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Iranian Journal of Language Teaching Research

Urmia University

Language teacher educators' pedagogical knowledge: Validating a proposed model

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ABSTRACT

The aim of the current study was twofold: identifying the constituent components of language teacher educators' pedagogical knowledge, and investigating possible differences among teachers, teacher educators, and university professors' opinions about these components. Data were collected from 436 participants using a questionnaire. The results of factor analysis showed that teacher educators' pedagogical knowledge comprised of eleven components: teacher education, ELT-related theories, relevant disciplines, technology, context, research, social relations, language-related issues, reflection, teachers, and socio-political issues. Furthermore, the results of multiple sets of one-way ANOVA indicated significant rating differences in five of these components, with teachers registering lower scores, compared to teacher educators and university professors. The components of language teacher educators' pedagogical knowledge are discussed in light of the proposed model and the available literature. The differences between the three groups of stakeholders' ideas are also attributed to their job descriptions. This eleven-component questionnaire can be used to assess teacher educators' pedagogical knowledge. The discrepancy between the three groups of stakeholders' ideas also shows that a more dialogic approach should be adopted in teacher education programs.

Keywords: English language teaching; pedagogical knowledge; teacher; teacher educator; university professor

ARTICLE HISTORY

Received: 28 Jan. 2017 **Revised version received:** 8 May 2017

Accepted: 9 June 2017 **Available online:** 1 July 2017

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Introduction

Teacher educators have a significant contribution to "the total ecology of teacher education" (Lunenberg, Korthagen, & Swennen, 2005, p. 588). They help teachers develop a sense of professional identity (Freeman & Johnson, 1998; Smith, 2005), gain confidence about their teaching (Darling-Hammond, Chung, & Frelow, 2002), and enlarge their knowledge base (Akbari & Dadvand, 2011). They also bridge the gap between national policy makers and local practitioners (Lunenberg et al., 2005).

The already demanding task of teacher educators has become even more complicated as a result of the fundamental shift that took place in the orientation of teacher education programs during the last two decades of the twentieth century (Freeman, 2002). Before the mid-1970s, a process-product approach to teacher education was practiced, which supported the idea that in order to help their learners learn, teachers needed to master a set of tried-and-tested behaviors with predictable learning outcomes (Freeman & Johnson, 1998). In such a context, the role of a teacher educator was to establish the right teaching habits in the trainees (Kumaravadivelu, 2012).

The process-product approach was later replaced by a dialogic one (Freeman, 2002) in which teacher candidates were looked upon as "active, thinking decision-makers" (Borg, 2003, p. 81) who used their prior learning experiences to formulate their teaching practice and philosophy (Lortie, 1975). This led to a growing interest in teachers' beliefs (e.g. Clark-Goff & Eslami, 2016; Farrell, 2016) and cognition (Borg, 2003; Feryok, 2010). Teacher educators' mission statement changed from providing a set of ready-made techniques to considering broader historical, social, cultural, and political factors that shaped and affected teacher candidates' thinking (Kumaravadivelu, 2012). With this new job description, teacher educators became essential agents for change in the teaching profession (Margolin, 2011).

Despite their important role, teacher educators have professionally received little attention in both mainstream (Murray & Male, 2005; O'Sullivan, 2010) and language teacher education literature (Borg, 2011). In the absence of empirical studies, teacher educators have traditionally been selected from among teachers with a good record of teaching practice (Fisher, 2009; Korthagen, 2000) or advanced academic degrees (Wilson, 2006). In other words, the pedagogical knowledge domain of teachers has been generalized to that of teacher educators. The specialized type of knowledge teacher educators should have and the way they acquire it has largely been ignored (John, 2002), resulting in the lack of an agreed-upon set of standards for teacher educators' pedagogical knowledge (Murray & Male, 2005).

As a result, the primary focus of the present study was discovering the constituent elements of teacher educators' pedagogical knowledge. In fact, the aforementioned shift of attention from a process-product to a dialogic approach in teacher education has resulted in a plethora of studies on teachers' knowledge base (Ben-Peretz, 2011). This line of research, however, was not extended to the domain of teacher educators (John, 2002). The present study is, therefore, a partial attempt to compensate for this paucity of research, with a special focus on the field of English language teaching (ELT). To this end, data were collected from three groups of ELT stakeholders (teachers, teacher educators, and university professors).

It was also hypothesized that stakeholders in different professional positions may attribute various degrees of importance to different components of knowledge possessed by teacher educators. Thus, the secondary aim of the current study was finding possible differences among teachers', teacher educators', and university professors' opinions regarding the importance of various components of teacher educators' pedagogical knowledge.

Pedagogical knowledge and teachers

Bullough (2001) traces the history of pedagogical knowledge back to the US National Education Association convention of 1907, where the presenters argued in favor of making teachers familiar with the pedagogical tools and techniques which would enable them to convey subject matter to students. The debates originated from the opinion that teaching requires a body of knowledge which goes beyond the mere mastery of the subject matter and that knowing a particular subject matter is one thing and having the knowledge to make it teachable quite another.

However, it was Lee Shulman who formally conceptualized the notion of pedagogical content knowledge (Segall, 2004), implying that teachers must have mastery of both subject matter and pedagogy and know how to combine them appropriately. Since then, other researchers have come up with various terms, such as personal practical knowledge (Clandinin, 1986; Connelly & Clandinin, 1985), practical arguments (Fenstermacher, 1986), and cognition (Borg, 2003), to describe various dimensions of teaching knowledge. Because we have adopted a holistic view of language teacher educators' (LTEs) knowledge base, the term *pedagogical knowledge* is used throughout the paper to encompass all dimensions of teacher educators' knowledge base (Woods & Cakir, 2011).

Given the partial similarities in the nature of teachers and teacher educators' responsibilities (Wright, 2009), research on teachers' pedagogical knowledge can be one source of inquiry relevant to the current study. Classical frameworks of teachers' pedagogical knowledge are particularly important in this domain. Shulman (1986), for example, introduced three dimensions for teacher knowledge base that include subject matter content knowledge, pedagogical content knowledge, and curricular knowledge. Later, he refined his model by adding a fourth component, namely the knowledge of social and contextual dimensions (Shulman, 1987). Ball, Thames, and Phelps (2008) also concluded that teachers' pedagogical knowledge consists of common content knowledge (a form of knowledge that is shared by everybody who knows a particular subject matter), specialized content knowledge (knowledge of the subject matter that is uniquely possessed by teachers), knowledge of students, and knowledge of teaching.

In the ELT context, Gatbonton (1999) made one of the first attempts to categorize the pedagogical knowledge of a small group of English teachers through stimulated recall protocols, concluding that teachers' knowledge consists of 21 categories. The predominant categories dealt with teachers' knowledge of language management (i.e. the language that students produce or are exposed to), knowledge of students, knowledge of procedure check (i.e. ensuring the smooth transition of classroom activities), and progress review (i.e. evaluating students' participation and improvement). While other researchers (e.g. Akbari & Moradkhani, 2012; Gatbonton, 2008; Karimi & Noruzi, 2017; Mullock, 2006) added a few other categories, the dominant categories of langauge teachers' pedagogical knowledge remained more or less consistent.

Pedagogical knowledge and teacher educators

In the absence of empirical studies on teacher educators' pedagogical knowledge (John, 2002), the current study was primarily informed by a number of publications that intended to demonstrate the characteristics of quality teacher educators. For example, the American Association of Teacher Educators (ATE) (2012) intended to identify a set of standards for teacher educators by probing into different groups of educational experts' ideas. The list of standards encompasses various aspects, such as teacher educators' instructional ability, research-

based skills, technological literacy, program evaluation knowledge, and professional development orientation.

The last two categories also emerged from Koster, Brekelmans, Korthagen, and Wubble's (2005) study which aimed at identifying the qualities of a typical teacher educator by surveying those who are directly or indirectly involved in teacher education. Apart from these components, the results also indicated that being engaged in policy development, organizing activities for teachers, and selecting future teachers were considered teacher educators' important duties; furthermore, the ability to carry out research was viewed as essential for a small group of the participants.

Contextual knowledge is another category that has been conceptualized in different ways; for example, Smith (2005) conducted his study in a teacher education college context, using 40 novice teachers and 18 teacher educators as participants. While some of the aforementioned categories were also suggested in this study, the ability to communicate effectively was a new one introduced by the participants. In other words, the respondents believed that a good teacher educator should be skillful in terms of social skills, knowing how to collaborate appropriately with their colleagues and other stakeholders. In a self-study, Chauvot (2009) further suggested the importance of the working milieu. She believed that apart from the components of Shulman's (1986) model of pedagogical knowledge, her knowledge of the context in which she worked had a great influence on her successful performance upon transferring from a Canadian to an American context.

Awareness of socio-political debates is another dimension of contextual knowledge that is emphasized by Zeichner (2005). After providing an anecdote about the process through which he became a teacher educator, Zeichner stated that in order to have a successful transition from teacher to teacher educator, individuals should be aware of the features of teacher education programs and policy debates about how teachers learn to teach. A similar idea was proposed by Doecke (2004) who believes that knowledge of the immediate socio-political context is a teacher educators' integral responsibility.

Finally, knowledge of teaching and learning theories has been elaborated on in some publications. A number of papers (e.g. Bullock, 2009; Loughran, 2005) have argued that, compared to teachers, teacher educators are more articulate about their theories by having the necessary meta-cognitive knowledge. It is, in fact, one of their primary responsibilities to be familiar with the latest literature on teacher education (Zeichner, 2005) and expose teacher candidates to new ideas and theories (Hadar & Brody, 2010). However, teacher educators must not be stuck in theory and should try to reconcile it with practice (Ariza, Pozo, & Toscano, 2002; Zeichner, 2010 and 2012).

Taken together, most of these categories are recognized by reviewing the studies that focus on teacher educators' characteristics. However, no published empirical study has focused on LTEs' pedagogical knowledge (John, 2002). The present study tries to partly fill this gap by proposing a comprehensive and empirically-based model of LTEs' pedagogical knowledge. As a result, the following research questions were addressed in this study:

RQ1: What are the components of LTEs' pedagogical knowledge?

RQ2: Are there any significant differences in the conceptualization of LTE's pedagogical knowledge among various groups of stakeholders?

For us, teacher educators are those professionals who provide formal instruction and support for both teacher candidates and practicing teachers during preservice and/or inservice teacher

education/training programs. Therefore, mentors and supervisors are included in this definition only when they are also members of the teacher education team.

Method

Participants

The current study adopted a mixed-methods research design incorporating both qualitative and quantitative procedures for data collection and analysis. In the qualitative phase, a total of 15 teachers, teacher educators, and university professors (5 participants from each group) were selected. Purposive sampling was used to select the participants with a set of pre-defined characteristics; that is, the teachers were required to have at least 10 years of teaching experience, the teacher educators were selected from among the ones who were actively involved in training pre-service and/or in-service teachers for a minimum of five years, and the university professors were required to have been engaged in teaching ELT related courses in academic settings. It was assumed that a minimum working experience would let the respondents develop a more comprehensive picture of teacher educators' pedagogical knowledge.

On the other hand, 436 respondents (211 males, 214 females, and 11 unspecified) participated in the quantitative phase. Their age ranged from 20 to 60 (with a mean of 31.28). They had an average teaching experience (including their experience as teachers, teacher educators, and/or university professors) of 8.37 years (stretching from 1 to 35 years). Regarding their professional occupation, 318 teachers, 66 teacher educators, and 52 university professors participated in the study. In terms of academic degree, 218 had undergraduate degrees (Diploma, Associate Diploma, and Bachelor) and the rest held postgraduate credentials (Master and PhD). Also, 36 participants had additional teaching certificates such as Certificate in English Language Teaching to Adults (CELTA), Diploma in English Language Teaching to Adults (DELTA), as well as the certificates for Teaching English to Speakers of Other Languages (TESOL), Teaching Knowledge Test (TKT), and International English Language Testing System (IELTS) instruction.

Instrument

In order to operationalize LTEs' pedagogical knowledge by collecting three groups of stakeholders' (teachers, teacher educators, and university professors) ideas, a questionnaire was to be developed. Following the standard procedure for developing a valid and reliable measurement instrument (Brace, 2004), a comprehensive review of literature was carried out to come up with a conceptual model of LTEs' pedagogical knowledge. The review was not limited to studies on teacher educators; available research on teachers' pedagogical knowledge was also scrutinized to extract the elements that they share with teacher educators. The process resulted in the accumulation of more than 30 categories of pedagogical knowledge.

To further complement this tentative list of categories, a series of semi-structured interviews were conducted with 15 stakeholders (5 language teachers, 5 LTEs, and 5 ELT university professors). The interviews were conducted following a guide designed to elicit responses dealing with LTEs' pedagogical knowledge. Sample questions used in this interview guide are presented in Appendix 1.

In the next stage, the categories were grouped into different components on the basis of the similarity of their themes. At the same time, the constructed components were checked against the available literature to further validate the appropriateness of the developed model. The process led to the design of a 12-component model of LTEs' pedagogical knowledge, with each

of them containing various numbers of categories. Appendix 2 illustrates these components along with their constituent categories. The italicized items are the categories that were extracted from the interviews, but were not present in the literature.

In the next step, these components of teacher educators' pedagogical knowledge were used as the roadmap for wording the items. More precisely, for each component, a group of items were developed. The number of items in each component depended on the number of its constituent categories as well as the overall importance of the component in the light of the literature (determined by the frequency with which it was mentioned in various publications). Therefore, the largest number of items was constructed for the second component (i.e. knowledge of content) which has ten categories.

A pool of 80 items was developed, all beginning with "a typical LTE should … ." The respondents were required to rate the importance of each item on the basis of a 5-point likert scale, ranging from 1–absolutely unimportant to 5–absolutely important. The initial draft of the questionnaire was further reduced to 62 items as a result of consulting four ELT experts. In fact, the aim was to remove the items that were less relevant to teacher educators' pedagogical knowledge or seemed to be complicated in terms of their wording, hence addressing item redundancy, clarity, and readability.

The questionnaire was piloted among 30 stakeholders (15 teachers, 10 teacher educators, and 5 university professors) who were chosen based on their resemblance to the target sample. This small group of respondents was invited to fill out the questionnaire and also propose their comments on the margin of the paper with regard to the items they found problematic. This resulted in minor modifications on the wording of some items. Also, the Cronbach alpha reliability of the questionnaire was calculated to be .89, indicating an acceptable level of consistency.

Procedure

In the qualitative phase, 15 participants took part in individual semi-structured interviews. Because all the respondents were advanced English speakers, the interviews were conducted in English. The interviews lasted between 21 to 44 minutes (an average of 32.66 minutes). They were audio-recorded and transcribed verbatim. The transcripts were analyzed reiteratively to extract themes that were related to teacher educators' pedagogical knowledge base. The results of this qualitative phase were published in the form of a paper (Moradkhani, Akbari, Samar, & Kiany, 2013).

In the quantitative phase, 700 questionnaires were distributed at different schools, institutes, and centers of higher education in twenty provinces of Iran. Data collection proceeded through circulating the questionnaire in hard copies or via e-mail attachment. Overall, 487 questionnaires were returned (a response rate of 69.57%), which were subsequently reduced to 436 copies upon discarding the surveys that were either incomplete or carelessly completed (e.g. those questionnaires in which one option was systematically selected).

The exploratory factor analysis was used to identify the underlying components of LTEs' pedagogical knowledge on the basis of the observed variables (Leech, Barrett, & Morgan, 2008). In fact, due to lack of any existing theory in this regard, no pre-specified factor model was imposed, allowing the data (as opposed to the researchers) to determine the number of latent variables. To this end, data were fed into SPSS 21, followed by conducting principal axis factoring with varimax rotation. This type of analysis utilizes the interrelationships among

observed variables to extract a smaller number of hypothetical factors that could explain the correlations of variables.

To answer the second research question (examining the difference among the three groups of stakeholders' ideas about LTEs' pedagogical knowledge), a series of one-way Analysis of Variance (ANOVA) were utilized. In these multiple sets of one-way ANOVA, participants' professional occupation was considered the single independent variable, while the resultant components of LTEs' pedagogical knowledge constituted dependent variables, independent from each other.

Results

The components of LTEs' pedagogical knowledge

The results of the Kolmogorov-Smirnov test ranged from .22 to .61, suggesting that the collected data were normally distributed. In addition, the results of Cronbach alpha showed a reliability index of .93, which demonstrates an acceptable level of consistency regarding the participants' responses. On the other hand, the measure of Sampling Adequacy (.872) and Bartlett's Test of Sphericity (.0) were both significant, indicating that the data were factorable.

Principal axis factoring with varimax rotation on the 62 items yielded sixteen factors with eigenvalues greater than one, accounting for 64.90% of the variance in the respondents' ratings. A scree test suggested that up to twelve factors could be extracted. Therefore, on the basis of the conceptual model, the maximum number of solutions was examined. In the 12-factor solution, however, there was an inconsiderable increase of around one percent in the total explained variance (compared to eleven factors). In addition, based on the model, the two items that loaded on the twelfth factor were theoretically irrelevant, with the first one belonging to the component of *knowledge of content* and the second describing the *knowledge of critical/moral issues*. As a result, the eleven-factor solution was selected as the best representative of LTEs' pedagogical knowledge.

The scale was reduced by removing the items with loadings lower than .40 and those that clearly loaded on more than one factor. The remaining items were discussed with three teacher education experts, leading to the removal of three more items that did not have any meaningful relationship with other items of their corresponding loaded factor. The final scale therefore consisted of 47 items, accounting for 56.13% of the variance. Table 2 provides information about eigenvalues and variance explained by each factor.

Table 2
Factors of LTEs' Pedagogical Knowledge

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
Eigenvalues	12.87	4.10	3.18	2.58	2.43	2.02	1.88	1.73	1.42	1.32	1.24
% of the variance	20.75	6.62	5.14	4.16	3.92	3.26	3.05	2.80	2.30	2.13	2.00

Table 3 illustrates item loadings. The results of factor analysis demonstrate the multifaceted nature of LTEs' pedagogical knowledge, meaning that there is a wide range of knowledge components that are essential for teacher educators.

Table 3
Components and Factor Loadings of LTEs' Pedagogical Knowledge

Factors and relevant items A typical language teacher educator should …	Factor loadings
Factor one: Knowledge of Teacher Education	
30. know how to evaluate teacher education programs	.78
31. be knowledgeable enough to select potentially qualified teacher candidates	.77
29. know how to supervise teachers' performance	.76
27. be familiar with procedures to assess teacher candidates' progress	.73
33. know how to implement teacher education programs	.72
26. know how to design teacher education programs in terms of courses and content	.60
32. know how to measure teacher candidates' prior knowledge	.57
35. know how to provide real conditions for teacher candidates to practice teaching	.49
24. be resourceful to provide appropriate responses for teacher candidates' questions in teacher education programs	.46
22. know appropriate pedagogical procedures to create meaningful learning opportunities for teacher candidates	.44
23. know how teacher candidates learn to teach	.44
36. be familiar with the best procedures to share their previous language teaching experiences with teacher candidates	.40
Factor two: Knowledge of ELT-Related Theories	
14. be knowledgeable about the theoretical aspects of language teaching and learning	.76
15. know the theoretical and practical basis of teaching language skills and components	.70
18. know theoretical underpinnings about correcting language learners' errors	.62
21. be familiar with technical jargons of language teaching	.62
17. be knowledgeable about the history of language teaching methodology	.61
Factor three: Knowledge of Relevant Disciplines	
11. have knowledge of sociology	.80
10. have knowledge of psycholinguistics	.79
12. have knowledge of sociolinguistics	.79
9. have knowledge of educational psychology	.64
Factor four: Knowledge of Technology	
48. be familiar with the best procedures to teach teacher candidates how to use technology in their classrooms	.83
47. know how to use different technologies during teacher education programs	.79
49. be proficient in the use of different educational software programs and websites	.72
Factor five: Knowledge of Context	
38. know the features of the school/institute in which teacher candidates are going to teach	.76
39. be aware of the characteristics of the community in which teacher candidates are going to teach	.75
40. know the characteristics of teacher candidates' future students	.69
Factor six: Knowledge of Research	
45. know how to be engaged in conducting research projects	.75
44. know about the theoretical background of qualitative and quantitative research studies	.72
46. know how to enable teacher candidates to conduct classroom-based research	.61
Factor seven: Knowledge of Collegiality	
58. have knowledge of appropriate social skills to communicate easily with others	.72
57. know how to have friendly and respectful behavior toward teacher candidates	.66
20. know how to manage a typical language classroom	.49
56. be aware how to consult efficiently with their colleagues about their professional problems	.49

Factor eight: Knowledge of Language-Related Issues	
13. have good proficiency in the target language	.67
7. know about the cultural aspects of the target language community	.63
6. have knowledge of linguistic issues (phonology, morphology, syntax, semantics, etc.) of the target language	.54
Factor nine: Knowledge of reflection	
52. be familiar with the procedures to constantly reflect on their own practices	.53
53. know how to encourage student teachers to reflect on their own teaching	.43
Factor ten: Knowledge of Teachers	
61. be aware of teacher candidates' emotional well-being	.75
59. know teacher candidates and their characteristics	.66
62. know the features of a good language teacher	.56
60. be aware of pre-service and in-service teachers' needs and requirements	.47
Factor eleven: Knowledge of Socio-Political Issues	
3. be aware of the power hierarchies in his/her institutional organization	.73
2. be knowledgeable about broader historical, cultural, social, and political factors that influence language teaching	.65
1. be aware of the educational policies that are set by the institute/school administrators or educational policy makers at the national level	.63

As the first factor (i.e. knowledge of teacher education) indicates, teacher educators should know the basic nuts and bolts of designing and conducting teacher education programs (Cochran-Smith, 2003). This means that they should not only be aware of the curriculum and the materials that must be included in teacher education programs, but also know how to present them in a way that is learnable by teacher candidates. Moreover, teacher educators should know the basics of teacher assessment and should be able to evaluate teachers' progress, an issue that has been highlighted by a number of previous publications (Freeman & Johnson, 1998; Ritter, 2007).

The second and the third factors (i.e. knowledge of ELT-related theories and knowledge of relevant disciplines) are the two components that are especially important for LTEs. Shulman (1987) believes that it is through these knowledge components that an understanding of the theoretical explanation of teaching and learning processes is possible.

Knowledge of technology (the fourth factor) signifies that quality teacher educators should not only be familiar with the latest technological devises, but should try to instruct preservice/inservice teachers on how to use them in their classrooms. This factor is one of the neglected components, with references only in the standards of the Association of Teacher Educators. In fact, with the fast technological improvements in today's world and their profound influence on education, it is not surprising that this component emerged as an independent factor in our study. Increasing discussions of computer assisted language learning (CALL) in recent years provides further support for the importance of this component in the ELT context (Chapelle, 2010).

Knowledge of the context is the next resulting factor that has been frequently mentioned by a large number of researchers (Ben-Peretz, 2011; Chauvot, 2009; Wilson, 2006). This component illustrates the significance of teacher educators' familiarity with the social, economic, and ethnic diversity of the school district in which teachers start their teaching career. Without possessing a suitable knowledge level in this regard, teacher educators may prepare teachers in ivory towers that isolate them from the genuine image of the community, which can lead to "reality shock" (Veenman, 1984, p. 143) for novices upon their induction into the school context.

Likewise, knowledge of research, which is the seventh component, has been a frequently cited category of teacher educators' knowledge (Chauvot, 2009; Cochran-Smith, 2005), though it has received moderate attention among teacher educators (Borg & Alshumaimeri, 2012). The results of factor analysis indicated that the seventh factor revolves around teacher educators' familiarity with quantitative and qualitative research paradigms.

Knowledge of social relations is another component of teacher educators' pedagogical knowledge which specifies that they should build good rapport with their colleagues and other educational stakeholders. The same component also emphasizes the importance of establishing a good relationship with teacher candidates. In the literature, this component is addressed within teacher educators' professional socialization process (Murray & Male, 2005).

The next component, knowledge of language-related issues, is another factor that particularly belongs to the domain of LTEs. It encompasses teacher educators' fluency in the target language, familiarity with its culture, and metalinguistic awareness. In fact, this component was frequently mentioned by the interviewees (mentioned above), with some of them believing that teacher educators are important role models for teacher candidates and, therefore, their fluency in the target language will impress teacher candidates. Moreover, without suitable command of the target language, it is difficult to imagine how teacher educators are able to communicate their ideas easily to teacher candidates.

Awareness of teachers' needs and emotional well-being, manifested in the knowledge of teachers, is another crucial component, which is the equivalent of knowledge of students possessed by teachers (Shulman, 1987). Finally, knowledge of socio-political issues shows the importance of teacher educators' knowledge of the power hierarchy in the educational context and the effect of broader political and social variables on teacher education programs.

Three groups of stakeholders' viewpoints

This part of the study aimed at finding potential significant differences among the three groups of stakeholders' ratings on the eleven factors of teacher educators' pedagogical knowledge. A single factor one-way ANOVA between-group comparison was conducted on each of the eleven factors. Table 4 illustrates the mean and standard deviation of the three groups' ratings for the eleven factors.

Table 4
Descriptive Statistics the Three Groups of Stakeholders' Ratings for the Eleven Factors

Factors	Groups					
	Teachers		Teacher educators		University professors	
	M	SD	M	SD	M	SD
F1: knowledge of teacher education	4.07	.56	4.29	.52	4.27	.50
F2: knowledge of ELT-related theories	3.90	.62	4.16	.55	4.19	.46
F3: knowledge of relevant disciplines	3.81	.73	2.98	.64	3.76	.60
F4: knowledge of technology	4.10	.72	4.18	.68	4.13	.65
F5: knowledge of context	3.62	.81	3.53	.72	3.83	.69
F6: knowledge of research	3.60	.85	3.71	.86	3.91	.75
F7: knowledge of social relations	4.42	.47	4.51	.52	4.38	.50
F8: knowledge of language related issues	4.29	.57	4.28	.62	4.44	.48
F9: knowledge of reflection	4.15	.63	4.43	.64	4.25	.67
F10: knowledge of teachers	4.12	.56	4.30	.59	4.27	.44
F11: knowledge of socio-political issues	3.81	.65	3.92	.61	3.93	.61

Analyses of the main effect indicated significant differences in five factors: knowledge of teacher education, F (2, 434) = 5.73, p = .003, knowledge of ELT-related theories, F (2, 434) = 8.67, p = .000, knowledge of research, F (2, 434) = 3.07, p = .04, knowledge of reflection, F (2, 434) = 5.23, p = .006, and knowledge of teachers, F (2, 434) = 4.01, p = .019. In the other factors, no statistically significant difference was observed among the three groups (see Table 5).

Table 5
Results of between-group One-way ANOVAs

Professional occupation	df	Sum of squares	Mean square	*F*	*p*
F1: knowledge of teacher education					
Between groups	2	3.46	1.73	5.73	.003*
Within groups	434	123.60	.30		
Total	436	127.06			
F2: knowledge of ELT-related theories					
Between groups	2	6.20	3.10	8.67	.000*
Within groups	434	149.10	.35		
Total	436	155.30			
F3: knowledge of relevant disciplines					
Between groups	2	1.74	.87	1.72	.18
Within groups	434	215.37	.50		
Total	436	217.11			
F4: knowledge of technology					
Between groups	2	.32	.16	.32	.72
Within groups	434	213.88	.50		
Total	436	214.21			
F5: knowledge of context					
Between groups	2	2.62	1.31	1.85	.15
Within groups	434	301.57	.70		
Total	436	304.20			
F6: knowledge of research					
Between groups	2	4.38	2.19	3.07	.04*
Within groups	434	301.70	.71		
Total	436	306.08			
F7: knowledge of social relations					
Between groups	2	.61	.30	1.29	.27
Within groups	434	99.58	.23		
Total	436	100.20			
F8: knowledge of language related issues					
Between groups	2	1.02	.51	1.48	.22
Within groups	434	147.21	.34		
Total	436	148.24			
F9: knowledge of reflection					
Between groups	2	4.34	2.17	5.23	.006*
Within groups	434	177.15	.41		
Total	436	181.49			
F10: knowledge of teachers					
Between groups	2	2.46	1.23	4.01	.019*
Within groups	434	129.85	.30		
Total	436	132.32			
F11: knowledge of socio-political issues					
Between groups	2	1.02	.51	1.23	.29
Within groups	434	175.89	.41		
Total	436	176.91			

*Significant at .05 level.

The post hoc Tukey analysis revealed the pairs demonstrating significant differences. Regarding *knowledge of teacher education*, teachers (n = 318, M = 4.07) were found to have significantly lower ratings than teacher educators (n = 66, M = 4.29), $p = .01$, $d = .40$, and university professors (n = 52, M = 4.27), $p = .04$, $d = .37$. Likewise, in *knowledge of ELT-related theories*, teachers' ratings (n = 318, M = 3.90) were significantly smaller than that of teacher educators (n = 66, M = 4.16), $p = .00$, $d = .44$, and university professors (n = 52, M = 4.19), $p = .00$, $d = .53$. That is, teachers rated these two factors as considerably less important pedagogical knowledge constructs than teacher educators and university professors. With respect to *knowledge of research*, teachers registered a significantly lower mean (n = 318, M = 3.60) only compared to university professors (n = 52, M = 3.91), $p = .04$, $d = .38$, meaning that this factor was measurably more significant for university professors than teachers. Considering *knowledge of reflection*, significant differences were observed between teachers (n = 318, M = 4.15) and teacher educators (n = 66, M = 4.43), with the latter group showing higher ratings, $p = .00$, $d = .44$. A similar trend was also observed in *knowledge of teachers*, where teachers (n = 318, M = 4.12) demonstrated a significantly lower mean than teacher educators (n = 66, M = 4.30), $p = .04$, $d = .31$. These two constructs, therefore, were evaluated as significantly more imperative by teacher educators compared to teachers. The effect sizes (d) for the post hoc analysis were approximately medium or typical, indicating a medium magnitude in the aforementioned differences (Morgan, Leech, Gloeckner, & Barrett, 2007).

Discussion

The purpose of this study was to investigate the nature of language teacher educators' pedagogical knowledge. Also, examined here was the extent to which teachers, teacher educators, and university professors' ideas about the importance of various components of teacher educators' pedagogical knowledge differed from each other. In this section, the key insights obtained in these two aspects are discussed.

LTEs' pedagogical knowledge

Compared to the conceptual model, structural changes were observed in a number of LTEs' pedagogical knowledge components. In fact, the first factor, knowledge of teacher education, emerged as a result of clustering items from initially three factors; that is, in the conceptual model, items 22, 23, 24, and 26 were classified under the *knowledge of instruction*, whereas items 27, 29, 30, 31, and 32 were grouped in the *knowledge of assessment* and items 33, 35, and 36 belonged to the *knowledge of practicum*. This shared factor suggests that all these three components of the conceptual model belong to the same construct which encompasses teacher educators' knowledge of the best procedures for designing and implementing teacher education programs and evaluating preservice/inservice teachers' development. The large number of items that have loaded on this factor further demonstrates the breadth and depth of this knowledge area.

Another striking divergence from the conceptual model was the embodiment of the *knowledge of content* in three independent factors, namely knowledge of ELT-related theories (factor two), knowledge of relevant disciplines (factor three), and knowledge of language-related issues (factor eight). These results reinforce the idea that the traditional content knowledge, originally defined by Shulman (1986; 1987) to account for teachers' knowledge of a particular subject matter, should be revisited when applied to teacher educators. In other words, content for LTEs may be seen in terms of three separate constructs, entailing knowledge of language teaching and learning theories, relevant disciplines that have indirect influence on ELT, and proficiency- and linguistic-related issues of the target language.

The third distinction between the conceptual model and the factor model was the emergence of the ninth factor (i.e. knowledge of reflection) as an independent construct which originally belonged to the *knowledge of professional development* component in the conceptual model. The two items that loaded on this factor indicate teacher educators' knowledge of the way to practice and promote reflective teaching. The rest of the items in this initial component (items 50, 51, and 54), which were related to teacher educators' knowledge of the existing professional journals and reading materials failed to load on any particular factor. This may be explained based on the practical nature of teacher educators' responsibilities, meaning that they need to prepare teachers for classroom situations; therefore, many of the respondents did not find it necessary for teacher educators to be updated regarding the existing journals of the field, which mainly publish papers that may not have immediate applications in the language classroom.

Finally, the most striking incongruity between the results of factor analysis and the initial framework was the omission of the *knowledge of critical/moral issues* component. In fact, none of the items tapping into this component had a significant loading on any factor. Similar results were pointed out in a study that was intended to develop a reflective inventory measuring language teachers' degree of reflection (Akbari, Behzadpoor, & Dadvand, 2010). Yet, the literature of mainstream teacher education suggests that knowledge of moral issues is one of the characteristics of expert teacher educators. One possible explanation may be the contextual and phenomenological differences between general education and ELT; while in mainstream education, discussions of moral and critical issues have been a dominant discourse for a considerable time, in the ELT context, these subjects have not thoroughly been touched upon and therefore are viewed as unimportant or secondary. This lack of attention to morality and critical pedagogy in ELT was also reflected in the interviews conducted by three groups of stakeholders mentioned above, with a few themes extracted from the transcripts in this regard.

Save for these instances of structural change, the rest of the resultant factors (factors four, five, six, seven, ten, and eleven in Table 3) were highly similar to the corresponding components in the conceptual model, with slight differences being detected only in two factors. More precisely, item 20, which was originally classified under the *knowledge of content* component in the conceptual model, loaded on factor seven, *knowledge of social relations*. In fact, this item is concerned with teacher educators' knowledge of classroom management, which can be assumed as a type of social relation ability. The second minor anomaly was the reduction of number of items in factor eleven; that is, two items, which were categorized under the *knowledge of socio-political issues* in the conceptual model, failed to load on the corresponding (or any other) construct.

Differences in stakeholders' ideas

Out of the eleven factors, five showed significant differences among groups based on their professional status. With respect to the first two factors (i.e. knowledge of teacher education and ELT-related theories), teachers had significantly lower ratings than teacher educators and university professors. This may be explained in the light of the shared knowledge domain between teachers and the other two groups of stakeholders. In other words, teachers unconsciously tend to give higher rates to those knowledge components that they have in common with teacher educators. Based on the results of previous studies on language teachers' pedagogical knowledge (e.g. Akbari & Dadvand, 2011; Gatbonton, 2008), however, these two components have never been cited as the constituent elements of teachers' knowledge base. Looking at teacher educators' pedagogical knowledge through their own lenses, therefore, teachers did not find these factors important. Further evidence for this claim can be derived from the lack of significant differenece in some other components (e.g. knowledge of context and social relations), which have emereged among the constructing elements of teachers' pedagogical knowledge in previous research.

Another considerable difference was found in knowledge of research (the sixth factor), where university professors had significantly higher score than teachers. This result suggests that stakeholders' working context can be influential in shaping their ideas about teacher educators' pedagogical knowledge. That is, since in a university context conducting research is one of the essential parts of professors' professional responisbilities, they assign a higher score to this component. On the contrary, teaching the foreign language is considered the main responsibility of teachers, hence their lower scores for the knowledge of research which seems less relevant to their main duties. Mehrani (2017) has also emphasized that teachers are primarily concerned with improving their teaching performance and tend to concentrate only on the types of research that enhance their teachinng ability. The working milieu was also influential in shaping educational stakeholders' world views in Koster et al.'s (2005) study, where conducting research was considered an important requirement only among university-based teacher educators. In our study, teacher educators' rating was approximately in the middle of the other two groups and had no significant difference with either of them. This indicates that because of their major duty of translating abstract, theoretical ideas into tangible, practical solutions for language teachers, they adopted a moderate standpoint toward knowledge of research, a finding that is supported by Borg and Alshumaimeri (2012).

Finally, signifianct differences were detected between teachers and teacher educators in factors nine and ten (i.e. knowledge of reflection and teachers), with the former group registering a lower rating. This difference mirrors the influence of recent views toward teachers and their learning process. In fact, with the spread of more humanistic views to teachers, attention has been geared toward practitioners' needs and requirements, with reflective orientations as a sign of teacher educators' care about their profession (Gore & Zeichner, 1991). On the other hand, the dialogic approach to teacher education has highlighted the importance of deciphering teacher's underlying beliefs and ideologies (Freeman & Johnson, 1998). Therefore, teacher educators need to accumulate more knowledge about teacher candidates in order to provide more useful instructions during teacher education programs (hence, their significantly higher rating to knowledge of teachers). One of the instruments that they have in order to acquire this knowledge is reflecting on their own practices and their influences on teacher candidates. In this way, they can discover what works in the teacher education program and where some modifications are required.

Conclusion

The results have several implications. First, teacher educators have been traditionally selected based on their academic degree or policy makers' intuition (Murray & Male, 2005). The eleven components that emerged in this study can be used as a tentative yardstick to examine the professional knowledge of teacher educator applicants. Policy makers can decide whether a particular applicant is suitable to be a teacher educator based on his/her knowledge in each of the eleven components. In addition, the same questionnaire may be utilized as a benchmark to develop a standardized test measuring teacher educators' pedagogical knowledge. Similar to teacher knowledge tests like TKT, such a measurement can function as a criterion-reference test to certify teacher educators on the basis of the amount of their pedagogical knowledge.

On the other hand, the observed differences between the three groups of stakeholders' ideas suggest that perhaps this discrepancy is one of the sources for lack of desired outcomes reported in teacher education programs (Freeman, 2002). Teacher candidates enter the program with a set of expectations which do not match the goals that are determined by teacher educators. It seems that, in line with the basic tenets of a dialogic approach to teacher education (Freeman, 2002), at the beginning of teacher education programs, goals and objectives should be negotiated with

teachers. Effective communication among various groups of stakeholders can increase commonalities in their expectations, which in turn results in more influential teacher education programs.

Like any other research attempt, the present study is not devoid of limitations. First, the categories of teacher educators' pedagogical knowledge were inferred from the literature and their relevance to the construct was not checked through eliciting expert judgments. The expert judgments were consulted after the categories were translated into questionnaire items. Thus, the judgments could not be directly related to the relevance of the items to the construct as some items might have received low ratings due to their wording. It is therefore suggested that, in future attempts, researchers try to seek expert judgment on both the conceptual model and the questionnaire items and try to establish a more consistent correspondence between them. Second, although the designed instrument showed an adequate internal consistency, we acknowledge the need for further investigation of the external and construct validity of the instrument. For instance, the same questionnaire can be used in other contexts to tap into a larger number of ELT stakeholders' ideas. It will be of particular interest to determine if the eleven-component questionnaire will stand the test of contextual differences with stakeholders from other parts of the world holding similar opinions about LTEs' pedagogical knowledge. Finally, a set of ANOVAs was employed to detect the differences between three groups' of stakeholders' ideas. This data analysis procedure does not account for the possible correlation among dependent variables (i.e. components of LTEs' pedagogical knowledge). The majority of P-values obtained in this study suggest that this correlation among dependent variables could not greatly affect the results of the study. Nevertheless, it is recommended that future researchers try to collect data from a larger number of teachers, teacher educators, and university professors and use more sophisticated data analysis procedures to examine possible differences in the three groups of stakeholders' ideas. Conducting follow-up interviews with selected members of the three groups can also shed light on the reasons behind existing discrepancies in beliefs about LTEs' pedagogical knowledge.

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Acknowledgements

I am grateful to all the participants who kindly cooperated in different phases of the study. I am also indebted to the anonymous reviewers whose insightful comments significantly improved the quality of the manuscript.

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Appendix 1
Sample questions used in the interview guide

1. Have you ever experienced any teacher education program? What did you (dis)like about teacher educators' performance?
2. What are the minimum requirements of becoming a language teacher educator?
3. What do you think about the characteristics of an ideal teacher educator?
4. What are the differences between a language teacher educator and a teacher educator of other subject matters?

Appendix 2
The conceptual model of the components and categories of LTEs' pedagogical knowledge

Components	Categories
Knowledge of socio-political issues	• Knowledge of educational goals, policies, and objectives
	• Knowledge of power relations
Knowledge of content	• Knowledge of English language related issues
	• Knowledge of education-related disciplines
	• Knowledge of ELT-related theories
	• Knowledge of theories in general education
	• *Knowledge of target language culture*
	• *Knowledge of the first language*
	• *Knowledge of language proficiency*
	• *Knowledge of teaching methodology*
	• *Knowledge of error correction*
	• *Knowledge of technical jargons*
Knowledge of instruction	• Knowledge of transferring information to teachers
	• Knowledge of teaching and learning process
	• Knowledge of designing teacher education programs
	• *Knowledge of exigencies*
Knowledge of assessment	• Knowledge of assessing teachers
	• Knowledge of testing
	• Knowledge of supervising teachers
	• Knowledge of evaluating teacher education programs
	• Knowledge of selecting teacher candidates
Knowledge of practicum	• Knowledge of implementing Teacher education program
	• Knowledge of demonstrating good teaching practice
	• Knowledge of providing practical teaching opportunities
	• Knowledge of relating theory to practice
	• *Knowledge of sharing experiences with teacher candidates*
Knowledge of context	• Knowledge of school/institute
	• Knowledge of future students
Knowledge of critical/moral issues	• Knowledge of social improvement
	• Knowledge of critical eyes
	• Knowledge of fostering critical thinking
Knowledge of research	• Knowledge of conducting research
	• Knowledge of training researchers
Knowledge of technology	• Knowledge of using technology

	• *Knowledge of technology user training*
Knowledge of professional development	• Knowledge of reading academic books and journals/attending conferences
	• Knowledge of reflective practice
	• Knowledge of available resources
Knowledge of social relations	• Knowledge of communicating with colleagues
	• Knowledge of social behavior
	• *Knowledge of teacher candidates' behavior*
Knowledge of teachers	• Knowledge of teachers and their needs