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# The pedagogical content knowledge development of prospective teachers through an experiential task

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## Abstract

Pedagogical content knowledge (PCK) forms a knowledge base for teachers, guiding their decisions and actions in classrooms. The value of PCK has been emphasized since late 1980s, yet, still not much is known about the process of PCK development among prospective teachers. The present study aims to investigate the PCK development of Turkish prospective teachers through the process of an experiential task. Data were collected from 18 participants through focus group interviews and narratives, and analyzed by means of qualitative methods.

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## 1. Theoretical Framework

The nature of teacher knowledge has been a major area of interest of researchers, as all the different components of knowledge intertwined in the mind of the teacher are found to affect and be products of their classroom behaviors (Borg, 2003; Calderhead, 1987; Freeman, 2002; Van Driel, De Jong, & Verloop, 2002). Shulman formulates teachers' knowledge base as "domains of scholarship and experience from which teachers may draw their understanding" (1999, p. 61). Inside it the Pedagogical Content Knowledge (PCK) "represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented and adopted to the diverse interests and abilities of learners and presented for instruction" (1999, p. 64). The teacher should first and foremost comprehend the subject matter knowledge with a degree of flexibility and adaptability that enables him/her to transform that knowledge into "forms that are pedagogically powerful and yet, adaptive to the variations in ability and background presented to the students" (Shulman 1987, p.15). However, making the transition from personal beliefs about content to thinking about how to organize and represent the content of a discipline in ways that will facilitate student understanding is one of the most difficult aspects of learning to teach (Veal, 1999).

Many researchers have called for a broadening of the theoretical base of language teacher education programs to include gathering information not only on what teachers do in the classroom but also on what they know and how this knowledge is transferred to their teaching behavior. However, in the field of teaching English

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as a second/foreign language studies on teachers' knowledge and its development are scarce. Akyel (1997) in her study comparing experienced and novice ESL teachers found that the former group considered a more varied range of instructional options when responding to student cues, whereas teachers in the latter group interpreted learners' initiations as obstacles and rather focused on maintaining the flow of instructional activities. Gatbonton (2008) in a recent study examined the categories of pedagogical knowledge of novice ESL teachers by means of verbal reports on what they were thinking about while teaching and compared the categories to those found for experienced teachers participating in an earlier study (Gatbonton 1999). The aim was to find out what pedagogical knowledge the participants have internalized after having completed a teacher-training program and how this knowledge compares to that of experienced teachers. Results revealed that novice teachers were able to acquire the larger categories of pedagogical knowledge that underlie active teaching behaviors, along with passive teaching activities. However, they needed more time and experience to attain the ability to apply this knowledge. One of the major implications of the study was that teacher education programs may accelerate the speed with which teachers can acquire the knowledge and skills needed for active teaching rather than waiting for long term accumulation of this knowledge and skills through years of experience. The present study aims to contribute to this area and focus on the PCK of Turkish prospective teachers (PTs) of English over a two-term methodology course. We believed that access to the process of PCK development would provide us with valuable insight, leading to more effective teacher education.

## **2. Methodology**

### **2.1. Participants**

The participants of the present study were 18 prospective teachers of English (PTs) enrolled in the ELT department of a state university in Turkey and they were selected among 45 third-year PTs based on their interest in participating.

### **2.2. Procedure**

The study was conducted in the "Teaching Skills in English I/II" courses, taken by sophomores. The course aims to provide PTs with theoretical knowledge on teaching reading as well as develop their practical skills. In the first term the course was conducted as follows: The first five weeks focused on issues like the interactive nature of reading, factors affecting attitudes to reading, types of reading and activities done in the pre-, while and post reading stages in order to provide PTs with theoretical knowledge on reading. For the development of their practical skills in relation to teaching reading, PTs were given short reading passages and asked to prepare lesson plans incorporating pre-, while and post-reading activities for each. These assignments were given individual feedback by the instructors. Lesson planning is a typical component of all method courses, aiming to provide PTs with the opportunity of blending their theoretical knowledge with practice. However, for years we observed during their practicum, PTs had problems when applying their plans to real classroom settings. Plans for imaginary classes seemed not sufficient to equip PTs with the necessary PCK as they could not take real classroom conditions into consideration when planning a lesson. Thus, we included the following final project into the course requirements. At the beginning of the second term PTs were given different assignment topics as their final projects. One of these assignments was an experiential task based on designing and presenting interactive activities for "The Giver" (Lowry, 1993), a novel commonly used in reading classes in many secondary schools and university prep programs in Turkey for years. The assignments were announced in the first term of the course and 18 PTs volunteered for this task. All PTs taking the course had to read the whole book so that they could participate in class activities. The volunteers had two weeks to prepare the activities for one chapter of the book. Before the micro teaching sessions started, PTs were provided with a short training on giving feedback, e.g., whether the goal of the lesson was taught, whether the lesson was suitable for the intended group of learners and relevant to their needs as well as suggested ways to improve the presentation. Each PT had to cover a section of the book, dealing with every single issue in class, e.g., explanation of words, problems emerging during pair/group work activities, going over the instructions. For example, when a section of the unit or a specific symbol or phrase was not clear to a student, the PT had to explain it in different ways. The PTs had

to draw and keep students' interest as well as assess their understanding and knowledge through various means. At the end of each session the class provided feedback on activities and on the way of teaching of the PT. Each PT was expected to reflect on his/her way of teaching as well.

### 2.3. Data Collection and Analysis

The aim of the study was to explore the effect of an experiential task on the development of PTs' PCK. Data were collected by means of focus group interviews and PTs' written narratives. In the initial focus group interviews, conducted with 6 PTs at a time, the PTs were asked about their opinions on the project, the difficulties they had while they were reading the novel and planning their lessons, and their concerns related to their presentations. PTs shared specific points in their lesson plans and the reasons for their choice of activities. In the focus group interviews conducted at the end of the study we tried to uncover PTs' PCK by asking them to consider why they taught particular content in a particular way (i.e., what knowledge of teaching, learning and specific content influenced their pedagogy). Through this process we tried to put emphasis on the PTs' understanding of the content. More specifically, how the content had developed and changed, the factors affecting its development, and how teaching that specific content had changed PTs' understanding of the related concepts. In short, we were trying to investigate the link between the PTs' knowledge and their teaching approach both during the preparation and actual teaching processes. Each interview lasted nearly 30 or 40 minutes. They were tape-recorded and then transcribed for analysis.

Data for the present study also came from written narratives. PTs were first asked to reflect on their experiences while they were reading the novel and planning their instruction. Then, after their teaching in the classroom, PTs reflected on their teaching experience and the feedback they received. The study drew on the theoretical framework of PCK to formulate initial coding categories. Schulman's (1986) definition of pedagogical content knowledge was used. "Pedagogical content knowledge goes beyond knowledge of subject matter per se to the dimension of subject matter for teaching. Within the category of pedagogical content knowledge... (are) the ways of representing and formulating the subject that make it comprehensible to others. Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult" (p. 9). Interview transcripts and narratives were coded based on the three categories defined by the PCK framework as Content (C), Pedagogy (P), and Pedagogical Content Knowledge (PCK).

### 3. Results

Focus group interviews and narratives revealed PTs' project-related thought processes related to the given task. Most of the comments of the participants showed that they were not sure about combining content knowledge with pedagogical knowledge, as the following quotes indicate:

*I enjoy reading 'The Giver' but when it comes to designing activities I'm stuck.*

*not used to this kind of reading. I keep thinking about activities that will interest my students. This is really hard work.*

*Preparing activities is difficult. To get activity ideas I consulted books on teaching reading and the Internet.*

Although the majority of PTs expressed having difficulty in combining content knowledge with pedagogy, few PTs indicated they could integrate the two types of knowledge:

*I think the book is a bit difficult for 9<sup>th</sup> graders. They may have difficulties to understand the underlying themes. But as a material to teach English, it has a good potential. The sarcastic tone of its language offers a good example for such uses of language.*

*At first all the activities I came up with were predicting questions. I was not happy with that. Now I'm writing my rough ideas on relevant parts of the book while I'm reading so I can find better activities.*

*In my activities I give importance to comprehension of the messages of the text, without neglecting the importance of vocabulary work.*

In relation to their lesson planning, most of the PTs' comments specifically focused on classroom pedagogy, i.e., teacher instructions, posture, voice projection, management and their concerns about these:

*When I was preparing I thought of how I should give instructions, how much explanation I should do, what to do if something goes wrong when I'm delivering my lesson. It had positive effects on my pedagogic awareness.*

*I tried to make students work in pairs and groups as much as possible so that they would learn from each other but I don't know if they will work*

*I worked about a month on my lesson plan. I believe I did my best. I examined various course books, specifically studied how instructions were given and I tried to give my instructions accordingly.*

Data from 3 PTs suggest PTs' awareness in combining what they know about reading with how they can teach it in an effective way by taking real classroom conditions into consideration.

*I knew how important it is to use games, colorful materials etc to motivate students so I tried to combine this with what we have learned about teaching reading. I asked myself if I were a student of mine how I would react to the activity I designed.*

*I went over my lesson plan and activities with A (a classmate). I tried to be self-critical about the methods, techniques and materials that I planned to use in my lesson. Being self-critical and also consulting another person before I delivered my lesson were very helpful because I was able to prepare myself for possible criticisms I might receive in the feedback session and make necessary changes before I delivered my lesson.*

*When I was planning my lesson, I realized that my knowledge of teaching reading has deepened. We are not just standing in front of students and using standard language practice activities. We examine the topic and put a lot into it.*

PTs taught in class and received feedback both from the instructor and their peers, the same data gathering procedure was repeated. The participants were asked to comment on their own teaching and the whole experience in general. Our purpose was to look at whether and how the opportunity to teach affected the development of participants' PCK. Data from the both sources showed some form of development in the PCK of the participants as a result of being involved in the project. Their comments revealed an improvement in the following categories: knowledge on reading theories, knowledge on teaching reading, confidence to teach in a real classroom, awareness to consider classroom conditions, and awareness to consider students, i.e. their needs, interests, proficiency level etc. Some illustrative quotes are as follows:

*Reading examples from books could never have been so useful. Planning and teaching a lesson made my academic knowledge concrete.*

*My content knowledge was already good but pedagogically I learned much through lesson preparation and presentation.*

*It gave me an opportunity to evaluate myself as a pre-service teacher. I feel more confident.*

*I felt as if I were teaching in a real classroom. In the future I will be more careful about my instructors' instruction techniques.*

*The actual teaching and observing other PTs' lessons made me aware of the issues we might face in real classrooms.*

Most of the PTs specifically mentioned that they found the feedback process beneficial as illustrated in the following statements:

*It was a good opportunity –standing in front of an audience and exhibiting an air of confidence, trying to sort out minor problems without anyone noticing, the inner struggle to keep nerves under control. I enjoyed it.*

*The feedback sessions are even more useful than designing the lesson. We understand the Whats, Whys and Hows better through the feedback. These sessions were really opportunities to discuss the details of activities, link them with the theories and techniques on teaching reading. The feedback process has improved my critical thinking skill.*

*Sharing the lesson plans and activity designs with others and getting a class feedback in fact minimizes the risk of making mistakes because what someone does not realize is pointed out by another person. Positive criticism and sharing creative ideas increase motivation.*

#### **4. Discussion**

Our findings reveal that providing PTs with opportunities to apply the theoretical knowledge they gain in the methodology course, contributes to the development of their PCK. Considering the concerns and difficulties expressed about designing lessons and activities, it seems important that teacher educators establish environments to guide PTs into active thinking and implementation in order to develop a satisfactory degree of

competency. In addition, feedback process should be an integral part of the whole experience, as all of the participants in our study expressed the importance of receiving detailed feedback on their teaching.

Without proper instructional guidance or models of teaching PTs will spend time learning rather than thinking about how to present content in a way that will facilitate student understanding (Veal 1999). Understanding the aspects of PCK how they are acquired by PTs and how they evolve can provide valuable instructional information to increase the PCK of those who prepare future teachers. In other words, novice teachers need to develop the competency expert teachers have. The development of such expertise is not a straight forward event. The development “from students to teachers exposes and highlights the complex bodies of knowledge and skills needed to function effectively as a teacher (Shulman 1987, p. 4). PTs need to understand the content they want to teach but they also need to understand how to unpack and present the content so that students can learn with understanding.

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