The Level of Pedagogical Content Knowledge of In-Service English Language Teachers in a Foreign Language Context

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Abstract

The aim of this study is to find out the level of pedagogical content knowledge of in-service English language teachers in a foreign language context. The data were collected from 9 in-service English language teachers' responses on five open-ended grammar, pronunciation and writing problems. The results show that Jordanian English language teachers don't know enough about what they teach. Furthermore, they show that the integration between what teachers know about what they teach and about the process of teaching and how to teach (PCK) isn't adequate enough (with a medium level).
Keywords: Content knowledge; Pedagogical Knowledge; Pedagogical Content Knowledge; Foreign Language.

Introduction

Teachers have an essential role in the educational process; their abilities can be reflected on their students' achievement and success (Darling-Hammond, 2000). They should possess satisfactory skills and take into account that English teaching is a highly demanded profession due to the importance of this language in scientific research, higher education and the labor market (Khader and Shaat, 2010; Khan et al, 2011). Frankly put, they do not need only to hold an educational degree, but also to have a wide variety of teaching competencies. They have to develop their knowledge base (Guerriero, 2013) to deal professionally with students' different needs and learning styles.

However, teachers are not the only source of knowledge anymore. As they perceive themselves as guides and facilitators, teachers now play the role of an inspirer, who is supposed to motivate learners by creating a suitable learning environment (Giri, 2011). The need for the "communicative approach" is great in Jordan, as it is in other countries, to prepare students for life-long learning in an ever-changing world (Zuljan and Vogrinc, 2010).

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Plainly, well-qualified teachers need to have good knowledge of the subject they teach, know how to introduce, explain and illustrate this subject, and know the way students think in order to enhance their understanding. Actually, this combination of content and teaching skills is called Pedagogical Content Knowledge (PCK), a scheme founded by Lee Shulman (1986) who argues that content knowledge is what the teachers should teach. However, pedagogical knowledge means how to teach and how to justify knowledge to students relying on both educational coursework and gained personal experience (Rovegno, 1992). Shulman (1987:8) defined PCK as "that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding". This corresponds to what Van Driel et al (1998:674) call Craft Knowledge (CK), an "integrated knowledge which represents the teachers' accumulated wisdom with respect to their teaching practice."

According to Shulman (1986:9-10), PCK includes the frequently taught topics, the helpful forms of representing these ideas and "the most powerful analogies, illustrations, examples, explanations, and demonstrations." In addition, it encompasses a perception of the ways of making the learning of certain topics easy or difficult: "the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning."

PCK is a practical knowledge that demonstrates what teachers use during the teaching process (Kind, 2009). Richards (2011:6) indicated that PCK "could include course work in areas such as curriculum planning, assessment, reflective teaching, classroom management, teaching children, teaching the four skills, and so on." It provides teachers with knowledge that enables them to be experts in their areas of study. Even more interesting is the fact that PCK deals with teachers' knowledge of how to introduce the subject to their students. It also lays emphasis on the teachers' knowledge of students' expected difficulties and challenges during the process of learning, their awareness of the strategies to be followed considering students' backgrounds, needs and characteristics, and their experience of evaluating students' learning (Shulman, 1987). Indeed, teachers in general do not have the same PCK because such knowledge is influenced by various factors such as the teaching context, content and experience. (Loughran et al, 2006).

Shulman has had a great impact on researchers such as Jones and Moreland (2005); Park and Oliver (2008); Finger et al (2010); Setiadi and Musthafa (2013); and Olfos et al (2014). Most of them agree that PCK is the best way that should be adopted by teachers to facilitate transferring knowledge to their students. It influences the process of planning in the classroom and determines the way of making use of every minute according to students' needs and abilities

(Cochran, 1997). As a result, PCK has become a necessity in teachers' professional development and it should be included in teacher education programs because high levels of teachers' PCK leads to high levels in students' achievement (Abell, 2007).

Some PCK components have been mapped out by researchers. Grossman (1990) asserted that PCK has four components: knowledge of teaching purposes, learners, curriculum and instructional strategies. Setiadi and Musthafa (2013:73) indicated that English teachers' PCK includes knowledge of content, students' conceptions and misconceptions, general pedagogy, curriculum, educational contexts, educational goals, assessment and evaluation, and application of assessment and evaluation results for instructional purposes. Besides, Park and Chen (2012) indicated that the components of PCK in their study, although designed for science and chemistry, include orientations for teaching other disciplines, shaped into four categories: knowledge of curricula, knowledge of assessment of scientific literacy, knowledge of student's understanding, and knowledge of instructional strategies. Each of these four categories is explained in detail by the researchers.

In fact, PCK is one of seven categories of teachers' knowledge, besides content knowledge, general pedagogical knowledge, curriculum knowledge, knowledge of learners and their characteristics, knowledge of educational contexts and knowledge of educational ends, purposes and values (Shulman,1987:8). Clearly, some researchers such as Marks (1990) and Turner-Bisset (1999) indicate that the borders of PCK are not fixed or well-defined, because other or different knowledge components were added to the concept of PCK in the related literature.

Veritably, PCK is hard to measure due to factors such as that related to teachers' perceptions of PCK and acquired experience. Other variables are class management, or how teachers deal with different situations. The second factor that affects measuring is students, whose different backgrounds affect the measuring process. The last factor is that it is hard to design a case study, a questionnaire or a pilot study that can accurately measure the PCK of teachers, and if there is one, it is hard to be measured on a large scale (Rowan et al, 2001).

In this paper, the researchers aim at investigating the PCK of a group of Jordanian English language in-service teachers to find out if some of the problems that students face while learning English as a foreign language are due to their teachers' approach.

Problem of the Study

In fact, EFL students suffer from clear weakness despite governments' and policy makers' keenness on a good teaching of English. A previous study by one of the researchers of this study (Hijazi, 2012) revealed that one of the major difficulties students face in English learning is that related to their teachers' lack of qualification. In fact, this is in line with a study by Kind (2009) who asserted that one of the students' main complaints is about their teachers' lack of efficiency in the classroom. To be honest, this is contrary to expectations from teachers who are supposed to master the subject matter and to be armed with the needed methods and strategies to teach it. Teachers should be able to convey their message in an appropriate way, despite the fact that their profession is becoming more difficult with recent technological developments that require radical and essential changes in teachers' roles and tasks to be more facilitators and monitors than carriers of information. They need to have profound knowledge of the subject matter and a rich one of how to teach it. However, some teachers may lack the appropriate PCK or not know how to make the subject understandable to their students. As a result, the researchers have decided to investigate the PCK of some English language teachers in Jordan, in an attempt to uncover some reasons behind students' weakness in English.

Question of the Study

The study tries to answer the following question:

What is the level of the pedagogical content knowledge of in-service English language teachers in an EFL context?

Significance of the Study

The significance stems from the fact that very few studies were conducted to investigate the problem of this study especially in the Jordanian context; thus, the findings can be used as a reference by other scholars for further research with other variables and different instruments. Moreover, the study may enrich the field of teaching EFL since most researchers (e.g. Ball et al, 2008 and Depaepe et al, 2013) in the related literature focused only on the PCK of teachers in the field of science and mathematics. Besides, it may shed light on the level of the PCK of EFL teachers to uncover some of the reasons behind the difficulties that students encounter while learning English. Finally, it may encourage policy makers to conduct training programs and workshops for teachers focusing on the PCK principles and on how to transfer the appropriate knowledge to students.

Literature Review

The focus of most previous research papers conducted to discuss teachers' PCK was on the fields of mathematics, chemistry and physics. Unfortunately, studies that focus on the field of English language teaching are rare, although Shulman (1986) indicated that PCK is applicable to different fields. Evens et al (2016) asserted that research on PCK is very scarce in their study about PCK in the context of foreign and second language teaching. However, Olfos et al (2014) and Morrison and Luttenegger (2015) maintained that it is difficult to measure teachers' PCK in any field. Baxter and Lederman (1999) asserted that determining the PCK of teachers is not easy since they do not have the required experience or the appropriate means to express the ideas or the decisions beyond their teaching practices that form their PCK.

In fact, some studies in the related literature focused on how training programs can affect teachers' PCK positively as Grossman (1989) pointed out. She compared the teaching practices of six new teachers (only three of them participated in training programs). The results revealed that trained teachers were better at using and adapting their teaching practices according to their students' needs. It was also found that trained teachers were better in enhancing their students' motivation towards learning English.

Other studies focused on the impact of teachers' PCK on students' achievement and motivation. For example, Keller et al (2016) studied the impact of physics teachers' PCK and motivation on students' achievement. The results revealed that German and Swiss teachers' PCK affected students' achievement positively and teacher motivation affected students' interests positively too.

More to the point, Turnuklu and Yesildere (2007) conducted a study, whose sample consisted of 45 teachers and whose instrument included four open ended problems, to find out the pre-service primary mathematics teachers' PCK competency. They concluded that having mathematical knowledge was important but not enough to teach mathematics. They recommended that primary mathematics teachers should be familiar with all PCK aspects. Similarly, Batur and Balcis' (2013), whose study sample consisted of five pre-service teachers and in which they used a semi-structured interview to collect the needed data, concluded that Turkish teachers' curriculum knowledge and content knowledge were not appropriate and teachers still affected by the traditional method of teaching did not do well.

Ibrahim (2016) carried out a study in Banda Aceh /Indonesia to find out how well four English teachers displayed PCK in teaching English and how they developed their teaching knowledge. The instruments were observation sheets

and interview guides. The results revealed that teachers are weak regarding pedagogical knowledge and knowledge of learners' abilities and that their teaching approaches still needed to be developed. In addition, learners' knowledge tended to be poor since teachers lack attention and interactions to solve students' problems and misconceptions in understanding the subject. All teachers had limited knowledge of how to identify learners' conceptions even though they had had many years of teaching experience. Thus, the study concluded, English teachers still needed to improve their PCK.

Kultsum (2017) investigated the concept of PCK in Indonesian school context, with focus on the English teaching strategy in Indonesia. His review revealed that English language teachers' PCK was not adequate enough and needed to be improved especially in pedagogical teaching and learners' knowledge.

Cesur and Ertas (2018) examined the PCK of **127** prospective English language teachers in the English Language Teaching Department of CanakkaleOnsekiz Mart University. The results revealed that the prospective teachers believe they did not have the required knowledge of the language they were teaching. In addition, their lesson planning knowledge, knowledge of learners, and knowledge about assessment were not adequate enough because what they believed they could do and what they actually did were different. In general, their PCK needed to be improved.

Lenard and Lenard (2019) conducted a study to examine English for Specific Purposes (ESP) teachers' PCK. The sample consisted of 47 ESP teachers working at 7 Croatian universities who voluntarily participated in an anonymous survey.The results revealed that teachers had sound PCK and that although they felt less confident about their content knowledge, they prepared thoroughly for their lessons and presented content in an appropriate way, employing suitable instructional techniques based on learners' abilities and educational context.

In sum, a vast body of literature has dealt with teachers' PCK in the field of sciences. Yet, studies of PCK in the field of language teaching are still rare (Atay et al, 2010), especially those that measure the PCK level of in-service English language teachers for the purpose of finding out if they are competent enough or not. Hence, there is a need to carry out a study on EFL teachers' PCK in Jordan.

Participants of the Study

The participants were nine English language teachers who were selected from among English teachers in Irbid Governorate in Jordan after showing

willingness to participate in the study. Surprisingly, the researchers noticed that the majority of English language teachers, although they were clearly informed about the pedagogical aims of the research, refused to participate in the study and that many didn't even know what PCK meant.

Instrument of the Study

The researcher used one instrument, which consisted of five open ended problems, to collect the data. In fact, the researchers adapted the instrument of Turnuklu and Yesildere (2007), who used four open ended problems to find out pre–service mathematics teachers' approaches in order to determine their PCK, to suit the English language field. Each of the five problems focused on teachers' attempts to explain students' misconceptions or difficulties in grammar, pronunciation and writing. In fact, teachers are expected to understand students' way of thinking, find out appropriate solutions, relate students' learning to real –life situations and determine suitable assessment criteria for students' answers. The problems are presented below in Figure 1:

Problem 1: The following conversation took place between Ahmad and Ali, two 9th grade students:

Ahmad: Do we say "a x-ray machine "or "an -x ray machine "?

Ali: We can say an orange, an illness, an umbrella, an elephant and an automobile. So, in my opinion, we can't say an x-ray machine.

-Why, do you think, Ahmad asked this question? -What is Ali thinking about? -What can be done to overcome the students' misconceptions about using "a" and "an"?

Problem 2: The following conversation, figure (2), took place between Muna and her teacher:

Teacher: Where are you going, Muna?

Muna: I am going to the library.

Teacher: Why?

Muna: I must return the books I borrowed last week.

Teacher: Why did you use the word "must "?

Muna: Because it expresses a strong obligation.

-What prerequisite knowledge might Muna not have? -What kind of questions can be asked to Muna to understand her misconception? -What kind of real world examples can be given to help her?

Problem 3: The teacher asked Ahlam to use the word "information "in a complete sentence.

Ahlam's answer: The information about the question types are useful.

-Discuss Ahlam's way of thinking. -Ahlam made a mistake that is perhaps related to one of two grammatical misconceptions. What are they? -What is the relationship between one of these grammatical misconceptions and Ahlam's first language? - What solutions can you offer to overcome such problems?

Problem 4: The teacher asked Mahmoud to write down five words that contain silent letters and to say why such letters are silent.

Mahmoud's answer: Thought Brought Caught Through Cough. Honestly, I don't know why "gh" are silent letters.

-Discuss Mahmoud's way of thinking. -Justify why some letters are silent in English? -What are the general rules for silent letters? -Determine assessment criteria for Mahmood's answer. -What is Mahmoud's mark according to your criteria? -What are the solutions for this problem?

Problem 5: The following conversation took place between Rahaf and Rafeef, two 10th grade students.

Rahaf: I feel really disappointed.

Rafeef: Why?

Rahaf: I face many difficulties in writing about any topic in English. My marks in writing tests are always low.

Rafeef: Me too. In fact, I don't know what to do!

-What are the reasons behind students' difficulties in writing different topics in English? -Here are some suggested solutions; indicate if such solutions would help students or not:

Suggested solutions	Would help students
A-Using warm –up activities to increase students' motivation towards writing.	
B-Teach students how to organize their writing in terms of the introduction, the main body and the end.	
c- Train students on how to use "mapping" and "brainstorming" techniques.	
d-Ask students to take out descriptive phrases to make sentences shorter.	
e-Tell students that every single idea shouldn't take more than a few sentences.	
f-Ask students to share their ideas with other students and to work in groups.	
A, B, C and F would help. D and E wouldn't help.	

-What are other solutions for this problem?

Figure1: English In-class Problems

Validity and Reliability of the Study Instrument

In order to validate the instrument, the researchers asked a jury of EFL university professors to judge whether or not the open ended problems of the study were clear and suitable. Following their suggestions, one of the problems was omitted because of its ambiguity, leaving the study with five problems instead of the suggested six.

To ensure reliability, the instrument was verified by applying and re-applying it (test- retest) two weeks later to another group that consisted of (5) English teachers not included in the original study sample. Pearson correlation coefficient between the estimates was then measured at both times. Cronbach's coefficient α was used to calculate the internal consistency coefficient of the problems of the instrument. Table 1 shows these values, considered appropriate for the purpose of this study.

Table 1: Cronbach's coefficient and Pearson correlation coefficient of the Dimensions of the Instrument (problems of the study)

Problems	Cronbach's coefficient	Pearson correlation coefficient
1	0.91	0.89
2	0.91	0.92
3	0.93	0.90
4	0.91	0.88
5	0.90	0.85
Total value of the problems as a whole	0.95	0.93

Procedures of the Study

The following procedures were adopted for the purpose of collecting data: Identifying the objective of the study; determining the sample of the study; developing the instrument of the study (five open ended problems); applying the instrument; analyzing the results in light of the aim of the study; drawing conclusions and recommendations according to the study results.

Data analysis

The collected data were analyzed both quantitatively and qualitatively. For quantitative analysis, 17 criteria were adopted, taking into consideration PCK components, in order to evaluate teachers' responses according to them.

- Criteria for problems 1 and 3 were understanding students' way of thinking and their misconceptions, determining the reasons behind students' misconceptions, and suggesting solutions to overcome students' misconceptions.

- Criteria for problem 2 were understanding students' misconceptions, determining the reasons behind students' misconception, asking suitable questions to reveal students' misconceptions, and being able to relate students' learning to real world situations.
- Criteria for problem 4 were understanding students' way of thinking and misconceptions, having sufficient knowledge of the topics they teach, suggesting solutions to overcome students' misconceptions, determining suitable criteria for assessment, and assessing students' answers in an appropriate way.
- Criteria for problem 5 were determining students' difficulties in learning and suggesting suitable solutions to overcome students' difficulties.

After applying these criteria, the highest score obtained was 51 and the lowest was 17. Three points were given to correct answers with sufficient explanation, 2 points were given to correct answers with insufficient explanation and 1 point was given to unsuitable answers. Scores between 42-51 were determined as Level 3 (Excellent), scores between 26 -41 were determined as Level 2 (Medium) and scores between 17 -25 were determined as Level 1 (low). The researchers computed the teachers' total scores on all the five problems and scores were explained in terms of the following levels:

- Level 3 (excellent): Having sufficient knowledge of the topic; understanding students' problems and the reasons behind them; forming appropriate questions to understand students' way of thinking; finding out solutions to eliminate students' problems; determining suitable assessment criteria and assessing students' answers in terms of these criteria.

- Level 2 (medium): Having sufficient knowledge of the topics; understanding students' problems and the reasons behind them; forming appropriate questions to understand students' way of thinking; facing difficulties by creating solutions to eliminate and process students' problems; facing difficulties in determining suitable assessment criteria and assessing students' answers in terms of these criteria.

- Level 1 (low): Having insufficient knowledge of the topics they teach; facing difficulties in understanding students' problems and the reasons behind them; being unable to ask suitable questions to understand students' way of thinking; being unable to create solutions to eliminate students' problems; facing difficulties in determining suitable assessment criteria and assessing students' answers in terms of these criteria.

Results

In order to answer the question of the study, frequencies and percentages of English language teachers' responses according to the categories of the problems were computed and are shown in Table 2:

Table 2: Frequencies and Percentages of English Language Teachers' Responses According to the Categories of the Problems

Problems	Categories	Given points					
		Points 1		Points 2		Points 3	
		F	(%)	F	(%)	F	(%)
Problem 1	Understanding students' way of thinking and misconceptions.	3	33%	0	0%	6	67%
	Determining the reasons behind students' misconceptions.	3	33%	0	0%	6	67%
	Suggesting solutions to overcome students' misconceptions.	7	78%	2	22%	0	0%
Problem 2	Understanding students' misconceptions.	4	45%	2	22%	3	33%
	Determining the reasons behind students' misconceptions.	4	45%	5	55%	0	0%
	Asking suitable questions to reveal students' misconceptions.	5	55%	4	45%	0	0%
	Being able to relate students' learning to real world situations	5	55%	4	45%	0	0%
Problem 3	Understanding students' way of thinking and their misconceptions.	4	45%	0	0%	5	55%
	Determining the reasons behind students' misconceptions.	1	11%	8	89%	0	0%
	Suggesting solutions to overcome students' misconceptions.	1	11%	8	89%	0	0%
Problem 4	Understanding students' way of thinking and their misconceptions.	5	55%	4	45%	0	0%
	Having sufficient knowledge of the topics they teach.	7	78%	2	22%	0	0%
	Suggesting solutions to overcome students' misconceptions.	5	55%	4	45%	0	0%
	Determining suitable criterion for assessment	5	55%	4	45%	0	0%
	Assessing students' answer in an appropriate way.	5	55%	4	45%	0	0%
Problem 5	Determining students' difficulties in learning.	1	11%	7	78%	1	11%
	Suggesting suitable solutions to overcome students' difficulties.	0	0%	9	100%	0	0%

The results show that in-service English language teachers face difficulties in determining students 'misconceptions about different issues of English language. Moreover, they do not have sufficient assessment knowledge and find difficulties in forming appropriate criteria. Teachers' total scores of all the five problems were calculated as presented in Table 3 below.

Table 3: Teachers' Total Scores of all Five Problems

Teachers	Problem 1 (out of 9)	Problem 2 (out of12)	Problem 3 (out of 9)	Problem 4 (out of15)	Problem 5 (out of 6)	Total (out of 51)
1	3	4	3	5	3	18
2	3	4	5	5	4	21
3	3	4	5	5	4	21
4	7	4	5	5	4	25
5	7	6	7	5	4	29
6	7	8	7	9	4	35
7	7	9	7	9	4	36
8	8	9	7	10	4	38
9	8	9	7	10	5	39

Teachers' levels were determined according to their answers to all five problems. Their levels are presented in table 4.

Table 4: Teachers' Pedagogical Content Knowledge Levels

Levels	F	Percentage %
Level 1 (Low) 17-25	4	44%
Level 2 (medium) 26-41	5	56%
Level 3 (high) 42-51	0	0%
Total	9	100%

None of the teachers had a high PCK level, but 56%of them had a medium level, while 44% of them scored a low level.

Teachers' responses were also analyzed in a qualitative way, as presented in the following:

Teachers' responses to problem 1: Three of the nine teachers pointed out that Ahmad asked Ali about whether to say "ax-ray machine or an x -ray machine" because they were in class or about to have an exam; he wanted to learn and understand well. The other six said that he asked the question in order to know the difference between "a" and "an". Honestly, six of them could understand Ahmad's and Ali's ways of thinking. They said that Ahmad might have had a misconception about the basic difference between "a" and "an". He may have asked that question because he thought that "a" is used only in front of consonants and "an" is used only in front of vowels (a,e,o,u,i), and "x" is not a vowel. Concerning the solutions to overcome the students' misconceptions, three

of the teachers said that students should know that "a" is used in front of consonants and "an" is used in front of vowels, which is the same misconception that students have. Whereas the other six said that students should know that "a" is used in front of a word that begins with a consonant sound and "an" is used in front of a word that begins with a vowel sound. In fact, the six teachers presented the correct grammatical rule as a solution but didn't mention how to present it to students and train them to distinguish between vowels and consonants through, for example, listening to audio tapes, giving them work sheets, playing games, or giving them clear examples.

Teachers' responses to problem 2: Four of the teachers found difficulty in answering the question about the prerequisite knowledge that Muna might not have had. However, five teachers answered it but in different ways. For example, one teacher said, "Muna should know that libraries have policies for lending or renting books, because there is a record of these books in the system and she should know that if she doesn't return them on time a fine will be given". Another teacher said, "Muna might not know the difference between should, must and have to (modals of obligation)" without mentioning the difference. In fact, five teachers couldn't form appropriate questions to understand Muna's misconception. For example, teachers could ask Muna: Why do you want to return the books to the library? What has made you do that? What is the source of obligation? Does the obligation come from outside (the library law) or does it come from inside (your inner self)? If it comes from outside (external obligation), Muna needs to use the word "have to"; if it comes from inside, she needs to use the word "must". Besides, five teachers failed to give Muna real world examples to help her, while four gave examples, such as "I have to get a visa to go to America"; "I have to get a license to drive a car".

Teachers' responses to problem 3: Four teachers found difficulty in determining Ahlam's way of thinking while the other five said that "Ahlam considered the word "information" as the subject of the sentence and thought that it was a plural noun". One teacher said that "Ahlam made a mistake in adding "the" before the word "information" as not all nouns take "the". Of course, what he said was totally wrong because Ahlam's mistake was not related to the use of the definite article "the". On the other hand, eight teachers related Ahlam's mistake to only one grammatical misconception, saying that "Ahlam translated the word "information" into Arabic "ma'loomat" and thought it was plural like the Arabic word, so she used "are" instead of "is". No one said that Ahlam's mistake was in thinking that "question types" is the subject of the sentence, so she used the verb "are" (subject –verb agreement). Concerning the suggested solution, eight teachers offered insufficient solutions such as "students

should stop comparing between their first language and English language and should learn more about singular and plural nouns to understand them deeply".

Teachers' responses to problem 4: Five teachers failed to understand Mahmoud's thinking way, while the others said that Mahmoud may have thought that wherever "gh" are found together, they are not pronounced, considering this as a rule. Moreover, only five of them gave vague reasons as to why letters are silent in English, saying that "It's all to do with the history of some letters. We, for example, used to pronounce the 'gh' with a hard h like the Scottish but then the French invaders added a g to the h to reflect the 'hard' h sound. We leave the gh in there to show the origins and history of the word and sometimes it is a grammar issue". Besides, only two teachers were aware of some general rules of silent letters, but their knowledge was not enough. Moreover, all teachers found difficulty in determining appropriate assessment criteria for Mahmoud's answer. For example, one of the teachers said that "the last two words are wrong, so Mamhood's Mark is 3/5". Obviously; his assessment was wrong because only (cough) was wrong. In fact, no one could determine acceptable criteria to assess Mahmoud's answer. Finally, five of the teachers found difficulty in suggesting suitable solutions for the problem of silent letters, giving actually only vague answers.

Teachers' responses to problem 5: All teachers pointed out that the reasons behind students' difficulties in writing in English are related to lack of practice, enthusiasm and motivation. In fact, there are other reasons that teachers failed to mention, such as the lack of students' vocabulary storage, and difficulties with word order, tense, spelling, and punctuation. In addition, six teachers said that "A, B, C and F would help students to improve their writing while D and E wouldn't". Concerning other solutions to improve students' writing, eight teachers mentioned similar solutions to the ones presented by the researchers. Only one teacher added two solutions: "asking students to write authentic topics related to their real life and providing them with appropriate and sufficient feedback".

Discussion

Teachers' appropriate PCK is a key factor and a vital element that facilitates students' learning in a suitable way. Park and Oliver (2008) stated that PCK requires teachers not only to master the content of the subject they teach but also to deliver it in a proper way. In this study, the results showed that Jordanian teachers did not have an adequate and tolerable content knowledge in English language. Three of them had the same misconception that students had about using "a" and "an". Besides, most of them didn't know the difference between "have to" and "must", and only two knew some general rules about silent letters.

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As Ball (1991:5) said, 'Teachers cannot help children learn things they themselves do not understand'. This result may be attributed to the fact that teachers' academic knowledge, whether they have an A.A., B.A. or even M.A., is not adequate enough since curricula taught at educational institutions may lack courses that provide student teachers with the required knowledge which is of great importance to demonstrate their understanding before they are practically engaged in the teaching experience.Teachers' knowledge about the subject matter they teach and about language teaching itself in terms of different aspects like phonology, syntax, grammar, written and spoken language use may not be adequate enough. This result is in line with the study of Al-Jaro et al (2017) who analyzed the curricula of English Teacher Education Program (ETEP) at the faculty of Education of Sana'a University in Yemen and found that they lacked courses that could enhance student teachers' needed content knowledge to be reflected on their teaching practices. In addition, it is in harmony with the study of Batur and Balcis' (2013) and Cesur and Ertas (2018), who found that teachers' content knowledge was not appropriate enough and that teachers were less confident about it.

Concerning pedagogical knowledge, the results showed that teachers did not know enough about how to teach in an effective way. The results of this study showed that some teachers found difficulties in understanding the ways students think and in identifying their misconceptions. Moreover, their knowledge about how to organize, present, assess and adapt different topics and problems according to their learners' abilities and interests was not sufficient. This result may be due to the fact that teachers lack strategies, techniques, insights, methods and understanding of the educational context to transfer knowledge since student teachers' preparation at the university or college level focuses more on the academic than on the practical aspect of teaching. In general, the results showed that the integration between what teachers know about what they teach, about the process of teaching and how to teach was not adequate and needed to be improved. This result is in line with most studies of the related literature such as Batur and Balcis (2013), Ibrahim (2016), Kultsum (2017) and Cesur and Ertas (2018).

Conclusion and Recommendations

Teachers and their efficient ways of teaching are key factors of students' success. Thus, they need to transfer their knowledge to students in an organized and appropriate way. Such kind of knowledge is called pedagogical content knowledge, which enables teachers to understand how students think and learn, know their conceptions and their misconceptions, what topics are easy or not easy for them and how to assess their learning. Having an appropriate level of

PCK enhances students' achievement and the quality of the learning-teaching process in general (Guerriero, 2013). Unfortunately, the present study has shown that Jordanian English language in-service teachers' PCK isn't sufficient enough to produce satisfactory results regarding students' achievement, scoring only a medium level of knowledge.

In light of the results of this study, the following recommendations can be made:

1-Conducting studies to measure pre-service and in-service English language teachers' PCK since such studies are rare.

2-Conducting studies to examine the nature of PCK and how to develop it in the field of English language teaching.

3-Carrying out studies to investigate the relationship between teachers' PCK and students' achievement in English.

4-Devising training programs for teachers to develop their PCK and create effective learning environments for all students.

مستوى معرفة المحتوى التربوية لدى معلمي اللغة الإنجليزية كلغة أجنبية

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ملخَّص

تسعى هذه الدراسة إلى تحديد مستوى معرفة المحتوى التربوي لدى معلمي اللغة الإنجليزية في سياق عملهم في تدريس الإنجليزية كلغة أجنبية. وقد جُمعت بيانات الدراسة من تسعة معلمين يمارسون مهنة التدريس، وذلك بناء على أسئلة مفتوحة النهايات، تتعلق بالقواعد النحوية، واللفظ، ومشاكل التعبير الكتابي. وقد أظهرت النتائج أن معرفة معلمي اللغة الإنجليزية الأردنيين في مجال مهنتهم التربوية غير كافية. وأظهرت النتائج أيضا أن التكامل بين معرفة المعلمين بما يدرسونه وعملية التدريس نفسها وكيفية التدريس (PCK) غير متحقق بصورة مرضية، بل هو متوسط المستوى.

الكلمات المفتاحية: معرفة المحتوى، المعرفة التربوية، معرفة المحتوى التربوي، اللغة الأجنبيَّة.

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