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## The Adaptation of Professional Learning Activities Scale to Turkish: The Validity and Reliability Study<sup>\*†</sup>

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### Abstract

The purpose of this study is to adapt the Professional Learning Activities Scale (PLAS) developed by Geijsel, Sleegers, Stoel, and Krüger (2009) into Turkish through conducting the relevant validity and reliability analyses. This study followed the pathway recommended by Hambleton and Patsula (1999) for the adaptation process. The data we used came from a total of 256 teachers working in 16 pre-schools, primary and secondary schools located in the Karabuk and Istanbul provinces of Turkey. We performed Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) to test the construct validity of the Turkish-adapted form of the scale. In addition, Cronbach's Alpha coefficient was calculated for the reliability of the scale. The results of the study demonstrated that The Turkish Form of PLA is a reliable and valid instrument to evaluate the extent to which teachers are engaged in professional learning activities.

**Key words:** Professional learning activities scale, adaptation, validity-reliability, teacher professional learning.

### Introduction

A large body of research has accumulated evidence which advocates the notion that teacher and thereby teaching is a crucial factor in terms of elevating student learning and achievement (Barth, 1990; Darling-Hammond, 2000; Darling-Hammond & Richardson, 2009; Kwakman, 2003; Leithwood, Patten, & Jantzi, 2010). Educational scholars have long agreed that teachers play a significant role in transforming large-scale reforms into effective instructional practices conducive to augmented school success (Supovitz, Sirinides, & May, 2010; Thoonen et al., 2011). Given these findings, a substantial body of research has been devoted to unveiling the factors that impact the quality of teachers' instructional practices (Geijsel et al., 2009; Liu, Hallinger, & Feng, 2016; Sebastian & Allensworth, 2012). Extant research reveals that principal leadership (Sebastian & Allensworth, 2012; Thoonen et al., 2011), teacher collaboration (Li, Hallinger, Kennedy, & Walker, 2016), teacher agency (Frost, 2006) and peer influence (Supovitz et al., 2010) were important determinants of the extent to which teachers change and improve their instructional practices. Among varied factors, the construct of teacher professional learning has garnered specific attention from educational scholars in the last decade (e.g. Qian & Walker, 2013; Hallinger & Kulophas, 2019; Shengnan & Hallinger, 2020). This vein of research has concluded that when teachers are more engaged in professional learning activities, they are more likely to improve their skills and content knowledge to better meet the diverse needs of students.

Albeit the theoretical foundations of teacher professional learning were grounded in English-speaking western countries (e.g. Barth, 1990; Darling-Hammond, 2000; Little, 1990; DuFour, 2004; Hargreaves, 1994), research on the construct has found "a welcome reception" in some East Asian countries such as China (Hallinger, Liu, & Piyaman, 2017, p. 2) and Thailand (Hallinger, Piyaman, & Viseshsiri, 2017). However, only few Turkish scholars have conducted empirical investigations on teacher professional learning and related constructs (Bektaş, Kılınç, & Gümüş, 2020; Bellibaş, Bulut & Gedik, 2017; Karacabey, Bellibaş, & Adams, 2020; Özdemir, 2020). One possible explanation for the scarcity of this genre of research could be the lack of a valid and reliable scale to measure the engagement of teachers into professional learning activities.

\* The adapted scale form (Öğretmen Mesleki Öğrenme Etkinlikleri Ölçeği – ÖMÖEÖ) is found in the Appendix and can be used in future research without any permission from the authors.

† The original scale is available at the Appendix A section of the paper entitled "The effect of teacher psychological, school organizational and leadership factors on teachers' professional learning in Dutch schools."

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Upon examining the exiting local research base on teacher professional learning, we came across only one piece of research that aimed to adapt a relevant scale into Turkish language and culture (Gümüş, Apaydın, & Bellibaş, 2018). In this particular study, the authors attempted to adapt the Teacher Professional Learning Scale originally developed by Liu et al. (2016), which measured the extent to which teachers participate in professional learning activities under four dimensions entitled collaboration, reflection, experimentation, and reaching out to the knowledge base. We consider this scholarly effort valuable in terms of accelerating the local research on teacher professional learning and also agree that some of the items and dimensions of the scale that the current study tried to adapt into Turkish language seem similar to those of Gümüş et al.'s adapted scale (for instance both scales include reflection/experimentation dimensions). It is however here to note that the scale we adapted is different from the previous one in terms of its ability to capture "the extent to which teachers change their practice during the last years toward promoting process-oriented student learning, focusing on strategic, meaningful, and social learning as well as on pupils motivation for learning" (Geijsel et al., 2009, p. 424). This may enable local researchers to investigate the factors influential on teacher change in instructional practices as well as uncovering the factors related to teacher professional learning. In a recent study, for instance, Özdemir (2020) used this scale in a somewhat unorthodox way, taking the first two dimensions – „keeping up to date“ and „experimentation and reflective practice“ – as independent factors that may affect the third dimension entitled teachers' changed practice and concluded that an increase in the first two resulted an increase in teacher efforts to modify instructional practices. Therefore, the purpose of this study is to adapt the "Professional Learning Activities Scale" developed by Geijsel et al. (2009) into Turkish. We believe this study, along with relevant past research (Gümüş et al., 2018), and would help increase the size and quality of local research efforts on teacher professional learning with its nuanced approach toward measuring teacher engagement in professional learning activities.

### **Teacher Professional Learning**

The construct of teacher development or learning has long been debated in EDLM (Educational Leadership and Management) field in the context of school improvement (Barth, 1990; Darling-Hammond, 2000; Flores, 2004). The traditional wisdom has regarded teacher learning as a series of mostly externally-oriented courses, workshops, or training sessions in which teachers are sent randomly in order to increase their subject matter knowledge and skills (Kwakman, 2003). Under the conceptualization of teacher professional development, external experts or field specialists are seen as core actors who transport the given knowledge or information to teachers to help them change and improve teaching practices (Easton, 2008). However, the relevant research provided contradicting results regarding the effectiveness of teacher professional development on teacher and student learning, which provoked scholarly attention to generate fresh ways of conceptualizing teacher learning (Desimone, 2009; Thoonen et al., 2011).

As a newer form of teacher development, therefore, teacher professional learning represents a broader perspective in terms of leveraging teacher quality to influence school success (Liu et al., 2016; Parise & Spillane, 2010). Grounded in adult learning and situated learning theories (Thoonen et al., 2012), this extended perspective on teacher professional learning suggests that teachers learn in a variety of ways from formally-organized teacher development programs to school-embedded practices such as classroom visits, action research teams or mentoring sessions (Kwakman, 2003; Qian & Walker, 2013). This perspective considers school as a social learning environment in which teachers demonstrate a greater amount of agency through interacting and collaborating with colleagues to change teaching practices and reflecting on them (Borko, 2004; Vescio, Ross, & Adams, 2008).

### ***The PLAS***

Geijsel et al. (2009) developed the PLAS depending on some relevant literature pieces (Geijsel et al., 2001; Kwakman, 2003; Leithwood, Dart, Jantzi, & Steinbach, 1993). The scale included 17 items under three dimensions entitled Keeping up to Date (4 items), Experimentation/Reflective Practice (5 items), and Changed Practice (8 items). The response range of the 4-point Likert-type subscale ranges from 1 (almost) never to 4 (almost) always for Keeping up to Date and Experimentation/Reflective Practice sub-dimensions and from 1 (disagree) to 4 (agree) for Changed Practice sub-dimension. The first sub-dimension, keeping up to date, measures the extent to which teachers follow up the developments in their field through various activities such as participating in in-service training activities even when they are not obligatory and reading the professional publications. This sub-dimension addresses the importance of being informed about the recent developments in the field. Experimentation and reflective practice, as the second, includes five items to investigate the extent to which teachers shoulder the responsibility for sustaining professional learning through using student feedbacks and classroom visits. This component suggests that teachers take action and reflect on their practice to provide

their students with higher-quality instructional practices (Geijsel et al., 2001, 2009). The last sub-dimension, changed practice, focuses on whether and to what extent teachers modify their teaching practices over a period of time to meet the diverse learning needs of students. This component, therefore, includes items related to motivating students, extending the instructional strategies used in the classroom, and showing care and consideration to emotional states of students along with their cultural backgrounds (Geijsel et al., 2009; Kwakman, 2003).

## Method

### Participants

A total of 256 teachers working in primary and secondary schools located in Karabuk and Istanbul provinces participated in the study. 59 (23%) of the participants were male and 197 (77%) were female. Educational attainment of the teachers was distributed with 11.7% (n =30) bachelor's degrees and 88.3% (n=226) graduate degrees. The majority of the respondents are working in primary schools (n = 134; 48.5%), and pre-schools (n = 85; 33.2%) while the number of teacher working in secondary schools is the smallest of all (n = 37; 14.5%). The average professional experience of the participants was 12.63 years, with a SD = 8.18.

### The Adaptation

This process includes the adaptation of the scale items with its scoring directions and answering options into Turkish. Following the principles of Hambleton and Patsula (1999), first, we reached a consensus that the construct that is aimed to be measured (professional learning activities) makes sense in Turkish educational setting and that the adapted scale holds promise for contributing well to the relevant knowledge base on EDLM in Turkey. Given that recent educational reforms place a specific emphasis on teacher professional activities (Ministry of National Education [MoNE], 2018), we consider local EDLM researchers would benefit from administrating this scale to uncover whether and to what extent teacher professional learning activities occur and even to explore the variables which the construct is associated with. The authors followed a line of steps during the adaptation and the following section elaborates on each step.

### The Process

#### *Translation*

The first step constitutes the translation of the original scale into Turkish. Thus the original scale was administered to three experts working in the EDLM field and fluent in both languages. Alongside, each author translated the scale on separate sessions. After the experts translated the items together with scoring directions and answering options into Turkish, we obtained six different translation forms and combined them into a single form. We then gathered online twice to discuss the translated scale items and reached an agreement on a single form.

#### *Linguistic Equivalence - First Round*

The second step refers to scholarly efforts to ensure the linguistic equivalence of the scale. For this, we prepared a form for expert review and delivered the scale together with a review form through e-mail to five academics. It is here to note that throughout the process, we paid attention to incorporating the experts into the study based on a line of explicit principles such as working with different experts across different steps, choosing the experts from EDLM or Educational Assessment and Evaluation fields who are fluent in both languages (Turkish and English). In this step, these academics were asked to evaluate the scale in terms of its language equivalence by filling out the review form or taking separate notes on the scale sheet. All the experts sent back the forms including suggestions for revision. We then conducted the necessary amendments on four items (4, 6, 11, 16) based on expert opinions.

#### *Linguistic Equivalence - Second Round*

In the third step, we implemented a back-translation strategy for ensuring the language validity of the scale. For back-translation, we sent the final Turkish items to a scholar who received his bachelor's degree from an English Language Education Department and his Ph.D. in the EDLM field. We then consulted three field experts to check for the language accuracy between the original and the back-translated form. We saw a high

level of congruence among experts' views on the language accuracy of the scale. After revising the suggestions, we moved to another step for furthering language accuracy.

### ***Linguistic Equivalence - Third Round***

In this fourth step, we delivered the scale to a group of target respondents who did not participate in the original study and asked them to point misunderstood items if any. Depending on respondents' opinions, we revised two items in terms of language accuracy.

### ***Content Validity***

The fifth step refers to testing the content validity of the scale. Content validity addresses "the extent to which an empirical measurement reflects a specific domain of content" (Carmines & Zeller, 1979, p. 20). In other words, we aimed to test whether the items of PLAS are representative enough to include the integral parts of teacher professional learning (Chen, 2020). In this step, we organized an expert panel including three EDLM scholars, who conducted a line of research on school improvement – more specifically on teacher professional development/learning – to evaluate the extent to which the scale items could measure the specific components of the related domain. Each participating expert received their Ph.D.'s in EDLM field and had more than ten years of research experience. We sent the items to the experts via e-mail and asked them to assess the ability of items' representativeness of teachers' professional learning activities and to identify if any amendments are required. Although the experts seemed almost satisfied with the form by suggesting no discarding or adding items, we still benefited from the panel, modifying three items located in two separate sub-dimensions.

### ***Structural Validity***

In the sixth stage, we aimed to check the structural validity of the scale using a same sample of a total of 256 teachers. Structural validity denotes "the degree to which the scores of an instrument are an adequate reflection of the dimensionality of the construct to be measured" (Mokkink et al., 2010, p. 742). This study, therefore, tested the structural validity of the PLAS by employing Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). By doing EFA, we aimed to observe the factor structure of the scale and to decide if any reduction is necessary. Then by performing CFA, we checked whether the data confirms the existing factor structure of PLAS. Furthermore, we calculated Cronbach's Alpha internal consistency values and item-total correlations to evaluate the reliability of the scale.

## **Findings**

In this section, we reported the construct validity and reliability analyzes of the measurement tool.

### **Construct Validity**

#### ***Explanatory Factor Analysis***

In order to perform EFA, the distribution of the data set in the population must be normal. This assumption is for the multivariate normal distribution of the linear components of all variables. The Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity was used to examine the multivariate normal distribution of the data. The Bartlett's Sphericity test result indicates significance ( $p < .001$ ), and a minimum KMO test result of .70 is another prerequisite for conducting EFA. Results from KMO and Bartlett's Test of Sphericity provided evidence of the factorability of the scale items (Kline, 2011; Thompson, 2004). Therefore, our preliminary findings from Bartlett's Sphericity test ( $\chi^2 = 2294.547$ ,  $df = 136$ ;  $p < .001$ ) and KMO value (.880) complied with the expected criteria, showing that EFA can be performed (Table 1).

Table 1. PLAS factors, items, factor loadings, eigenvalues, and total variance explained

Factor Items	Factor loading	Eigenvalues	Total variance explained (%)
Changed Practice			
i13	.864		
i14	.841		
i17	.804		
i16	.793	5.999	29.840
i12	.784		
i15	.773		

i11	.728		
i10	.706		
Keeping up to Date			
i3	.805		
i4	.765	3.232	16.128
i1	.747		
i2	.651		
Experimentation /Reflective Practice			
i9	.709		
i6	.689		
i8	.673	1.269	15.790
i5	.642		
i7	.582		
Professional Learning Activities			61.758

Varimax Rotation was applied due to the multi-factor structure of the PLAS. As a result of the analysis, it was seen that the scale constitutes a three-factor structure, as in the original scale. The three factors in the measurement tool together explained about 61.75% of the total variance. The factor loads of the items in Changed Practice dimension ranged between .70 and .86 and constituted approximately 29.84% of the total variance. The factor loads of items in Keeping up to Date dimension varied between .65 and .80 and contributed 16.12% of the total variance. Experimentation/Reflective Practice dimension explained approximately 15.79% of the total variance and the factor loads of the items are ranked between .58 and .70.

**Confirmatory Factor Analysis**

We conducted CFA to validate the factor structure of PLAS. A multi-criteria approach has been adopted in order to evaluate the model fit. As a reference in this approach, model fit indexes such as the ratio of chi-square value to degrees of freedom ( $\chi^2 / df$ ) <3; comparative fit index (CFI), Tucker – Lewis index (TLI), normed fit index (NFI), incremental fit index (IFI), goodness of fit index (GFI) > .90; root mean square error of approximation (RMSEA) <.08; standardized root mean residual (SRMR) <.08 are examined (Brown, 2015; Hu & Bentler, 1999). The standardized factor loads of the items related to the factors are shown in Figure 1.

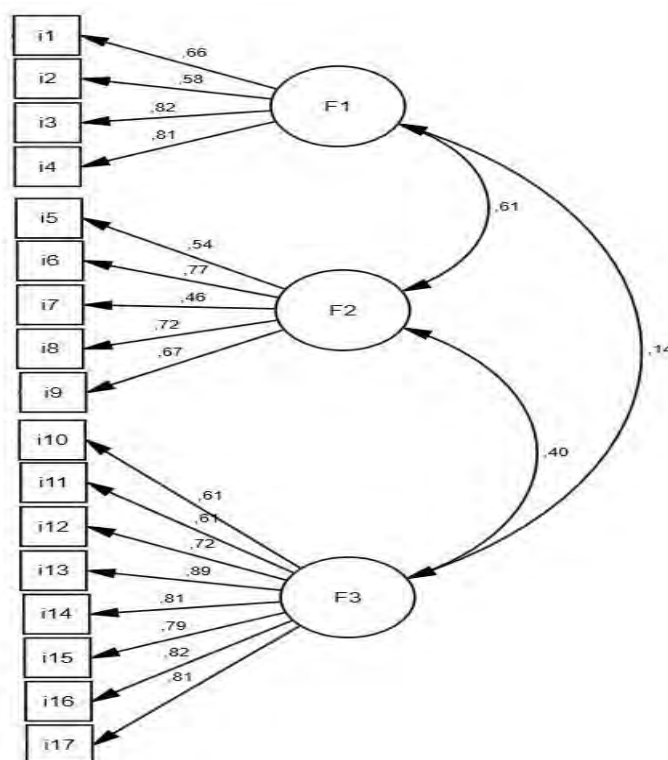


Figure 1. CFA analysis results

The results from CFA showed that GFI and NFI indexes were at the acceptable level and that other indices yielded perfect fit to the data ( $\chi^2 = 191.057$ ;  $df = 111$ ;  $p < .001$  ( $\chi^2/df = 1.72$ ); CFI = .96; GFI = .92; IFI = .96; NFI = .92; TLI = .96; RMSEA = .053; SRMR = .052). This result points to the utility of PLAS to measure the extent to which teachers are engaged in professional learning activities. Furthermore, the three-factor structure was confirmed in the adapted scale, as in the original scale. The standard coefficients of the four items in Keeping up to Date dimension ranged from .58 to .81, whilst from .46 to .77 for the five items in the Experimentation/Reflective Practice dimension and from .61 to .89 for the eight items in the Changed Practice dimension.

### Reliability Analysis

First, we tested the internal reliability, mean and standard deviation, and the correlations between scale factors. The fact that the internal consistency coefficients of the factors are higher than .70 indicates that the factors of the scale are reliable. We also found Cronbach's Alpha coefficient score higher than .88, revealing that scale items are related to teacher professional learning activities (Table 2).

Table 2. Descriptive statistics, Cronbach's coefficient, and factor inter-correlations.

Factor	M <sup>a</sup> (SD)	$\alpha$	1	2	3	PLAS
1: Keeping up to date	3.02(.62)	.82	-	.520**	.144*	.743**
2: Experimentation/reflective practice	3.09(.52)	.75		-	.339**	.801**
3: Changed practice	3.48(.65)	.92			-	.690**
PLAS	3.20(.44)	.88				-

a: Maximum frequency is 4, SD: Standard deviation, \*\*: Correlation is significant at the 0.01 level (2-tailed), \*: Correlation is significant at the 0.05 level (2-tailed),  $\alpha$ : Cronbach's Alpha coefficient.

When the descriptive statistics of the PLAS are examined, it is observed that the factor average scores are at a high level (Keeping up to Date: M= 3.02, SD= .62; Experimentation/Reflective Practice: M= 3.09, SD= .52; Changed Practice: M= 3.48, SD= .65; PLAS: M= 3.20, SD= .44). As a result of the internal consistency analysis, it was seen that Cronbach's Alpha coefficients varied between .75 and .92. Third, we observed that the correlations between the factors changed from .14 and .52. Considering the correlations between the three factors, it was found that only the correlation between Keeping up to Date and Changed Practice is weak. The other correlations among factors are at moderate level. Finally, we examined the item-total correlations and 27% lower (n = 69) and 27% upper (n = 69) group item discrimination values for the reliability of the PLAS (Byrne, 2010). The item-total correlations of the items in all dimensions and t-test values related to the difference between 27% lower and 27% upper group scores are shown in Table 3.

Table 3. Item total corrected correlations and 27% lower-upper group t-test scores

	Item	Group	n	Mean	SD	t	Item total corrected correlation	p
Keeping up to date	i1	Lower	69	2.52	.55	21.98	.670	.00
		Upper	69	4.00	.00			
	i2	Lower	69	1.78	.41	27.74	.587	.00
		Upper	69	3.76	.42			
	i3	Lower	69	1.92	.26	65.92	.681	.00
		Upper	69	4.00	.00			
i4	Lower	69	2.34	.63	21.52	.654	.00	
	Upper	69	4.00	.00				
Experimentation/ Reflection Practice	i5	Lower	69	1.60	.49	23.41	.472	.00
		Upper	69	3.57	.49			
	i6	Lower	69	2.82	.41	23.29	.635	.00
		Upper	69	4.00	.00			
	i7	Lower	69	1.95	.20	62.90	.404	.00
		Upper	69	3.97	.16			
	i8	Lower	69	2.63	.51	12.45	.589	.00
		Upper	69	3.68	.46			
	i9	Lower	69	2.34	.56	24.32	.538	.00
		Upper	69	4.00	.00			

Changed practice	i10	Lower	69	2.55	.69	17.26	.627	.00
		Upper	69	4.00	.00			
	i11	Lower	69	2.49	.69	17.90	.628	.00
		Upper	69	4.00	.00			
	i12	Lower	69	2.30	.79	17.79	.711	.00
		Upper	69	4.00	.00			
	i13	Lower	69	2.47	.73	17.08	.835	.00
		Upper	69	4.00	.00			
	i14	Lower	69	2.52	.69	17.56	.794	.00
		Upper	69	4.00	.00			
	i15	Lower	69	2.33	.81	16.95	.731	.00
		Upper	69	4.00	.00			
	i16	Lower	69	2.66	.91	9.16	.755	.00
		Upper	69	4.00	.00			
	i17	Lower	69	2.17	.89	17.03	.765	.00
		Upper	69	4.00	.00			

It was determined that the corrected item total correlations of the Keeping up to Date dimension were between .58 and .68 and all correlations were significant at the  $p < .01$  level. Item total correlations ranged from .40 to .58 for Experimentation/Reflective Practice dimension and from .62 to .83 for Changed Practice dimension, which were found to be significant at the  $p < .01$  level. These findings show that each item in the scale has a moderate to strong positive relationship with the scale, which proves that the items are consistent with the scale. It is also seen that the t-test values of all items in the lower-upper 27% groups varied between 9.16 and 65.92 and that all t values are significant at the  $p < .01$  level. These results show that all items are discriminative.

## Discussion and Conclusion

This study attempted to adapt the “Professional Learning Activities Scale” developed by Geijsel et al. (2009) into Turkish. We, therefore, produced validity and reliability estimates of the scale through conducting EFA and CFA as well as calculating Cronbach’s Alpha coefficient. The results of EFA revealed that the scale yielded a three-factor structure entitled keeping up to date, experimentation/reflective practice, and changed practice. CFA results also indicated that the model provided a good fit to the data, with four-factor and 17 items. We found Cronbach’s Alpha reliability coefficient over the standard of .70, referring to a good level of reliability for the scale (George & Mallery, 2003). In addition, low or moderate associations among factors addressed that each scale factor measured different properties. The reliability and validity results are all indicative of the notion that the scale could be regarded as a valid and reliable tool for measuring the extent to which teachers are engaged in professional learning activities.

As an emerging avenue of research pertaining to school improvement, the construct of teacher professional learning has consumed increasing scholarly attention for the last decade (e.g. Thoonen et al., 2011). Educational scholars put a specific emphasis on teachers’ sustaining professional learning in various ways to improve the quality of teaching, thereby leveraging student learning (Desimone, 2009; Easton, 2008; Hallinger et al., 2017; Kwakman, 2003). Albeit a substantial body of research provided evidence of a robust link that supports the salience of teacher professional learning in terms of augmenting school success over the last decade (e.g. Hallinger & Kulophas, 2019), the local research evidence on the construct is scarce (Karacabey et al., 2020). Therefore, the current scale holds promise to contribute to the local research, providing a valid and reliable tool for measuring the extent to which teachers keep abreast of the recent development in their field, to embark upon new instructional initiatives and reflect on existing practices to provide students with a higher-quality instruction and to change teaching practices to promote student learning. The local researchers may also benefit from the scale to uncover the link between teacher learning and other constructs pertaining to affective states of teachers such as teacher trust and teacher self-efficacy or some other school-related factors as collaborative school culture or structure. Finally, Turkish EDLM researchers may use the scale to discover the factors that influence teacher change in practice.



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## APPENDIX

ÖĞRETMEN MESLEK GÖĞRENME ETKİNLİKLERİ GÖLÇEĞİ (ÖMÖÖ)		Hiçbir zaman	Bazen	Sıklıkla	Her zaman
<b>GÜNCEL KALMA</b>					
1	Mesleki açıdan kendimi geliştirmek için sorumluluk alırım.				
2	Zorunlu olmasa bile hizmet içi eğitim etkinliklerine katılırım.				
3	Mesleğime ilişkin yayınları okurum.				
4	Mesleğime ilişkin öğretim materyallerini (ders kitabı, harita, elektronik cihaz vb.) düzenli olarak incelerim.				
<b>DENEYİM VE YANSITMA</b>					
5	Meslektaşlarımdan öğrenebilmek için onların derslerini gözlemlerim.				
6	Edindiğim yeni bilgi ve becerileri, derslerime aktarırım.				
7	Derste kullanacağım öğretim materyallerini kendim hazırlarım.				
8	Öğretimin niteliğini artırmak için öğrenci dönütlerinden yararlanırım.				
9	Meslektaşlarımdan öğrenebilmek için öğretim sürecinde yaşadığım sorunları onlarla tartışırım.				
<b>ÖĞRETİM GELİŞTİRME</b>					
<b>SON 3-5 YILDIR;</b>					
<b>Not: 3 yıldan daha az kıdeme bulunan öğretmenler “Son 3-5 yıldır” ifadesini göreve başladığımdan bu yana şekilde değerlendirebilirler.</b>					
		Katılmıyorum	Az katılıyorum	Biraz katılıyorum	Katılıyorum
10	Öğrencilerin motivasyonunu artırmaya daha fazla odaklanmaya başladım.				
11	Sınıf içinde daha fazla öğretim stratejisinden (sunuş, buluş, araştırma-inceleme) yararlanmaya başladım.				
12	Öğrencilerimle etkileşimim arttı.				
13	Ders işleme hızımı, farklı düzeydeki öğrencilerin öğrenme ihtiyaçlarına göre ayarlıyorum.				
14	Derslerimde farklı öğretim yönteminden (anlatım, problem çözme, gösterip yaptırma vb.) yararlanıyorum.				
15	Öğrencilerimin duygusal durumlarına daha fazla önem veriyorum.				
16	Öğrencilerime birlikte çalışma yapmaları için daha fazla süre veriyorum.				
17	Öğrencilerin kültürel farklılıklarına (köy-kent, bölgesel vb.) daha fazla hassasiyet gösteriyorum.				