|Research Article|

Teachers' Professional Development Needs and Barriers: The case of Turkey

Öğretmenlerin Mesleki Gelişim İhtiyaçları ve Engelleri: Türkiye Örneği

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Abstract

Purpose: This study, drawing on the Turkey data from TALIS 2018, examines the teachers' need for professional development and their perceived barriers to professional development. It provides insights into the differences in teachers' perceptions according to gender, seniority, and school level variables.

Methodology: This study is a quantitative descriptive research. t-test and ANOVA were used to determine whether the variables made a significant difference.

Findings: Concerning professional development, female teachers reported higher needs for student behaviors and classroom management while male teachers noted significantly higher needs for pedagogical competencies in teaching the subject field and knowledge of the curriculum. The results show that all teachers have higher level need for teaching in multicultural and multilingual setting. However, new teachers have indicated significantly higher needs than veteran teachers. Lack of employer support and irrelevant professional development activities are noted as two higher level barriers preventing teachers attain professional development. The barriers to professional development, except one, are denoted significantly higher by novice teachers. The lack of time due to family responsibilities is indicated significantly higher by veteran teachers.

Highlights: It is observed that school level causes significant differences in teachers' professional development needs for subject matter and pedagogy and their perceived barriers. Relying on the results, the research provides implications for professional development providers to maximize the effectiveness of professional development of teachers.

Öz

TALIS 2018 Türkiye verisine dayanarak yapılan bu çalışma, öğretmenlerin mesleki gelişime duydukları ihtiyacı ve mesleki gelişime karşı algıladıkları engelleri incelemektedir. Çalışmada cinsiyet, kıdem ve okul düzeyi değişkenlerinin neden olduğu farklılıklar incelenmiştir. Bu çalışma nicel betimsel bir araştırmadır. Değişkenlerin anlamlı fark oluşturup oluşturmadığının belirlenmesinde t-testi ve ANOVA'dan yararlanılmıştır. Mesleki gelişim ile ilgili olarak, kadın öğretmenlerin öğrenci davranışlarına ve sınıf yönetimine; erkek öğretmenlerin müfredat bilgisi ve pedagojik yeterliliklere ilişkin daha yüksek mesleki gelişim ihtiyacı belirttikleri saptanmıştır. Araştırma sonucunda, tüm öğretmenlerin çok kültürlü ve çok dilli ortamda öğretime ilişkin mesleki gelişime daha fazla ihtiyaç duyduklarını belirlenmiştir. Bununla birlikte, yeni öğretmenler, deneyimli öğretmenlerden daha yüksek düzeyde ihtiyaç belirtmiştir. Yönetici desteğinin eksikliği ve ilgisiz mesleki gelişim faaliyetleri, öğretmenlerin mesleki gelişime ulaşmasını önleyen iki yüksek puanlı engel olarak belirtilmiştir. Aile sorumluluklarından dolayı zaman sıkıntısı, kıdemli öğretmenler tarafından anlamlı düzeyde yüksek olarak belirtilmiştir. Bunun dışında mesleki gelişimin önündeki engeller, yeni öğretmenler tarafından anlamlı ölçüde daha yüksek olarak belirtilmiştir. Okul düzeyinin, öğretmenlerin konu ve pedagoji için mesleki gelişim ihtiyaçlarında ve algılanan engellerde anlamlı farklılıklar oluşturduğu saptanmıştır. Araştırma sonuçlarına dayanarak, mesleki gelişim etkinliklerinin en üst düzeye çıkarılması için mesleki gelişim sağlayıcılarına öneriler sunulmuştur.

INTRODUCTION

Education system has been in the process of reforms due to continuous development, increasing diversity and emphasis on effectiveness, accountability and transparency. Teachers' professional development is viewed as one of the keys for success in these reforms (Bautista and Ortega-Ruiz 2015). Consequently, teachers are expected to validate and upgrade their knowledge and skills to meet new challenges (Saha and Dworkin 2009, OECD 2010). The United Nations points out the importance of continuous professional development for teachers within sustainable development goal 4 which is "to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", includes increase of qualified teachers through teacher training (UNESCO 2015).

Professional development is accepted as the driving force for improving teachers' teaching quality (Hattie 2009). It is seen as a key to improve student learning and to reach the goal of educational enterprise (Johnson and Golombek 2011). There is a widespread agreement on the relationship between teaching quality and students' learning outcomes (Darling-Hammond 2000, Hattie 2009, Jensen et al. 2016, Knapp 2003, Polly et al. 2015, Rowe 2003, Wenglinsky 2002). Therefore, teachers' professional

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development is thought to be crucial for creating an effective learning environment and improving student learning (Cohen and Hill, 2001, Darling-Hammond et al. 2009, Evers et al. 2016).

Effective schools require teachers to be active learners (Girvan et al. 2016). To ensure a qualified learning environment that increases students' motivation and improves their learning skills, teachers should improve their teaching and pedagogical skills via personal development programs. Teachers need long-term, content-focused, collaborative and coherent professional development programs. However, there are individual factors including age, gender, teaching experience and school variables such as type of school, its location and level of school (ISCED) that vary the needs of teachers for professional development (Zhang et al. 2019). Therefore, policymakers should give more attention to identify the factors that lead differences between the needs of teachers and their barriers to participate in professional development activities.

Organization for Economic Cooperation and Development (OECD) conducts Teaching and Learning International Survey (TALIS) which is a comprehensive survey of teachers, school leaders and their learning environments. The survey includes a theme depicting teachers' needs for professional development on subject matter and pedagogy and teaching for diversity and the barriers which prevent them from participating in professional development programs. The current study is a descriptive study based on the examination of teachers' professional development needs and barriers to professional development in Turkey.

Review of Literature

Professional development comprises the activities which aim to shift teachers' knowledge, attitude and behaviors in a positive way for the purpose of improving their teaching practice (OECD 2014). The target of professional development activities is to provide useful tactics for increasing teacher quality and improving student achievement (Desimone 2009, Girven et al. 2016, Witte and Jansen 2016). TALIS provides details about teachers' professional development needs and the barriers they encounter. This section reviews the literature about these domains.

Need for Professional Development

Teachers need to be life-long learners (Eleonara 2003, Hiebert et al. 2002). They are role models of students and they shouldn't lose their motivation to learn and improve themselves. Therefore, they should be supported in their ongoing professional development according to their needs. Professional development becomes more meaningful and effective when it addresses the needs of teachers (Dorling- Hammond et al. 2009, Meissel et al. 2016). Consequently, it is appropriate to plan professional development activity contents with regard to the development of technology and its incorporation in education, change of social structure, increase of diversity and changing social and educational expectations.

Today, cultural diversity has gradually become a feature of the global world. Especially, the wave of migration has affected all parts of life. Therefore, diversity has become one of the most important issues in education in recent years. For this reason, TALIS governing board highlighted cultural diversity as a topic in the questionnaire and conceptual framework. Ely and Thomas (2001) has pioneered two dominant perspectives –equality and multiculturalism- in the field of cultural diversity. Equality perspective regards all students in one class and approaches them equally (Schachner 2014). Multiculturalism acknowledges diversity and regards it as enrichment in school. With this perspective, schools are more open to other cultures. Although equity and multiculturalism seem like different approaches, schools often combine them (Schachner 2014).

Professional development can concern various subjects like classroom management and creating disciplinary climate (Daresh 2003), students with special needs (Cooc 2019, OECD 2018), curriculum design and planning (Garet et al. 2001), incorporation of technology in education (Daling-Hammond et al. 2001, Korkko et al. 2016). TALIS technical report combines the professional needs of teachers under two factors, need for professional development for subject matter and pedagogy, and need for professional development for teaching for diversity (OECD 2019). The former addresses teachers' needs for organizing the teaching environment, increasing the quality of teaching and improving the content. The latter includes the needs for alternative approaches for individual learning, multicultural and multilingual setting and teaching students with special needs.

Barriers to Professional Development

Studies reveal that there are personal and contextual challenges affecting teachers' participation in professional development (Kwakman 2003). Time, accessibility, motivation, financial issues, unsupportive managers, work pressure, staff shortage are some of these barriers (Drage 2010, Geldenhnys and Oosthuizen 2015). Lind (2007) listed major barriers as financial issues, family related responsibilities and time and distance conflicts. The barriers TALIS (2018) listed for teachers' assessment are the lack of pre-requisites, high-cost expenditure, lack of support from the employer, lack of time due to family responsibilities and irrelevant subjects for professional development. Time is an important obstacle as school schedule is not always conducive for professional development (Lind 2007, Lucilio 2009). TALIS 2013 results showed that schedule conflict and lack of opportunities are the major barrier to pursue professional development (OECD 2014).

Variations in Professional Development Perceptions

Teacher and school characteristics can lead to significant differences in professional development. TALIS provides information about teachers' age, gender, seniority, school type (public/private), level (primary, lower secondary, upper secondary), location of school (rural/city) which enables comparisons for differences. Studies revealed various results. Sağır (2014) reported significant difference in the professional development needs of teachers according to gender variable while Desimone et al. (2006) revealed age as a significant independent variable for attending professional development. Amanulla and Aruna (2014) found out a significant difference between female and male teachers, public and private schools, new and veteran teachers. TALIS 2013 results showed seniority as a significant variable on teachers' perception of professional development and that new teachers participate in more professional development (OECD 2014). On the other hand, Alade and Odebode (2014) observed that age, gender, education qualifications, seniority did not make a significant difference in teachers' perceived benefits of professional development.

In Turkey, in-service training department of the ministry of national education is responsible for the professional development of teachers (Ministry of National Education 1973). In 2018, Turkey's education vision 2023 has announced. The main objective of the 2023 vision is to educate talented and ethical individuals who love science, are interested in culture and will use their knowledge and skills for the welfare of humanity. The vision stresses that the quality of national education can only be achieved with the qualification of teachers. Therefore, within the restructure of professional development of teachers and school administrators, various professional development programs including face-to-face, formal, distance training, are planned to improve general and subject-specific instruction and to support vocational development.

it is accepted that in service education has a crucial role to meet the growing needs of education in global world. In service education is necessary to enhance work performance and motivation of teachers. Therefore, it is important to determine the current situation of teachers' professional development needs. The identified needs will guide the future studies and increase the quality of education. Therefore, in this study, it is aimed to determine the professional needs of teachers in Turkey. Turkey participated TALIS with all compulsory education levels; primary education (International Standard Classification of Education [ISCED 1]), lower secondary education (ISCED 2) and upper secondary education (ISCED 3). This study, drawing on the Turkish teacher data from TALIS 2018, aims to identify the teachers' need for professional development and their perceived barriers to professional development, and to find out whether gender, seniority, and school level make significant differences. This study seeks to answer the following questions;

1. What are the teachers' professional development needs for subject matter and pedagogy?

2. What are the teachers' professional development needs for teaching for diversity?

3. What are teachers' barriers to professional development?

4. Do teachers' professional development needs and barriers show significant differences according to teachers' gender, seniority, education level and school grade variables?

METHOD

This study, which aims to determine the professional development needs of teachers, is a quantitative descriptive research. Descriptive study is conducted to describe a phenomenon and its characteristics. It is concerned with what rather than why or how something is happened. It is analyzed quantitatively using descriptive statistics like frequencies, percentages and averages (Nassaji, 2015). T-test and ANOVA were used to determine whether the variables made a significant difference.

Data Source and Sampling

In this study, to examine the professional development needs of teachers and the barriers to professional development, TALIS 2018 Turkey data were used. In TALIS, teachers are asked to indicate their professional development needs in terms of subject matter and pedagogy and teaching for diversity and the barriers preventing them to participate professional development activities (OECD, 2019).

TALIS followed two-staged random sampling. At first 200 schools were chosen randomly as samples than 20 teachers were selected from these schools. 48 countries and economies took part in TALIS. The survey was conducted in three phases; the pilot phase, the field trial phase, and the main survey phase, respectively.

Participants

15498 Turkish teachers participated in the study. 8194 teachers were female (%52.9) and 7304 teachers were male (%47.1). Among the participants, 3204 (%20.7) teachers were working in primary school, 3952 (%25.5) teachers were in lower secondary school and 8342 (%53.8) teachers were in upper secondary school. The highest education level that teachers graduated was short-cycle tertiary education for 424 teachers (%2.7), bachelor's degree for 12892 teachers (%83.2), master's degree for 2058 teachers (%13.3) and doctoral degree for 67 teachers (%04). In this study, being coherent with literature, teachers were divided into two categories for seniority teachers (Martin, Yin, and Mayall, 2006; Tsui, 2005). Teachers who have teaching experience less than five years were addressed new teachers while teachers who have teaching experience approximately six years and more were addressed as veterans. Among the participant, 2788 (%18) teachers were new teachers and 12096 (%78) teachers were veterans. 616 (%4) teachers did not indicate their experience.

Measure and Data Collection

TALIS 2018 teacher questionnaire was used as the data collection tool for this study. *Needs for professional development in subject matter and pedagogy scale, needs for professional development for teaching for diversity scale* and *professional development barriers scale* were used from TALIS technical report (OECD, 2019). Each country's national study center was responsible for the adaptation of the international survey to their national context. The adaptation process included national adaptation verification, translation verification, and layout verification steps.

Needs for professional development in subject matter and pedagogy scale is a four-Likert scale. It asks teachers to indicate to what extent they need professional development. Teachers score the items from 1 to 4. 1 indicates "no need at present" while 4 indicates "high level of need". The scale includes items related to knowledge of the subject field, pedagogical competence, knowledge of curriculum, student assessment and management of classroom and student behaviors. The higher score indicates a higher level of need.

Needs for professional development for teaching for diversity scale is used to evaluate teachers' needs for professional development for teaching for diversity. It asks teachers to indicate to what extent they need professional development regarding the needs for alternative approaches for individual learning, multicultural and multilingual setting and teaching students with special needs. Each item is scored from items from 1 to 4. One indicates "no need at present" while 4 indicates "high level of need". The higher score is interpreted as the higher level of need.

Professional development barriers scale is a four Likert scale which is used to depict teachers' perceived barriers to their professional development participation. Teachers are asked how strongly they agree or disagree with the listed barriers. Not having pre-requites, lack of employer support, not having time due to family responsibilities, high expense of professional development, time conflicts with working schedule and irrelevant subject items are the listed barriers. Each item is scored from items from 1 to 4. One indicates "strongly disagree" while 4 indicates "strongly agree". For the interpretation of the results, scores close to 4 were interpreted as higher-level barriers. The higher score is interpreted as the higher level of barriers for professional development.

Data Analysis

In this study quantitative method were used to address the research questions. Mean, standard error and standard deviation were utilized to find out the level of teachers' need for professional development and level of barriers to professional development. To analyze the significant difference with regard to the gender and seniority variables t-test was used and for school level variable ANOVA was utilized.

RESULTS

Results of the current study revealed that teachers indicate a higher-level of need for teaching for diversity than for subject matter and pedagogy. In terms of subject matter and pedagogy, the higher-level need of teachers was 'student assessment practices' (M=1.71) [Table 1] while it as 'teaching in a multicultural or multilingual setting' (M=2.43) regarding needs for teaching for diversity [Table 2]. It was revealed that the highest level of barrier was 'lack of employer support' (M=2.56) while the lowest-level need was 'not having pre-requisites' (M=1.49) [Table 3].

Table 1. Professional development needs for subject matter and pedagogy

	Overall			Gender		Seniority		School level		
Needs for subject matter and pedagogy	M	SD	SE	Female	Male	Novice	Veteran	ISCED 1	ISCED 2	ISCED 3
Knowledge and understanding of my subject field(s)	1.58	.819	.007	1.57	1.59	**1.75**	1.55	1.55	1.56	**1.60**
Pedagogical competencies in teaching my subject field(s)	1.70	.846	.007	1.69	**1.72**	**1.86**	1.67	1.68	1.71	1.71
Knowledge of the curriculum	1.63	.858	.007	1.61	1.66	**1.77**	1.60	1.61	1.61	**1.65**
Student assessment practices	1.72	.876	.007	1.71	1.73	**1.84**	1.69	1.67	1.70	**1.74**
Student behaviors and classroom management	1.69	.894	.007	**1.71**	1.66	**1.89**	1.64	**1.71**	**1.72**	1.66

Bold means indicate a significant difference (*p*<.05)

Table 2. Professional development needs for teaching for diversity

	Overall			Gender		Seniority		School level		
Needs for teaching for diversity	M	SD	SE	Female	Male	Novice	Veteran	ISCED 1	ISCED 2	ISCED 3
Approaches to individualized learning	2.06	.971	.008	2.07	2.05	**2.20**	2.03	1.97	2.09	2.08
Teaching students with special needs	2.37	1.041	.008	2.38	2.35	**2.52**	2.33	2.29	2.40	2.38
Teaching in a multicultural or multilingual setting	2.43	1.123	.009	2.43	2.42	**2.56**	2.40	2.36	2.46	2.44

Bold means indicate a significant difference (*p*<.05)

Table 3. Barriers to professional development

	Overall			Gender		Seniority		School level		
Barriers	M	SD	SE	Female	Male	Novice	Veteran	ISCED 1	ISCED 2	ISCED 3
I do not have the pre-requisites	1.49	.697	.006	1.46	**1.51**	**1.62**	1.46	1.51	1.48	1.48
Professional development is too expensive	2.30	.848	.007	2.29	2.31	**2.38**	2.28	2.27	**2.32**	2.30
There is a lack of employer support	2.56	.892	.007	2.53	**2.59**	**2.63**	2.54	**2.50**	2.56	2.57
I do not have time because of family responsibilities	2.25	.921	.007	**2.29**	2.21	2.12	**2.28**	2.28	**2.28**	2.23
There is no relevant professional development offered	2.52	.87	.007	**2.54**	2.49	**2.56**	2.51	**2.44**	2.53	2.54

Bold means indicate a significant difference (*p*<.05)

Teacher Gender Difference

In this research, to see whether there is a significant difference between female and male teachers' professional development needs and their perceived barriers to professional development t-test was performed. Results presented in Table 1 show that 'student behaviors and classroom management' need was reported significantly higher by female teachers (t=3.244, p<.05). Male teachers noted significantly higher levels of needs for 'pedagogical competencies in teaching my subject field(s)', 'knowledge of the curriculum' than female teachers (t=-2.629; -3.462; p<.05, respectively).

Results in Table 2 show that the gender variable did not lead a significant difference in terms of their professional development needs for teaching for diversity. Results in Table 3 present that male teachers reported "lack of employer support" and 'not having pre-requisites" barriers significantly higher than female teachers (t=-4.542; -1.142; p<.05, respectively). Female teachers reported 'there is no relevant professional development offered' and 'not having time due to family responsibilities' significantly higher than male teachers (t=3.479; 5.556; p<.05, respectively). Table 3 also presents the highest-ranked barrier of female teachers as 'there is no relevant professional development offered' (M=2.54) and the highest barrier of male teachers as 'there is a lack of employer support' (M=2.59).

Difference Between New and Veteran Teachers

With regard to teachers' needs for professional development for subject matter and pedagogy, Table 1 depicts that novice Turkish teachers indicated higher needs for knowledge and understanding of my subject field(s)' (M=1.75), 'pedagogical competencies in teaching my subject field(s)' (M=1.86), 'knowledge of the curriculum'(M=1.77), 'student assessment practices'(M=1.84) and 'student behaviors and classroom management' (M=1.89). Results of the t-test showed that the difference is significant in favor of novice teachers (t=11.017; 10.373; 8.943; 7.738; 12.735; p<.5, respectively).

Results in Table 2 present that the rank of the professional development needs of novice teachers is 'teaching in a multicultural or multilingual setting' (M=2.56), 'teaching students with special needs' (M=2.52) and 'approaches to individualized teaching'

(M=2.20). The rank was the same for the veteran teachers (M=2.40; 2.33; 2.03, respectively). The results of the t-test showed that novice teachers reported significantly higher need than veteran teachers for these items (t=6.851; 8.892; 7.977; p<.05, respectively).

Table 3 reveals that perceptions of novice and veteran teachers regarding the barriers to professional development show significant differences. New teachers feel higher barriers preventing them from professional development. They reported significantly higher scores for 'I do not have the pre-requisites', 'professional development is too expensive', 'there is a lack of employer support', 'there is no relevant professional development offered' (t=11.216, 5.754; 4.512; 2.363, p<.05, respectively). The only barrier veteran teachers have significantly higher score is 'I do not have time because of family responsibilities' (t=8.467, p<.05). It can be observed that the three highest-ranked barrier of new teachers are 'there is a lack of employer support' (M=2.63), 'there is no relevant professional development offered' (M=2.56) and 'professional development is too expensive' (M=2.38).

Difference Between School Levels

Results in Table 1 reveals that significant differences exist among between school levels. Upper secondary school teachers noted significantly higher-level of needs for 'knowledge and understanding of my subject field(s)' (M=1.60) 'knowledge of the curriculum' (M=1.65) and 'student assessment practices' (1.74) [F=6.354; 4.673; 9.505; p<.05, respectively]. On the other hand, they reported the lowest-level need for 'student behaviors and classroom management (M=1.66). Primary school teachers (M=1.71) and lower secondary school teachers (M=1.72) indicated a significantly higher need for management of classroom ad student behaviors [F=7.646, p<.05].

Table 2 shows that teachers in all compulsory levels of school reported higher needs for professional development for teaching for diversity. Professional development needs of teachers ranked as 'teaching in a multicultural or multilingual setting', 'teaching students with special needs' and 'approaches to individualized teaching' in this factor. ANOVA results shows that among teachers, primary school teachers were the ones who reported significantly lower-level of need for 'approaches to individualized learning' (M=1.97), 'teaching students with special needs' (M=2.29) and 'teaching in a multicultural or multilingual setting' (M=2.36) [F=15.595; 11.982; 6.606; p<.05].

For the perceived barriers of the teachers to professional development, Table 3 shows that the highest two barriers of teachers working in different levels of schools are 'there is a lack of employer support', 'there is no relevant professional development offered', it was observed that primary school teachers consider 'there's a lack of employer support' and 'there is no relevant professional development offered' as significantly higher barriers [F=7.997; 15.815, p<.05, respectively].

DISCUSSION

Based on the TALIS 2018 data of Turkish teachers, this study investigated teachers' professional development needs and their perceived barriers. Professional development activities become more meaningful when they address the needs of the teachers. Karabenick and Conley (2011) points out that effectiveness of professional development activities depends on how much teacher value them and how much activities address teachers' needs. The current study investigated the teachers' development needs in two categories; need for teaching diversity and need for subject matter and pedagogy.

Professional Development Needs for Subject Matter and Pedagogy

The findings of the study revealed that in terms of their professional development needs for subject matter, male and female teachers identified student assessment practices as the highest-level needed item. It was also the highest-level needed professional development item of primary and upper secondary school teachers. This finding is consistent with the study of Melouk (2001) which revealed that the majority of teachers have received very limited training in assessment and they indicate their interest in assessment practices.

Student assessment is a systematic process of collecting and analyzing information in order to evaluate students' learning and improve their learning levels. Assessment practices are critical for determining the effectiveness of teaching. Consequently, teachers may have indicated the highest-level need for this item. Moreover, Turkey has adopted a constructive approach and renewed education curriculum regarding this approach. Within the scope of the constructive approach, it is advocated that students acquire skills by living. On the other hand, Turkey has a challenging exam process. The success of the students is evaluated based on the exam scores. Moreover, parents who want their children get high scores in national exams and study in more qualified schools, push teachers to follow exam-focused instructions and assessments. This dilemma may also be a reason for the high professional development needs of teachers in student assessment.

When teachers' professional development needs were compared regarding their seniority, it was observed that there is a significant difference between veteran and novice teachers. New teachers reported higher-level need for each item. New teachers who have idealistic expectations (Rust 1994), face challenges in real classroom setting such as higher student-teacher ratio, lack of induction, lack of materials, lack of curriculum guidance (Kauffman, et. al. 2002). Walls et al. (2002) stated that new teachers rely more on their theoretical knowledge while veterans rely more on their previous experiences. As new teachers do not have teaching experience as much as veterans, they feel higher need for professional development.

The highest-level need of novice teachers was student behavior and classroom management. This finding was coherent with the literature (Goodwin 2011, Rodríguez and McKay 2010, Zhang et al. 2019). Classroom management is accepted as more challenging for novice teachers (Evertson and Weinstein 2006, Friedman 2000, Jones 2006). The experience gained in working life provides teachers with alternative solutions for teaching practices as well as classroom discipline. For this reason, experienced teachers manage their classrooms more effectively than less experienced teachers (Martin et al. 2006). Veteran teachers establish classroom routines and spend less time for controlling individual student behavior. For this reason, seniority makes a significant difference in teachers' professional development need for classroom management.

Professional Development Needs for Teaching for Diversity

Knowledge of the subject matter, pedagogical competence and classroom management strategies are the key factors for teaching. However, teachers scored their need for subject matter and pedagogy lower than their need for teaching for diversity. The findings are consistent with Wong and Snow (2000) who stated that to teach successfully teachers have to understand students' culture, background, language diversity and prior experiences. Migration is one of the features of the global world, especially for Turkey. Turkey hosts about 4 million refugees, mostly Syrian, and approximately 1.74 million of whom are children. In 2019, there are 645,000 immigrant children enrolled in the compulsory education system of Turkey. Consequently, diversity has become non-negligible fact for Turkey. These students having different cultural backgrounds require teachers to update their teaching and communication competence.

The results depicted that the rank of the professional development needs for teaching for diversity as 'teaching in a multicultural or multilingual setting', 'teaching students with special needs' and 'approaches to individualized teaching', respectively. This rank was the same for all categories of teachers in this study. In Turkey, teacher education programs at universities include classes which emphasize that each student is a different individual and the course should be planned and processed considering these differences (Council of Higher Education, 2018). In addition, how to prepare a plan for students with special needs and the processes to be followed for these students are within the scope of the teaching process of prospective teachers. However, multiculturalism and multicultural education is a relatively new concept. This may explain the teachers' rank of needs.

Professional Development Barriers

The barriers to professional development, except one, are denoted significantly higher by novice teachers. The lack of time due to family responsibilities is indicated significantly higher by veteran teachers. Having less teaching experience, novice teachers indicated higher level of professional development needs than veteran teachers. New teachers pointed out 'lack of employer support and 'irrelevant professional development activities' as two higher level barriers preventing them attain professional development. These two items were found to be the two highest-level barriers for female and male teachers, and for all school level teachers, too. There is not a consistent finding in the literature in terms of barriers, but a majority of the studies reported time conflict as the most significant barrier (Badri et al. 2016, Geldenhuys and Oosthuizen 2015, Drage 2010, Fernandez-Manzanal et al. 2015).

Not having the pre-requisites was the least scored barrier by both groups. This finding is consistent with another finding of the study. The results showed that 'knowledge and understanding of the subject field(s)' is the lowest level needed item for all teachers. It can be inferred that regardless of their gender, seniority and school level they work in, teachers are confident about knowledge about their field and they don't see lack of pre-requisites as a high barrier.

CONCLUSION AND IMPLICATIONS

Using Turkish data, this study provides empirical evidence for understanding the professional development needs of teachers and their perceived barriers. It seems like recent changes in population influenced teachers' professional needs. Therefore, activities related to multicultural and multilingual settings should be given priority. With a better understanding of cultural differences, teachers would be more supportive and effective (Badri et al. 2016). The responses of Turkish teachers in TALIS also reveals that they identify teaching students with special needs as required competence.

Student assessment issue is seen important for teachers. In order to improve the quality of education, innovative approaches and methods have been used in education. Teachers should also be supported on how to evaluate these new methods. Also, as mirrored in the literature (Rodríguez and McKay 2010, Zhang et al. 2019, Evertson and Weinstein 2006, Friedman 2000, Jones 2006) classroom management is challenging for new teachers. Practice-based professional development activities should be organized relying on these needs of new teachers.

The absence of relevant activities is a barrier expressed by teachers. In this respect, it would be beneficial to cooperate with institutions such as universities and non-governmental organizations which can offer different content to teachers. The other higher-level perceived barrier is lack of employer support. Consequently, necessary regulations should be updated in order to provide support to teachers. To increase teachers' participation in professional development activities, financial or symbolic incentives which give the participants advantages for promotion, assignment to another school can be provided.

In 2019 a 4-semester education system was introduced in Turkey. During the periods between semesters, professional development programs are planned for teachers. These programs not only include instruction practices but also activities that create positive organizational climate such as trips to historical and cultural places in the region, picnics, and collaborative workshops. The new system may lead to a change in the teachers' professional development. Therefore, a longitudinal study on the professional development needs and barriers of Turkish teachers would provide remarkable findings.

In this study questions related to Turkish teachers' professional development needs and barriers are sought to answer. This study is limited to the teachers participating in TALIS. It can be renewed with school principals to expand the issue of professional development. Moreover, future studies can further investigate the relationship between professional development needs and teachers' self-efficacy, instructional practices, classroom management, disciplinary climate. The current study used teacher's gender, seniority and school level as independent variables. Further studies might consider teachers' education level, school type, school location.

Based on the results of the study, the ministry of education in Turkey should consider the teachers' needs before planning professional development programs to maximize effectiveness. The difference between teacher groups should be considered, especially for new teachers who indicated higher needs for all professional development contents. New teachers should receive more support for their professional development. Induction activities that are used to adapt new teachers to the teaching process and to enable senior teachers to orient themselves to the new school environment may be useful for both teacher groups. Monetary and nonmonetary incentives might be used to motivate teachers and encourage them to participate in professional development. Master's and doctorate degrees, which will enable the development of teachers, can be encouraged. In the in-service training of teachers, cooperation with universities can be made and academicians and teachers can be brought together. Meetings can be organized where successful teachers can share their experiences. Qualitative studies can be conducted to identify the deficiencies in the process carried out to determine teachers' professional development needs, and arrangements can be made according to the results of this study.

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Statements of publication ethics

I hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

Ethics Committee Approval Information

Since this study was carried out with open access data from the international data base (TALIS) , the approval of the ethics commission was not applied.

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