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Ebrahim Talae 
Tarbiat Modares University, Iran

Hamideh Bozorg 
Tarbiat Modares University, Iran

Ilse Schritteser 
University of Vienna, Austria

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Implications of Teachers' Personal Practical Knowledge for Teacher Training Programs: A Case Study of Primary Teachers

Ebrahim Talaei, Hamideh Bozorg, Ilse Schritteser

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Abstract

This study aims to understand teachers' Personal Practical Knowledge to provide future teacher educators with essential points for improving teacher training programs. The study was conducted with six teachers in the primary education context, using narrative inquiry as a qualitative approach. The semi-structured interview with teachers indicated that they had a rich knowledge of factors affecting the success of the teaching profession. As such, data analysis of teachers' transcripts using open, axial, and selective coding resulted in five main themes crucial for future teacher educators to consider for developing effective teacher training programs: (1) Entwined and complicated aspects of teaching, (2) Effective communication is key, (3) Ineffectiveness of theoretical versus practical courses, (4) Being ignored by society, and (5) Losing the dream of being perfect. The paper concludes with implications for the theory and practice in the teacher education field.

Introduction

In the context of teacher education, teacher knowledge has been an important research line since the early 1980s (e.g., Ben-Peretz, 2011; Black & Halliwell, 2000; Carter, 1990; Elbaz, 1981; Hung, 2020). During this time, the research focus has shifted from “knowledge for teachers” to “knowledge of teachers” (Meijer et al., 1999) and “teacher knowledge” (Wiens et al., 2022; Xu & Connelly, 2009). According to scholars, while in the knowledge for teachers perspective, knowledge is seen as a target that should be delivered to them, in the teacher knowledge view, knowledge is a narratively embodied and practically expressed construct (Schaefer & Clandinin, 2018) that is shaped by teachers' informal and formal educational spheres such as personal life experiences (Li, 2020), learning and teaching experiences (Wang et al., 2019), academic background (Schaik et al., 2018), and participation in professional development activities (Golombek, 2009; Xu & Connelly, 2009).

Adopting a ‘teacher knowledge’ view also affects what – and whom – teacher educators see as sources of expertise. In such a view, teacher education programs are not developed through traditional top-down approaches that often disregard teachers' conceptions and knowledge (Van Driel, Beijaard, and Verloop, 2001) and are poorly connected to teachers' day-to-day situations and problems (Tisher & Wideen, 1990). Instead, the programs will

be planned based on what teachers know about effective teaching (Black & Halliwell, 2000). Indeed, the recent viewpoint on teacher education shifts thinking about teacher education away from theory and research outputs toward considering individuals' own personal narratives of past experiences, which partly shape how they are as teachers (Connelly & Clandinin, 1988). This way of engaging in teacher education embraces some of the practitioners that underscores the importance of the Personal Practical Knowledge (PPK) that teachers generate through practice in specific contexts (Clandinin, 2019).

The concept of PPK, developed by the extensive works of Clandinin and Connelly (e.g., Clandinin, 1985, 1992; Connelly & Clandinin, 1988, 1990) based on Elbaz's notion of teachers' practical knowledge as a knowledge that is "broadly based on [teachers'] experiences in classrooms and schools and is directed toward the handling of problems that arise in their work" (Elbaz, 1981, p.67)—with Connelly and Clandinin (1984) subsequently adding the personal dimension to it. The personal nature of PPK leads to the image of teachers as knowledgeable and knowing persons, not just as carriers or transmitters of information (Connelly et al., 1997; Golombek, 1998, 2009). According to scholars, PPK is a type of action-oriented (Van Driel, 2021) and situational knowledge (Clandinin, 1989) that develops throughout teachers' professional lives (Swart et al., 2018) and involves not simply their past and present experiences but also shapes their actions in the future (Connelly et al., 1997; Yinger & Hendricks-Lee, 2012).

Drawing on the concept of PPK, professional development has been increasingly focused on learning from teachers' practical experience and interpersonal sensitivity (Ben-Peretz, 2011; Knezic et al., 2010; Noroozi et al., 2012; Van der Spoel et al., 2020) since it is believed that PPK is the driving force behind teachers' thinking and behavior (Swart et al., 2018). Many scholars so far have explored the role of teachers' PPK in their teaching practices (e.g., Chou, 2008; Sun, 2012; Swart et al., 2018). The findings of previous studies indicate that in the process of understanding PPK, teachers can reflect on what they do while they are actually doing it, an ability that could be considered a key qualification for a professional teacher (Schritteser, 2014). Indeed, by exploring their PPK, teachers will know why they act in specific ways, which can further help them reflect on their learning foundations and recognize and evaluate assumptions and presuppositions in their learning and practice (Clandinin, 2010).

However, despite the potential affordance of understanding teachers' PPK for developing efficacious professional development courses (Butler, 1992; Sen, 2002; Van Driel et al., 2001), so far, no study has explored teachers' PPK to inform future teacher educators about the essential characteristics of successful teacher training programs by considering teachers' needs and expectations. The outcome of such a study can answer the following two critical questions:

- (1) why development programs for teachers do not always bring about an effective change in their actual classroom activities, and
- (2) which teacher professional development programs are more effective in achieving sustainable improvements.

In this regard, the primary purpose of the current study is to explore teachers' PPK in the context of primary education to understand their expectations and needs that should be addressed in teacher training programs and

inform future teacher educators and program developers accordingly.

Methodology

This study adopted a qualitative approach for exploring teachers' PPK using a social constructionist (Gergen, 1999), narrative (Polkinghorne, 1988), and interpretive (Schwandt, 1998) methodology. Social constructionism affirms that we construct our selves and worlds through discourse, the linguistic resources, and concepts with which we frame reality, and therefore analysis of the discourse people use, and their narratives afford interpretation of their experiences and lifeworlds (Creswell, 2007). Consequently, qualitative approaches such as narrative inquiry have become recognized as valid methods for studying teachers' PPK (Connelly et al., 1997; Xu & Connelly, 2009). Narrative inquiry consists of experiential stories that combine social and personal aspects of teachers' lives, and it is considered an attempt to give voice to tacitly held personal knowledge (Conle, 2000).

Participants

The primary data sources were semi-structured interviews with six primary school teachers in Vienna, Austria, with different amounts of experience (See Table 1). Two of these teachers were teaching in private schools and the others in public schools. Each interview lasted 50-70 minutes and was conducted in English, which was the second language of both the researcher and the participants. The interview questions can be categorized into four groups: demographic data (e.g., name, age, gender, personal and professional background), experiences (e.g., challenges, difficulties, problems, recollections), perspective (e.g., the concept of the "good teacher" and "effective teaching"), knowledge (e.g., pedagogical content knowledge of students and subject matter). Each interview was followed by several non-participant classroom observation sessions (2 or 3 sessions for each teacher). After each observation session, the stimulated recall strategy was utilized to deepen the understanding of the teachers' actions in the classroom. Finally, a second semi-structured interview was conducted with each participant.

Table 1. Information about the Participants

Participant	Years of experience	Gender	Public/private school	Grade
Participant 1	4	F	Public	1
Participant 2	7	F	Public	4
Participant 3	12	F	Public	2
Participant 4	15	M	Private	1
Participant 5	20	F	Public	3
Participant 6	9	F	Private	2

It is to be noted that all procedures performed in the study follow the ethical standards of the institutional research committee. The participants were informed about the general aim of the research, the anonymity of responses, and the voluntary nature of participation and signed informed consent. The absolute right to choose what they said in the interview and withdraw at any time was also stressed. They were also informed that the interview would be recorded for further analysis.

Analysis

The interviews with each teacher were audio-taped and subsequently transcribed by the first author. Three types of coding were used in the data analysis process, namely open, axial, and selective coding. In open coding, the data are 'broken down' analytically from the text, and a series of concepts are developed that can ultimately be used as building blocks for the model. Axial coding serves to refine and differentiate concepts that are already available and lend them the status of categories. Finally, in the selective phase, the researcher is particularly active as an author using the categories, coding notes, memos, networks, and diagrams developed so far (Corbin & Strauss, 2008). Data were coded and analyzed by the first and second authors. Cohen's Kappa statistic was used to examine the inter-rater reliability concerning the coding quality. According to Cohen (1960), there was high agreement between coders ($\kappa = .81, p < .001$), which confirms the reliability of the results. After coding the transcribed interviews, the first author combined the codes and developed themes. In this phase, it was tried to understand which code matches the other ones conceptually. Next, all authors reviewed the emerged themes to understand how they support data and ensure that there is no missing data.

Findings

In this section, the findings are presented and described thereby in five main thematic groups. Each thematic group is followed by a brief explanation of the corresponding factors of influence. It should be noted here that these findings are not intended to be considered true or false – they simply reflect the participating teachers' perceptions of their jobs and the hidden messages about being a teacher and teaching in Austria that are contained in their interview statements or were observed in their actions. Further, the order in which the five main thematic groups are depicted bears no reflection on their relevance or importance.

Theme 1: Entwined and Complicated Aspects of Teaching

This theme shows that the teachers who participated in this study believed that teaching is not a one-dimensional and simple job, and being a teacher is more than just teaching the subject matter to students. As participant (6) noted:

There is not always Math, German, [I mean] the lessons... [There are] a lot of other things to see, to do. [For example], understanding children, why he/she doesn't work, why he is like this...why one is sad, you always need to look what children need and what works better for them, how they feel [...] And every class is different, and you can't say this is my fixed plan [...] You have to look for changes, and it is difficult [...] I think it is so much work to do when you are a teacher to a group of children that are different from each other and you have to be careful about all of them.

There are a number of aspects to this statement. Firstly, the statement suggests that teachers are not only supposed to teach their students different subject matters, but they should also equip them with the attitudes and thinking

skills they need to be part of society, i.e., things that are important for life in general and not just some about Math or a particular language. In this regard, participant (1) stated that:

I think this is our job, too. To teach kids German, Math, music of course. But teaching is much more, and the most challenging issue is to make them good people [...]. They have German knowledge, they can do Math, they can do all the things they will need to enter other schools or high schools but the social competencies are more important, and some kids don't really have them at all. So, we have even more issues with kids than parents because they spend so much time in the schools and this is - I think - the most challenging: to teach them something for their whole life, for living in society.

Secondly, teaching and being a teacher involve different, numerous, and complicated tasks, plans, and activities. The study participants considered teaching a diverse and complex job that involves writing lesson plans, teaching the subject matter using effective methods, observing students' learning, assessing and evaluating their progress, designing tests, etc. In this regard, the participant (5) explained that:

Every day there is another kind of challenge, [every day is different] with the kids, with the subjects, with the lesson plans, with the parents [...] and everything and every day [you face] something new [...] I'm not just talking about problems but other issues like communication between me and [the] kids or between [the] kids [themselves], finding effective methods to teach a particular concept, and so on.

The teachers actually have to deal with many issues in the context of their job. They are expected to communicate with children, parents, colleagues, and the principal. Some of these issues are not directly related to teaching but do influence the teachers' performance. Hence, they are forced to assume different roles in their capacity as teachers. As participant (2) noted:

Sometimes I think I'm not a teacher; I'm a psychologist, sometimes a doctor because when they don't feel safe or don't feel well, I have to help them. Sometimes, I really think to myself, OK, now I'm an entertainer, because I want to make fun for kids during the lessons and always think, "How can I do this and this and that?" Sometimes I also have to deal with parents, [which is] quite often really difficult. So, you have so much [sic.] things to do when you are a teacher. I really feel that I'm so much more than just a teacher. [I'm] also a friend or kind of a friend for them. [I] listen to them [and ask] "What's your problem?", "What happened yesterday?", "You look sad; what's wrong with you?" and so on.

In general, the participants believed that their job is very demanding and that people in other professions are not aware of the demands of being a teacher. This lack of awareness makes the job even harder. In essence, they would like others to really understand what it means to be a teacher, recognize its complications, and not view it as an easy job. In other words, they want to be seen as influential and important.

An interesting point about this theme is that teachers do not exclude these tasks from the job of being a teacher. While they feel that these issues mean that they have "too much to do", none of the teachers who participated in

the study felt that these tasks were not related to teaching. An important implication in this regard is that they also think the teacher education curriculum does not equip teachers with the skills to deal with this wide range of challenges.

Theme 2: Effective Communication is Key

The participating teachers believed that communicating effectively with parents and children is the essential starting point for the teaching profession because communication skills are the key to being a successful teacher. This extends not only to their students but to people they communicate with within the context of their job. As participant (4) stated:

I think the knowledge of a teacher is really important. [...] You have to know something to teach [it], and how to teach it, of course, but you can be really well educated in theory, but if you can't interact with the kids, it's like nothing. So we really need to be a kind of person with social skills, and we – as teachers – have to know how we can treat the kids and how we can be with each other. [...] So I think this is the most important thing to be a good teacher.

They believed that the better their relationship with the students, the more successful the learning processes would be. In this regard, participant (1) commented that:

I think the relationship with [the] kids is really important [...] and [has] to be the same with each child, and it is really challenging. I try, but I don't know if I succeed every day or not. [...] But I know it is important to listen to them – like a role model, not as a kind of friend but like a true friend for them. Because, actually, I need my authority – but not like a boss. They need to know they can come to me. [...] I'm their teacher. They need to think they can tell me if they have problems; if they need advice [...], I believe this can distinguish a good teacher: to make a good relationship, to understand children. If it happens, the path will continue to be better and better.

In addition to a better relationship with students, good communication among colleagues is seen to be synergetic and allows teachers to create learning opportunities with each other. Participant (6) explained this as follows:

I think it is not just about the children. For example, we are two teachers for one class, then we have to speak with each other. We two have to speak and communicate with the other teachers who come for religion or sport [...] and we have to be [well] matched with others. [...] These [skills need to be learned] to make good communication [and] to work well.

Teachers also believed that children's behavior is a reflection of their own behavior. In other words, if they demonstrate respect, their students will likewise respect each other and the teachers as well. According to participant (2):

I think in this way we get along better with each other. I respect them, and they respect me. [...] I also say to the kids: “I don’t talk to you rudely because I respect you. So I want you to talk to me in the same respectful way.” [...] I never shout at kids, so they don’t [shout] at me. I am a strict teacher but also caring at the same time. [...] I think it’s really important that they know I care about them and mind if they have problems with each other or in their family, or they don’t feel well. And if they feel that I care about them then they care about me.

In addition, an effective relationship with parents is also considered to help teachers be more effective in the teaching and learning process. However, this is a challenging area for teachers. While a teacher should establish a friendly relationship with parents to solve children’s problems, it is difficult to say ‘I’m not your friend’ to a parent. As participant (5) affirmed that:

This is also with parents; somehow, it is more difficult. Some of the parents are divorced. [...] There is no father or mother in lots of families [...] Children are split between mom and dad. Lots of parents cannot accept any critical information about their children and always believe that their child is the best. Any challenges, difficulties, or disabilities [...] make them angry or upset. It is difficult for teachers to communicate effectively with parents to solve children’s problems. I had a boy who could not hear very well and I always said [this] to his mother. But she said, “No, you’re wrong.” [...] It is not easy to speak about these things to parents, but we have to. So we have to learn how to make effective communication with them too [in order to] perform as a successful teacher.

The important point here is maintaining a distinction between being a friend and friendly behavior, i.e., building a professional relationship with parents, not a friendship. The importance of the moral aspects of being a teacher is a hidden message for teacher education programs – and is perhaps another element that is missing in the teacher education curriculum.

Theme 3: Ineffectiveness of Theoretical versus Practical Courses

The theoretical courses in the teacher education curriculum are sometimes felt to be less effective for learning to teach than their practical counterparts. The teachers who participated in this study believed that real classrooms are clearly different from the theory taught at university. They indicated that while the practical courses help them learn about and deal with the challenges of teaching, the same is not the case with the theory courses. As participant (1) pointed out:

When you enter university, you have practical experience. It’s quite interesting. I was really excited about that [...]. You are really 8 in the morning till 2 o’clock in the classroom. And you really get to know the teacher’s life. In the next semesters, you can teach, and some headteachers observe the class when you are teaching. They also have special education for you. They are reflecting on your class with you. How was your lesson, what went well, what went wrong, and everything? [...] This actually was the most useful and helpful thing for me. In addition, you need some theoretical background – like how

children learn a language, how they can [learn to] read [...] – and these are also important. But I think, in total, 60 to 70 percent of what we had was useless. And there were some things we didn't know at all, like how to organize your lesson plans or classroom. I think there could be a little change in teacher education programs.

It seems that teachers cannot explain or find the relationship between theory and practice. As participant (2) noted that:

The most effective course in the university [...] was when we went to school and we learned lots of things. [...] When we went back, we had to listen to something that we didn't really know or care. [...] At school, it was like learning by doing. That was really good. [...] The least effective there was stupid subject knowledge like Biology or, I don't know, something that you had to write down the formula of, don't know what to do with, and will never use again. But when you have a lesson like [how] to write properly on the board, I think it's quite useful. [...] Then you will come to school and use that knowledge in your classroom when you write on the board.

This indicates that teacher educators must work on theoretical and practical communication in teacher development programs. The teachers who participated in our study seem to consider theoretical knowledge to be somehow useless and place more importance on experience. Accordingly, researchers, policymakers, and educators need to explain the relevance of theoretical knowledge and demonstrate to student teachers that it is indispensable for their chosen profession.

Theme 4: Being Ignored by Society

According to our findings, the teachers strongly believed that the complexity of being a teacher is mostly unknown to (or ignored) by society. They contended that people usually consider teaching a very easy job and do not understand that teaching is a difficult task with many complex, interrelated factors. Accordingly, teachers do not get a good feeling and feedback from other people and think that they do not get sufficient recognition. In this regard, participant (2) noted that:

My friends think that I am dancing and singing the whole time. [...] Some people say “You have weeks off; you have long holidays”. But if they know me better, and I tell them the true story, they say, “Oh, I don't want to be a teacher at all. You have to do so much.” Some people in Austria think that teachers are lazy because they have a lot of holidays. There are just some [i.e., only a few] people that really respect my work.

It seems that the job of being a teacher looks appealing to others, and while they are unaware of the reality of life as a teacher and what being a teacher actually involves, they nonetheless draw comparisons between teaching and other jobs. However, the teachers considered this comparison unfair, as participant (2) said that:

I think a lot of people don't see the difficulties of a teacher's job. [...] I mean, I don't know how it is in other countries, but in Austria, it's always the same: people always say they have so much [sic.] holidays, they are just working till afternoon. This is so annoying and really hard and even makes the job harder because people don't see – or sometimes ignore – what we are doing. [...]. I always say, "OK, become a teacher, do it." I think you have to be really patient about what people say; otherwise, you really ruin yourself. I think being a teacher seems simple, but it is not.

Similarly, participant (1) noted that:

When you work in another job, you go home and that's it. [...] But when you're a teacher, the others don't know that you have to work at home too or [...] are always thinking about your daily challenges. I, myself, sometimes dream about my daily problems.

Some of the teachers were really upset by the way their profession is depicted on social media and believed that they are under pressure in many ways. In this regard, participant (5) explained that:

When I ask someone outside school what they think about what teachers do, they say, "You go to the class and teach and then go home". In Austria, people always think you go home and then take a rest, drink coffee, what a nice job. Or that you have long holidays. [...] They think we only sit there and do nothing. [...] That is not actually the truth. [...] We have to do lots of things even at home. [...] Even newspapers write that teachers have so many holidays and they should be shorter – and never say that you always have so much work to do. They don't know. Sometimes, it's even hard to go to the toilet: you shouldn't leave the class. It is not allowed. I always have to look for someone to be in my class, and then you can leave the class for a toilet. But I think in other jobs you can take a little break yourself and just breathe.

Theme 5: Losing the Dream of being Perfect

When teachers gain more experience, their perfectionism reduces, and their realism increases. Our study participants noted that in their early years of teaching, they thought that everything had to be perfect in their classes: their performance, student learning, lesson plans, etc. Nevertheless, the more experience they gained, the more they found that everything cannot be controlled and accepted that they cannot change everything. Hence, their judgment criteria for successful teaching also changed, and they can now reflect more on the realities of the teaching profession. Participant (6) explained this as follows:

When I was at the beginning, I imagined that everyone would love me, students would be quiet, or when I said "Be quiet please", my dreams would come true, and everyone would be quiet. Everyone would sit on their chairs. And everyone would listen to me. [...] That was my imagination. So now I say, "This is too loud, be quiet." But sometimes, I have no idea what to do. [...] But I know I have to learn as well.

[...] It is not something that shows my inability. Every day there is a new kind of challenge that makes the job hard but attractive, and I like it. I'm on the path of learning, and I cannot be perfect all the time.

Participant (1) also shared a similar sentiment :

Before I started to work, I was at the university. I really thought that it was easier. [...] So it was really challenging for me at the beginning. [...] I really thought that I'm doing this, and this, and that, and it works out, and it's perfect. And then I feel this is not working out that easy. Everything cannot be perfect, I have to learn about lots of things, and this is the reality.

Participant (4) likewise talked about his changing perspectives on the notion of perfect teaching and teachers prior to and after gaining teaching experience:

Now, I know that there is no really perfect teacher, Because every person, every human being sometimes, makes mistakes. I think a perfect teacher reflects on him or herself. I also think in a real situation, you can get along well with some kids but with some not. There are a lot of other aspects that cause students to learn that you cannot do everything for them.

Similarly, participant (3) noted that:

At the beginning, I wanted to do everything perfectly. For example, I wanted to teach according to the lesson plan. But now, I say "OK, we don't have to stick to the plan" when I see the children can't do it. [...] I think I am more relaxed now.

We would, however, like to add a note of caution here. Moving too far away from perfectionism and giving up ambitious goals could lead to teachers getting lost in rigid routines, becoming negligent, shallow in their reflections, and overly complacent. Accordingly, each teacher must find their own place on this continuum based on their PPK.

Discussion

The primary purpose of the current study was to explore teachers' PPK in the primary education context to draw some points for improving future teacher training programs. In line with Schaefer and Clandinin (2018), the authors of the current study believe that teacher education should not only be concerned with teachers' knowledge of subject matters and their technical skills but also should consider teachers' PPK since it is an essential component in improving educational practice (Connelly et al., 1997) and teacher preparation courses (Sen, 2002). In this regard, a qualitative approach was adopted to explore seven primary education teachers' PPK. First, a semi-structured interview guide drawing on current literature was conducted to capture teachers' expectations and needs by exploring their narratives and real-life stories. Then, based on the observations, the interview with the teacher, and the authors' reflective comments on the incidents, the following themes were emerged:

- (1) entwined and complicated aspects of teaching,
- (2) effective communication is key,
- (3) ineffectiveness of theoretical versus practical courses,
- (4) being ignored by society,
- (5) losing the dream of being perfect.

The identified themes seem to be guided by two dominant *images*. Images are one of the crucial concepts related to teachers' PPK (Connelly et al., 1997) that are generated through formal education and in an interrelationship with the knowledge composed of past experiences (Black & Halliwell, 2000; Taghizade et al., 2020) and are emotionally and morally embodied and enacted (Clandinin, 1985). Moreover, images can connect three time zones: past, present, and future. As Clandinin (1989) explained, "it reaches into the past, gathering up experiential threads meaningfully connected to the present, and it reaches intentionally into the future and creates new meaningfully connected threads" (pp. 139-140).

The first dominant image results from themes (1) and (4) that illustrate how teachers feel about themselves and their job. Encountered in most of the messages and statements communicated by the participants in our study, this image is as follows: "we are not considered as people who do important and valuable work." Most of the participating teachers believed that being a teacher is a complex matter that involves far more than simply teaching a subject, and that is something that is not adequately recognized by society. In theme (4), which is related to some extent to the theme (1), the feeling of not being recognized by society is again attributed to the fact that people consider teaching to be easy, and teachers as people who do simple and not very challenging work. This dominant image is reminiscent of Sun's (2012) study on Chinese teachers' PPK who concluded that cultural heritage and public attitudes in a society affect teachers' PPK, yet the society in which the teacher lives cannot and should not be forgotten in any analysis thereof.

The second dominant image, which is conveyed in themes (2), (3), and (5), is related to teachers' experiences in the teaching profession. These three themes are guided by the image of the "centrality of experience". Although the teachers in our study said that other things like academic courses and theories have helped them become teachers and in their current situations, what has guided them most is the experience they have gained. In this regard, Tickle (2000) notes that "[w]hile the expectations of other people, including broadly accepted image in society about what a teacher should know and do, have an influence on teacher identity, it is what teachers themselves find important in their professional work and lives, based on both their experiences in practice and their personal backgrounds, that guides their teaching practice." The participants highlighted the importance of effective communication with parents and children as the essential starting point for the teaching profession. This finding is in line with previous scholars who contended that teacher-parent relations bear increasing importance for improving schools as learning communities and for students' growth through meeting their needs and expectations (Ozmen et al., 2016; Schussler, 2003).

Theme (3) is also in line with the ongoing discussion about the gap between the theory taught in teacher education programs and teaching practices in actual classrooms (e.g., Cheng et al., 2010; Hascher et al., 2004; Hobson et

al., 2008, Noroozi et al., 2016). Some scholars reported that student teachers' prior experiences or beliefs influence what is learned during their teacher education program (Kagan, 1992; Noroozi, 2022; Noroozi et al., 2018; Richardson, 1996), and in some cases, their pre-training experiences may also create barriers to integrating the knowledge that is taught to them within the teacher education program (Sugrue, 1996). Thus, in line with the theme (3) and also considering the previous findings, we can conclude that to make a connection between theory and practice, future teacher educators must first explore teachers' prior experiences and beliefs, i.e., PPK, to better align the content with their needs and expectations. Another important finding of the current study is related to the fact that for being a good teacher, you are not supposed to control and/or change everything during the teaching process. In theme (5), the participants referred to their frustrating experiences in the early year of their teaching career, struggling to be perfect teachers. This can be one of the reasons that the first years of teaching are the most challenging years for new teachers (Ingersoll et al., 2014), even sometimes causing them to quit their job as a teacher (Ingersoll, 2001; Long et al., 2012). Thus, in addition to the previous suggestions, future teacher education programs must also include some elements (both theoretical and practical) to improve teachers' perception of how perfect they should be as a teacher when teaching in real classrooms.

Conclusion

In general, in addition to the identified themes, the findings discussed in this paper suggest that PPK has implications for three areas related to future teacher education programs:

- (1) the professional development of teachers,
- (2) teacher training curricula, and
- (3) future research.

Concerning the implications for teachers' professional development, exploring teachers' PPK would allow us to reflect on teachers' beliefs. Research in this area would further our understanding of "who teachers are, what they know and believe, how they learn to teach, and how they carry out their work in diverse contexts throughout their career." It is also helpful for teachers to disclose this knowledge, and it can be used to evaluate teachers' performance. With regard to teacher training curricula, the findings indicated that some aspects of being a teacher remain hidden from society and are thus not considered in teacher training curricula. The current study's findings lead us to the idea that teachers themselves are aware of the nature of a teacher's profession, which is not an easy profession. While teachers by no means assume that being a teacher is easy, they also feel that they are not sufficiently prepared in advance for the complexity of the profession.

Accordingly, some of them manage to adapt on their own, while others do not. As a result, it seems that the relevance of academic theory courses to teaching practice needs to be elucidated further. The teachers themselves cannot always appreciate the relevance of theoretical knowledge or do not see its direct usefulness. In fact, the relevance of theory and research for teachers' agency does not seem to be evident to teachers at all. Furthermore, while there are topics that seem important to teachers, these are not sufficiently covered in teacher education curricula (e.g., ways to improve communication and relationships with their students). In addition, our interviews pointed to the necessity to explain the position and role of teachers in society and raise public awareness regarding the teaching profession. When the position of a professional group in society declines, so does the motivation of

its members. Teachers who find themselves in such situations have few incentives to improve and do better.

Suggestions for Future Studies

The study's findings can also pave the way for future studies in the field. One topic that could be investigated in future research is how PPK can be opened up to provide sound research results on learning and teaching. The questions of how to use PPK in a meaningful way and correct its prejudicial aspects would likewise be of interest for research into teacher education research. Is it possible to change teachers' PPK? If so, how can this be achieved? Also, it is worth mentioning that although reflective practice models have historically had a strong influence on teacher education, they are arguably over-reliant on considering learners as decontextualized individuals and reflection as a rational cognitive process. Conversely, they do not pay enough attention to the social aspects of professional learning and the non-cognitive or non-rational aspects of learning (Philpott, 2014), which can be investigated in future studies. Moreover, while research of the type described in this paper could help us to comprehend the world of teachers, their mindsets, and their beliefs and seeks to understand what teachers perceive and experience in their profession, it is important to remember that this is just the first step towards a new approach to teacher development research. In subsequent steps, the consequences and outcomes of what we learn from such research could be tested and expanded in future studies to ultimately find their way into real classrooms.

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Author Information

Ebrahim Talaee

 <https://orcid.org/0000-0001-7954-9888>


Tarbiat Modares University

Nasr Bridge, Jalal AleAhmad Highway, Tehran

Iran

Contact e-mail: e.talaee@modares.ac.ir

Hamideh Bozorg


 <https://orcid.org/0000-0002-3781-5575>

Tarbiat Modares University

Nasr Bridge, Jalal AleAhmad Highway, Tehran

Iran

Ilse Schritteser

 <https://orcid.org/0000-0001-5187-2931>

University of Vienna

Universitätsring 1, 1010 Wien

Austria
