

Teaching English as a Second Language Online ISSN: 2717-1604 Quarterly (TESLQ)

(Formerly Journal of Teaching Language Skills) 41(2), Spring 2022, pp. 205-243

DOI: 10.22099/TESL.2021.41332.3031

Print ISSN: 2008-8191

Research Paper

A Model of EFL Teachers' Pedagogical Content **Knowledge: A Data-Driven Approach**

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Abstract

Since its introduction in 1980, the concept of Pedagogical Content Knowledge (PCK) has attracted much attention. Although many studies have been conducted in science and mathematics, there are insufficient studies to capture the PCK of EFL (English as a foreign language) teachers. Accordingly, the present study aimed to unearth EFL teachers' PCK through a grounded theory approach in the Iranian context. To this end, semi-structured interviews were conducted with 30 English teachers at senior high schools in three provinces of Ilam, Lorestan, and Kermanshah. The transcribed interviews were analyzed using coding procedures. The results yielded five main dimensions of EFL teachers' pedagogical content knowledge: English language proficiency knowledge. pedagogy knowledge, student knowledge, curriculum knowledge, and assessment knowledge. Data analysis also revealed the sources of EFL teachers' PCK construction and demonstrated that contextual and intervening conditions influence EFL teachers' PCK enactment. The findings may have theoretical and practical implications for high school EFL teachers, educators, and education programs.

Received: 03/09/2021 Accepted: 03/12/2021

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Keywords: EFL Teachers, Pedagogical Content Knowledge, Grounded Theory, Contextual Conditions, Intervening Conditions

Schools are continually challenged to enhance teachers' professional knowledge to meet the changing and growing demands of education and keep pace with students' increasing needs. Lee Shulman (1986) defined teachers' professional knowledge as pedagogical content knowledge (PCK), which is described as a basic notion in characterizing the qualities of effective teaching (Magnusson, Krajcik & Borko, 1999). PCK has attracted scholars' attention to the distinctive professional expertise that characterizes teaching and distinguishes between teaching and other professions (Kind, 2009; Shulman, 1986). The knowledge is enacted through "the blending of content and pedagogy that is implemented through teachers' understanding of how specific subject matter is organized, presented, and adapted to the varied interests and abilities of learners, and then employed to involve learners during instruction" (Shulman, 1987, p.8).

Despite considerable research to explore PCK in disciplines such as science and mathematics (Bertram & Loughran, 2012; Bukova-Güzel, 2010; Isiksal & Cakiroglu, 2011; Magnusson et al., 1999), relatively less attention has been paid to EFL teachers' pedagogical content knowledge. Accordingly, the present study aims to fill the gap by investigating Iranian EFL teachers' PCK through a grounded approach (Strauss & Corbin, 1998). This study tends to increase understanding of PCK in the EFL context and enriches the PCK literature by yielding new evidence for its conceptualization. It is also expected that findings help develop a theoretical model for EFL teachers' PCK.

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Literature Review

Teacher knowledge is a rich area of inquiry (Freeman & Johnson, 1998; Verloop, Van Driel & Miijer, 2002). One of the most well-known models of teacher knowledge is Shulman's (1987) multilevel model, which comprises pedagogical knowledge, content knowledge, and pedagogical content knowledge (PCK), among other kinds. PCK is unique to teachers, according to Shulman, despite the fact that the other knowledge kinds have parallels in other fields, PCK is unique to teachers. PCK has been described as a distinguishing aspect of teachers' practice, as stated in Kind (2009), and it merits special attention as a distinct component of their work.

This type of knowledge is considered critical to the design and achievement of effective teaching since it pertains to the ability to represent and articulate content in a discipline in a way that students can understand (Shulman, 1987). In particular, it is conceptualized as transforming subject-matter knowledge into forms understandable to the students being taught. When teaching is deemed to involve such a transformation, the next stage is to articulate the types of knowledge necessary to carry out such a transformation (Geddis, 1993).

According to Park and Oliver (2008), one of the common ways for researchers is to conceptualize PCK in terms of its components. Clarifying the PCK components and sub-components makes the concept of PCK more transparent and less demanding to apply. An overall depiction of PCK components has been made since Shulman (1986) first described the concept of PCK. Shulman distinguished two main components in PCK: (a) the foremost commonly instructed topics in one's field and the foremost valuable ways of presenting those topics, and (b) an understanding of what makes learning different topics simple or troublesome (Jing-Jing, 2014).

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Although a literature review demonstrates that a proliferation of studies on PCK components are mainly found in science and mathematics (Bertram & Loughran, 2012; Bukova-Güzel, 2010; Hashweh, 2005; Isiksal & Cakiroglu, 2011; Van Driel, Verloop & De Vos,1998), research on PCK is scarce in language learning in general and foreign (FL) and second (L2) languages in particular to the extent that it seems too simplistic, to some, to apply PCK from the general education directly to the language teaching field. Borg (2006) considers that teaching English as a foreign language is different from teaching other disciplines for several reasons. Other researchers maintain that content and medium of instruction are intertwined in language teaching, and EFL teachers' PCK has distinctive attributes (Canagarajah, 2013; Larsen-Freeman & Cameron, 2008; Watzke, 2007). According to Freeman (2002), teacher education entails a particular knowledge base and learning opportunities.

The language aspect of the PCK structure has been underlined by some studies (Andrews, 1997, 2003; Johnston & Goettsch, 2000). Inspired by Thornbury's definition of teacher language awareness as "teachers' possessed underlying systems for effective teaching" (Thornbury, 1997, p.x), Andrews (1997) pointed out that this awareness has a profound effect on first and second language teaching. Language awareness encompasses not merely the language domain but also the sociolinguistic and cultural domains and immediately impacts teachers' performances. Andrews (2003) further mentioned that language awareness, which includes psychomotor skills and strategic competence, is an indispensable building block of language teachers' PCK and assumes a significant part in the selection of resources for language input.

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The significance of EFL/ESL teachers' language knowledge was also accentuated by Johnston and Goettsch (2000). The authors mentioned that language teaching is predominantly an understanding of education, not linguistics. They further noted that one specific truth had been largely disregarded in the general endeavor; teachers must know the language before teaching the language. The knowledge of language incorporates a tacit understanding of standards such as parts of speech, verb categories, pronunciation rules, sentence structure, and tenses.

Although mastery of the language or a high level of target language proficiency is a basic requirement for EFL teachers, it is not conceived to be enough for effective teaching. Other scholars and researchers have attempted to broaden the PCK components and offer definite indications for this knowledge (Cesur & Ertas, 2018; Hardwood, 2010; Richards, 2010; Tsui, 2003). In an investigation of teachers' knowledge in Hong Kong, Tsui (2003) formulated the PCK of four ESL teachers. She considered basic knowledge of teaching (management of learning) and its component demonstration (enactment of curriculum) as two primary and intertwined constituent parts of PCK (as cited in Wang, 2020).

Richards (2010) describes pedagogical content knowledge as knowledge that comes from the study of language teaching and learning and can be implemented in various ways to address practical problems in language teaching. The knowledge might incorporate areas such as curriculum planning, assessment, reflective teaching, classroom management, and teaching the four skills.

To Demirel (1989), the PCK of EFL teachers may also include a good mastery of the English language, language use knowledge, and theoretical background of the field. An English teacher must show pedagogical

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competence and have a wide range of abilities such as lesson planning, materials development, instructional organization, classroom management, presentation of subject matter, and assessment (as cited in Cesur & Ertas, 2018). Furthermore, EFL teachers need to be specialists in the language teaching methodology and learning and master a range of skills, competencies, and knowledge types to satisfy the needs of students. They need specific capabilities to construct lively communicative learning environments and provide opportunities to develop content-associated skills (Borg, 2006; Cesur & Ertas, 2018).

Since Park & Oliver (2008) considers PCK as context-specific, generalizing the findings from one context to another may not satisfy the needs of stakeholders. This is in line with Kumaravadivelu (2006) when he maintains that any teaching context is unique and needs local demands and lived experiences. Therefore, to portray a thorough understanding of the issue, it seems necessary to examine EFL teachers' PCK in different contexts in the sense that every case, e.g., the Iranian context, can be a context with distinctive characteristics.

The literature represents few studies of high school EFL teachers' PCK in Iran (Safari Asl, Safari Asl, & Safari Asl, 2014; Shariatifar, Kiany & Maftoon, 2017). Safari Asl et al. (2014) measured EFL teachers' PCK using multiple-choice questions taken from MA Entrance Exam given in 2012, encompassing 15 methodology questions. The results indicated that quite many teachers had much lower pedagogical content knowledge than expected. Although PCK has been considered a multilevel and complex concept in the literature, the authors of the given study measured PCK as equated to the methodology aspect of teaching. In another study, through content analysis of the related literature and the interviews with high school EFL teachers and

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teacher educators, Shariatifar et al. (2017) found that EFL teachers' PCK involves three knowledge categories: teaching and assessing the components of the curriculum, developing, planning and managing language instruction, and developing and assessing instructional materials. In this study, the clarification of PCK components is relatively narrow, and further research is required to provide a more comprehensive understanding of EFL teachers' PCK.

Considering the complicated and multidimensional nature of PCK and the limited number of studies conducted in Iran, this study intends to capture EFL teachers' PCK through grounded theory research as perceived by a sample of Iranian EFL teachers in public high schools. More specifically, the study aims to answer the following questions:

- 1) What are the main categories and dimensions of Iranian senior high school English teachers' PCK?
- 2) What conditions influence EFL teachers' PCK?

Method

Participants

The participants for the study consisted of 30 English teachers in public senior high schools from three provinces of Ilam, Lorestan, and Kermanshah, Iran. Participants were selected through purposeful sampling. Considering professional experience as an indispensable source of teachers' knowledge (Gholami & Husu, 2010), experienced teachers with at least 5 years of teaching English were selected as the main data source. They were promised anonymity for their names, and abbreviations such as "T2" (i.e., Teacher 2) were used alternatively. Participants' demographic details are presented in Table 1.

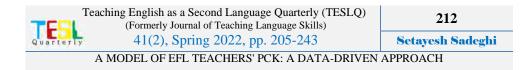


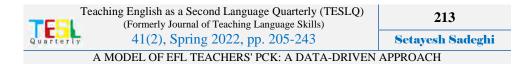
Table 1.

Demographic Details of Participants

Province	Gender	Age	Teaching experience	Educational degree
Ilam (14)	Female: 7 Male:7	37-52	5-32	Bachelor:5 Master:6
				Doctorate:3
Lorestan (8)	Female: 4 Male:4	42-49	11-30	Bachelor:2
				Master:5 Doctorate:1
Kermanshah (8)	Female:3 Male:5	37-55	6-29	Bachelor:2
				Master:4 Doctorate:2

Instrument

The study used semi-structured interviews as the main data collection instrument. Interview questions were designed based on key features of teachers' pedagogical content knowledge highlighted in CoRe (content representation) (Loughran et al., 2004) and the literature to capture teachers' PCK (see Appendix). The CoRe was originally designed to directly elicit and record the PCK of teachers in science education, but the use of this tool has also been extended to various general subject contexts. The interview process was carried on in line with Corbin and Strauss's (1998) funnel-like approach. Based on this approach, researchers moved slightly from general questions to more specific ones so that they could deepen their understanding and avoid biases in the responses. Thirty English teachers were interviewed. Each interview lasted an average of 30 minutes. Interviews were conducted in Persian, except for two cases. Interviews were audio-recorded and transcribed verbatim. They were conducted in October and November 2019.



Data Collection and Data Analysis

Following the conventional practice in studies associated with pedagogical content knowledge, a qualitative method was employed for collecting data. More specifically, grounded theory was adopted since the study's main purpose was to develop a theoretical model of English teachers' pedagogical content knowledge. It is a research approach in which the theory comes from the data (Creswell, Hanson, Plano, & Morales, 2007). The process of data collection and the constant comparison of the themes were maintained iteratively until the researchers attained a level of theoretical saturation (Strauss & Corbin, 1998).

The transcribed interviews were read through repeatedly. They underwent open, axial, and selective coding stages. During open coding, transcripts were broken into units of analysis, which could be keywords, phrases, and sentences. In this phase, similar concepts were clustered into categories based on their thematic content. The link and interrelationships between the categories and concepts were specified in the axial phase. To enrich the analysis, memo writing, theoretical sampling and constant comparison were also conducted during this process. This phase presents what Strauss and Corbin (1990, p. 99) refer to as the "Paradigm Model," which sets out to establish a network of relationships between the core phenomenon and categories and sub-categories. These relationships described the phenomenon under investigation based on its properties, dimensions, and conditions (causal, contextual, and intervening). Through the final phase, selective coding, a core category was derived from the already classified categories as an "explanatory whole" in order to build the theoretical framework (Strauss & Corbin, 1998).

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To clarify and check the accuracy of findings, the trustworthiness of the findings was established through peer review and member checking. Peer review was conducted through consensus among the study authors regarding the themes drawn from the raw data. Through member checking, the concepts and categories together with the final conceptualization of teachers' perspectives on PCK were shown to the participants for verification and any possible modification.

Results

The analysis of the interviews identified the dimensions of the phenomenon under study, that is, EFL teachers' pedagogical content knowledge and the conditions influencing the phenomenon. The conditions included causal (sources of construction), contextual, and intervening conditions. In what follows, the five dimensions of PCK and the categories of causal, contextual, and intervening conditions are provided.

Dimensions of EFL Teachers' PCK

Knowledge of English language proficiency

Findings made it clear that this dimension reflects teachers' knowledge of the subject matter, knowledge of the English language skills and components, and the underlying system of language. All the teachers acknowledged this knowledge as the cornerstone of English language teaching. But, the components of this knowledge were preferred by the participants in different ways. The analysis of the frequency of participants' responses indicated that the teachers agreed most (66%) with oral communication as the most important skill to teach. This was followed by vocabulary (29.16%), listening

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(25%), reading (13%), and grammar (13%). "Writing" was the least-ranked skill at 8.33%.

A careful examination of interviews revealed that teachers gave pragmatically defined reasons for their preference for oral communication. Pointing out the usefulness of this skill in real life situations, teachers stated that the main purpose of learning the English language is for students to learn how to communicate and express their ideas. Students should be competent speakers in order to communicate with others in real-life situations. Having supported this viewpoint, one of the participants (T17) stated:

Based on the fact that nowadays students are surrounded by social networks, Internet, or online games, which are communicated mainly through English language, students need to have mastery of English language speaking and vocabulary components.

The second proficiency perceived to be important is "vocabulary". Having emphasized the important role of vocabulary in acquiring a language, the teachers mentioned that someone who has mastered a wide range of vocabulary items could convey their meaning and establish communication. One of the teachers commented: "if you do not know grammar you can communicate even though you are not rule-governed. You can get your message out, but if you do not know vocabulary, you cannot communicate" (T1). Or another teacher stated, "Vocabulary is language" (T16).

Apart from emphasizing oral English and vocabulary, teachers also stressed the importance of listening skill. They mentioned that this skill is considered a prerequisite for desirable speaking, reading, and writing. They perceived that an effective EFL teacher should be good at listening and comprehending audio files, radio, and television talks. One of the teachers

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mentioned, "In my opinion, listening should be taught prior to other skills such as reading and writing because if listening is improved, it helps to speak, reading and writing" (T18).

As for the teaching of grammar, it was considered important by the teachers but with less emphasis than vocabulary. Teachers agreed that knowledge of grammar is necessary. Teacher 9 described it as follows: "Grammar is like the stem of a grape cluster to which the grape seeds (vocabulary) are connected". Although teachers reported that they taught grammar inductively, implicitly, and through the presentation of authentic examples, there were still teachers who focused on explicit grammar instruction to teach lower-ability students and classes.

Teachers also emphasized that EFL teachers must master reading and writing skills. The teachers believed that EFL teachers need to master comprehension of reading passages, novels and storybooks and to be able to write paragraphs, essays, and letters. They argued that the high school curriculum is primarily reading-based, and writing is neglected even though it appears in the textbooks. Although teachers ranked reading skill lower, they focus their performance on this skill in practice. Most teachers referred to students' preferences and stated that students consider reading skill more important than other skills. One of the teachers explained the reason for such a preference as follows:

Konkour (Iranian University Entrance Exam) is very important for students, and as it is reading-based and composed of vocabulary and grammar, teachers are expected to strengthen students in these three areas (T27).

Concerning writing skills, teachers stated that writing skill development in high school is limited to form-manipulation and the development of short and simple sentences, conjunctions, and punctuations. In the third grade, paragraph writing is provided in the last unit of the textbook (T24).

Few teachers mentioned that an effective English teacher is expected to be aware of language and learning theories. For example, participant 13 stated, "I try to apply the theories in my classrooms. I believe that language theories have been established based on the classroom practices".

Knowledge of Pedagogy

Analysis of participants' responses made it clear that this dimension consists of knowledge about teaching methods, procedures, instructional strategies, and classroom management to create effective teaching and learning environments for all students. The study found that teachers adopt different teaching methods, including CLT (Communicative Language Teaching), GTM (Grammar-Translation Method), and Audio Lingual methods. Teachers explained that they select and apply the methods depending on the proficiency level of the students, as is reflected in illustrative teachers' comments:

Depending on the level of the class and students' level of understanding, I teach the instructional points in simple words and using appropriate teaching methods, sometimes through examples and sometimes with pictures and synonyms and antonyms (T8).

Regarding the teaching procedure, teachers declared that they followed the procedure specified in the textbook by the Education Ministry. They stressed that the procedures used in the new textbook series (*Vision*) are

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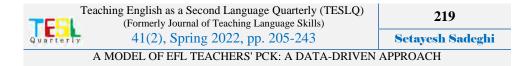
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different from the old ones. For instance, one of the teachers described the procedure: "Psychologically, the layout is good; it starts with the simple and goes to the complex; it goes slowly into the reading section" (T2).

The analysis of interviews demonstrated that the EFL teachers employed various strategies to communicate lessons to students. These strategies included the memory strategy of using *imagery* (visual aids, pictures, whiteboard, illustrations within the textbook), *elaboration* (working in group to discuss the question and interpret the answer, personalized examples, making a sentence, rewriting and summarizing in their own words), *organization* (identifying main ideas, finding main ideas, summarizing the passage with the main idea), *rehearsal* (drill, completing worksheets, doing homework), and *cognitive* (translating and questioning). The findings revealed that teachers used the translation strategy when they worked with students having low language proficiency; the teachers translated sentences or utterances into Persian. They used the imagery strategy when introducing new words or new topics to students. Another memory strategy, elaborating (associating), was used when the teachers tried to associate words or concepts with objects or people that represented them.

The participants claimed that teachers require a range of instructional strategies to suit various situations. They stated that choosing the most appropriate strategy relies on the students' understanding and proficiency level. Nearly all teachers believed that the Education Ministry must provide teachers with in-service courses encompassing necessary and effective instructional strategies. These courses not only can expand a teacher's expertise but would also lead to his/her individual development.

Data analysis also revealed that another important aspect of pedagogical knowledge is being able to manage the classroom properly. Interviewees



assumed that without appropriate management, teacher success would be farreaching. In support of this view, one of the participants stated,

More than anything else, a teacher needs to be able to control the classroom and control his or her nerves. Crowded classrooms and students' talkativeness, and in some disciplines, students' lack of interest in English makes classroom control very difficult (T5).

Knowledge of Students

In the present study, knowledge of students comprises three sub-themes: knowledge of students' preconceptions, knowledge of students' needs, and knowledge of an emotional and supportive relationship with students. This knowledge is an indispensable component of PCK (Magnusson et al., 1999; Gess-Newsome, 2015). Understanding students can assist teachers in adjusting their PCK, converse better with students, and provide meaningful and appropriate feedback (Shulman, 1986).

Knowledge of students' preconceptions involves teachers' awareness of students' attitudes towards learning English and students' enthusiasm, interest, and motivation in learning English. Based on the interviews, there were some primary channels for EFL teachers to identify students' attitudes, interests and enthusiasm, difficulties, and needs. First, some participants stated that they usually conducted a survey and informal interviews in the first teaching session to identify the way students perceived English, their previous learning experience, and their preferences, expectations, and weakness, as referred to in one of the participants' comments: "I ask students to write their opinions and expectations on a piece of paper without writing their names" (T6). Second, the teachers were inspired by the assignments and homework of students. When evaluating students' homework, the teachers diagnosed errors.

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The teachers mentioned that revising students' homework allows them to better understand students learning. Third, interactions between the teacher and the student in the class can permit teachers to gain a deeper insight into students' differences, difficulties, and needs.

The participants' responses indicated that knowledge of students' needs encompasses teachers' understanding of students' prior experience and knowledge, possible difficulties, students' differences, and providing various activities and questions based on students' proficiency level. Knowledge of students' difficulties and misconceptions in learning is an important component of PCK (Shulman, 1989). In the present study, some difficulties were mentioned by teachers: difficulty in understanding some structures such as "sentence tense", "adjectives," and "passive and active" voices. Teachers also declared that students are not homogeneous in their English proficiency. They pointed out that students who have passed English courses in Private Language Institutes cannot stand the extra explanations and the use of the first language in class. On the other hand, students with lower language proficiency experience language anxiety when teachers teach in English.

The teachers acknowledged that they adapted and modified their teaching methods and strategies based on the varying levels of student proficiency. In the Science and Mathematics fields of study, where students are more competent and motivated and have a higher level of proficiency, the teachers typically adopt the CLT method. They gave students English explanations, examples, synonyms, antonyms, and representations; they rarely translated texts into Persian. In these classes, teachers are able to provide points beyond the scope of the textbooks. For example, one of the participants (T20) mentioned.

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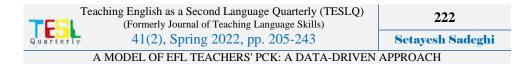
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If the students are weak, we work based on the textbook, but if the class is motivated, we work on Konkour tests. We study smaller texts that are harder and more similar to those of Konkour.

However, with regard to the low-achieving students and classes, the teachers applied other strategies and methods. For instance, T14 posited, "I do not harass weak students so that their personalities are not hurt; I do not ask weak students the questions that I ask strong students."

Analysis of the interviews showed that knowledge of the emotional and supportive relationship with students refers to teachers' knowledge of emotion-behavior connection with students, creating a supportive environment in the classroom, student engagement, building a respectful relationship with students, and dealing with inappropriate behaviors effectively. This subcategory was emphasized by most participants (Teachers 1, 2, 3, 17, 19, 21, 27, and 30). One of the participants, for example, believed that "Having a friendly character and behaving students in a supportive manner is very important for an EFL teacher to be effective. This provides the learners with a non-threatening environment for learning and makes them interested in learning lessons" (T30). Or another participant stated, "It is completely impossible to teach any concept to the student unless the teacher can build an emotional bridge with the student" (T21).

The teachers pointed out that the low-achieving students feel high levels of anxiety due to their low English proficiency levels and that this negative emotion affects their learning.



Knowledge of Curriculum

Analysis of the participants' responses made it clear that curricular knowledge consists of knowledge of the general objectives of ELT education and that of textbooks.

The formal objectives of teaching the English language as a foreign language are presented in Official Documents such as National Curriculum Document. In the public discourse and policies of the Document, the value of English teaching is recognized as important for "economic development in tourism, business, technology, science, and social-political awareness besides the function of interpersonal and intercultural communication" (National Curriculum Document, 2012, p.37). Learning English is believed to be a primary instrument paving the way to scientific and economic achievements. Indeed, the purpose of learning and teaching is instrumental rather than integrative.

Teachers are required to use the textbooks provided by the Ministry of Education as their primary source for teaching. Throughout the school year, teachers must adhere to the sequence and content of these textbooks for instruction; teachers have no autonomy in selecting their textbooks. They do not have the authority to make changes to the prescribed curriculum, instructional materials, and assessment process, which displays their reliance on authority.

The Iranian ELT curriculum has undergone several paradigm shifts in methodology since 1970. The most recent curriculum reform, introduced in 2011, was intended to represent a shift from traditional teaching and testing to communicative ones. In the new curriculum (i.e., CLT), the objective of school English teaching is to help students develop communicative skills; in

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line with this objective, English textbooks have changed, and teachers should focus on four skills of language instead of mere emphasis on reading skill.

The participants considered teaching and learning English to be very important. Most teachers stated that teaching and learning English is necessary because English is a global language, the language of the world. For example, in this regard, participant 4 stated,

We all know that the English language is an international language. If someone is not familiar with English nowadays, we can say that he is considered illiterate. With the growth of global networks and the growth of the Internet and cyberspace, it is necessary for students to learn English.

Other teachers asserted that the English language is the language of technology and science. Still, others noted that English language learning is a necessity and life competency for students today. They also declared that English teaching could be employed as a means to spread our native culture to other countries.

Some teachers believe in the life competency aspect of teaching and learning English concerning teaching objectives. These teachers perceived that the English language curriculum should develop students' abilities to apply their knowledge in solving problems in life. The teachers believed that English teaching should focus on cultivating students' practical knowledge. However, a good number of teachers emphasized teaching reading skill (the skill-centered pedagogy). They believed that teaching reading comprehension is essential because people everywhere are confronted with written texts in all kinds of real-life and academic situations. In the university entrance exam (Konkour, a high stake test that is conducted every year to select students for

university admission), students are measured largely on the basis of their reading comprehension proficiency. Teachers also believed that students should be taught reading skill so that they would be able to understand and translate technical and scientific texts that they would study at university or the technical texts and literature related to their future field of study. In other words, English serves chiefly as a means to access information, as a tool for acquiring new knowledge and technology.

Knowledge of Assessment

The interviews showed that this dimension involves knowledge of students' understanding and confusion and formative and summative assessments. Nearly all participants agreed that assessments are a source of feedback. They reported that classroom assessments identify areas of student difficulty and weakness and serve to inform teachers' future instruction.

Thematic analysis of data revealed that teachers' assessment practices are linked to the teachers' concerns about students' understanding and confusion. In other words, teachers assess students to ascertain students' understanding or confusion around English language learning. Approximately, all teachers check students' understanding and assess their progress in learning the material being taught by asking a variety of questions. Some of these questions function as display questions where the teacher usually knows the answer. Other questions are used to check whether students are following the instructions. Most of the teachers confirmed that they assessed the students in each session during the presentation of the lesson or after the lesson. For example, one of the teachers stated,

By asking a few questions during the lesson, we can determine if the students have understood the lesson. I ask a question about the topic I

Teaching English as a Second Language Quarterly (TESLQ) (Formerly Journal of Teaching Language Skills) 41(2), Spring 2022, pp. 205-243

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am teaching. If they understand, they can answer; if not, they can't answer (T3).

It is worth noting that teachers' questions and assessments were differentiated according to the skill or component being taught. Some teachers mentioned that for assessing reading skill, they asked oral questions about the text to be read, and regarding vocabulary and grammar, they used sentencemaking items; for speaking skill, they presented students with pictures to talk or write about (Teachers 11, 20, 7), or for listening they played audio files in the classroom (Teachers 29, 15, 8) or asked students to transcribe audio files' (T 22).

In addition to the aforementioned methods the teachers used to assess their students' understanding, they also claimed that students' facial expressions and mental status helped them to realize their understanding or confusion. For example, participant 19 stated, "From the facial expressions and answers to the questions asked during the lesson, the teacher can diagnose whether the students understood the lesson".

Interview analysis also indicated that the overwhelming majority of teachers focused their classroom assessments on formative assessments practices. These assessments encompassed two sub-themes: planned and incidental formative assessments. The frequency calculations of teachers' assessment practices showed that participants' planned formative assessment practices manifested themselves in six main activities: test after each lesson (49.4), written exam (35.7), oral test (28.6), quiz (17.9), multiple-choice test (17.9), and dictation (14.3). The incidental assessment practices comprised the six categories of oral questioning (49.4), group activity or discussion (21.4), a summary of the lesson (17.9), making conversations and new sentences

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(17.9), oral production (17.9), and role play (10.7). There were only 7 instances in which the participants emphasized summative assessment practices as final exams.

In relation to summative assessment, participants were concerned about the accountability purpose of assessment to communicate the final test results to the parents and school administrators; as one of the teachers described, "Summative assessment is not a criterion for me to make a valid assessment of students' performance; I give final exams just to have a report for parents and administrators" (T12).

Causal Conditions

The analysis of the interviews revealed some facilitating circumstances that led to the construction of EFL teachers' PCK. They included modeling, experience, work environment (students, colleagues, resources, and facilities), and professional development opportunities.

As stated by the participants, an initial major source of teachers' knowledge construction was their former teachers. Participants stated that they used their former teachers as models to shape what they did or did not do in the classroom. The teachers referred to the knowledge they had obtained from their previous school teachers and university professors not only in terms of methodological or pedagogical aspects but also in terms of human characteristics and personality traits such as how to interact and build a relationship with students, how to be supportive, thoughtful, humble, and how to use humor. These viewpoints reflect the fact that teachers acquire a knowledge of teaching through their own experiences as learners, a source of teacher knowledge that Lortie (1975) calls "apprenticeship of observation" (p. 61).

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The second source of teacher PCK was recognized as the knowledge teachers received in teacher education programs. Most participants acknowledged that they had acquired their pedagogical-content knowledge through their formal teacher training programs, graduate education courses and in-service courses.

The participants referred to the third source of teacher knowledge as the knowledge that they had gained from their teaching experience. According to Shulman (1986), teaching experience is the primary source of teacher knowledge. Teachers believed that teaching experience plays a significant role in dealing with classroom management and using teaching methods. The teaching experience known as experiential learning is described by Jamieson (1994) as learning in which the learner gets through direct contact with the realities being studied, and uses this direct contact to obtain modified insights that are transferred to encounters with other realities in the future.

The work environment is the fourth source of knowledge formation for language teachers, as reflected in the participants' responses. This category comprises students, colleagues, and the facilities and resources of the school. The components tend to be a significant variable for the construction of a teacher's knowledge. The participants stated that students were the factors that led them to seek professional growth. They also mentioned student misconceptions and questions are mentioned as one of the most important sources of teacher learning that play a significant role in shaping PCK. While teaching strong students energizes teachers to expand pedagogical-content knowledge, dealing with low-achieving students challenges them to seek innovative teaching practices. As the participants asserted, colleagues can serve as resources for reviewing and sharing ideas about appropriate teaching resources and experiences. Providing educational facilities in schools and

deliver the target lessons in more effective ways.

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classrooms is another factor that helps EFL teachers amplify their knowledge. The teachers felt that the facilities could equip teachers with a variety of teaching strategies. They also enabled the teachers to enhance students' learning and give them a sense of autonomy. When the work environment is equipped with technological tools, teachers can upgrade their learning and

In addition to the above sources of knowledge construction for EFL teachers, the participants also referred to educational resources such as books, brochures, social networks, and the World Wide Web, as well as professional development opportunities such as in-service courses, workshops, and seminars to be aware of the current trends in ELT and how to put them into action in the classroom.

Contextual conditions

Analysis of the participants' responses indicated that work context largely influences EFL teachers' knowledge construction and enactment. The participants argued that their practice is inevitably affected by a range of contextual factors that determine what can and should be achieved in any particular classroom. In this study, contextual factors include micro-level factors such as class duration, class size, high-stake exams, and institutional factors such as macro-political concerns.

As regards class duration, the participants believed that if adequate time was allocated to English language classes, they would be able to present and transform instructional materials more effectively and provide students with equal opportunities to participate and practice in pair and group activities, as well as provide timely and effective feedback. They stated that the allotted

time is too short to use the communicative approach. It takes too much time to do speaking and task-based activities.

In relation to class size, the participants mentioned that classes with a small number of students have physical, psychological, managerial, and methodological benefits to teachers. In such classes, teachers can effectively manage the class, meet all the needs of students who have different interests and abilities, and promote students' communicative language skills. In contrast, in overcrowded classes, teachers have to deal with many teaching, disciplining, and assessing problems. The factors related to the issues of time allocation and class size are interrelated. There is a causal relationship between them. In large classes, more time is needed for classroom activities. In this study, the participants declared that they could not involve students in group and peer activities due to the large class size and limited class time. They added that as the class time is only three hours a week, when they do speaking and listening activities, the time passes, and they cannot accomplish or involve all the students.

Another micro-level factor that the participants refer to is high-stakes exams such as Konkour (Iranian University Entrance Exam). Although the primary goal of the English curriculum is to improve students' communicative competence, participants still mainly use the traditional approaches. The study participants claimed that since the vast majority of high school students want to enter the state universities, Konkour has become the final target of the students. This is a multiple-choice exam with an emphasis on grammar and reading. Indeed, the traditional test has led to a negative washback effect whereby teachers focus their efforts mainly on teaching these skills. In order to respond to the needs of students, teachers have been forced to alter the

direction of their pedagogical actions and decisions toward grammar and translation-based approaches.

Another important facet of contextual factors deals with macro-political concerns. The teachers believed that "what" they teach is controlled by macro-political concerns. The teachers stated that they were not allowed to go beyond the scope of the textbooks and teach the target culture; local issues and Islamic and Iranian values are included in the textbooks. The lessons aim to enhance students' understanding and knowledge of Islamic and Iranian values. As the participants noted, if the Ministry of Education pays enough attention to the significant role of EFL teachers in making macro educational decisions and designing the English curriculum, it could develop teachers' autonomy and agency and motivate them to amplify their knowledge.

Intervening Conditions

Analysis of the interviews identified intervening conditions that greatly influence EFL teachers' PCK development and enactment. These conditions were recognized primarily as constraints except for one. They include six categories of factors that mediate the PCK of EFL teachers: teaching materials/facilities, students, textbooks, teachers, parents, and community.

As the participants stated, the first category of intervening factors relates to teaching aids and facilities. These factors refer to the following areas: the scarcity of video-audio aids, lack of language lab, heterogeneity of facilities in schools, inadequate classroom space, scarcity of smart boards and projectors, and lack of using mobile technology. The teachers pointed out that with the exception of special schools such as magnet schools and private schools, public schools are typically deprived of basic and underlying teaching facilities and aids, which negatively affects their practices.

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As reflected in the interviews, the second category of factors comprises student-related factors. These factors include student interest and motivation, heterogeneity of students in classrooms, use of mother tongue, low language proficiency, and individual differences among students. They also include students' failure to complete assignments, failure to browse lessons, and being a grade-seeker. The teachers complained that most students lacked interest and motivation to learn English. The students' lack of motivation leads to various other factors that cause teachers' frustration and make teaching difficult. Another student-related factor that the teachers highlight is the heterogeneity of students in the classroom. Due to the discrepancy between the students who attend a private English language institute and the students who do not, there are students with highly heterogeneous language proficiency in English classes.

The third category of factors refers to existing English textbooks. This category involves the incompleteness of the package of textbooks, pronunciation problems in the audio files of the textbooks, cultural differences, heavy workload, lack of attention to students' everyday needs, limitations of the workbooks, and time-consuming activities of speaking and listening. Regarding the incompleteness of the textbook package, the participants stated that although the English textbooks are supposed to be accompanied by a workbook, an audio CD, flashcards, supplementary materials, and a teacher's guide, unfortunately, teachers are not provided with all of them, but only two of them are available (the textbook and the workbook). Moreover, the audio files of the texts are not recorded by native speakers and are full of mispronunciations. The textbooks require a heavy preparation load, especially for teachers who do not have a high level of proficiency. They do not cover the culture of the target language.

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The fourth category of factors is concerned with teacher-related factors. They include teachers' low competence, low English speaking proficiency, teachers' focus on GTM method, teacher shortage, and lack of familiarity with new teaching methods and facilities such as projectors and computers, giving unrealistic grades to students, and teachers' economic problems.

Regarding teachers' focus on GTM, the teachers noted that although CLT has been adopted as a central method in English textbooks in Iranian high schools since late 2011, they still have to resort to traditional methods. The teachers acknowledged that the teaching time is only three hours per week. By the time they do speaking and listening activities, the time is already over, and they cannot cover the other parts of the textbook. Therefore, they have to pursue the traditional teaching approach, that is, GTM, in the following sessions to compensate for the time. Some of the participants claimed that another notable influencing teacher-related factor was the problem of teacher shortage. They commented that teacher shortage had become a critical and growing problem in the Iranian education system. This issue has led to large classes and heavy work for the available teachers, negatively affecting their efforts to improve the quality of teaching.

As asserted by some other participants, the fifth category is concerned with parents. This category embraces parents' high sensitivity and expectations, their involvement and support, and the different literacy and socio-economic levels of parents. While discussing the impact of parents' actions on student achievement, the teachers pointed out that parents' high sensitivity and expectations tended to negatively affect student outcomes. More specifically, teachers believed that these behaviors could result in negative emotions and attitudes towards English language learning. For instance, as one of the teachers mentioned, the behaviors are likely to lead to

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students' loneliness and isolation in the classroom, which in turn, affect their performance and achievement. Additionally, the teachers pointed out that where parental involvement and support decline, student achievement and behavior deteriorate, influencing teacher effectiveness. Furthermore, one of the teachers complained that some parents are not aware of the reformed textbooks and do not know how to help their children improve their performance.

The last category which was extracted from the interviews, refers to community (society) factors. These factors deal with English use in the community, the media, regional restrictions, environmental conditions, and community attitudes towards English language learning and teaching. Some participants mentioned that the communities outside the classroom and social issues significantly impact what happens in the classroom and the interactions between teachers and students. They referred to the growing number of private language institutes teaching English, which reflects the growing interest in English learning in Iran. Although the official status of English is somewhat uncertain, it seems to have achieved an active status in society (Sadeghi & Richards, 2015). Nevertheless, as participants stated, English is not a medium of communication in Iran; students do not practice it outside the classroom and thus do not achieve linguistic competence.

Discussion

This study investigated the EFL teachers' perceptions of pedagogical content knowledge (PCK) to explore the dimensions and characteristics of PCK and the factors influencing the PCK enactment of public senior high school teachers. Specifically, the study intended to help develop a theoretical model of EFL teachers' PCK.

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The close analysis of the participants' perceptions indicated the main dimensions of PCK of EFL teachers as knowledge of English language proficiency, knowledge of pedagogy, knowledge of students, knowledge of curriculum, and knowledge of assessment. The findings define EFL teachers' PCK as the use of various teaching methods and instructional strategies, language proficiency, and assessment to help students understand the lessons and attain the objectives of the curriculum. When employing instructional methods, strategies, and techniques to transform and present the content, teachers need to take account the students' preconceptions, expectations, needs, and difficulties in learning, and emotional and supportive relationship with students to promote their achievement. The participants maintained that the consequence of all the considerations is that the content and instruction become understandable and comprehensible for students.

The different categories and components of PCK are mutually interrelated and influence actual classroom practices. EFL teachers find teaching with only one or two knowledge categories difficult. The participants maintained that these categories are so interwoven that their prioritization in the classroom is too simplistic. It is impossible to write a lesson plan without knowing the students, to know students without knowing an appropriate assessment method, and to assess students' language skills without having sufficient knowledge of all four language skills. Iranian EFL teachers believe that having knowledge of only one component is not adequate to be an effective teacher. This finding is consistent with Park and Oliver (2008), who recognized that the components of PCK are coordinated to ensure that teachers effectively transform knowledge into learners.

The current study's findings are consistent with several previous studies, each of which highlighted one or more of the categories of this study. For

instance, most previous studies (e.g., Andrew, 2003; Borg, 2006; Johnston & Goettsch, 2000) have considered English language knowledge the main dimension of EFL teachers' PCK.

As for pedagogical knowledge, Freeman (2002), Tsui (2003), and Richards (2010) emphasized the importance of this knowledge for English teachers. Regarding students, Wang (2020) concluded that learners and their challenges are a component of PCK. With respect to knowledge of assessment, Cambridge English Teaching Framework (2015), and Shariatifar et al. (2017), found that language teachers should be sufficiently competent to assess language skills and language systems as vocabulary, grammar, and pronunciation. The results of the study also support the findings by Richards (2010), who identified curriculum knowledge as a component of EFL teachers' PCK.

Concerning the second research question, findings revealed that EFL teachers' knowledge of teaching is constructed through modeling, teaching experience, work environment, and professional development opportunities. The findings of the study support the work of Grossman (1990), who identified the sources of knowledge construction as subject matter knowledge, prior experience as students, professional coursework, and actual classroom practice. They are also in line with other scholars who considered work context (Kleinsasser & Savignon, 1992, cited in Freeman & Johnson, 1998) and professional development opportunities (Abell, 2008) as sources of PCK development.

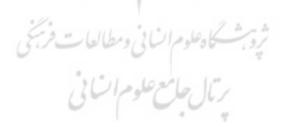
The interview analysis also found that PCK development and enactment cannot be separated from contextual and intervening conditions that affect teachers' actual practices. These conditions, which include class duration, class size, high-stake exams, macro-political concerns, and constraints, are the

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circumstances under which teachers would need to change their pedagogical actions and decisions, suggesting that their teaching is detached from their teaching professional practice. Such conditions may impede language teachers' ability to use practices that mirror their beliefs.

The pedagogical content knowledge model presented in this study (Figure 1) can serve as a framework for providing EFL teachers with an incorporated set of dimensions and categories and an understanding of teaching English as a foreign language. The framework further develops and elaborates the PCK frameworks suggested by previous studies because it encompasses more dimensions and components of EFL teachers' PCK that would potentially provide specialized knowledge about teaching English as a foreign language. It also emphasizes that the effective implementation of the components may be influenced or interrupted by a set of causal, contextual, and intervening conditions that uniquely shape teachers' professional practices.



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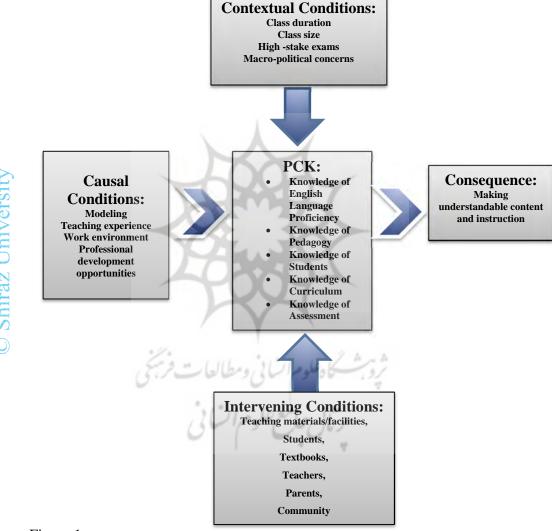


Figure 1 Model of EFL teachers' PCK in the Iranian context.

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Conclusion and Implications

This study characterizes the PCK of EFL teachers as a body of knowledge that involves teachers' subject matter, English language proficiency, use of various teaching methods, and instructional strategies. These can obviously facilitate students' understanding, understanding students preconceptions, needs and difficulties in learning, and emotional and supportive relationship with students, knowledge of educational system policies, goals and objectives of English teaching and learning, and various assessment tasks to make content and instruction understandable and promote students' achievement.

Overall, the analysis of the interviews revealed that conceptualizing EFL teacher PCK is a complex issue that involves understanding the knowledge dimensions, key underlying causes of the knowledge construction, and contextual and intervening conditions that directly affect teachers' professional practice and influence their decision-making.

The current study's findings can have theoretical and practical implications for high school EFL teacher education. Theoretically, the findings can provide an important comprehensive conceptual framework for conceptualizing EFL teachers' PCK to improve teacher quality. Practically, they have the potential to offer important insights for EFL teacher education, training, and evaluation. They can also help current pre-service, and in-service EFL teacher education programs establish EFL teacher preparation programs, which can form and guide teachers' professional performance. Additionally, the results can also be used as a benchmark for measuring the professional knowledge of current and future high school EFL teachers.

There also seems to be a need to inform policymakers, decision-makers, and administrators in the Ministry of Education so that they are aware of the contextual and intervening conditions that hinder the effectiveness of EFL

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teachers in the classrooms. Indeed, the awareness may help ELT stakeholders to take action to improve the language curriculum in public high schools.

Considering the study's limitations, it is worth noting that pedagogical content knowledge is a complex notion that is baffling for teachers to express and difficult for researchers to seize (Liao, 2012). It would be helpful to conduct a longitudinal study to capture the longitudinal development of PCK in EFL teachers. With other sources of information, such as classroom observations, lesson plans, and reflection diaries, researchers can capture a more comprehensive portrait of EFL teachers' PCK. English language skills and components can also be investigated separately to deepen understanding of EFL teachers' PCK. Moreover, further studies are recommended to pinpoint the interaction among the PCK components. It is recommended that this study be replicated in other settings and include participants in private schools to promote the generalizability and trustworthiness of the findings.

References

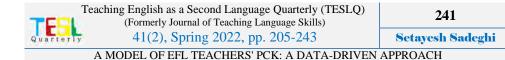
- Abell, S. (2008). Twenty years later: Does pedagogical content knowledge remain a useful idea?. *International Journal of Science Education*, 30(10), 1405-1416. https://doi.org/10.1080/09500690802187041
- Andrews, S. J. (1997). Metalinguistic awareness and teacher explanation. *Language Awareness*, 6(2), 147–161.
- Andrews, S. J. (2003). Teacher language awareness and the professional knowledge base of the L2 teacher. *Language Awareness*, 12(2), 8–195.
- Bertram, A., & Loughran, J. (2012). Science teachers' views on CoRes and PaP-eRs as a framework for articulating and developing pedagogical content knowledge. *Research in Science Education*, 42(6), 10-27.
- Borg, S. (2006). The distinctive characteristics of foreign language teachers. Language Teaching Research, 10 (1), 3-31.



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A MODEL OF EFL TEACHERS' PCK: A DATA-DRIVEN APPROACH

- Bukova-Guzel, E. (2010). An investigation of pre-service mathematics teachers' pedagogical content knowledge, using solid objects. *Scientific Research and Essays*, 5, 1872-1880.
- Cambridge English Teaching Framework. (2015). *Cambridge English teaching framework*. Cambridge: Cambridge University Press.
- Canagarajah, S. (2013). *Trans-lingual practice: Global Englishes and cosmopolitan relations*. New York, NY: Routledge
- Cesur, K., & Ertas, A. (2018). Examining the prospective English teachers' pedagogical content knowledge: Canakkale Case. *International Journal of Progressive Education*, 14(3), 123-140.
- Creswell, J. W., Hanson, W. E., Plano, V. C., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist*, 35, 236-264.
- Grossman, P. L. (1990). *The making of a teacher: Teacher knowledge and teacher education*. Teachers College Press, Teachers College, Columbia University.
- Freeman, D. (2002). The hidden side of the work: Teacher knowledge and learning to teach. *Language Teaching*, 35, 1-13.
- Freeman, D., & Johnson, K. E. (1998). Reconceptualizing the knowledge-base of language teacher education. *TESOL Quarterly*, 32(3), 397-417.
- Geddis, A. N. (1993). Transforming subject-matter knowledge: the role of pedagogical content knowledge in learning to reflect on teaching. *International Journal of Science Education*, 15(6), 673-683.
- Gess-Newsome, J. (2015). A model of teacher professional knowledge and skill including PCK: Results of the thinking from the PCK summit. In A. Berry, P. Friedrichsen, & J. Loughran (Eds.), *Reexamining pedagogical content knowledge in science education* (pp.28–42). Routledge.
- Gholami, K., & Husu, J. (2010). How do teachers reason about their practice? Representing the epistemic nature of teachers' practical knowledge. *Teaching and Teacher Education*, 26 (8), 1520-1529.
- Hardwood, N. (2010). Issues in materials development and design. In N. Hardwood (Ed.), *English language teaching and materials* (pp. 3-32). Cambridge; CUP.
- Hashweh, M.Z. (2005). Teacher pedagogical constructions: a reconfiguration of pedagogical content knowledge. *Teachers and Teaching: Theory and Practice*, 11(3), 273-292.



- Isiksal, M., & Cakiroglu, E. (2011). The nature of prospective mathematics teachers' pedagogical content knowledge: The case of multiplication of fractions. *Math Teacher Education*, *14*(3), 213–230.
- Jing-Jing, H. (2014). A critical review of pedagogical content knowledge' components: nature, principle and trend. *International Journal of Education and Research*, 2(4).
- Johnston, B., & Goettsch, K. (2000). In search of the knowledge base of language teaching: Explanations by experienced teachers. *The Canadian Modern Language Review*, 56,437-468.
- Lortie, D. (1975). Schoolteacher: A sociological study. Chicago: University of Chicago Press
- Kind, V. (2009). Pedagogical content knowledge in science education: Perspectives and potential for progress. *Studies in Science Education*, 45,169-204.
- Kumaravadivelu, B. (2006). *Understanding language teaching. From method to post-method.* London: Lawrence Erlbaum Associates.
- Jamieson, I. (1994). Experimental learning in the context of teacher education. In G. Harvard, & P. Hodkinson (Eds.), *Action and reflection in teacher education* (pp. 35-54). Norwood, NJ: Ablex Publishing Corp.
- Larsen-Freeman, D., & Cameron, L. (2008). *Complex systems and applied linguistics*. Oxford, UK: Oxford University Press.
- Loughran, J., Berry, A., & Mulhall, P. (2012). Pedagogical content knowledge. In *Understanding and developing science teachers' pedagogical content knowledge*. 7-14.
- Magnusson, S., Krajcik, J., & Borko, H. (1999). Nature, sources, and development of pedagogical content knowledge for science teaching introduction. In J. Gess-Newsome and N. G. Lederman (Eds.). *PCK and Science Education*, 95-132.
- National Curriculum Document (2012). Ministry of Education, Tehran (In Persian). Available online at: http://dca.razaviedu.ir/files/posts/24364.pdf
- Park, S., & Oliver, J. S. (2008). Revisiting the conceptualisation of pedagogical content knowledge (PCK): PCK as a conceptual tool to understand teachers as professionals. *Research in Science Education*, *38*(3), 261-284.
- Richards, J. C. (2010). Competence and performance in language teaching. *RELC Journal*, 41 (2), 101-122.



Setayesh Sadeghi

A MODEL OF EFL TEACHERS' PCK: A DATA-DRIVEN APPROACH

- Sadeghi, K., & Richards, J. C. (2016). The idea of English in Iran: An example from Urmia. *Journal of Multilingual and Multicultural Development*, 37(4).
- Safari Asl, E., Safari Asl, N., & Safari Asl, A. (2014). The erosion of EFL teachers' content and pedagogical content knowledge throughout the years of teaching experiences. Presented in International Conference on Current Trends in ELT. *Procedia Social and Behavioral Sciences*, 98, 1599 1605.
- Shariatifar, S., Kiany, G., & Maftoon, P. (2017). High School EFL Teachers' Professional Competencies: Content Knowledge and Pedagogical Content Knowledge. *Applied Research on English Language*, 6 (4), 499-522.
- Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15, 4-14.
- Shulman, L.S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1-21.
- Strauss, A., & Corbin J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications, London.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks: Sage.
- Thornbury, S. (1997). *About language: Tasks for Teachers of English*. Cambridge University Press.
- Van Driel, J., Verloop, N., & De Vos, W. (1998). Developing science teachers' pedagogical content knowledge. *Journal of Research in Science Teaching*, 35(6), 673–695.
- Verloop, N., Van Driel, J. & Meijer, P. (2002). Teacher knowledge and the knowledge base of teaching. *International Journal of Educational Research*, 35,441-461.
- Wang, L. (2020). Exploring EFL teachers' pedagogical content knowledge for teaching speaking in Chinese universities: a multiple case study. Open Access Theses and Dissertations. 823.
- Watzke, J. L. (2007). Foreign language pedagogical knowledge: Toward a developmental theory of beginning teacher practices. *The Modern Language Journal*, *91*, 63-82.

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APPENDIX Semi-Structured Interview Questions

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- 1. What skills are required to be an effective English language teacher?
- **2.** What do you intend your students to learn about English language? (What English language topics do you feel are the most necessary to teach?)
- **3.** Why is it important for students to know English language?
- **4.** Would you please name some specific ways of ascertaining students' understanding or confusion around the lesson?
- **5.** What difficulties/limitations are associated with teaching English?
- **6.** How much do you know about students' thinking which affects your teaching?
- 7. What are other factors that affect your teaching of English language?
- **8.** What teaching procedures do you use? And particular reasons and sources for using these to engage with teaching?
- **9.** Could you describe the process you go through when you teach a reading lesson?
- **10.** What are some examples of how you teach challenging concepts such as "relative clauses"?
- **11.** What are some specific examples of how you differentiate your instruction to meet the different learning needs of your students?
- 12. What are some examples of ways in which you assess your student learning?

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