı, 2022; Scheerens, 2013; Şişman, 2011). For this reason, school administrators who hope to get the results they expect in terms of the educational outputs should design their schools by considering these processes to make an effective school (Mujis, 2006).

### **Professional Development**

The rapid development of mass communication opportunities in the current era, which is known as the information age, demonstrates that, as with many other subjects, teachers must maintain their professional competence. For this reason, the institutions primarily responsible for education should not neglect teachers' professional development to achieve their goals. Professional development (PD) is activities in which teachers participate to gain knowledge and skills to improve their classroom practices (Torff, Sessions, & Byrnes, 2005), and the process of improving the skills and abilities of teachers to enable students to reach the desired goals (Hassel, 1999). It is defined as the systematic continuation of reform efforts to increase the capacity of teachers to carry out educational activities at high standards (Smith & O'day, 1990). This lifelong learning process lasts from the start of the teachers' profession to the end (Villegas-Reimers & Reimers, 2000). As seen from the definitions, the keyword for teachers' professional development is the necessity of evaluating teachers as individuals who have adopted the principle of lifelong learning. Through continuous professional development, teachers deepen their field knowledge, become aware of the latest developments in their field, and align their skills with workplace standards (Reese, 2010). Professional development aims to increase teachers' performance, obtain high efficiency from the implemented practices, apply the determined education policies to the field in a healthy way, and easily adapt to all these changes (Blandford, 2000).

Although it does not guarantee the success of the applied professional development programs, certain principles must be followed in order to avoid failure (Guskey, 2007): (i) Change is a process that the individual and the organization carry out together. There may be situations where the individual demands change, but the organization does not respond to this demand, or the opposite may occur. A healthy

change occurs when both elements can respond appropriately to the demands for change. (ii) Sudden and major changes can often result in frustration. For this reason, change should be planned with a gradual and incremental approach for professional development programs to be successful. (iii) A healthy professional development program must be based on teamwork rather than individuality. (iv) Effective measurement methods should be applied at different stages of the implemented program, and healthy feedback should be given to the participants. This measurement process will also provide practitioners with healthy data on the functioning and failing aspects of the program. (v) After the programs are implemented, the participants must be followed up. Only in this way can the efficiency of the program be tested. Professional development for an effective program should be seen as a process, not an event.

The professional needs of teachers also differ at different stages of their careers. Therefore, the concept of professional development is a process that should be programmed to meet the professional needs of teachers that differ in these different career stages. The expectations of the students, who are the primary beneficiaries of educational institutions, are changing rapidly. Therefore, to keep up with this expectation of change, teachers need to improve their field knowledge, master the innovations in teaching techniques, and exchange information with their colleagues to follow good examples. In other words, the need to meet the learning needs of students in a more qualified way constitutes the basic emergence principle of professional development.

### **Teacher Performance**

Teachers, the most important and costly resource of educational organizations, are at the center of school improvement efforts. Increasing the effectiveness of the school can be possible by employing competent people as teachers. These teachers' teaching methods and techniques are of high quality; therefore, all students have access to high-quality education (OECD, 2005). The most important factor in a student's learning is the teacher. Because the teacher is the determining factor in the classroom, the person who creates the climate and has the enormous power to make a child's life miserable and happy (Ginott, 1972). For this reason, determining which factors will be effective in increasing the performance of a teacher who is effective on student outcomes and maintaining his high performance has become an important research topic. Performance management is a strategic and integrated process that helps organizations achieve sustainable success by enhancing the individual performance of the organization's employees and improving both individual and team capabilities (Armstrong, 2000). Evaluating teachers' performance in educational organizations, besides being effective on educational organizations and the quality of teaching, also aims to reveal a perspective on teacher training policies and practices (Carter & Lochte, 2016). The effectiveness of education and the increase in the quality of general education are closely related to the quality of teacher training programs and the fact that teachers have received pedagogy and field training that focuses on effective practice examples (Darling-Hammond, Wei, & Johnson 2009).

Although national standards for teacher competencies, selection, and training have been set, inadequate performance among teachers poses great challenges for leaders and administrators at all levels of education (Wragg, Haynes, Wragg, & Chamberlain, 2000). Poorly performing teachers fail to meet their performance standards and have an impact on the performance of those with whom they come into contact. Low performance negatively affects students' achievements, other teachers' performance, and school leadership and management. At the same time, poor performance also damages the school reputation and causes parental reactions (Dean, 2002). On the other hand, individual and organizational inadequacies caused by low performance can also create long-term obstacles to the economic development of countries (Hanushek, 2010).

Performance criteria must be clearly defined for performance improvement because performance becomes manageable and measurable only to the extent that it can be defined (Armstrong, 2000). The development process, which starts with a clear definition of performance, needs to produce policies to increase teachers' performance and maintain high-performance levels (Jones, Jenkin, & Lord, 2006). In this way, a continuous increase in the effectiveness of both schools and education can be achieved. Several studies have found that raising achievement significantly impacts the quality of teaching and the quality of student teachers (Barnett, 2008; Hanushek, Kain, & Rivkin, 2004; Rivkin, Hanushek, & Kain, 2005). When the relevant literature is examined, it is seen that factors stemming from teacher qualifications play a direct role in school effectiveness. Many studies examine the dual relationships between teachers' professional development, performance, and school effectiveness and provide evidence for these relationships (Özgenel & Mert, 2019; Wallin, 2003; Yalçın & Özgenel, 2021). According to Özgenel and Mert (2019), teachers' training, seminars and their personal development during the service significantly affect their performance. By maximizing the performance of teachers, there will be an increase in the academic success of students. In this way, there will be an increase in efficiency and effectiveness in schools. According to Wallin (2003), teachers' professional development contributes positively to the development, implementation and review of schools' policies and procedures. By providing professional development, the teacher can establish positive relationships with parents, set standards of professional integrity and personal development, share ideas and materials with professional colleagues, and contribute to the effectiveness of the school program. According to Yalçın and Özgenel (2021), professional development of teachers contributes to changing the perspective of teachers towards their profession. Professional development has an important place in increasing the performance and knowledge of the teacher. Teacher performance is effective on school effectiveness and student academic success. Professional development of teachers should be focused on in order to increase the quality of education. Examining the relationship between these three variables will provide a holistic perspective in determining the factors affecting school effectiveness. This study aimed to determine whether the professional development and performance of teachers, who play the most important role in schools achieving their goals, predict school effectiveness. In addition to this basic question, the research sought answers to the following questions:

Is there a significant relationship between teachers' perceptions of school effectiveness and their performance and professional development?

Does teachers' professional development significantly predict their performance?  
Does teachers' professional development significantly predict their school effectiveness?  
Do teachers' performances significantly predict school effectiveness?  
Do teachers' professional development and performance together significantly predict school effectiveness?

## Methodology

### Design

Since the study aimed to determine the relationship between teachers' professional development and their performance and school effectiveness; therefore, the quantitative research method and the predictive survey model were used. The study used the predictive survey model, one of the relational survey models, because it aimed to determine whether teachers' professional development and performance predicted school effectiveness. The predictive research model is a research design that aims to "predict future behaviors and determine the variables that predict the outcome" (Creswell, 2017). In other words, it is a research design to determine the independent variables that predict the dependent variables (Özgenel, 2021).

### Participants

Since the research was carried out during the COVID-19 pandemic period, the participants were reached in the pandemic with the "Convenience Sampling" method. The main objective of convenience sampling is to collect information from participants who are easily accessible to the researcher (Etikan, Musa, & Alkassim, 2016). 392 teachers working in public schools in Istanbul province participated in the study during the spring semester of the 2020-2021 school year. 241 teachers were female, 151 were male, 307 had undergraduate degrees, and 85 had graduate degrees. The average age is  $\pm 38.9$  years, and the average seniority is  $\pm 14.8$  years.

With a population of 18 million, Istanbul meets approximately 1/4 of Turkey's population. Again, with 160,000 teachers, one of the seven teachers working throughout the country works in Istanbul (Ministry of National Education [MoNE], 2022). Therefore, considering the diversity of the student and parent profile and the high number of teachers, it is thought that the studies conducted in Istanbul give very suitable data for generalizations.

### Measuring Instruments

The Information Form, School Effectiveness Index, Employee Performance Scale, and Teachers' Attitudes towards Professional Development Scale were used as data collection tools in the research. The Information Form contains information about the participants' gender, education level, age, and seniority.

The "School Effectiveness Index (SE-Index)," developed by Mott in 1972, was found to be a valid and reliable measure of effectiveness in hospitals. The Mott scale was first developed and used in schools by Miskel, Fevurly, and Stewart (1979) and

subsequently by Hoy and Ferguson (1985), Hoy and Miskel (1996), Hoy, Tarter, and Kottkamp (1991). It was adapted into Turkish by Yıldırım (2015). The Index is an 8-item and 6-point Likert-type scale that measures the degree of perceptions of a school's overall effectiveness through a subjective assessment. The higher the score, the more effective the school is (Hoy, 2021).

Torff, Sessions, and Byrnes, (2005) developed the *Teachers' Attitudes about Professional Development* (TAPD) Scale to assess teachers' attitudes towards professional development activities/initiatives. The original scale was 9 items and was graded on a 5-point Likert scale (disagree-1, partially agree-2, moderately agree-3, mostly agree-4, completely agree-5). The scale was adapted into Turkish by Özer and Beycioğlu (2010). In the adaptation study, 3 items were removed from the scale, resulting in a single factor 6-item structure.

*The Performance Scale (PS)* was adapted into Turkish by Erdoğan (2011), using the scales of Kirkman and Rosen (1999), Fuentes, Albacete-Sáez, and Lloréns-Montes (2004), and Rahman and Bullock (2005). The scale is a single factor, 7-item scale and a 5-point Likert type scale. A minimum of 7 points and a maximum of 35 points are taken from the scale. A high score indicates high performance.

Permission was obtained from the researchers who developed the scales. In addition, research permission was received from Istanbul Sabahattin Zaim University Ethics Committee (dated 27.11.2020 and numbered 2020/11).

## Data Analysis

Before analyzing the data, we checked whether the scale met the assumptions of normality.

*Table 1. Kurtosis, Skewness, and Reliability Values of the Scales*

	<b>Skewness</b>	<b>Kurtosis</b>	<b>Cronbach's Alpha</b>
School effectiveness	-.782	.977	.886
Performance	.044	-.457	.704
Professional development	-.773	.229	.823

According to Table 1 above, since the skewness (-.782, .044, -.773) and kurtosis (.977, -.457, .299) values of the scale are within the limits of  $\pm 1$ , it shows a normal distribution. The reliability coefficients of .70 and above is found to be reliable.

Correlation and regression analyses were performed in the analysis of the data. Cohen's (2013)  $f^2$  criterion was used to calculate the effect size of the multiple regression analysis. The formula  $f^2 = R^2 / (1 - R^2)$  is used to calculate the  $f^2$  value. The results obtained from the effect size were evaluated as ".02  $\leq f^2 < .13$  low impact; .13  $\leq f^2 < .26$  medium impact; .26  $\leq f^2$  large impact" (Cohen, 2013).

## Results

The Pearson correlation (PPMC) values to determine the relationships between the variables are given in Table 2.

*Table 2. Relationships between Variables*

	Mean	sd	1	2	3
1-School effectiveness	4.480	.785	1		
2-Performance	4.095	.444	.295**	1	
3-Professional development	4.011	.729	.292**	.355**	1

N=392; \*\*p<.01

According to Table 2, there is a positive and significant relationship between teachers' perceptions of school effectiveness and their performance ( $R=.295$ ;  $p<.01$ ) and professional development ( $R=.292$ ;  $p<.01$ ). Again, a positive relationship was found between teachers' professional development and their performance ( $R=.355$ ;  $p<.01$ ).

The results of the simple regression analysis regarding the professional development of teachers to predict their performance are given in Table 3 below.

*Table 3. The Level of Predictive Performance of Professional Development*

Independent Variable	Dependent Variable	B	Std. Error	(β)	t	p
Constant	Performance	3.228	.118		27.436	.000
Professional development		.216	.029	.355	7.498	.000
N=392; R=.355; R <sup>2</sup> =.126; F=56.215; p<.000						

According to Table 3, it is seen that teachers' professional development significantly predicts their performance ( $p<.01$ ). Teachers' professional development explains 12.6% of the total variance in their performance ( $R=.355$ ;  $R^2=.126$ ; F=56.215;  $p<.000$ ). According to the B coefficient, a one-unit increase in teachers' professional development provides a .216-unit increase in their performance. The performance average of a teacher who does not show any professional development will be 3.228. In other words, the professional development of teachers affects their performance positively. As the professional development of teachers increases, their performance also increases.

The results of the simple regression analysis regarding the prediction of school effectiveness by teachers' professional development are given in Table 4.

*Table 4. The Level of Professional Development Predicting School Effectiveness*

Independent Variable	Dependent Variable	B	Std. Error	(β)	t	p
Constant	School effectiveness	3.220	.212		15.158	.000
Professional development		.314	.052	.292	6.027	.000
N=392; R=.292; R <sup>2</sup> =.085; F=36.328; p<.000						



According to Table 4, it is seen that teachers' professional development significantly predicts school effectiveness ( $p < .01$ ). Teachers' professional development explains 8.5% of the total variance in school effectiveness ( $R = .292$ ;  $R^2 = .085$ ;  $F = 36.328$ ;  $p < .000$ ). According to the B coefficient, a one-unit increase in teachers' professional development provides a .314-unit increase in school effectiveness. The average school effectiveness of a teacher who has never made professional development will be 3,220. In other words, the professional development of teachers positively affects school effectiveness. As teachers' professional development increases, school effectiveness also increases.

The results of the simple regression analysis regarding the prediction of school effectiveness by teachers' performances are given in Table 5.

*Table 5. The Level Performance Predicting School Effectiveness*

Independent Variable	Dependent Variable	B	Std. Error	(β)	t	p
Constant	School effectiveness	2,48	.352		6.673	.000
Performance		.521	.085	295	6.096	.000
N=392; R=.295; R <sup>2</sup> =.087; F=37.166; p<.000						

According to Table 5, it is seen that teachers' performances significantly predict school effectiveness ( $p < .01$ ). Teachers' performances explain 8.7% of the total variance in school effectiveness ( $R = .295$ ;  $R^2 = .087$ ;  $F = 37.166$ ;  $p < .000$ ). According to the B coefficient, a one unit increase in teacher performance leads to a 0.521 unit increase in school effectiveness. The average school effectiveness of a teacher who has never performed is 2,348. In other words, teacher performance has a positive effect on school effectiveness. As teachers' performance increases, school effectiveness also increases.

The results of the multiple regression analysis related to predicting school effectiveness and teacher professional development and performance are presented in Table 6.

*Table 6. The Level of Predicting School Effectiveness Together with Professional Development and Performance*

Development and Performance						
Independent Variable	Dependent Variable	B	Std. Error	(β)	t	p
Constant	School effectiveness	1.973	.356		5.547	.000
Professional development		.230	.055	.214	4.227	.000
Performance		.386	.089	.219	4.321	.000
N=392; R=.357; R <sup>2</sup> =.127; F=28.322; p<.000						

Table 6 shows that teachers' professional development and performance together significantly predict school effectiveness ( $p < .01$ ). Teachers' professional development and performance together explain 12.7% of the total variance in school effectiveness ( $R = .357$ ;  $R^2 = .127$ ;  $F = 28.322$ ;  $p < .000$ ). According to the  $\beta$  coefficient, a one-unit increase in teachers' professional development causes an increase of .230 units in school effectiveness; a one-unit increase in their performance provides a .386-unit increase in school effectiveness. The average school effectiveness for a teacher who

does not do any professional development or work would be 1,973. In other words, teachers' professional development and performance together positively affect school effectiveness. As teachers' professional development and performance increase, school effectiveness also increases.

The  $f^2$  value was calculated to determine the effect size on school effectiveness, together with teachers' professional development and performance [ $(f^2=R^2/(1-R^2))$ ]. In the current study, together with teachers' professional development and performance, the effect size on school effectiveness  $f^2=.127/(1-.127)=.145$ . This effect size was found to be moderate.

## Discussion

The current research focuses on the relationship between teachers' professional development and performance and school effectiveness, using a dataset of 392 teachers working in public schools in Turkey (Istanbul). Our data confirm that there is a significant positive correlation between school effectiveness and teachers' performance and professional development. The findings show that as teachers' attitudes towards professional development increase, they are more likely to improve their performance and school effectiveness in a positive way. Attitude is an individual's evaluation of an object (Petty, Fabrigar, & Wegener, 2003) and is one of the affective characteristics that directs the individual to a certain behavior (Marshall, 1999; Plotnik, 2009). Therefore, as teachers' attitudes towards professional development increase positively, their performance and school effectiveness also increase. As a matter of fact, teachers' professional development and performance together have a medium effect size on school effectiveness. These findings indicate that "following professional and educational publications, the internet and social media, consulting colleagues, participating in in-service training courses and training, pursuing postgraduate education, attending congresses and symposia, watching educational films, and conducting research for the professional development of teachers (Özgenel, 2019)" are effective initiatives. In short, the greater their participation in professional development activities, the greater their performance improvement and contribution to school effectiveness." In addition, it has been revealed that high-performing teachers improve their classroom education practices and thus contribute to school effectiveness. These findings show that when teachers are engaged in activities that promote their professional development, they increase their performance (Ferguson & Womack, 1993; Lopez-Acevedo, 2004; Padillo, Manguilimotan, Capuno, & Espina, 2021; Yalçın & Özgenel, 2021) and increase the academic achievement of students (Cohen & Hill, 1997; Ferguson, 1991), also presents consistent results with the existing empirical findings and theoretical knowledge in the literature that higher teacher performance improves school effectiveness (Özgenel & Mert, 2019; Polat, 2022). Professional development activities aimed at improving teachers' knowledge, skills, and competencies improve their performance and possibly increase the quality of classroom practices and indirectly contribute to school effectiveness.

While teachers' professional development, namely their knowledge, skills, and competencies, has the most critical role in making education qualified, a functional performance evaluation program is needed to secure a qualified education-learning process (Hajar & Mukheri, 2017). Therefore, it is necessary to support the professional development of teachers (Wragg, Haynes, Wragg, & Chamberlain, 2000) and to build functional performance evaluation systems in schools. For this purpose, organizations make large-scale investments to create a functional performance evaluation system (Hallinger, Heck, & Murphy, 2014) and to strengthen their organizational structures (Yıldız & Baydar, 2022). However, it should not be forgotten that performance is a multidimensional and multidisciplinary field, contains prejudices, does not depend on a single view, and uses different models (Holton, 1999). In addition, school administrators should create a positive school climate (McBer, 2000; Özgenel, 2020) and a strong school culture that supports continuous development and improvement in the name of teachers' professional development and performance and school effectiveness.

It is argued that the effectiveness of schools is related to learning outcomes (Atkinson et al., 2009; Hallinger, Heck, & Murphy, 2014; Liu & Zhao 2013) and increase the quality of education (Hanushek, 2010). Given all this evidence, policymakers should prioritize teacher professional development for school effectiveness. Planning and organizing teacher professional development activities in schools will improve teacher performance by increasing their self-esteem, and this improvement will contribute to school effectiveness (Basaran & Cinkir, 2013). In addition, since improving teacher quality increases student achievement (Darling-Hammond, 2000), teachers should be provided with meaningful professional development opportunities. For this reason, policy makers should shape the pre-service and in-service trainings they plan for teachers according to the skills that children will need in the future, the age requirements, and the teachers' interests and abilities.

### **Conclusion**

To increase school effectiveness, classroom-level factors should be taken into account. In particular, teachers are an important factor in increasing the quality of activities implemented at the classroom level for students' learning and development. It can be said that the continuous professional development of teachers and increasing their qualifications will directly affect student performance. On the other hand, it is seen that teacher performance plays an important role in the success of schools in internationally valid exams such as PISA and TIMSS.

Strong leadership of teachers in schools is important for the effectiveness of schools. On the other hand, it is necessary to ensure that schools have a safe and orderly culture and to meet students' expectations from teachers, to monitor and evaluate students' development, to ensure that teachers demonstrate effective classroom management skills, to ensure that teachers have confidence in students, and to determine which skills should be given to students by the teacher. In addition, teacher quality and performance are effective in teachers' effective communication with the environment and stakeholders' ownership of the school vision. For students to acquire the desired knowledge and skills and for schools to achieve their goals,

teachers must ensure that the progress in their professional knowledge and skills is sustained throughout life. Otherwise, student success, school leadership and management processes are negatively affected. Poor performance also damages the professional reputation of the school and teachers. Learning losses and inadequacies resulting from low performance in the long term can create serious obstacles to the development of countries.

In this study, which was conducted to determine the relationship pattern between teachers' professional development, performance and school effectiveness, it was determined that there was a positive and significant relationship between teachers' perceptions and performances of school effectiveness and their professional development. In addition, teachers' professional development significantly affects their performance and school effectiveness. Teacher performance significantly affects school effectiveness. On the other hand, it has been understood that teachers' professional development and performance together significantly affect school effectiveness. In other words, as teachers' professional development and performance increase, school effectiveness also increases. Teachers' motivation to demonstrate their knowledge, skills and competencies and to reveal their potential is closely related to the continuity of their professional development. Although it is understood that professional development has a critical role in the quality of education, it is necessary to implement a functional performance evaluation program for the education process to be effective. To ensure continuous professional development of teachers, it is also necessary to take comprehensive large-scale measures that will increase supportive school culture, teacher self-confidence, respect and motivation, along with the introduction of an effective performance evaluation system.

### **Limitations**

After discussing the main findings of the study, it is important to state a few limitations regarding data collection tools and measurements to understand the findings of the current study. First, all the scales used in the research were filled in by the teachers. As teachers tend to agree with the positive statements in the scale items, this may raise concerns regarding social desirability and acceptance. Although social desirability is likely to result in higher mean scores on general scales, it has little impact on the correlational relationships across variables (as cited in Luyten & Bazo, 2019, Bellibaş, Polatcan, & Kılınç, 2022). Finally, while this study provides important findings about the relationship between teachers' professional development and their performance and school effectiveness, it does not imply causality because the data was collected cross-sectionally. As a result, information about causality between variables can be obtained using different methods.

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