

# Examining the Relationships Among Teachers' Work Engagement, Teamwork Attitudes, and Efficacy for Classroom Diversity\*

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**Abstract:** The purpose of this quantitative research is to examine the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity within the scope of structural equation modeling. The sample of the study consists of 355 teachers involved in the Project Supporting the Integration of Syrian Children into the Turkish Education System (PIKTES) during the 2020-2021 academic year. The Teachers' Teamwork Attitude Scale, Work Engagement Scale, and Teacher Efficacy Scale for Classroom Diversity have been used for collecting the data. Four hypotheses were developed based on the structural model created within the context of this study. Accordingly, (i) teachers' work engagement is claimed to positively affect both teachers' efficacy for classroom diversity as well as their (ii) teamwork attitude; and (iii) teachers' efficacy for classroom diversity is claimed to positively affect their teamwork attitude, and (iv) teachers' work engagement is also claimed to positively affect their teamwork attitude through their efficacy for classroom diversity. To verify these hypotheses, the relationships among the variables were determined first, and all the variables were seen to have moderately positive relationships. Based on these relations, the given structural model was then created and tested using path analysis. The findings showed all the hypotheses to have been proven confirmed.

**Keywords:** Work engagement, teamwork attitudes, efficacy for classroom diversity, partial mediating role, structural equation model.

**Öz:** Bu nicel araştırmanın amacı, öğretmenlerin işe bağlılıkları, takım çalışmasına ilişkin tutumları ve sınıftaki farklılıklara yönelik yeterlikleri arasındaki ilişkileri yapısal eşitlik modellemesi kapsamında incelemektir. Araştırmanın örneklemini 2020-2021 Eğitim-Öğretim Yılı'nda Suriyeli Çocukların Türk Eğitim Sistemine Entegrasyonunun Desteklenmesi Projesi'nde (PIKTES) görevli olan 355 öğretmen oluşturmaktadır. Verilerin toplanmasında Öğretmenlerde Takım Çalışmasına İlişkin Tutum Ölçeği, İşe Bağlılık Ölçeği ve Sınıftaki Farklılıklar İçin Öğretmen Yeterlik Ölçeği kullanılmıştır. Bu çalışma kapsamında oluşturulan yapısal modele dayalı olarak dört hipotez geliştirilmiştir. Buna göre; (i) öğretmenlerin işe bağlılığının hem öğretmenlerin sınıftaki farklılıklara yönelik yeterliklerini (ii) hem de takım çalışmasına ilişkin tutumlarını olumlu yönde etkilediği, (iii) öğretmenlerin sınıftaki farklılıklara yönelik yeterliklerinin takım çalışmasına ilişkin tutumlarını olumlu yönde etkilediği ve (iv) öğretmenlerin işe bağlılıklarının da sınıftaki farklılıklara yönelik yeterlikleri aracılığıyla takım çalışmasına ilişkin tutumlarını olumlu yönde etkilediği iddia edilmektedir. Bu hipotezleri doğrulamak için önce değişkenler arasındaki ilişkiler belirlenmiş ve tüm değişkenlerin orta düzeyde pozitif ilişkilere sahip olduğu görülmüştür. Bu ilişkilere dayalı olarak verilen yapısal model oluşturulmuş ve yol analizi kullanılarak test edilmiştir. Bulgular, kurulan tüm hipotezlerin doğrulandığını göstermiştir.

**Anahtar Kelimeler:** İşe bağlılık, takım çalışması tutumları, sınıf çeşitliliğine yönelik yeterlik, kısmi aracılık rolü, yapısal eşitlik model.

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## Introduction<sup>1</sup>

The highest performing education systems are those that combine equity with quality by giving all children the opportunity for a good quality education (Organisation for Economic Co-operation and Development [OECD], 2012). Teachers play a key role in providing and maintaining good education for establishing such a system. Teachers can be considered as the determining factor of quality of education. For this reason, focusing and conducting research on the factors related to teachers and the variables that affect their performance and productivity are important. Teachers' work engagement, efficacy for classroom diversity and teamwork attitude are some of these variables.

A decrease in teachers' positive attitudes and behaviors toward their profession is a significant issue for teachers, because their attitudes toward their profession are extremely important in achieving the school goals. Teachers with high engagement in their work are known to try harder to fulfill their duties and achieve school goals. In addition, these teachers are thought to establish positive relationships with the school and maintain their membership for longer periods of time (Ustu & Tumkaya, 2017).

Increasing individuals' awareness toward cultural diversity and carrying out studies on multiculturalism may only be possible if all stakeholders involved in the education process take an active role in multicultural education practices (Gay, 1994). Although all stakeholders related to educational process are responsible for creating a multicultural school climate and classroom environment, the most important task in this regard falls on teachers (Basbay & Kagnici, 2011), because they are the ones who conduct the education program; organize the learning environment by choosing appropriate teaching methods, techniques, and materials; and measure and evaluate learning. In other words, teachers are the ones managing the classroom and teaching (Diamond & Moore, 1995).

The concept of teamwork in educational institutions is new compared to business management or, more generally, organizational management; many studies have been conducted to reveal the effect teamwork has on teacher success in educational institutions. The common point these studies have reached is that the level at which teachers adapt to teamwork affects their success (Cankaya & Karakus, 2010; Cetin & Yaman, 2004). Teamwork also discourages teachers from working alone, improves pedagogical practices, and enhances student intelligence and achievement (Polega et al., 2019).

1 This study was presented as an oral presentation at the Seljuk Summit 5th International Social Sciences Congress held in Konya (Turkey) on 11-12 December 2021.

Recent years have witnessed an increased interest in teachers' engagement, efficacy for classroom diversity, and teamwork attitude (Cagri San & Tok, 2017; Erturk & Aydin, 2018; Gulbahar, 2017, 2020a; Gulbahar & Sivaci, 2018; Nartgun & Kocak, 2020; Nayir & Taskin, 2020; Polega et al., 2019; Salleh & Kayode, 2014; Sezen-Gultekin, 2014; Unlu & Orten, 2013). Studies are also found to have revealed positive relationships among teachers' work engagement, efficacy for classroom diversity, teamwork attitude, and other various variables (e.g., job satisfaction, effective in-class communication skills, organizational trust, supervisor support, school effectiveness) that can be considered positive (Cagri San & Tok, 2017; Erturk & Aydin, 2018; Gulbahar, 2017, 2020a; Gulbahar & Sivaci, 2018; Nartgun & Kocak, 2020). However, no study is found to have investigated the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity all together. Not even a study could be found in which the relationship among these variables had been investigated by putting forward a model.

Work engagement, efficacy for classroom diversity, and teamwork attitude are expected to be related with one another. This is because engaged employees understand what the job is about, are aware of their responsibilities and business details, and collaborate with co-workers to improve performance as well as what can be delivered within the job for the benefit of the group/organization (George & de Akaighe, 2017). In addition, engaged teachers are expected to be able to have positive attitudes toward teamwork and to manage classroom diversity easily, as Schaufeli et al. (2002) stated work engagement to have some power to create energy, endurance, willingness, and strong involvement in work. The relationships among teachers' work engagement, efficacy for classroom diversity, and teamwork attitude gain importance as a result. Teachers who are engaged in their work are claimed to resultantly have a positive attitude toward teamwork with colleagues; being competent in classroom diversity will also become more useful to their students, allowing them to develop more and facilitating achieving the school goals. This result is thought to increase the quality of education and instruction in schools, which will reflect positively on and increase the quality of the education system. This result is additionally thought to strengthen teachers' engagement in their schools and the Ministry of National Education (MoNE) as the central organization. Teachers' efforts at professional and personal development and the positive results they will obtain from these efforts are additionally thought will increase. In this way, teachers' performance and productivity will improve. As such, this study aims to examine the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity within the scope of structural equation modeling.

## Theoretical Framework

### Teachers' Work Engagement

Employees' full adoption of their work in a physical, emotional, and mental context is called work engagement (Kahn, 1990). Schaufeli and Bakker (2003) defined work engagement as a phenomenon with positive features such as work-related energy and dedication. Interest in work engagement has increased in recent years due to its value as an index of quality of work life, as well as its fundamental role in understanding work behaviors such as labor turnover, reluctance, and absenteeism (Aryee, 1994). Studies are found that reveal teachers' work engagement to have become an important focus in education (Bakker & Bal, 2010; Hakanen et al., 2006). Teachers who are engaged in their work can find meaning in it and tend to focus more on student needs and getting to know them (Klusmann et al., 2008). Dedicated teachers are better able to cope with the growing demands of education stakeholders and build support. They are also able to create opportunities for themselves (Bakker & Bal, 2010; Simbula et al., 2011). Work engagement among teachers is also a critical variable in terms of keeping teachers at work and ensuring they continue it (Kirkpatrick, 2007). Studies are also found that show work engagement to be positively associated with teachers' classroom performance and organizational commitment (Bakker & Bal, 2010; Hakanen et al., 2006). Based on these explanations, teachers who are engaged in their work can be said to be more self-sacrificing and effective in students' academic, social, and psychological development and to be able to turn their school into a successful organization with high educational quality.

Teachers are very effective at helping students' achieve success in their lives and adapt to society, thus achieving the desired quality and development of society. In other words, teachers have positive effects on both individuals and society. For this effect to be stronger, teachers should perform their profession with higher levels of performance and efficiency. In this regard, having teachers be engaged in their work at a high level has great importance. Employees need to be engaged in their work in order to achieve organizational efficiency and effectiveness and increase the quality of work life and employee welfare (Ardic & Polatci, 2009). The engagement in work of those employed in educational organizations will result in the educational environments becoming more productive and the educational outputs being more qualified, thus contributing to schools' increased effectiveness.

Work engagement has become a basic indicator reflecting the quality of teachers' professional lives. Work engagement has also been found to be a variable affecting teachers' teaching performance, problem-solving competencies, organizational

commitment, and job satisfaction (Field & Buitendach, 2012). Work engagement has also been revealed to have a significant positive relationship with teacher efficacy (Hoigaard et al., 2012). Teachers who are engaged in their work are open to development and innovation, constantly renew themselves, and perform their profession with fondness (Kaya, 2015). When considering that being engaged in work contributes to one's personal development, work engagement can be claimed to positively affect and improve the professional competencies, skills, and attitudes of teachers that positively affect the individual and the institution they work for. Teachers' efficacy for classroom diversity and teamwork attitude are considered to be among these competencies, skills, and attitudes.

### **Teachers' Efficacy for Classroom Diversity**

The concept of multiculturalism is defined as the coexistence of differences in cultural elements such as religion, language, race, disability, gender, and ethnicity (American Psychological Association, 2002). The debates on multiculturalism have also been reflected in the regulations made in the field of education. Migration waves, especially as a result of political developments, have increased the importance of multicultural practices in education, with concepts having emerged such as multicultural education, multicultural schools, multicultural classes, and multicultural teachers (Unlu & Orten, 2013).

Increasing individuals' awareness levels on cultural diversity and conducting studies on multiculturalism are possible by having all stakeholders involved in the education process take an active role in multicultural education practices (Gay, 1994). All stakeholders related to the educational process have a responsibility to create a multicultural school climate and classroom environment. However, the most important responsibility belongs to teachers due to them being the ones carrying out the education program; organizing the learning environment by choosing appropriate teaching methods, techniques, and materials; and measuring and evaluating learning (Basbay & Kagnici, 2011). Teachers with high competence in multicultural education are able to organize the learning and teaching process in a way that appeals to the differences that arise from cultural diversity (Gezer & Ilhan, 2016). Organizing the learning environment in a way that supports intercultural understanding reduces the emotional and behavioral problems that are encounterable in the classroom environment and increases academic success (Gay, 2000; Irvine, 1990).

### **Teachers' Teamwork Attitude**

A team is a community of people who have complementary skills and interact with each other to help organizations achieve their goals (Katzenbach & Smith, 1993;

Lekic et al., 2011). A team is also defined as a community of individuals who've been formed to achieve specific goals, who are connected to each other, and who act together. (Eren, 2012; Zincirkiran et al., 2015). When analyzing the definitions of teamwork in the literature, teams are understood to be a factor that facilitates change in organizations, prepares the foundation for innovation, provides employee adaptation and flexibility, and increases the speed of employees' work (Garcia-Marin & Zarate-Martinez, 2007).

It can be said that the concept of teamwork is a new concept for schools. Research has been conducted to reveal the effect of teamwork on teacher success. The common point reached in these studies is that the level to which teachers adapt to teamwork affects their success (Cankaya & Karakus, 2010; Cetin & Yaman, 2004).

Teamwork is seen as the foundation for successful organizations, and more specifically for good teaching. Professional teaching standards have been revised to include language advocacy for teachers' learning communities and collaborations. Teamwork not only discourages teachers from working alone but also improves pedagogical practices and enhances student intelligence and achievement (Polega et al., 2019).

When considering the purpose of schools' existence, having teachers work in coordination and cooperation with each other has been concluded to be very important. Teachers' teamwork facilitates schools in achieving their goals. For effective teacher teamwork, teachers must believe in the importance of teamwork and have positive feelings and thoughts about it (Gulbahar, 2020). In other words, they should have a positive attitude toward teamwork.

### **Relations Between Teachers' Work Engagement and Efficacy for Classroom Diversity**

Diversity can stem from ethnicity, race, culture, religion, gender, appearance, or socioeconomic class, all of which can create common situations in a classroom (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 1995). Although these situations sometimes have negative consequences, they can be said to have the potential to provide positive contributions when managed properly. Thus, if diversity in a classroom can be managed efficiently, then getting a quality education becomes easier. Ultimately, UNESCO (2003) reported that a quality education address learning to know, learning to do, learning to live together and with others, and learning to be and also provides the tools for transforming societies. In this context, these pillars for quality education address how to enable different individuals to get equal education in the same classroom. Accordingly, diversity clearly affects how students learn, and this

situation necessitates that teacher create a culturally balanced/enhanced classroom climate (Kitsantas, 2012). As such, engaged teachers are expected to be necessarily efficient at managing diversities in classroom as these teachers will have a positive, satisfied, work-related mental state for their job. An engaged employee understands what the job is about, is aware of their responsibilities and business details, collaborate with coworkers to improve performance and concessions within the job for the benefit of the group and organizations (George & de Akaighe, 2017). Teachers engaged to work can easily manage classroom diversity in the classroom because work engagement creates energy, resilience, enthusiasm, and strong engagement (Schaufeli et al., 2002). Teachers' efficacy in classroom diversity is a variable that positively affects the productivity of learning and relationships in and outside the classroom. Teachers with high competence in multicultural education can organize the learning and teaching process in a way that appeals to the differences that arise from cultural diversity (Gezer & Ilhan, 2016). Organizing the learning environment in a way that supports intercultural understanding reduces the emotional and behavioral problems that can be encountered in the classroom environment and increases academic success (Gay, 2000; Irvine, 1990). Based on these rationales, this study puts forward the following hypothesis:

**H1.** Teachers' work engagement positively affects teachers' efficacy for classroom diversity.

Based on this presented hypothesis, the first problem statement of the research has been formed as follows: Does teachers' work engagement positively affect their efficacy for classroom diversity?

## **Relationships Between Teachers' Work Engagement and Teamwork Attitude**

Success in quality for education also requires teamwork attitude. A successful school requires successful employees and successful teamwork. Ultimately, teams in organizations can enhance the performance and development of the organization and improve the satisfaction levels of team members by providing a large diversity in attitudes, experiences, skills, and knowledge; team members' engagement allows flexible, innovative, and rapid solutions to be able to be offered to the various challenges the organization faces. Teachers who are engaged to their work are also considered to have positive attitudes toward teamwork. In order for schools to achieve their goals and be successful, great importance is had in having schools obtain regular high-level performance and effectiveness from their teachers, and teachers' teamwork is important for this. Engaged employees understand what the job is about, are aware of their responsibilities and business details, and collaborate with

coworkers to improve performance and concessions within the job for the benefit of the group and organizations (George & de Akaighe, 2017). Engaged teachers can also be said to have positive teamwork attitudes, as Schaufeli et al. (2002) stated work engagement to have certain powers in creating energy, endurance, willingness, and strong involvement in work. A relationship has been determined to exist for teachers' teamwork with their feeling ready to teach, their engagement in work, their gaining of entrepreneurship skills, and their achieving higher success in mathematics and reading (Ronfeldt et al., 2015; Tschida et al., 2015). Teamwork is also thought to constitute the basis of quality teaching (Leonard & Leonard, 2005; Cherkowski & Schnellert, 2018). Based on these relations and rationales, this study puts forward the following hypothesis:

**H2.** Teachers' work engagement positively affects teachers' teamwork attitudes.

Based on this presented hypothesis, the second problem statement of the research has been formed as follows: Does teachers' work engagement positively affect their teamwork attitudes?

### **Relationships Between Teachers' Efficacy for Classroom Diversity and Teamwork Attitudes**

Lim and Bentley's (2019) study used different personality types to see how to optimize human teams and proved that diversity improves teamwork. Another study conducted by Riordan and Shore (1997) examined whether demographic diversity affects employee attitudes toward their work groups and found similarity in race/ethnicity to affect individuals' attitudes. Although these studies used different factors in terms of diversity, diversity can be accepted as affecting teamwork attitude in some manner. Accordingly, when addressed in terms of cultural differences, teachers who are able to manage classroom diversity effectively can be expected to have positive attitudes toward teamwork. The reason for this idea is that having efficacy for classroom diversity requires being a culturally responsive teacher who is considerate of students' experiences, cultural characteristics, and perspectives as a medium for providing effective teaching (Kitsantas, 2012). In this sense, efficacy for classroom diversity can be said to be such a professional competence, as it sees diversities as a whole and tries to make these diversities into a whole. In other words, while classroom diversity focuses on differences between individuals, it also tries to protect the group consciousness by accepting that all its pieces can be different. As such, addressing classroom diversity can also be said to require considering the concept of teamwork. This is because only teachers who can operate both these professional competences together have can succeed

in providing a quality education. Efficacy for classroom diversity can additionally be argued to contribute to teachers' ability to develop a positive perspective and positive attitude toward teamwork with their colleagues, despite any possible differences in their colleagues' traits or thoughts.

Can (2007) stated teachers with the ability to lead students in the classroom (i.e., who are successful in coordinating students and having them accept each other's differences) have the following skills: willingness to be involved in teamwork, compatibility in teamwork, and creating team awareness and supporting collaboration in the classroom. As such, efficacious teachers have the coordination and empathy skills to manage classroom diversity, as coordination ensured harmony between individuals (Dalay, 2001), and empathy means understanding others by putting themselves in their place (Basch, 1983; Sharma, 1992). Teachers who are successful at coordination and empathy can be argued to also be able to look positively on teamwork with their colleagues.

Based on these thoughts, this study puts forward the following hypotheses:

**H3.** Teachers' efficacy for classroom diversity positively affects their teamwork attitudes.

**H4:** Teachers' work engagement affects their teamwork attitudes through their efficacy for classroom diversity.

Based on these presented hypotheses, the third and fourth problem statements of the research have been formed as follows:

Does teachers' efficacy for classroom diversity positively affect their teamwork attitudes?

Does teachers' work engagement affect their teamwork attitudes through their efficacy for classroom diversity?

## **Purpose and Importance of the Study**

The purpose of this quantitative research is to examine the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity within the scope of structural equation modeling. When considering this purpose, importance is understood to be had both for the practitioners (school administrators and teachers) as well as for the education system administrators, education policy makers, and executives. For this purpose, confirming the hypotheses presented above is important for practitioners with respect to the following:

Based on the above-described relationships among the variables and on the sources, the claim is made that teachers who are engaged in their work and thus have positive attitudes toward teamwork with their colleagues and who are competent in classroom diversity will be more useful to their students and develop them more as well as facilitate the schools where they work in achieving its goals. This result is thought to increase the quality of education and instruction in schools. The quality education and instruction in schools will reflect positively on the education system, thus increasing the quality of the education system.

The available literature has studies (Cagri San & Tok, 2017; Erturk & Aydin, 2018; Gulbahar, 2017; Gulbahar, 2020a; Gulbahar & Sivaci, 2018; Nartgun & Kocak, 2020; Nayir & Taskin, 2020; Polega et al., 2019; Salleh & Kayode, 2014; Sezen-Gultekin, 2014; Unlu & Orten, 2013) regarding these variables in terms of certain demographic characteristics or in terms of the relationship these variables have with other variables. However, no studies are found to have investigated together the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity. Nor could any study investigating the relationships among these variables by putting forward a model even be determined. This feature also provides this study with importance for researchers.

## Method

### Research Design

The purpose of this quantitative research is to examine the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity within the scope of structural equation modeling. The purpose of structural equation modeling studies is to reveal whether the predetermined relational patterns are verified by the data. Before analyzing with data, the theoretical basis of the model must be established precisely (Simsek, 2007). In this context, the structural model has been designed based on the above rationales regarding the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity.

### Sample

This study was carried out with teachers involved in the Project on Promoting Integration of Syrian Kids into the Turkish Education System (PIKTES, 2021), an educational project carried out by the Turkish Ministry of National Education (MoNE) for the purpose of contributing to children's access to education who have had the status of being under temporary protection in Turkey since 2016. The working

universe of the current study consists of 6,200 PIKTES teachers in the 2020-2021 academic year. The research uses simple random sampling as its sampling method. In accordance with this, the sample consists of 355 teachers. Information about the participants is presented in Table 1.

**Table 1.**

*Distributions of the Sample's Demographic Information*

Variables		n	%
Gender	Male	91	25.6
	Female	264	74.4
Marital Status	Single	188	53.0
	Married	167	47.0
Education status	College	2	0.6
	Undergraduate	307	86.5
	Master's education without thesis	19	5.4
	Master's education with thesis	27	7.6
Branch	Turkish Language Teaching / Turkish Language and Literature	180	50.7
	Classroom teaching	156	43.9
	Psychological Counseling and Guidance	14	3.9
	English Language Teaching	1	0.3
	Mathematics	1	0.3
	PIKTES*	1	0.3
	Social studies teacher	1	0.3
	History teaching	1	0.3

\*Although all the participants are PIKTES teachers, this participant stated no branch.

As seen in Table 1, 74.4% of the participants are female and 25.6% are male; 53.0% are single, and 47.0% are married; 0.6% have college degrees, 86.5% have undergraduate degrees, 55.4% are graduates (no thesis), and 7.6% are graduate with theses. In addition, 50.7% of the participants graduated from the Turkish Language Teaching/Turkish Language and Literature degrees, 43.9% with classroom teacher degrees, and 3.9% with psychological counseling and guidance degrees.

## Data Collection Tools

### **Teachers' Teamwork Attitude Scale (TTA)**

This scale was developed by Gulbahar (2020b) to determine teachers' attitudes toward teamwork as a 5-point Likert-type scale. It is a valid and reliable one-dimensional scale consisting of 13 items. The Cronbach's alpha for the scale was determined as .90. This study also measured the scale's reliability using item-total correlations and Cronbach's alpha. In this context, while the scale items remained the same, Cronbach's alpha was found to be .96. The relevant results are presented in Table 2.

### **Work Engagement Scale (WE)**

Developed by Schaufeli and Bakker (2003), this scale was adapted to Turkish by Ozkalp and Meydan (2015). The relevant scale is a valid and reliable one-dimensional scale consisting of 9 items. Cronbach's alpha for the scale was determined as .83. This study measured the reliability of the scale using item-total correlations and Cronbach's alpha. In this context, while the scale items remained the same, Cronbach's alpha was found to be .90. The relevant results are presented in Table 2.

### **Teacher Efficacy Scale for Classroom Diversity (TESCD)**

Developed by Kitsantas (2012), this scale was adapted to Turkish by Gezer and İlhan (2016). As a result of the adaptation study, the scale was proven to have a valid and reliable one-dimensional structure consisting of 10 items. The composite reliability coefficient of the scale was determined as .85. This study measured the reliability of the scale using item-total correlations and Cronbach's alpha. In this context, while the scale items remained the same, Cronbach's alpha was found to be .95. The relevant results are presented in Table 2.

**Table 2.**

*Reliabilities for the Scales*

	Item-Total Correlations	Cronbach's alpha upon deleting the item	Cronbach's alpha
TW1	0.794	0.961	0.964
TW2	0.846	0.960	
TW3	0.826	0.961	
TW4	0.836	0.960	
TW5	0.826	0.961	
TW6	0.868	0.959	
TW7	0.593	0.966	
TW8	0.877	0.959	
TW9	0.827	0.960	
TW10	0.719	0.963	
TW11	0.831	0.960	
TW12	0.860	0.959	
TW13	0.835	0.960	
WE1	0.755	0.885	0.901
WE2	0.756	0.885	
WE3	0.783	0.881	
WE4	0.845	0.877	
WE5	0.806	0.880	
WE6	0.644	0.892	
WE7	0.660	0.891	
WE8	0.372	0.918	
WE9	0.584	0.899	
CD1	0.742	0.952	0.954
CD2	0.753	0.951	
CD3	0.723	0.953	
CD4	0.849	0.947	
CD5	0.823	0.948	
CD6	0.858	0.947	
CD7	0.820	0.948	
CD8	0.831	0.948	
CD9	0.781	0.950	
CD10	0.842	0.947	

One of the most frequently used criteria while evaluating a scale's reliability is Cronbach's alpha of internal consistency. Thus, Cronbach's alphas were calculated for the scales and their sub-dimensions. As seen in Table 2, these values are generally higher than the acceptable value of 0.70 (Nunnally, 1978). Meanwhile, an item-total score less than 0.30 (0.20 if the sample is greater or equal to 400), is considered to show a serious issue with these items, and these items can be removed from the scale. An item-total score of 0.30 or greater is interpreted as expressing good reliability. However, this score alone is not used to eliminate items with sub-par values; the decision is made by evaluating the effect the item's removal has on Cronbach's alpha (Alpar, 2012). This study found no item-total score less than 0.30, and thus the scales were decided to be reliable because they did not significantly change the Cronbach's alphas when any item was deleted.

### Data Analysis

The data were analyzed by transferring them to the programs IBM SPSS Statistics 23 and IBM SPSS Amos 23. Frequency distributions (numbers, percentages) for the categorical variables and descriptive statistics (means, standard deviations, minimums, maxima) for the numerical variables were provided when evaluating the study data. The obtained results have been given using path analysis for testing the model as determined by the scales, with Cronbach's alphas of reliability and Pearson correlation analyses being provided for examining the relationships among the scales.

### Findings

The study aims to test the relationships among teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity within the framework of the structural equation model and in accordance with the views of the PIKTES teachers. The descriptive statistics regarding the variables are first presented in Table 3, and then their relationships are shown in Table 4.

**Table 3.**

*Descriptive Statistics Regarding the Variables*

	Mean	SD	Minimum	Maximum
Teamwork attitude	4.58	0.59	1.92	5.00
Work engagement	4.29	0.64	1.56	5.00
Efficacy for classroom diversity	4.36	0.62	1.10	5.00

As a result of the applied descriptive analyses, the minimum and maximum scores for teamwork attitude are seen to have varied between 1.92 and 5.00; based on this, the teachers have high attitudes toward teamwork ( $4.58 \pm 0.59$ ). When considering work engagement, the minimum and maximum scores vary between 1.56 and 5.00; the teachers also have high work engagement levels ( $4.29 \pm 0.64$ ). Similarly, the minimum and maximum scores for efficacy for classroom diversity vary between 1.10 and 5.00; the teachers efficacy for classroom diversity are all at high levels ( $4.36 \pm 0.63$ ).

**Table 4.**

*Examining the Relationships Among the Variables*

		Teamwork Attitude	Work Engagement	Efficacy for Classroom Diversity
Teamwork attitude	r	1	0.424**	0.380**
	p		0.000	0.000
	N	355	355	355
Work engagement	r		1	0.508**
	p			0.000
	N		355	355
Efficacy for classroom diversity	r			1
	p			
	N			355

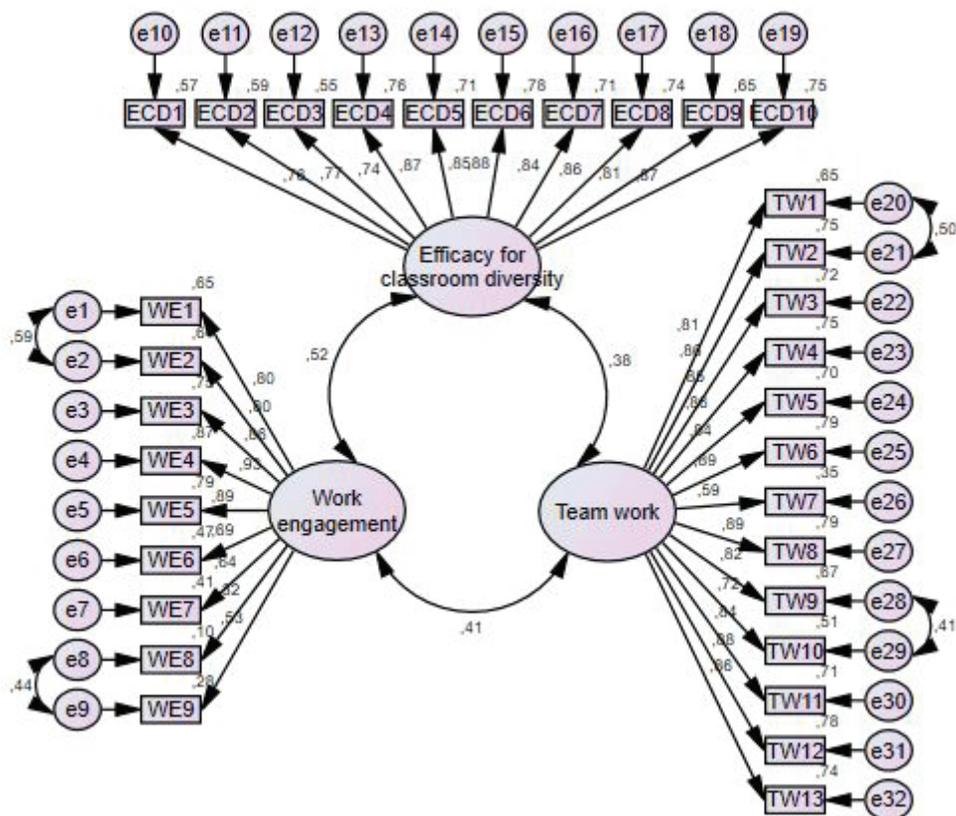
r = Pearson correlation coefficient; \*\*  $p < .01$ .

As a result of the applied Pearson correlation analyses, statistically significant positive correlations were seen to occur at  $p < .01$  level among teamwork attitude, work engagement, and efficacy for classroom diversity. These positive relationships were found between teamwork and work engagement ( $r = .42, p < .01$ ), teamwork attitude and efficacy for classroom diversity ( $r = .38, p < .01$ ), and work engagement and efficacy for classroom diversity ( $r = .50, p < .01$ ). This situation can be said to allow a model to be established among the scales. For this reason, the model in Figure 1 was formed measuring the variables, and the path analysis in Figure 2 was used to establish the study's relevant structural model.

The model for measuring the variables was formed based on the relationships. According to this model, statistically significant positive correlations can be seen among teamwork attitude, work engagement, and efficacy for classroom diversity.

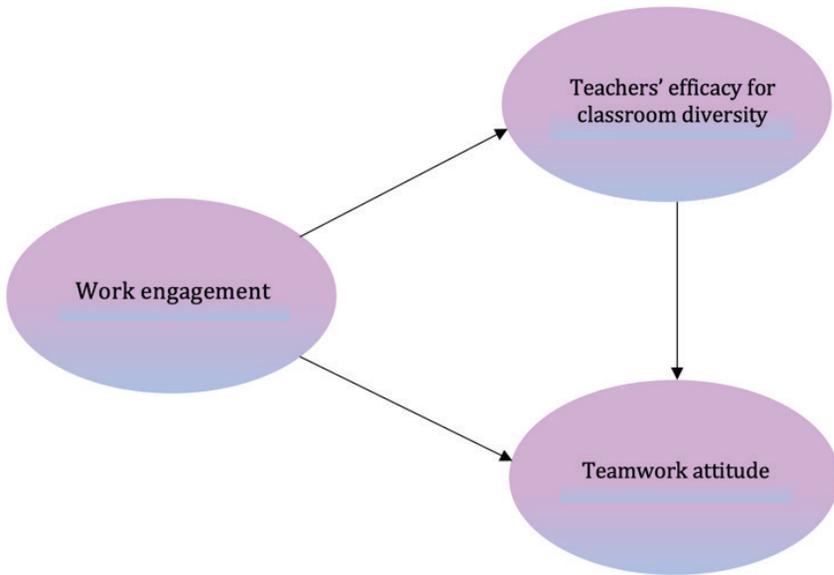
### Path Analysis

The first stage expressed the three variables (work engagement, teamwork attitude, efficacy for classroom diversity) as latent variables, and the expressions that make up these factors have been determined as the indicator variables. Next, Figure 1 shows the model as created expressing these variables due to the latent variables not being metrics. In order to estimate the parameter values, a value of 1 (factor load = 1) should be assigned to one of the paths drawn from the latent variables toward the observed (indicator) variables, or a value should be assigned (generally 1) to the variance of the latent variable (Hair et al., 2005).



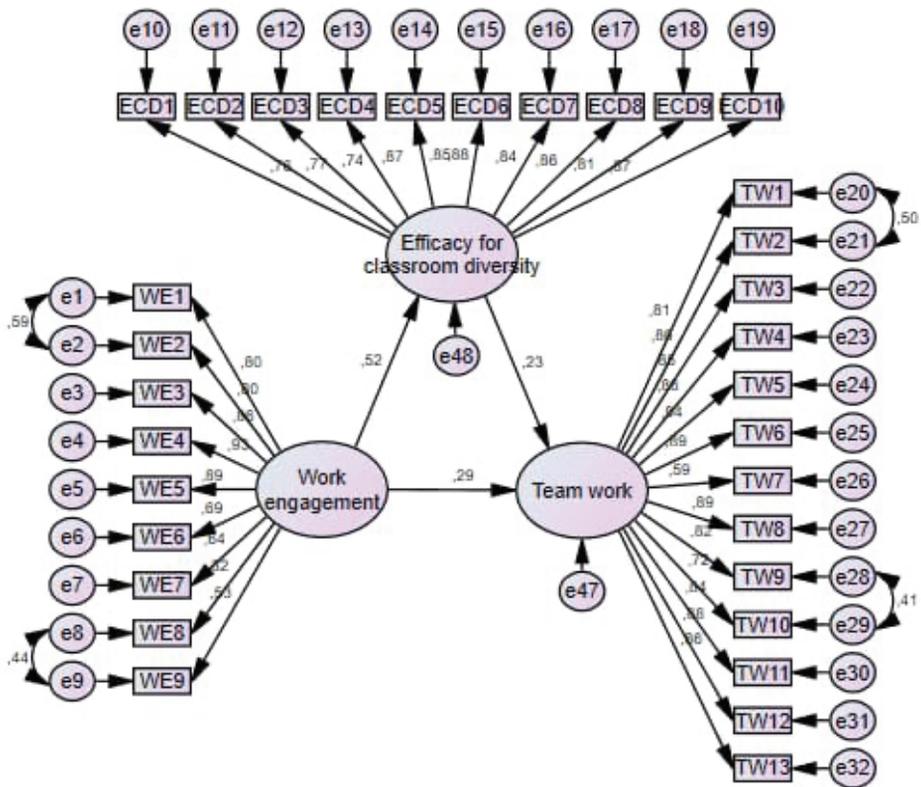
**Figure 1.** The Model for Measuring the Variables.

The second stage used the maximum likelihood method while estimating the model. This method is frequently used in structural equation models and gives reliable results even when the data is not normally distributed. In this way, the aim is to predict the parameter covering the regression coefficients related to the paths drawn from the latent variables to the observed variables, the errors of the observed variables, and the variances of the latent variables. In order to improve the fit indexes, a two-way relationship was established between the error terms from questions WE1 and WE2, WE8 and WE9, TW1 and TW2, and TW9 and TW10 using the highest modification index value. In this sense, Figure 2 presents the model measuring the variables that had been tested.



**Figure 2.** Model Measuring the Variables.

Figure 2 presents the model for measuring the variables. The model shows the hypotheses of this study, which examine the relationships among the variables.



**Figure 3.** The Path Model.

The last stage examines the fit indices for the path model. When examining the obtained findings, the model is seen to generally have good fit, as shown in Table 5.

**Table 5.**

*Goodness of Fit Indices and Acceptable Value Ranges Used in the Study*

Indexes	Good Fit	Acceptable Fit	Results
$\chi^2 / df$	$0 \leq \chi^2 / df \leq 3$	$3 \leq \chi^2 / df \leq 4$	3.095
GFI	$0.95 \leq GFI \leq 1$	$0.90 \leq GFI \leq 0.95$	0.798
TLI	$0.95 \leq TLI \leq 1$	$0.90 \leq TLI \leq 0.95$	0.905
IFI	$0.95 \leq IFI \leq 1$	$0.90 \leq IFI \leq 0.95$	0.913
CFI	$0.95 \leq CFI \leq 1$	$0.90 \leq CFI \leq 0.95$	0.912
RMSEA	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$	0.077
SRMR	$0 \leq SRMR \leq 0.08$	$0.05 \leq SRMR \leq 0.10$	0.0502

When considering the obtained fit values, the  $\chi^2 / df$ , *TLI*, *IFI*, *CFI*, *RMSEA*, and *SRMR* values are seen to have good fit, while *GFI* did not (Meydan & Şesen, 2011; Tabachnick & Fidell, 2001). However, when considering the fit indexes in general, this model developed within the scope of the study can be said to be acceptable. The findings regarding the established structural equation model are shown in Table 6.

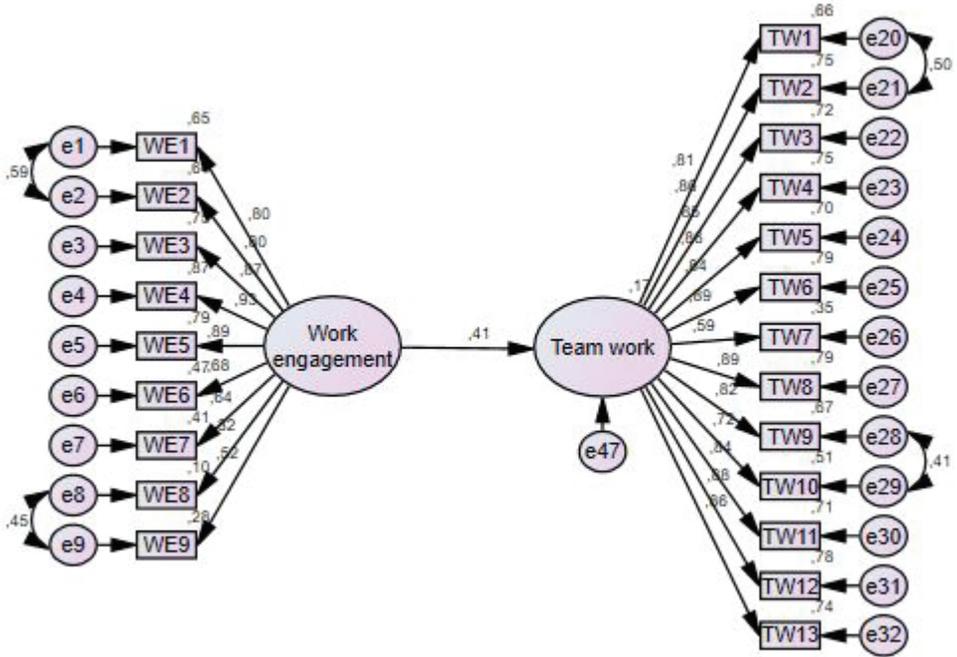
**Table 6.**

*Direct and Indirect Effects*

Independent variable	Dependent variable	Total effect	Direct effect	Indirect effect	Standard error	Critical ratio
Work engagement	Efficacy for classroom diversity	0.521	0.521	0.000	0.069	7.379
Work engagement	Teamwork attitude	0.412	0.294	0.118	0.062	3.733
Efficacy for classroom diversity	Teamwork attitude	0.226	0.226	0.000	0.065	4.474

According to Table 6, work engagement directly affects efficacy for classroom diversity ( $\beta = 0.52, p < 0.001$ ) while also affecting teamwork attitude both directly ( $\beta = 0.29, p < 0.001$ ) and indirectly ( $\beta = 0.12, p < 0.001$ ). Table 5 also shows efficacy for classroom diversity to directly affect teamwork attitude ( $\beta = 0.23, p < 0.001$ ).

The calculations and model without and with the mediating effects are presented in Figure 4 and Table 7, respectively, while the mediating effects revealed by the model are shown in Table 8.



**Figure 4.** Model without the Mediating Effects.

**Table 7.**

Investigating the Mediating Effects

Related Hypotheses	Without Mediating Variable	With Mediating Variable	Type of Mediation
<i>Work engagement -&gt; efficacy for classroom diversity -&gt; Teamwork attitude</i>	0.41	0.29	Partial Mediation

According to the applied path analysis, work engagement has been determined to have a statistically significant positive effect on teamwork attitude. When efficacy for classroom diversity is included in the model, the effect of work engagement on teamwork attitude remains statistically significant. In addition, work engagement has been determined to have a statistically significant positive effect on efficacy for classroom diversity and efficacy for classroom diversity to have a statistically

significant positive effect on teamwork attitude. As a result, efficacy for classroom diversity is seen to be a partial mediating variable on the effect work engagement has on teamwork attitudes ( $\beta = 0.29, p < 0.001$ ).

The effect sizes for each structural equation are shown in Table 8.

**Table 8.**

*Investigation of the Effect Sizes for Each Structural Equation*

Independent variable	Dependent variable	R <sup>2</sup>	f <sup>2</sup>
Work engagement	Efficacy for classroom diversity	0.276	0.381
Work engagement	Teamwork attitude	0.170	0.205
Efficacy for classroom diversity	Teamwork attitude	0.149	0.175
Work engagement + Efficacy for classroom diversity	Teamwork attitude	0.152	0.179

Cohen (1988) stated a value of  $0.02 \leq f^2 < 0.15$  to show a small effect,  $0.15 \leq f^2 < 0.35$  to show a medium effect, and  $0.35 \leq f^2$  to show a broad effect. According to Table 7, work engagement is found to have a broad impact on efficacy for classroom diversity ( $R^2 = 0.28; f^2 = 0.38$ ) and a medium impact on teamwork attitude ( $R^2 = 0.17; f^2 = 0.20$ ), while efficacy for classroom diversity is found to have a medium impact on teamwork attitude ( $R^2 = 0.15; f^2 = 0.17$ ). In addition, work engagement and efficacy for classroom diversity together are seen to have a medium impact on teamwork attitude ( $R^2 = 0.15; f^2 = 0.18$ ). In this case, teamwork attitude can be said to be moderately affected by work engagement and efficacy for classroom diversity, both on individually and together.

## Conclusion and Discussion

This study has examined PIKTES teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity through a structural equation model. Based on this structural equation model, four hypotheses have been developed, and teachers' work engagement is claimed to positively affect both their efficacy for classroom diversity and teamwork attitude; teachers' efficacy for classroom diversity is claimed to positively affect their teamwork attitude, and teachers' work engagement is claimed

to positively affect their teamwork attitude through the mediation of their efficacy for classroom diversity. In this sense, this study is to the best of our knowledge the first to prove being engaged in work to affect attitudes toward teamwork through efficacy for classroom diversity in terms of teachers. To verify these hypotheses, the relationships between the variables were first determined, and all the relationships between the variables were seen to be moderately positive. Secondly, based on these relations, the structural model given was created and tested through path analysis. The findings show that all the hypotheses were proven to be confirmed.

As for the first hypothesis, this study has proven teachers' work engagement to directly and positively affect teachers' efficacy for classroom diversity. Work engagement was found to have a broad impact on efficacy for classroom diversity. When scanning the literature, although no studies are found to have directly addressed these variables together, the following determinations do support our results. Kitsantas (2012) stated classroom diversity to necessitate the creation of culture-enhanced classrooms, and Gezer and Ilhan (2016) depicted only teachers who are good at creating multicultural education to be able to organize and manage classroom diversity. Based on these determinations, teachers' work engagement and their efficacy for classroom diversity can be expected to be related because, firstly, engaged teachers necessarily are effective at managing diversities in class because they will have positive, satisfying, work-related mental states for their work; secondly, according to Meyer et al. (1993), employees engaged in their work strive to improve their skills and qualities, make efforts to improve their career, and try to rise in their profession; thirdly, Klusmann et al. (2008) stated that teachers who are engaged to their work can find meaning in their work and tend to focus more on student needs and getting to know them.

As for the second hypothesis, this study has revealed teachers' work engagement both directly and indirectly to positively affect teachers' attitudes toward teamwork. Work engagement was seen to have a medium impact on teamwork attitudes. Based on the literature, no study is seen to have directly addressed teachers' work engagement and teamwork together; however, the following determinations again support our results. Ullah et al. (2018) stated teamwork and work engagement to be associated because, when team members are able to engage with their works, teamwork is then able to both enhance performance and allow flexible, innovative, and rapid solutions to be offered to the various challenges an organization faces. In this sense, some other studies (Bakker & Bal, 2010; Hakanen et al., 2006) have shown work engagement to be positively associated with teachers' classroom performance. Ronfeldt et al. (2015) and Tschida et al. (2015) also proved a relationship to exist for

teachers' teamwork with their feeling ready to teach, their engagement in work, their gaining of entrepreneurial skills, and their achieving higher success in mathematics and reading.

When considering in this context that efficacy for classroom diversity and positive attitude toward teamwork are qualities expected from teachers who want to improve themselves, advance in their profession, and be successful, a result that supports the assumptions expressed in H1 and H2 is understood to be natural conclusion.

As for the third hypothesis, this study has shown teachers' efficacy for classroom diversity to directly and positively affect teachers' attitudes toward teamwork. Efficacy for classroom diversity was seen to have a medium impact on teamwork attitudes. When examining the literature, no study was able to be found that had directly related these variables together; however, the following rationales can be said to support our results. Despite approaching it from a different perspective, Lim and Bentley's (2019) study proved that diversity improves teamwork, while Riordan and Shore's (1997) study found diversity to affect individuals' attitudes. Can's (2007) study showed that a leader teacher can coordinate a classroom in terms of willing participation and teamwork compliance, the creation of team awareness, and the support of collaborations. As such, efficacious teachers can be said to have the ability to coordinate and the empathy skills to lead classroom diversity. According to Dalay (2001), Basch (1983), and Sharma (1992), this is because coordination ensures harmony among individuals, while empathy means understanding others by putting oneself in another's place. A teacher who succeeds at coordination and empathy can be said to also be able to look positively at teamwork with colleagues.

As for the fourth hypothesis, this study has proven teachers' work engagement to affect teachers' teamwork attitudes through teachers' efficacy for classroom diversity. Efficacy for classroom diversity was seen to be a partial mediating variable on the effect that work engagement has on teamwork attitudes. When investigating the effect sizes, work engagement is understood to have a broad impact on efficacy for classroom diversity and a medium impact on teamwork attitude, while efficacy for classroom diversity has a medium impact on teamwork attitude. In addition, work engagement and efficacy for classroom diversity together were seen to have a medium impact on teamwork attitude. In this case, teamwork attitude can be seen to moderately be affected by work engagement and efficacy for classroom diversity, both individually and together. To the best of our knowledge, no study is found to have directly related these three variables together using such a structural model. However, the following determinations can be said to support our results.

Based on our results, saying that teachers' engagement in work will improve their attitudes toward teamwork and, as a consequence, increase their frequency of teamwork as well as improve their competencies regarding classroom diversity would not be wrong. This is due to George and de Akaighe (2017) having mentioned that being engaged in work that enables collaboration with co-workers improves performance and concessions within the job for the benefit of the group and organizations. In addition, engaged teachers can be expected to have positive teamwork attitudes and to manage classroom diversity easily; this is based on Schaufeli et al. (2002) having stated that work engagement has certain powers in creating energy, endurance, willingness, and strong involvement in work.

Work engagement has also been determined to positively affect individuals' personal development, increase performance, and contribute to the organization due to providing quality improvement (Bakker et al., 2008). Another claim in this direction was made by Markos and Sridevi (2010). They stated having employees with high levels of commitment to be important for an organization because increased production is achieved through these employees, less mistakes are made, customer satisfaction is higher, and greater profitability rates are obtained. Based on these explanations, teachers' performance and efficiency as well as their desire and effort to improve themselves can be said to increase through high commitment. The literature has studies that support this claim, revealing positive relationships to exist between teachers' work engagement and other variables (e.g., job satisfaction, effective in-class communication skills, organizational trust, supervisor support, school effectiveness) that can be considered positive (Cagri San & Tok, 2017; Erturk & Aydin, 2018; Gulbahar, 2017, 2020a; Gulbahar & Sivaci, 2018; Nartgun & Kocak, 2020). Based on the results from these studies that are presented as supportive information, teachers' work engagement can be said to be able to improve their attitudes toward teamwork and their efficacy for classroom diversity. This situation can be accepted as one of the structural antecedents in building quality education.

## Suggestions and Limitations

Based on the results of this study, researchers are recommended to pay attention to the following issues:

- When considering that work engagement has a positive effect on teachers' attitudes toward teamwork and efficacy for classroom diversity, teachers' sense of work engagement should be developed in order to improve their

attitudes toward teamwork and to support their working in teams more frequently; also, teachers' sense of work engagement should be developed in order to improve their classroom diversity competencies.

- When considering that teachers' efficacy for classroom diversity has a positive effect on their teamwork attitudes, teachers' competencies on classroom diversity should be developed in order to improve their attitudes toward teamwork and to support their work in teams more frequently.
- Structural equation modelling studies can be conducted that show the effect of work engagement on variables other than those discussed in this study, as well as relational survey studies that reveal the relationship between work engagement and these variables.
- The same structural equation modelling research can be repeated with different measurement tools possessing proven validity and reliability.
- The data in this structural equation modelling study were collected from 335 teachers. The same study can be repeated by analyzing data collected from more teachers.
- The findings from this study are based on teachers' self-perceptions. For this reason, further studies can choose to evaluate teachers' work engagement, teamwork attitudes, and efficacy for classroom diversity levels from a different perspective (e.g., based on their school administrators, students, or colleagues' views).

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