

# **Validating an English Language Teacher Professional Development Scale in Iranian EFL Context**

**Reza Khany**

*Associate Professor in Applied Linguistics, Ilam University, Iran*

**Fatemeh Azimi Amoli**

*Ph.D. Candidate in TEFL, Ilam University, Iran*

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## **Abstract**

Although decades of research have well elaborated on teacher professional development, we still do not have a thorough picture about what teacher professional development could entail and what components it consists of. The present study aims to develop and validate a teacher professional development scale in an Iranian English foreign language context. An initial tentative model with 130 items was piloted and tested through exploratory and confirmatory data analyses on a sample of 400 EFL teachers. This level resulted in the removal of 28 items in our sample loaded, resulting in a final 102 teacher professional development inventory. The developed inventory measures the extent to which EFL teachers are professionally developed and makes teachers aware of multiple characteristics of professionally developed teachers. These competencies are essential components of teacher professional development, enabling the teachers to utilize them in everyday teaching and learning practices in the classroom settings which, as a result, leads to student achievement. As teachers fulfill important professional roles, they need valid instruments to assess their day-to-day functioning in the class. With the instrument developed and validated in the current research, we, in fact, allow language teachers to assess their extent of professional development in different pedagogical contexts.

**Keywords:** teacher professional development, validation, teacher education

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**Corresponding Author:** r.khany@ilam.ac.ir

## **INTRODUCTION**

Successful teachers always think of using new teaching techniques which produce positive changes in students' reactions. Williams and Burden (2000) argue that teachers enhance their students' confidence, motivate them, improve their self-esteem and organize a proper learning atmosphere. These teaching may be directed from different teacher internal as well as teacher external sources: teacher knowledge, skills, teacher personality, and teacher professional development programs. In order to be influential teachers, teachers require possessing different professional development skills along with the knowledge of their subject matter and teaching experiences.

Having reviewed previous research on teacher professional development, Desimone (2009) focused the components of meaningful and impactful teacher professional development which finally result in enhancement in students' performance. These five critical components are (1) the need for focus on content; (2) the opportunities presented for active learning; (3) coherence of the professional development program; (4) duration (minimum of 30 hours) of the program; and (5) opportunities for collective participation. In addition to these five critical factors, research document also states to the requirement to integrate structured, maintained activities to improve the benefit of any professional development program. Improvement and change in teachers' knowledge and practice are likely to bring about changes in teacher growth, verities in teachers' instructional techniques and strategies as well as enhancement in student learning. Review of the related literature on teacher professional development programs represents that different inquiry-based models to professional development (e.g., Critical Friends Groups, Bambino, 2002; Peer Coaching, Ackland, 2000; Lesson Study, Takemura & Shimizu, 1993; Cooperative Development, Edge, 1992; and Teacher Study Groups, Burns, 1999; Clair, 1998; Dubetz, 2005) have been designed to make a mediational context for teachers to use in continuous, systematic, and reflective examination of their pedagogical activities and their students' learning (Johnson, 2009). The following sections provide a background to the concept of teacher professional development, reviews the prior related studies, and explains the details of the development and validation of the English language teacher professional development inventory in the current paper.

## LITERATURE REVIEW

### Teacher Professional Development

According to Stes, Min-Leliveld, Gijbels and Van Petegem (2010), teacher professional development is a term including a lot of teacher education programs, plans or experiences which may adjust from workshops to critical reflection on teachers' teaching profession either by one teacher or by a team of colleague teachers, to classroom observation of a teacher, to hallway conversations among teachers and teacher directors. Teacher professional development has called by such names as 'academic development', 'educational development', 'faculty development', and 'instructional development'.

Research represents (e.g. Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009; Wenglinsky, 2002; Wilson & Berne, 1999) that teacher professional development is a foundation of educational improvements which explores to enhance student achievement. Lawless and Pellegrino (2007) discuss that teacher professional development plays a vital role in developing teachers' instructional actions in the content areas, knowledge of standards-based evaluation, use of new instruments and strategies. Likewise, professional development of teachers could cause positive shifts in teachers and can play a main role in improving instructional techniques as well as enhancements in student learning. Avalos (2011) notices that teacher professional development is about teachers' learning, learning how to learn, and transforming their knowledge into practice for the benefit of their students' growth.

Research (Corcoran, 1995; Corcoran, Shields & Zuker, 1998; Fullan, 2001; Guskey, 2002; Lieberman & Pointer Mace, 2008) has investigated professional development of teachers as a device which governments and organizations have utilized to introduce a variation. It is to be considered that these devices should be a maintained and carried on process given they are effective in enhancing schools, increasing teacher quality, and boosting student achievement (Day, 1999; Hargreaves, 2000; Opfer & Pedder, 2011; Verloop, 2003). Hoyle and John (1995) identify teachers' professional development in their book named "*Professional Knowledge and Professional Practice*," as "the process by which teachers obtain the knowledge, skills and values which will enhance the service they provide to them" (Hoyle & John, 1995, p. 17). Vonk (1991) debates that teacher professional development is the process of acquiring skills, professional

knowledge, values and personal qualities that provides teachers to reconcile within the educational system. According to Kelchtermans (2004), teacher professional development is “a learning process which shows a meaningful interplay with the context (both in time and space) and finally directing to alterations in teachers' professional action and their thinking about that action” (p. 220). Such activities which augment teacher knowledge and skill and contain reflective activities and collaboration (Schraw, 1998; Timperley, Wilson, Barrar, & Fung, 2007; Verloop, 2003) are examined to be necessary for teacher professional development. Increase of research (Desimone, 2009; O'Hara, Pritchard, Huang, & Pella, 2013) has pointed out the effect of some factors including a content area focus, for hands-on and active learning, relationship with previous professional experiences, collective participation with colleagues, and important contact hours in a continuous meetings, collaboration, and Reflection (DuFour, DuFour, & Eaker, 2008), technology connection (Hughes, Kerr, & Ooms, 2005; Keller, Bonk, & Hew, 2005; Lawless & Pellegrino, 2007; Mouza, 2009; O'Hara, Pritchard, Huang, & Pella, 2013; Walker, Recker, Ye, Robershaw, Sellers, & Leary, 2012). Darling-Hammond and Sykes (1999) mention that personal development is a shared, public process; increases maintained communication; emphasizes real school-related concerns; depends on internal skill; expects teachers to be active participants; emphasizes on the why as well as the how of teaching; brings about a theoretical research base; and expects that alteration will be a slow process in the new pattern.

In the related literature, different endeavors have been made to better understand teacher professional development (e.g., Freeman, 2001; Freeman & Johnson, 1998; Richards & Farrell, 2005; Ur, 1996) as well as study the impact of teacher professional development programs on alterations of teachers and on students' achievements (Ashton & Webb, 1986; Avolas, 2011; Harris & Sass, 2007; Lovett, Lacerenza, de Palma, Benson, Jacob, & Lefgren, 2004; Vogt & Rogalla, 2009), increasing student motivation (Ermeling, 2010; Frey & Fisher, 2009; Guay, Valois, Falardeau & Lessard, 2016; Levine & Marcus, 2010; Morais, Neves, & Alfonso, 2005; Seymour & Osana, 2003), improving technical knowledge (Ponte, Ax, Beijaard, & Wubbels, 2004), teachers' attitudes and actions based on student self-regulated learning (Hoekstra, Brekelmans, Beijaard, & Korthagen, 2009), teacher satisfaction and enhancement of curricular understanding and developed self-efficacy

(Lovett et al., 2008; Nielsen, Barry, & Staab, 2008; Nir & Bogler, 2008). Garet, Desimone, Birman, and Yoon (2001) have argued vital features of professional development activities that have significant, positive effects on teachers' self-reported increases in knowledge and skills and changes in classroom action: (a) focus on content knowledge; (b) opportunities for active learning; and (c) communication with other learning activities.

There are also studies which have examined the effect of principles on teacher professional development. For instance, Clement and Vandenberghe (2001) and Moore (2000) came to a result that educational supervision, as a cooperative problem solving process, plays a significant role in English language teachers' professional development. Andrews (2007), Borg (2001), Farrell and Lim (2005), Nishimuro and Borg, (2013) and Underwood (2012) represented that teachers' real knowledge in different fields of language which affects on their teaching, their prior beliefs, attitudes and thoughts are vital in their professional development. Elliott (2010), Grossman, Wineburg, and Woolworth (2001), Meirink, Meijer, and Verloop (2007), and Vescio, Ross, and Adams, (2008) pointed out that teacher collaboration helps teachers to foster their teaching skills and maintain their professional development.

Prior research (e.g. Bakker & Bal, 2010; Barth, 2006; Dillon, 2003; Geijsel, Slegers, Stoel, & Krüger, 2009; Goddard & Tschannen-Moran, 2007; Retallick & Butt, 2004; Vescio, Ross, & Adams, 2008) has displayed the impact of teacher autonomy and collegial advocate on teachers' learning and development. In other words, collaborative actions and collegial associations organize significant working conditions for teachers and as such they affect the professional development of teachers and school. By taking this organizational and contextualized approach, we relate most writers on the concern (see e.g. Hargreaves 2000; Southworth 2000). Cormany, Maynor, and Kalnin (2005), McDonough (2006). Smith (2005) believed that approaches to teacher education emphasize teacher reflection in teachers' professional development. Ottesen (2007) and Tinning (2006) proposed reflective teacher education as an appropriate approach for utilize in teacher education programmes. The complex disposition of teaching and learning requirements of teachers is to become reflective and be able to adjust to different classroom situations (Moe, 2013; Ottesen, 2007; Tinning, 2006). Moreover, Chen (2012) and Reinders (2009) have displayed the integration of educational technology in teacher professional models (e.g., a concerns-based model). Most professional development related to

digital instruments and new literacy are short-term, workshop-based, and organized with technologies (Coiro, 2005; Curwood, 2011; Mouza, 2009; O'Hara, Pritchard, Huang, & Pella, 2013; Walker et al., 2012).

Furthermore, the significance of teachers' professional development (TPD) is identified by Iranian researchers and in the current years, there have been some activities and programs for teachers' development. Therefore, there are not enough documents on systematic designing and administration of the teacher professional programs for the teachers. The outcomes from the selected programmes have displayed that teachers' professional development (TPD) were not successful to achieve the predetermined goals (Rogan, 2004; Tecele, 2006). Based on Consortium of Institutions for Development and Research in Education in Europe (2010), professional development activities were found to be ineffective in many perspectives due to the decreasing number of teachers to participate. Most of in-service trainings were not influential in achieving the pre-determined aims. The most significant reason for this breakdown is that the training doesn't have the components of self-understanding which is necessary for self-development and enhancement (Consortium of Institutions for Development and Research in Education in Europe, 2010). The reasons for disregarding some teachers' professional development (TPD) practices have become the subject of many discussions (Gordon, 2008; British Council, 2003; Tahemi, 2004; Department of Education & Employment, 2000). There have been worthwhile attempts in Iranian education system towards training and improvement; therefore, in the current situation, the educational system of the country requires new prospects towards the improvement and professional promulgation of the primary teachers. This could be carried out only through independent research about the assessment of teachers' professional development (TPD) in Iran.

According to Ghoshooni (1995), different human and financial resources have been allocated for administrating teacher training sequentially. Therefore, it is a need that all resources should be used efficiently to achieve the standard professional development goals of teachers in education. Problems and drawbacks in the programmes of the teacher's professional development (TPD) are amongst the concerns that have been conveyed less attention and investigation. Therefore, Bolam (1998) in his study stated that continuous evaluation of in-service training courses is too important. Without assessment, it would be impossible to meet the requirements of the teachers.

In spite of the aforementioned studies on the effectiveness of teacher professional development on teacher and student success to the best of our knowledge, no instrument has been reported for measuring the English language teacher professional development. This study is unique in the way that TPD is conceptualized in this study as a construct with three components. This paper does not aim at describing these models. Rather, it intends to unravel components which are likely to influence English language teachers' professional development. Based on the previous research and theory on teacher professional development, three components of *knowledge of English language teachers, skills and TPD programs in which English language teachers may take part* have been identified to be as the main components of a teacher professional development model. According to Johnson (2009), once we define what English language teachers need to know (i.e. teachers' knowledge) and are able to do (teachers' essential teaching skills), or types of experiences (teacher education programs), we come to know what it means to be an English language professional teacher.

## **PURPOSE OF THE STUDY**

The construct of teacher professional development may have been well elaborated on in the related literature. However, we still do not have a thorough picture about what teacher professional development could entail and what components it consists of mainly due to the dearth of instruments for measuring teacher professional development. Hence, the purpose of this study is two-folds: one is to give a rather inclusive state of the art studies on TPD, related scales and inventories and two is to justify, define, develop and validate a teacher professional development scale in an EFL context. It intends to fill this gap by first proposing a model of teacher professional development and second developing and validating an instrument to allow for the quantification of the construct. Building on data gathered from Iranian EFL teachers, it, then, conducts its empirical investigation in an Iranian EFL context through exploratory and confirmatory analyses. With the instrument developed and validated in the current research. we, in fact, make the first attempt to examine What EFL teachers' professional development consists of and whether the scale developed accordingly is valid or not. Specifically, the research question answered in this study was:

What does an ELT professional development scale consist of and whether the developed scale demonstrates an appropriate level of reliability and validity or not?

In the following, details of the development and validation of an English Language teacher professional development inventory are explained.

## **METHOD**

### **Participants**

A total of 450 experienced and novice male and female teachers at different state, rural and urban schools, language institutes, and centers of higher education studying English took part in the study from 3 provinces including Tehran, Ilam and Mazandaran. Their gender was not taken into consideration. Their ages ranged from 23 to 49 years. They are in different degrees including bachelor of art, master of art and Ph.D. Their teaching experience varies from 2 years to more than 15 years.

### **Data Collection Procedure**

We went through two steps in the current paper. First, we developed a teacher professional development inventory and second we validated it based on the collected data from a number of Iranian EFL teachers. Below we explain the instrument development and validation in detail.

#### ***Instrument Development of a Proposed Model of Teacher Professional Development***

The first step in developing the TPD instrument involved a comprehensive review of the related literature pertinent to teacher professional development. It allowed us to check for any existing model as well as instruments that might already have been used for assessing related constructs and behaviors in teacher professional development while drawing on the standard procedure for developing a valid and reliable measurement instrument (Brown, 2001 and Dornyei, 2003). The prior related literature provided us with an initial draft of the constructs and concepts which were considered to be pertinent to teacher professional development. This review resulted in defining the construct and collection of more than 300 items out of which a temporary data driven model of teacher professional development was developed. To develop such a model, the researcher went through a cycle of *construct definition, item accumulation, item arrangement, model development,*



and *model test*. In the next stage, those items that overlapped or were mere repetitions of one another were deleted and the list was reduced to 130 items.

To evaluate content validity, we asked three field-specific experts with expertise in TPD to consider the initial pool of 130 items and to rate the extent to which each item measured what it claimed to measure in the three components of knowledge, skills and programs, using a 5-point scale (with 1 being to the least extent and 5 being to the greatest extent). Moreover, we asked the experts to give their suggestions and comments for each item with lists of possible items for each subcomponent.

The researchers then collaborated with the three field-specific experts to review the ratings and suggestions, and made revisions to several items. For example, the content-validity experts suggested we combine the components of skills and personality traits into one component due to overlaps in many areas. Also, they recommended that we avoid using items that contain a negative construction (i.e., including “not,” “doesn’t,” or “don’t”).

Additionally, the experts suggested we revise some items by adding some related concepts to them. Finally, we worked closely with two of the experts to rewrite items for all knowledge subscales. The final stage involved going over all the developed items and checking them all once again to ensure that they measured what they claimed to measure. This stage in the analysis resulted in the three components of teacher professional development including knowledge, skill and programs and their related subcomponents, to be measured and validated in the subsequent phases of the study.

Moreover, interviews were conducted with 12 experts in the fields of applied linguistics, university professors as well as PhD teacher students who were familiar with teacher professional development and its theoretical underpinnings. The interviews lasted from 20 to 45 minutes in length. They were all tape-recorded and later transcribed for final content analysis. Efforts were made to elicit responses from the interviewees to questions concerned with the nature of teacher professional development, its components and sub-components which can be subsumed as its constituent elements. In this phase of the study we sought to find out whether any alternative model of teacher professional development can be developed, and whether our initial components and sub-components matched the ones that the experts suggested we add to or remove from the model.

In the next step, 7 of the interview participants were invited to have another analytic look at the instrument. The purpose of this phase was to have a second professional opinion on the component make-up of the model and to make use of ‘experts’ judgment’ for item redundancy, clarity and readability, the three principles were advocated by Dornyei (2003). This expert analysis of the instrument was resulted in a further truncated model. Additionally, based on the experts’ opinion on the items’ clarity and readability, some items were revised in the wordings. Based on the frequency with which each item was selected as relevant by the 7 experts, 130 items were selected for inclusion in the instrument. Next, a 5-point Likert scale ranging from “very much” to “not at all” was chosen to assess English language teachers’ professional development while taking into account the standard outlines for the questionnaire development advocated by Brown (2001) and Dornyei (2003). The 130-item questionnaire was given to two applied linguistics teachers with language teacher education background for proofreading and face validity assessment, resulting in some minor alterations in the wording of a few items. The instrument was then piloted on a group of 400 ELT teachers.

### ***Instrument Validation***

To validate the instrument, we sent it out to 450 practicing English teachers at different state rural and urban schools, language institutes, and centers of higher education in Tehran, Ilam and Mazandaran provinces of Iran. We received 435 from among the received instruments. 400 questionnaires were considered for analysis as the rest were either incomplete or carelessly completed. 257 were males (64.25%) and 143 were females (35.75%). The respondents had varying years of experience ranging from 5 (11%), 7 (14%), 11, (30%), 17 (27%) to 25 (18%) years. Methods used for instrument distribution were both face to face contact and email correspondences.

**Table 1:** The tentative model, its components and sample items

Component	Subcomponent	Definition	Sample Items
	A. <i>Technology Knowledge</i>	the knowledge about various traditional, current, CALL tools	I have the knowledge of various traditional and current technological vehicles used in the

<b>Knowledge</b>			field.
	<i>B. Content Knowledge</i>	knowledge about the subject matter for teaching and learning	I am familiar with the latest teaching and learning theories, facts, terms, concepts, constructs and principles in the field.
	<i>C. Pedagogical Knowledge</i>	the knowledge about methods and process of teaching, such as classroom management, assessment, and student teaching	I am well familiar with traditional and current methods necessary for teaching and learning in the field.
	<i>D. Pedagogical Content knowledge</i>	the tacit of blending content and pedagogy for developing better teaching practices	I have the knowledge of blending content and pedagogy for developing better teaching practices.
	<i>E. Technological Content knowledge</i>	(the knowledge of media selection and transforming/representing matter using CALL tools	I well know what technology to choose to fit my teaching content in the classroom.
	<i>F. Technological Pedagogical Knowledge</i>	the knowledge of the affordances of technologies and what teaching strategies can be combined with those affordances to leverage learning outcomes)	I have the knowledge of choosing technologies appropriate for my teaching/learning methods and strategies.
	<i>G. Technological, Pedagogical, and Content Knowledge</i>	teachers' understanding of the interplay among content, pedagogy, and technology, as well as the procedural knowledge of integrating technologies into their teaching routines	I am familiar with combining my content, pedagogy, and technology knowledge.
	<i>A. Planning and preparation</i>	selecting the educational aims and learning outcomes intended for a	I can design my lesson plans which have clear and

**Skills**

	lesson and how best to achieve these	suitable aims and objectives.
<i>B. Lesson presentation</i>	engaging students in the learning experience, particularly in relation to the quality of instruction	I can present my lessons with enthusiasm and interest to my students.
<i>C. Lesson management</i>	managing and organizing the learning activities taking place during the lesson to maintain students' attention, interest and involvement	I can start my lesson smoothly and promptly, and induce a positive mental set among students.
<i>D. Classroom climate control</i>	establishing and maintaining positive attitudes and motivation by students towards the lesson	I am able to establish a positive, warm and friendly classroom climate conducive to learning for my students.
<i>E. Assessing students' progress</i>	assessing students' progress, covering both formative (i.e. intended to aid students' further development) and summative (i.e. providing a record of attainment) purposes of assessment	I can mark my students' work during and after lessons thoroughly and constructively using a variety of marking methods.
<i>F. Reflection and self-evaluation</i>	evaluating one's own current teaching practice in order to improve future practice	I am able to skillfully and systematically evaluate my lessons as well as other aspects of my work to inform my future planning and practice.
<i>F. Critical thinking skills</i>	critically thinking about students' performance in the classroom as well as established theories and concepts in order to improve future practice	I am able to recognize my students' learning problems.
<i>G. Supportive emotional skills</i>	establishing and maintaining secure atmosphere in the	I am able to show respect and encouragement for

		classroom in order to improve the quality of students' learning	my student' ideas and contributions, and foster their development.
<b>TPD Programs</b>	A. <i>The content of TPD programs</i>	What L2 teachers need to know	The TPD which I take part in exposes us to the scientific concepts that represent the up-to-date research and theorizing generated in our discipline.
	B. <i>Pedagogies of TPD programs</i>	How L2 teachers should teach	The program which I take part in teaches us how to integrate and use technology in my classes.
	C. <i>The institutional forms of delivery in TPD programs</i>	How L2 teachers learn to teach.	The TPD which I take part in provides us with community models.

**Data Analysis Framework**

Among the current frameworks for model validation and assessment, Mulaik and Millsap (2000) suggested Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). Our instrument validation process was performed in two Macro-Phases: Exploratory Data Analysis (EDA) and Confirmatory Data Analysis (CDA) with each of which were including a number of reliable evidence of micro procedures. Below we provide a brief descriptive account of our data analysis framework of the study.

**RESULTS**

**Exploratory Factor Analysis**

In this research, at first, EFA (Exploratory Factor Analysis) based on principal component approach with Varimax rotation was performed on 130 items. Items loaded heavily on more than one factor, and items that did not load heavily on primary factor were deleted and removed from further analysis. Only factor loadings above 0.4 are shown in Table 3

(Raubenheimer, 2004). Factors with eigenvalues greater than 1 were retained, which is a rule used in judging the adequacy of the factor solution (Lysonski et al., 1996). This level resulted in the removal of 28 items in our sample loaded, resulting in 3 factors. The three factor solution explained 69.368 percent of the total variance. The results in Table 2 showed that the data with KMO = .981 ( $> .7$ ) and Bartlett's Test of Sphericity (chi-square = 45400.695,  $df = 5151$ ,  $p = .000$ ) were factorable.

**Table 2:** KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.981
Approx. Chi-Square		45400.695
Bartlett's Test of Sphericity	Df	5151
	Sig.	.000

**Table 3:** The results of exploratory factor analysis

Item content	EFA				Item content	EFA		Variance Extracted %
	Knowledge	Variance Extracted %	Skill	Variance Extracted %		Program		
Q1	Knowledge	.773			Q95	Program	.755	
Q2	Knowledge	.761			Q96	Program	.794	
Q3	Knowledge	.751			Q97	Program	.863	
Q5	Knowledge	.753			Q98	Program	.856	
Q6	Knowledge	.748			Q99	Program	.857	
Q7	Knowledge	.741			Q100	Program	.822	
Q8	Knowledge	.737			Q101	Program	.824	
Q9	Knowledge	.752			Q104	Program	.805	
Q10	Knowledge	.762	18.766 %		Q105	Program	.858	19.926 %
Q13	Knowledge	.756			Q106	Program	.828	
Q14	Knowledge	.747			Q107	Program	.803	
Q15	Knowledge	.745			Q109	Program	.824	
Q16	Knowledge	.730			Q110	Program	.807	
Q17	Knowledge	.744			Q111	Program	.761	
Q18	Knowledge	.766			Q113	Program	.815	
Q19	Knowledge	.745			Q114	Program	.830	
Q20	Knowledge	.728			Q115	Program	.787	

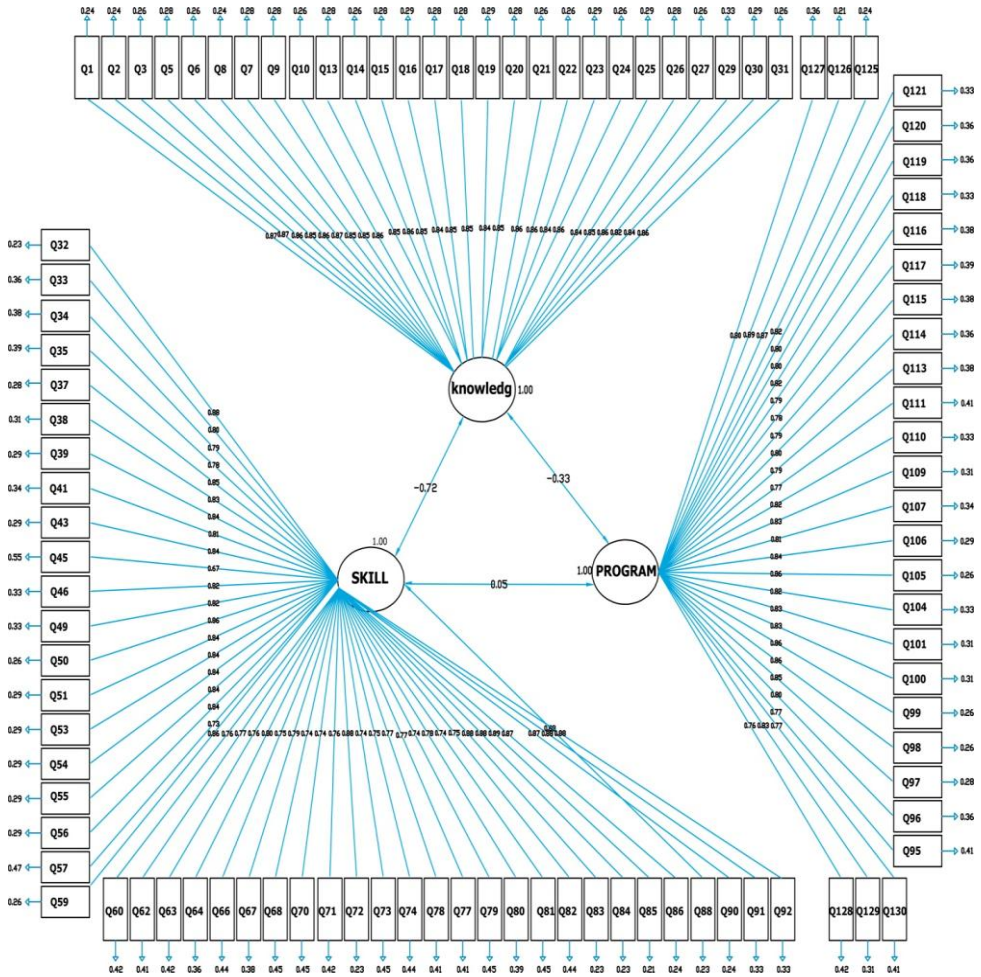
Q21	Knowledge	.734		Q116	Program	.788
Q22	Knowledge	.760		Q117	Program	.793
Q23	Knowledge	.744		Q118	Program	.821
Q24	Knowledge	.752		Q119	Program	.800
Q25	Knowledge	.751		Q120	Program	.805
Q26	Knowledge	.741		Q121	Program	.820
Q27	Knowledge	.751		Q125	Program	.866
Q29	Knowledge	.742		Q126	Program	.891
Q30	Knowledge	.726		Q127	Program	.791
Q31	Knowledge	.719		Q128	Program	.756
Q32	Skill		.827	Q129	Program	.823
Q33	Skill		.712	Q130	Program	.763
Q34	Skill		.705			
Q35	Skill		.695			
Q37	Skill		.796			
Q38	Skill		.809			
Q39	Skill		.800			
Q41	Skill		.790			
Q43	Skill		.806			
Q45	Skill		.585			
Q46	Skill		.795			
Q49	Skill		.790			
Q50	Skill		.826			
Q51	Skill		.792			
Q53	Skill		.806			
Q54	Skill		.794			
Q55	Skill		.802			
Q56	Skill		.797			
Q57	Skill		.644			
Q59	Skill		.817			
Q60	Skill		.758			
Q62	Skill		.804			
Q63	Skill		.768			
Q64	Skill		.768			
Q66	Skill		.703			
Q67	Skill		.741			
Q68	Skill		.711			
Q70	Skill		.698			
Q71	Skill		.723			
Q72	Skill		.823			
Q73	Skill		.729			
Q74	Skill		.692			
Q77	Skill		.698			
Q78	Skill		.743			
Q79	Skill		.720			
Q80	Skill		.746			
Q81	Skill		.708			
Q82	Skill		.736			
Q83	Skill		.827			
Q84	Skill		.828			
Q85	Skill		.838			
Q86	Skill		.807			
Q88	Skill		.833			
Q90	Skill		.829			
Q91	Skill		.832			
Q92	Skill		.814			

30.676 %

### **Confirmatory Factor Analysis**

The confirmatory factor analysis (CFA) was utilized to check and investigate the number of explored factors. The maximum likelihood algorithm of LISREL 8.8 version was used for the calculation. Figure 1 shows that all the standardized loading factors were above the cut-point of 0.5 stated by Hair et al, (2006) and t-values for all the standardized factor loadings of the items were discovered to be significant ( $p > 0.05$ ). Also, the fit indices (CFI, NNFI, RFI, SRMR and RMSEA) for the single factor structures were also above the plausible levels for all factors (Table 4). The minimum cut-off value for model validation is  $<3$  for Chi-Squared/df statistic while the parallel values for CFI, NNFI, RFI are .9. Also, RMSEA and SRMR minimum cut-off value are .08, respectively (Sharma, 1996). Thus, convergent validity was achieved for all constructs at the observation level of outer models.





**Figure 1:** Fitted CFA model

In addition, to assess the convergent validity of constructs at the latent variable level, the index of Average variance extracted (Fornell & Larcker, 1981; threshold value = 0.5) was performed. Moreover; further results indicated that the AVE values were above the recommended level of 0.05. Thus, all latent variables in the model were statistically valid.

**Table 4:** Absolute and incremental fit indices for CFA model

	Chi/df	RMSEA	SRMR	CFA	IFA	RFI	NNFI
Model	1.33 <	0.029 <	0.050 <	0.99 >	0.99 >	0.98 >	0.99 >
Fit	3	0.08	0.08	0.9	0.9	0.9	0.9
Indices							

## DISCUSSION

The current paper explained the development and validation of an instrument for measuring teachers' professional development in English language pedagogy. To this end, we created a model including exploratory and confirmatory analyses. This model was, in fact, used to examine the construct validity of a proposed three-factor model, i.e. knowledge, skill and TPD programs. As stated upon earlier, the hypothetical model was developed based on a comprehensive review of the literature related to teacher professional development and was then examined on a sample of 400 EFL teachers while using EFA, CFA and Model Evaluation estimates. Although all the three initially proposed components in the instrument were substantiated by the collected data, 28 of the items did not statistically load during exploratory data analysis phase reducing the inventory to 102 items. All of the remaining 102 items tapping into knowledge, skill, and TPD programs were found to have significant statistical relationships with their matching factors (see Appendix A for the final version of the instrument). The calculated model-fit approximations also confirmed this CFA model as a reliable assessment of teacher professional development. More specifically, item 4 did not load on content knowledge, items 11 and 12 on technology knowledge, item 28 on technological, pedagogical, and content knowledge, item 36 on planning and preparation (of the skill component), items 40, 42, 44 on lesson presentation (of the skill component), items 47, 48, and 52 on lesson management (of the skill component), 58 and 61 on classroom climate control (of the skill component), items 65 and 69 on assessing students' progress (of the skill component), items 75 and 76 on reflection and self-evaluation (of the skill component), items 87, 89, 93 and 94 on supportive emotional skills (of the skill component), items 102 and 103 on the content of teacher professional development (of the TPD programs), items 108 and 112 on Pedagogies of TPD programs (of TPD programs) and items 122, 123 and

124 on the institutional forms of delivery in TPD programs (of TPD programs).

Although further research is required to examine why these 28 items were dropped out in the exploratory analyses, some of them can be justified with reference to the context of the study. For instance, the removal of items 11, 12, and 28 was caused as a result of the participants' unfamiliarity or little familiarity with technology which is a common problem among Iranian EFL teachers. Items relating to teachers' necessary teaching skills which did not survive in the exploratory phase of the data analysis was likely caused as a result of little ability (or no ability) of Iranian EFL teachers in planning, preparing, presenting, managing their lessons, controlling classroom climate, evaluating students' progress, reflecting on their and self-evaluating teaching practices and providing emotional advocate to their students. Finally, the omission of items evaluating the content, pedagogies and the institutional delivery of the teacher professional development in the exploratory phase can be linked to the poor quality of these programs which need to be enhanced in every perspective of what establishes a successful teacher professional development programs.

All in all, the present research moves forward our theoretical and practical understanding of teacher professional development in at least three important ways. First, previous theorizing on this subject had emphasized primarily on examining factors affecting as well as being affected by teacher professional development while placing less emphasis on other equally important aspect of teacher professional development, i.e., development and validating a relevant inventory. Second, the current inventory was developed to afford evaluation of multi-competences involved in teacher professional development specifically emphasizing on the degree to which teachers are professionally developed. Third, the teacher professional development originated out of a strong theoretical and experimental tradition and dated the translation of this notion into practice including the development, validation and testing of teacher professional training or interventions has been almost lacking.

## **CONCLUSION AND IMPLICATIONS**

The absence of an instrument to measure teacher professional development prompted the current study. To this end, the present paper

drew on prior research and theory, developed and validated a novel instrument – a Teacher Professional Development Inventory (TPDI) – which measures the extent to which EFL teachers are professionally developed and make teachers aware of multiple competences which constitute professionally developed teachers. These competencies are, in fact, essential components of teacher professional development that a teacher is expected to possess and be able to translate into everyday teaching and learning practices in the classroom settings which, in turn, leads to achievement of the students. Lawless and Pellegrino (2007) argues that once professional development is improved, it helps teachers develop their instructional practices in the content areas, knowledge of standards-based assessment, and innovative use of new tools and strategies. Moreover, professional learning is a process rather than a product, takes time and space. It also involves commitment and patience. We argue that effective professional teacher development still remains, according to Borko (2004, p.3), “woefully inadequate” which calls for a need to look to outside variables impacting on teacher professional development to respond to teachers immediate dynamic and their professional growth needs.

As to the implication of this study, the inventory developed and validated in this study can hopefully be considered a valuable tool for measuring the extent of English language teachers’ professional development in similar pedagogical EFL contexts. For example, it allows officials involved in language teaching and learning curriculum development to assess the degree of their English teachers’ professional development and design and implement both pre-service and in-service teacher professional development schemes for them, accordingly. Moreover, private language teaching and learning institutes can, to a greater extent, contribute to enhancement of English language instruction by employing professional developed English language teachers. They can usefully employ the TPD inventory developed and validated to examine English language teacher applicants’ extent of teacher professional development and hire those teachers who are highly or relatively highly professionally developed.

And a final caveat is that due to the particularities of every EFL teaching context, the applicability of the TPD inventory developed and validated in the present study in other pedagogical contexts may remain unclear. Therefore, further replication studies are needed to better operationalize teacher professional development and make necessary

modifications to model's factor structure. Despite this, the researchers believe that the inventory which was developed and validated in this study can be considered to be a valuable tool for researchers and can measure their extent of their professional development in similar pedagogical EFL context.

### **Bio-data**

**Reza Khany** is an associate professor in applied linguistics at Ilam University, Ilam, Iran. His research interests include Applied Linguistics, SLA, Psycholinguistics, and English for Specific Purposes (ESP). He has published many papers in international and local journals.

**Fatemeh Azimi Amoli** is a Ph.D. candidate in TEFL at Ilam University, Ilam, Iran. She has published some papers on teacher education, critical discourse analysis, and sociolinguistics. Her main research interest is teacher professional development.

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