An Examination of the Preservice Teachers' Personal Practical Theories

Öğretmen Adayların Uygulamaya Dayalı Bireysel Teorilerine İlişkin Bir İnceleme

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Abstract

Purpose: The aim of this study is to examine the contents and sources of preservice teachers' personal practical theories (PPTs) and the relationship between the contents and sources.

Design/Methodology/Approach: The study was carried out using a basic qualitative research design. The study group of the research was determined by criterion sampling, one of the purposive sampling methods. The data collection instrument was developed by the researcher. This instrument was developed with an understanding that allowed preservice teachers to externalize their PPTs, reason about the professional behaviors that their PPTs would result in, identify the sources of their PPTs, and recall the relevant memories that their PPTs originated from. Fifty-one preservice teachers studying in the eighth semester of the classroom teaching program were included in the study group of the research. Analyses were based on PPT statements labeled with 489 in vivo codes. The research data were obtained within the scope of a study titled "Personal practice-based theory construction" conducted with the participants for three weeks.

Findings: Preservice teachers' PPTs were analyzed under the themes of teacher, students, instruction, curriculum, classroom, and socio-cultural context of education. It was observed that the teacher candidates' PPTs were mainly constructed on the teacher theme, through which the characteristics of high-quality teachers were explained. It was seen that about half of the teacher candidates' PPTs were sourced from their experiences before they came to the faculty of education, while the lowest percentage of PTTs stemmed from the theoretical dimension of teacher education.

Highlights: The most prominent of these is that teacher candidates constructed their PPTs predominantly on ideal teacher characteristics, while they paid less attention to the curriculum and socio-cultural context. An idealistic approach that placed too much emphasis on values was identified in the contents of the candidates' PPTs. Although the candidates' PPTs were largely compatible with the accepted theories, they need to be developed to transfer them into practice in a real classroom context.

Öz

Çalışmanın amacı: Bu araştırmanın amacı öğretmen adaylarının bireysel uygulamaya dayalı teorilerinin içeriklerini, kaynaklarını ve içerik ile kaynakları arasındaki bağlantıyı incelemektir.

Materyal ve Yöntem: Araştırma temel nitel araştırma deseni ile gerçekleştirilmiştir. Araştırmanın çalışma grubu amaçlı örnekleme yöntemlerinden ölçüt örnekleme yöntemi ile belirlenmiştir. Veri toplama aracı araştırmacı tarafından geliştirilmiştir. Bu araç adayların bireysel uygulamaya dayalı teorilerini dışsallaştırmalarına, onların sebep olacağı profesyonel davranışlar üzerinde akıl yürütmelerine, bireysel uygulamaya dayalı teorilerinin kaynaklarını belirlemelerine ve onlara kaynaklık eden ilgili anıyı hatırlamalarına imkân veren bir anlayış içinde geliştirilmiştir. Araştırmanın çalışma grubuna sınıf öğretmenliği programının sekizinci döneminde öğrenim gören 51 öğretmen adayı dâhil edilmiştir. Analizler 489 vivo kod ile etiketlenmiş bireysel uygulamaya dayalı teori ifadesi temelinde yapılmıştır. Araştırma verileri, katılımcılarla üç hafta süre ile yürütülen "Bireysel uygulamaya dayalı teori inşası" isimli bir çalışma kapsamında elde edilmiştir.

Bulgular: Öğretmen adaylarının bireysel uygulamaya dayalı teorileri öğretmen, öğrenci, öğretim, program, sınıf ve eğitimin sosyokültürel bağlamı temaları altında incelenmiştir. Adayların bireysel uygulamaya dayalı teorilerinin ağırlıklı olarak nitelikli öğretmenin özelliklerinin açıklandığı öğretmen teması üzerinden inşa ettikleri gözlenmiştir. Adayların bireysel uygulamaya dayalı teorilerinin yaklaşık yarısına eğitim fakültesine gelmeden önceki deneyimlerinin kaynaklık ettiği, öğretmen eğitiminin teorik boyutunun ise en düşük kaynaklık oranına sahip olduğu görülmüştür.

Önemli Vurgular: Adayların bireysel uygulamaya dayalı teori içeriklerinde değerlere aşırı vurgu yapan idealistik bir yaklaşım tespit edilmiştir. Adayların sahip olduğu bireysel uygulamaya dayalı teoriler büyük oranda kabul gören teoriler ile uyumlu olsa da gerçek sınıf bağlamında uygulamaya dönüşebilmesi için geliştirilmesi gerekmektedir.

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INTRODUCTION

Personal practical theory (PPT) is a concept used to describe the interactions among teachers' knowledge, beliefs and practices. It is defined as a holistic synthesis of experiential, academic and interactive knowledge used by teachers while fulfilling the complex requirements of the profession (Buitink, 2009). PPT is a conceptual whole that corresponds to teachers' cognition and beliefs (Pitkäniemi et al., 2014). Elbaz (2018), who conducted the first studies on this subject, defined this type of knowledge as the sets of understanding that teachers actively use in the process of shaping and directing the task of teaching. PPT, which has been one of the important areas of research in teacher education since then, is also regarded as one of the central goals of teacher education (Buitink, 2009; Pitkäniemi et al., 2014). Considering the power that PPT has over preservice teachers' professional and developmental decisions and practices, such an approach seems reasonable. When the relevant literature is examined, studies are encountered that examine the relationship of PPTs with teachers' professional development (Sweeney et al., 2001), teachers' assessment and evaluation practices (Box et al., 2015), and teachers' actions related to curriculum and instruction (Cornett, 1987). In addition, there are studies that examine the relationship of PPTs with preservice teachers' theory and practice (Feryok, 2005), interactional decision-making processes (Tsang, 2004), and idealistic approaches (Maaranen, et al., 2016). It is also possible to see studies in which the content and sources of preservice teachers' PPTs are examined (Ferry et al., 2022; Levin & He, 2008; Pitkäniemi et al., 2014) and in which the longitudinal change in their PPTs is considered (Levin et al., 2013). Moreover, there are studies examining teachers' identities based on PPTs (Stenberg et al., 2014; Stenberg & Maaranen, 2020).

It is possible to mention two main pillars of importance of preservice teachers' PPTs. The first of these is based on accepted theories on cognition and learning. Current cognitive theories regard learning as an active construction process that is strongly influenced by individuals' existing meanings, beliefs, and perceptions (Resnick, 1989). This indicates that PPT is an important determinant of the teacher candidate's learning process for teaching. In fact, PPT corresponds to a synthesis of learnings, assumptions and beliefs derived from personal experience that strongly influence constructivist-based learning. The second factor that makes PPT significant is a situation that can be expressed as the nature of teaching. The unstructured and complex nature of the classroom, which requires rapid decision-making, reveals the importance of PPT in the practice of the teaching profession. In fact, Schön (1983, 1987) discussed in his studies the principle of "reflection-in-action", which implies a constant dialogue with constantly changing situations in the teacher's professional life. For this reason, he states that we should not view teachers as being in a position where they directly apply the theoretical knowledge transferred to them. In this context, it is important to state that in their professional activity, teachers are in a position to create the knowledge they need rather than merely being consumers of others' knowledge (Chaharbashloo et al., 2020). In sum, the nature of learning and the classroom causes teachers' decisions and practices to be guided by their cognitive structures, which are a synthesis of their theoretical knowledge, personal beliefs and experiential knowledge rather than simply their theoretical knowledge. This makes PPT one of the predictors of preservice teachers' professional and developmental decisions and practices.

The aim of teacher education is to develop candidates' thoughts and actions so that they can become high-quality professionals. In this regard, it is considered worthwhile to work on PPT, which is regarded as one of the predictors of their thinking and actions. In the first dimension of the study, the contents of preservice teachers' PPTs are examined. In this way, it will be possible to predict the inclusiveness and quality of teacher candidates' PPTs. These predictions will serve as a guide for teacher educators as to what needs to be done for preservice teachers to develop more developmental and inclusive PPTs (Buitink, 2009). In the second dimension of the study, the percentages of the variables that are the sources of teacher candidates' PPTs will be examined. This examination will undoubtedly answer the question of the extent to which teacher education is the source of teacher candidates' PPTs. In the study, teacher education is examined in two dimensions, which are the theoretical dimension and the observation and practice dimension. In this way, it will also make apparent the extent to which each dimension of teacher education programs is the source. In addition, the characteristics of units with a high effect on PPT sources can provide ways for effective teacher education. In this regard, it can be said that sources of PPTs enable us to make predictions about the indirect or direct role of teacher education in the formation and change of teachers' PPTs. The following research questions are addressed in this study.

What are the contents of preservice teachers' PPTs?

What are the sources of preservice teachers' PPTs?

What is the relationship between the content and sources of preservice teachers' PPTs?

Personal Practical Theory (PPT)

PPT is a concept used to describe the interactions among teachers' knowledge, beliefs and practices (Levin & He, 2008). Furthermore, it is known that concepts such as practical theories (Ferry et al., 2022; Stenberg & Maaranen, 2020; Tiilikainen et al., 2019), teachers' beliefs (Anders & Evans, 2019; Buehl & Beck, 2015; Fives et al., 2015), and teachers' conceptions (Barnes et al., 2017; Boulton-Lewis et al., 2001; Hewson & Hewson, 1987; Teo & Zhou 2017) are also used to explain this relationship. PPT constitutes one of the valuable psychological constructs for understanding the teacher. The reason for this is its relationship with the teacher's cognitive and affective processes. PPT includes all the terms, concepts, perceptions, views and beliefs that the preservice teacher uses when preparing, presenting, evaluating and thinking about instruction. In the words of Elbaz (1981), PPTs are mental representations that include the rules, principles and images that teachers use in their practices. Calderhead (1996)

called PPTs the conceptualized version of teacher cognition. PPT can be considered as an integrated structure consisting of experiential knowledge, formal knowledge and personal beliefs (Van Driel et al., 2001).

Teacher cognition studies strengthen the predictive value of PPT on teachers' professional development and practices. PPT functions as a cognitive filter for individuals to interpret new information, situations and events (Calderhead & Robson, 1991; Levin & He, 2008; Levin et al., 2013; Nespor, 1987). Moreover, by acting as a filter in preservice teachers' acquisition and interpretation of new beliefs, PPT influences what is learned during the teacher education program. Furthermore, PPT is used as a framework for planning, interacting with and communicating instruction (Elbaz, 2018; Levin & He, 2008). Studies (Lotter et al., 2007; Tavakoli & Azad, 2017) reveal the relationship between teachers' beliefs and professional practices. In this regard, it is convenient to study these structures in order to understand the decisions taken and practices performed by teachers in the classroom and the reasons for these (Enyedy et al., 2006). By defining PPT as "beliefs in action", Levin et al. (2013) emphasized the relationship established by PPT with teachers' actions. When the literature is examined, it can be seen that studies focusing on teacher cognition arouse scientific interest in understanding teachers' ways of thinking and planning, and in designing teacher education more effectively (Box, et al., 2015; Buitink, 2009; Maaranen et al., 2016; Maaranen & Stenberg, 2020; Puustinen et al., 2018). As the number of related scientific studies increases, it will be possible to make more accurate decisions in teacher education.

Sources of Personal Practical Theories (PPTs)

In the educational sciences literature, besides the ongoing debate about what preservice teachers' PPTs are, what effects they have on their decisions and practices, and their potential for and pathways of change, another important issue concerns which variables are the sources of PPTs. The reason for this is that studies on the variables that are the sources of PPTs can provide guiding information on the potential for and pathways of change in PPTs. Prominent studies on this subject emphasize that preservice teachers have a relatively structured set of beliefs about learning and instruction before beginning their studies at the education faculty (Calderhead, 1991). In fact, it is common knowledge that preservice teachers' teaching approaches are formed by their observations and experiences of teaching for countless hours as students (Anspal et al., 2012; Calderhead 1996; Kagan, 1992; Pajares, 1992; Zeichner & Tabachnick, 1981). The beliefs that teacher candidates bring with them greatly influence what they learn and may make them less responsive to the theories and approaches in the teacher education process.

Another variable that is a source of preservice teachers' PPTs is the teachers of preservice teachers. Britzman's (1991) case study conducted with two preservice teachers showed that preservice teachers had strong beliefs about both the positive and negative roles they had acquired from teacher role models. Britzman (1991) showed that these beliefs had a profound effect on their classroom behaviors. Knowles (1992), on the other hand, stated that both families and teachers influenced preservice teachers' beliefs about teachers' roles. Similarly, in a case study conducted on the development of preservice teachers' teacher role identities, Crow (1987) found that past teacher role models and early childhood family experiences strongly influenced preservice teachers' professional identities. Another factor that is a source of PPTs is individuals' own teaching experience. Zeichner and Tabachnick (1981) expressed the source effect of the social environment in schools by stating that the preservice teacher, who becomes liberal towards contemporary approaches as long as he/she studies at university, switches to traditional views when beginning his/her teaching experience.

In the literature, studies examining the sources of teacher candidates' beliefs under categories are also worthy of attention. One of the first studies on this subject belongs to Elbaz (1981). She classified the sources of practical knowledge as situational, individual, social, experiential and theoretical. In their study, in which they examined the contents and sources of preservice teachers' PPTs, Levin and He (2008) analyzed the sources of PPTs under the categories of family, experience and teacher education. The categories mentioned in their study are detailed under sub-categories. Mansour (2009) classified sources of beliefs as formal and informal. The formal type of source is provided through formal education. The informal type of source corresponds to units other than this. Pitkäniemi et al. (2014) examined the sources of prospective teachers' PPTs under the themes of experiences as a teacher, teacher education, personal learning experiences and values, and other learning environments. In their study, Ferry et al. (2022) classified sources of PPTs as the subject matter course that preservice teachers were reading, the general education courses that preservice teachers had taken the previous semester, preservice teachers' work experience, and personal experiences and media. In this study, the sources of preservice teachers' PPTs are examined with an empirical approach on the basis of separate categories.

METHOD/MATERIALS

Research Design

Qualitative research, which is derived from constructivism, phenomenology, and symbolic interactionism, is concerned with how people interpret, make sense of, and structure their experiences (Merriam, 2009). The widespread acceptance of the idea, that the ways individuals interpret their experiences have the potential to predict their professional decisions and practices, has increased the importance attached to qualitative studies in teacher education research. Basic qualitative research, which is a qualitative research design, is a type of research that focuses on participants' experiences and the meanings they attribute to these experiences (Worthington, 2013). This study focuses on the content and sources of preservice teachers' PPTs. PPT is defined

as a holistic synthesis of an individual's experiential, academic and interactional knowledge. In this respect, the contents of PPTs are inherently suitable for examination with a qualitative research paradigm. The study also examines the sources of PPTs. In fact, thanks to the opportunities provided by qualitative research, the memories that were the sources of PPTs were accessed in this study. All the steps followed in the study comply with the qualitative research principle of examining experience and the meanings ascribed to experience.

Participants

The criterion sampling method of purposive sampling was used in the study. Purposive sampling is used to select the participants most likely to provide relevant and useful information. Criterion sampling, one of the purposive sampling methods, is the study of all cases that meet a set of predetermined criteria. The criterion is either set by the researcher, or else a previously prepared list of criteria can be used (Marshall & Rossman, 2014). The study was conducted in the education faculty of a university in Turkey. The participants of the study are enrolled in the Primary Education Department, Classroom Teaching Program. As criteria for inclusion in the study, studying in the fourth grade of the classroom education program and participating in the study named "Construction of PPT" were determined as criteria. Since the departments in which preservice teachers' study are decisive in the formation of their PPT contents, data were collected from a single department. The students included in the study were studying in their 8th semester and had completed a total of 210 ECTS credits. A total of 51 preservice teachers, 9 of whom were male and 42 of whom were female, participated in the study. Ethics committee approval for this study was obtained from Ordu University Social and Human Sciences Research Ethics Committee (dated 05.06.2020 and numbered 66417432-050.01.04).

Data Collection Tools

The data collection instrument was developed by the researcher. This instrument was developed with an understanding that allowed preservice teachers' to externalize their PPTs, reason about the professional behaviors their PPTs would result in, identify the sources of their PPTs, and recall the relevant memories that were the source of their PPTs. In the process of developing the inventory, firstly, studies carried out for similar purposes and the measurement instruments used in those studies were examined (Ferry et al., 2022; Levin & He, 2008, Pitkäniemi et al., 2014). Then, the data collection instrument was developed on the basis of a four-stage directive, as detailed below, in accordance with the purposes of the study. The draft was then sent to an expert for review. The necessary revisions were made based on face-to-face interviews held with the expert. The data collection instrument consisted of four parts. The first section contained an open-ended instruction that allowed teacher candidates to make their PPTs explicit. The second part included an instruction that directed candidates to make assumptions about the professional behaviors that would result from the PPTs they had written. This instruction allowed the researcher to understand the PPTs without error. In addition, with this instruction, the aim was to enable teacher candidates to mentally construct the intellectual and operational unison of PPTs. The third part of the instrument was designed as a multiple-choice structure that enabled the preservice teacher to choose the variables that were the source of their PPTs from among the options given to them. In this context, 12 structured options were given to the teacher candidates. The 13th item was an open-ended item that allowed candidates to write any source that was not included among the options. Finally, the candidates were asked to write their memories about the variable they selected as a source. In this way, the aim was to ensure that the variable that was the source of the PPT was correctly understood by the candidate. Moreover, the aim was also to enable the researcher to understand the variable that was the source of the PPT without error. In the inventory, candidates were asked to state 7-13 PPTs. A sample data collection instrument is shown below.

Table 1. Sample Data Collection Instrument

Write below one of your thoughts that you believe to be true, important and necessary in the teaching-learning process and at school.		
How does this thought direct you to act as a teacher?		
What is the source of your thought? **(Let's just choose one)** *Example: My chosen source is my teachers*		**Write a memory about your chosen source** *Example: My primary school teacher was very fair.*
What is the source of your thought? (Let's just choose one)	Teaching Practicum	
	School Observations (Observations made in primary schools as part of the course)	
	School Practices (Practices made in primary schools for the teaching course)	
	Theoretical Courses I Have Taken at the Faculty of Education	
	My Theoretical Readings (Articles, theses, academic books…)	
	My philosophy of life, religion and values	

Write below one of your thoughts that you believe to be true, important and necessary in the teaching-learning process and at school.

	My home upbringing
	My learning experiences as a student (from primary school to university)
	My teachers (from primary school to university)
	Social Media, YouTube, Instagram, Pinterest
	Books Outside the Pedagogical Subject Area
	Experiences Not Directly Related to Teaching
	Other (Please state)...

Data Collection

The research data were obtained within the scope of a three-week study entitled "Construction of PPT" with the participants. The aims of this study were as follows: To make students' implicit PPTs explicit, to allow them to consider different perspectives of their PPTs, and to provide space for them to reflect on and question why they thought and acted in a certain way. The research data were obtained within the scope of a study with such aims. The construction of PPTs first began with a process whereby teacher candidates made their PPTs explicit. The instrument, which made it possible to examine the PPTs developed within the scope of the study on the basis of four instructions, fulfilled this purpose. The subsequent processes of the study were carried out in an open discussion environment in which the preservice teachers shared their specified PPTs, in which these were interpreted by the other participants, and in which their relationship with the literature was examined. This process was conducted within the framework of a course led by the researcher. Discussions took place with the entire class. Prior to the data collection process, the candidates were informed about the concept of PPT, and the analyses of scientific studies conducted on this subject were shared. The relationship of PPTs with the candidates' intellectual and operational processes was explained on the basis of scientific studies. Finally, sample PPT statements were shown to the candidates. Once it was established that the candidates had sufficient knowledge about the concept of PPTs, the data collection instrument was shared with the candidates.

Data Analysis

Stage 1: Coding of PPT contents: In determining the contents of PPTs in the study, besides the PPTs written by the teacher candidates, the behaviors to which the PPTs would lead the candidates and the memories that were the source of the PTTs were carefully read. In this way, an attempt was made to interpret the PPT contents with as few errors as possible. Following this interpretation, each PPT was coded with the vivo code that was considered to best define its scope. As a result of this process, a total of 489 PPT statements were coded in vivo.

Stage 2: Classification of coded PPTs based on the theme they belong to: The theme system used in the studies by Levin and He (2008) and Pitkäniemi et al. (2014) was interpreted and used within an eclectic approach based on teacher education programs in Turkey. Six themes were used in the analysis. These are teacher, students, instruction, classroom, curriculum, and socio-cultural context of education. The PPTs coded in the study were each placed in one of the themes expressed on the basis of their characteristics. As a result of the analysis, the distribution of PPTs based on the themes is as shown below.

Table 2. Analysis of PPTs based on themes.

Theme	Frequency
Teacher	125
Instruction	80
Student	75
Classroom	60
Curriculum	38
Socio-Cultural Context of Education	11
Total	489

Stage 3: Applying the constant comparison method to PPTs classified on the basis of themes: After the coded PPTs were classified based on themes, each PPT was categorized based on its focus. At this stage, each PPT was classified based on the question "Which subject does the content of this PPT focus on?" These clusters were constantly compared with each other and this process was continued until the clusters became stable. The naming of the clusters was carried out at the end of this process. The categories found in the study and the definitions of these categories are shown below.

Table 3. Units of analysis and definitions of PPT contents

Theme	Category	Definition
Teacher	Boundaries	Characteristics of behaviors required of a teacher in terms of ethics
	Characteristics of a High-Quality Teacher	Pedagogical and personal characteristics that a high-quality teacher should possess
	Role Responsibility	Roles and responsibilities that must be fulfilled by a teacher
	Professional Development	Requirement for and ways of professional development
Instruction	Instructional Approach	Assumptions that will guide the method, the structuring of the content, and the choices regarding the whole learning environment to be created in the classroom in the teaching process
	Ways of Teaching	Principles such as interest, attention, motivation, reinforcement, and humorous elements that should be considered in the implementation of the teaching process
	Inclusivity in Teaching	Statements about how to interpret multiculturalism in the teaching process and what kind of learning environment should be created on this basis
	Differentiation of Instruction	Statements about how to create a learning environment that embraces the differences observed in the classroom on an academic basis
	Instructional Strategies	Strategies, methods and techniques that should be used in creating an effective learning environment in the classroom
Students	Approach to Students	Statements about how students should be approached and what kind of relationship, communication, closeness, distance, etc., there should be with them
	Need for and Ways of Getting to Know Students	Statements about the need for and ways of getting to know students for any decision taken as a teacher.
	Expectations from Students	Statements expressing the relationship between the teacher's belief towards students and students' behaviors
	The Nature of Learning	Implications regarding how permanent and meaningful learning takes place
Classroom	Physical Characteristics of the Classroom	Statements about how the physical characteristics of an effective classroom, seating arrangement and size, etc., should look
	Classroom Management	Statements about the measures to be taken for creating an effective learning environment and enabling participation in the classroom
	Relationships	Statements about the norms that regulate the relationship between the teacher and students, and on how and why rules should be observed
Curriculum	Learning Outcomes	The knowledge and skills believed necessary to be fostered in students by the school
	Structuring of Content	Statements about how the content in the curriculum should be structured
	Planning the Lesson and Implementing the Plan	Statements about how the learning outcomes in the curriculum should be transformed into a learning experience in the classroom, and in this context, what the plan is and how it should be implemented
	Measurement and Evaluation	Statements about how to determine whether the learning outcomes in the curriculum are acquired by students
	Mission of the School	Statements about what the mission of schools is
Socio-Cultural Aspects of Education	Communication with Parents	Statements about parents' influence on students and how communication with parents should be established in the teaching process
	Educational Policy	Statements about how the right to education in the country should be provided to all citizens in an efficient way
	School Culture / School Management	Statements about what the school culture should be and how it should be managed

Analysis of Sources of PPTs: During the research process, the source of each PPT expressed by the teacher candidates was determined with 12 structured options and one open-ended item (See Table 3). In addition, candidates were asked to write down their memories about the sources they declared. The reason for this was to prevent errors that could result from possible misinterpretation of the source code of the PPT by the candidate. Therefore, during the analysis process, the source of the PPT was decided on by considering the conformity between the source indicated and the memory written by the candidate. During the analysis, the source of each PPT was coded as follows: Theme/category/source to which the relevant PPT belongs. This process

was carried out for all 489 PPTs. Following this process, the 489 PPTs were coded and clustered based on 13 sources. Finally, the PPT sources grouped in 13 categories were classified under three themes, namely, the theoretical dimension of teacher education, the observation and practice dimension of teacher education, and personal learning experiences and values.

Trustworthiness

Qualitative research focuses on trustworthiness rather than validity-reliability. Trustworthiness is examined based on the requirements of credibility, dependability, confirmability and transferability (Guba & Lincoln, 1982). In a research study, it is recommended to carry out one or more of these strategies in order to check the accuracy of the findings (Creswell, 2003). Credibility is a concept related to the trustworthiness of the findings. One of the ways to increase credibility is through expert review (Holloway & Wheeler, 1996). In the study, the opinion of an expert was sought during the development of the data collection instrument and the analysis of the data. In order to increase credibility, certain measures were also taken in the data collection instrument. The first of these was that the preservice teachers were asked to explain how the PPT they expressed led them to behave, so that the content of the PPT could be understood by the researcher without error. Secondly, the candidates were asked to write down their memories about the sources of the PPTs they chose. Both instructions ensured that the responses received from the participants were understood without error. For objectivity, which is another requirement, it is necessary to reduce the biases of the researcher. For this purpose, under the heading of "role of the researcher", the researcher's point of view on the subject was shared reflectively with the reader. In addition, in this context, certain measures were taken in the analysis of the research data. These measures are also recommended for the confirmability audit trail. The aim of these measures is to clarify as much as possible the thought process and evidence that leads the researcher to research results (Houser, 2015). In fact, Elo & Kyngäs (2007) state that explaining how the analysis is performed and defining the relationship between the findings and the original data enable the study to be evaluated as trustworthy. In this context, firstly, the analysis of the research data was made using a computer-assisted analysis program. All analyses were performed on in vivo codes. In this way, it was ensured that the most basic unit of analysis was not the abstractions of the researcher, but the verbatim statements of the participants. Moreover, the abstractions (categories) and definitions (inclusion and exclusion criteria) created by the researcher are explained in the data analysis section. In addition, detailed tables on the number of codes found in each category and subcategory are included. For the confirmability of a study, the findings should include participants' own statements rather than the researcher's biases or opinions (Lincoln & Guba, 1985). For this purpose, in vivo codes were used as the analysis unit of the study. Guba and Lincoln (1982) recommend purposive sampling and detailed description to demonstrate transferability. The study was conducted with a diverse group of preservice teachers. The participants of the study were determined by purposive sampling. Within the scope of detailed description, verbatim quotations are included in the findings section. For transferability, it is also stated that the research process should be defined clearly, precisely and in detail. In this regard, the whole research process is expressed clearly, precisely and in detail in the method section of the study.

Role of the Researcher

As a teacher educator, I have always been inquisitive about the mechanisms underlying preservice teachers' decisions and practices. I have observed in theoretical and applied studies aimed at fostering professional competence that the decisions and practices of teacher candidates are quite different from each other. During my studies, I have always questioned the reasons for their preferences. In this process, I first encountered the concept of Personal Practical Theory in the study by Levin and He (2008) in the literature. I thought it was a very promising concept for understanding the mechanisms underlying preservice teachers' decisions and practices. In that study, a means to identify the sources of PPTs was also put forward. This means had the potential to provide original answers to many questions whose answers are sought in teacher education. Following my studies on the concept, I saw that teacher candidates' PPTs were given particular importance in Northern Europe, and that in this regard, there was even a course named "Pedagogical Knowing and Construction of Personal Practical Theory" at the University of Helsinki. I have had the opportunity to review many studies on PPT. How the results of these studies, one of them carried out in the USA and the other in Finland, would appear in Turkey was a matter of great interest for me. In this context, I conducted a three-week study called "Construction of PPT" with fourth graders, modeling this course, which I had seen an example of in a Finnish university. I obtained the research data within the scope of that study, the details of which are explained in the data collection process section. Meanwhile, while meeting with an expert for the data collection instrument, the idea was born to also add memories about sources of PPTs to the data collection instrument. This feature, which did not appear in the previous studies, provided extensive opportunities, which also exceeded my own expectations, to understand teacher candidates' PPTs. During the research, I had the role of a teacher educator who introduced the teacher candidates to the concept of PPTs and revealed the importance of this subject based on the studies in the literature. The way I interpreted the data was influenced by my recognition of certain features that teacher candidates' PPTs should have. I can summarize these features as harmony with accepted theoretical knowledge and a realistic and multifaceted approach appropriate for the nature of teaching. Furthermore, the fact that I studied a similar subject with teachers for my doctoral thesis and that I had read almost every study related to PPT provided me with a strong background during the research process. My research nurtured my awareness of the way preservice teachers interpret their experiences and make professional assumptions and led me on to further research ideas on this subject.

FINDINGS

In the first research question of the study, the contents of the preservice teachers' PPTs were examined. The findings regarding the contents of the participants' PPTs are shown in the table.

Table 4. Contents of preservice teachers' PPTs

Category	Number	Percentage
Teacher	**125**	**32.1**
Boundaries	**26**	**6.7**
The teacher cannot interfere with the student's appearance.		
A teacher cannot make coercive financial demands on the student.		
No teacher can make more physical contact than necessary (kissing, hugging, embracing, etc.) with his student.		
Characteristics of a High-Quality Teacher	**62**	**15.9**
The teacher should always be able to stay calm in the face of unexpected new situations.		
The teacher should be able to intervene immediately in every situation and manage times of crisis well.		
Role Responsibility	**17**	**4.4**
The teacher must do everything for the student's right to education.		
The teacher is both the mother and the father of the student.		
Professional Development	**20**	**5.1**
As a teacher, it is necessary to keep up with the developments in technology, pedagogy and education and adopt these as a teacher. Considering the changing and developing conditions of the times, it should not be ignored that development is taking place in education just as it is in every field.		
The teacher should be able to self-criticize. This quality of mine will lead me to carry out research and studies aimed at constantly renewing myself.		
Instruction	**80**	**20,6**
Instructional Approach	**5**	**1.3**
Associations with different disciplines should be made while teaching the lesson.		
I support the idea that a culture of development-oriented values should be prioritized over a culture of fear-based discipline.		
Ways of Teaching	**22**	**5.7**
I think that doing short exercises before the first lesson in the morning increases children's attention and interest in the lesson.		
Teaching should be supported with educational games and concrete materials.		
Inclusivity in Teaching	**15**	**3.6**
We should benefit from the multiculturalism of the classroom. By seeing each student as a piece of the puzzle, we must show them that they will achieve the whole. We must create a positive classroom atmosphere.		
Differentiation of Instruction	**19**	**4.9**
Each student should be guided according to his/her own interests and abilities. It should be supportive and complementary. Learning outcomes, approaches and activities appropriate for the student's personal and mental development should be preferred.		
The teacher must be aware that students have different types of intelligence. He/she should adjust his/her teaching methods and techniques accordingly.		
Instructional Strategies	**19**	**4.9**
Activities in which students will be active in the process should be used. Lessons should be taught with methods and techniques appropriate for the learning outcome. One single method and technique should not be adhered to. Changes must be made. Constantly delivering the lesson in the same way causes students to become bored with the process. This may cause them not to be involved in the process.		
Considering current learning and teaching theories, methods and techniques should be used in which students are more active and in which they internalize mathematical concepts and generalizations instead of just memorizing them. It should be ensured that they can derive pleasure from the mathematics learning process.		
Students	**75**	**19.3**
Approach to Students	**24**	**6.2**
Teachers should communicate positively with their students. Moreover, I-language should be used instead of you-language. (Mert).		
The teacher should make the student feel valued. Each student should be treated as unique. He/she should take care not to approach the student with the slightest bias in his/her heart.		
Getting to Know Students	**19**	**4.9**
Special observation forms and portfolios should be prepared for each student and individual monitoring charts should be kept.		
The teacher should know his/her students' wishes, abilities and personalities. He/she should get to know them well.		
Expectations from Students	**4**	**1.0**
We must believe that students will be successful and make them feel that we believe this. In this way, we can be encouraging and supportive towards learning.		
The teacher should not give up hope for any student. An appropriate learning environment and type of learning environment should be provided for him/her.		

Category	Number	Percentage
A teacher must believe in his/her students.		
The Nature of Learning	**28**	**7.2**
In order for students to achieve high quality learning, a lesson plan and classroom environment that accords with constructivism and contemporary understanding should be prepared.		
I think that learning is more permanent when students construct knowledge in their own minds through their own efforts.		
Classroom	**60**	**15.4**
Physical Characteristics of the Classroom	**10**	**2.6**
Seating the students by creating a cluster seating arrangement instead of a layout in rows has a positive effect on the interaction between students.		
I want to equip the school and classroom environment with opportunities for students to socialize.		
Classroom Management/Participation	**23**	**5.9**
A preventive model approach should be adopted in the classroom.		
It is very important to make students understand the rules so that there is no chaos in the classroom.		
Boundaries and rules in the classroom should be created together with the students.		
Relationships	**27**	**6.9**
In the name of self-expression, the classroom environment should be as transparent as possible. Students should be able to express their thoughts and ideas directly without any restrictive filter and without being wary of their teacher or friends.		
There should be a positive atmosphere in the classroom. Everyone should respect each other's opinions, and a warm classroom environment should be provided.		
Curriculum	**38**	**9.8**
Learning Outcomes	**26**	**6.7**
Character and values education should be given importance before the basic subjects.		
Opportunities should be provided for students to be self-confident, assertive and creative, and to have strong communication skills.		
Structuring of Content	**2**	**0.5**
The course content should be enriched in a way that will appeal to every student and ensure participation in the course.		
Course contents should be prepared that appeal to more than one of the students' senses.		
Planning the Lesson and Implementing the Plan	**7**	**1.8**
The teacher's planning of the lesson in advance makes the process more productive. A more efficient transfer of information is enabled.		
While planning the lesson, the teacher should plan for every possibility by taking possible problems into account. He/she should put this in writing.		
Measurement and Evaluation	**1**	**0.3**
The teacher should make observations and evaluations on early literacy readiness in the first week of school		
Mission of the School	**2**	**0.5**
Our priority should be the children, not the curriculum. As one of our colleagues said, we should educate students, not the curriculum.		
Schools should prepare students for life.		
Socio-Cultural Aspects of Education	**11**	**2.8**
Educational Policy	**1**	**0.3**
A school should be an institution where there are many activities. Schools in rural areas should be given more support in this regard.		
Communication with Parents	**9**	**2.3**
The teacher should be in constant communication with parents of all students. This is necessary for the student to progress systematically.		
Teacher-parent relations are important for the development and success of students.		
School Culture / School Management	**1**	**0.3**
A school management should definitely communicate correctly with the student. I find it more appropriate to explain the reasons for the rules in accordance with their schemas.		

The contents of the preservice teachers' PPTs were examined under the themes of teacher, students, instruction, curriculum, classroom, and socio-cultural context of education. It was observed that the preservice teachers mostly constructed their PPTs based on the teacher theme, in which the characteristics of a high-quality teacher were explained (32.1%). In this theme, there were PPTs classified under the categories of teacher qualifications, role responsibility, boundaries and professional development. The socio-cultural context of education theme (2.8%) had the lowest percentage among the teacher candidates' PPTs. Almost all of the PPTs in the socio-cultural context of education theme were based on communication with parents. The curriculum theme had the second lowest percentage with less than 10%. This theme was examined under the categories of the mission of the school, learning outcomes, structuring of content, measurement and evaluation, and planning. The classroom theme, which was in third place, was examined under the categories of physical characteristics of the classroom, classroom management, and relationships. Approximately 20% of the teacher candidates' PPTs belonged to the students theme. In this theme, there are categories of

approach to students, expectations from students, ways to get to know students, and the nature of learning. The nature of learning (7%), which included candidates' assumptions about learning, was the category with the second highest percentage. Twenty percent of candidates' PPTs were related to the instruction theme. This theme was examined under the categories of instructional approach, ways of teaching, inclusivity in teaching, differentiation of instruction, and instructional strategies.

In the second research question of the study, the sources of teacher candidates' PPTs were examined. Findings related to the examination are shown in the table.

Table 5. Sources of preservice teachers' PPTs

Theoretical Dimension of Teacher Education	**70**	**18.0**
Theoretical Reading	**19**	**4.9**
According to the results of the studies I have read, learning becomes more permanent when students acquire knowledge by doing-experiencing and through their own efforts.		
Theoretical Courses I Have Taken at the Faculty of Education	**51**	**13.1**
Many courses that I took at the faculty, such as Inclusive Education, Inclusive Language Teaching, Special Education, and Individualization and Adaptation of Instruction, made me realize the necessity of organizing teaching according to the student.		
Observation and Practice Dimension of Teacher Education	**146**	**37.5**
School Practices	**15**	**3.9**
During my internship, I forgot the rule that I wanted to be observed in the classroom and exhibited a behavior outside the rule. And I was warned harshly and severely by my student.		
School Observations	**27**	**6.9**
I had the opportunity to observe different teachers at the school I attended. I realized that teachers who could not impose their authority had difficulties in classroom management. I observed that teachers who were able to impose their authority had better control of the classroom.		
Teaching Practicum	**104**	**26.7**
When students do not sense your authority in the classroom, they try to assume control themselves.		
Personal Learning Experiences and Values	**183**	**47**
Independent Learning	**17**	**4.4**
Social Media, YouTube, Instagram, Pinterest	**8**	**2.1**
There are many teachers that I have followed on social media. When I looked at the images shared by some teachers in the classroom, they created a seating arrangement in the classroom where the students could see each other. I saw that it would be easier to establish communication and carry out activities among students in such a classroom. In this way, the methods and techniques to be applied will yield more efficient results.		
Experiences Not Directly Related to Teaching	**5**	**1.3**
When my cousin was attending the first grade, they collected a sum of money and bought a gold bracelet for the class teacher on Teachers' Day.		
When a neighbor of ours, who is a history professor, came to chat with us in the apartment, he always enlightened us like the sun with the information he gave. He never neglected to give us life lessons based on the events he experienced.		
Books Outside the Pedagogical Subject Area	**2**	**0.5**
Project training	**2**	**0.5**
As part of a TÜBİTAK project I participated in in Samsun, I learned how permanent and effective it is to learn in contact with nature in a Forest School. I saw that this is an effective way for students to become individuals who are sensitive to life, the environment and the world.		
My philosophy of life, religion and values	**20**	**5.1**
For me, being able to listen to people, and to approach every idea with tolerance and learn new things from those ideas is a philosophy of life.		
My home upbringing	**15**	**3.9**
I was always able to express myself comfortably at home. When there was an issue at home, our opinions were obtained and we would wait for our conversation to end. Afterwards, comments were made.		
My learning experiences as a student	**46**	**11.8**
In the courses I have taken during my student life, I have always been more interested and enthusiastic towards courses in which I could express myself and my ideas freely.		
My Teachers	**85**	**21.9**
One of my friend's teachers cut my friend's hair with scissors, saying it was too long. Afterwards, the boy had to have his hair cut very short.		

The sources of preservice teachers' PPTs were examined under three themes. One of these is the theme of personal learning experiences and values, formed by preservice teachers' experiences prior to and independent from the education faculty. This theme consists of the categories of my teachers, my learning experiences as a student, my home upbringing, my philosophy of life, religion and values, and independent learning. As can be seen from the table, about half of the candidates' PPTs originated from the theme of personal learning experiences and values. Teacher education, on the other hand, is divided into two categories

in the study, namely the theoretical dimension of teacher education, and the observation and practice dimension of teacher education. It was seen that the observation and practice dimension of teacher education was the source of 37.5% of the teacher candidates' PPTs. The lowest percentage of sources of teacher candidates' PPTs was in the theoretical dimension of teacher education with 18%.

In the third research question of the study, the source percentages of PTT contents for each source theme were examined. The findings for this research question are shown in the figures below.
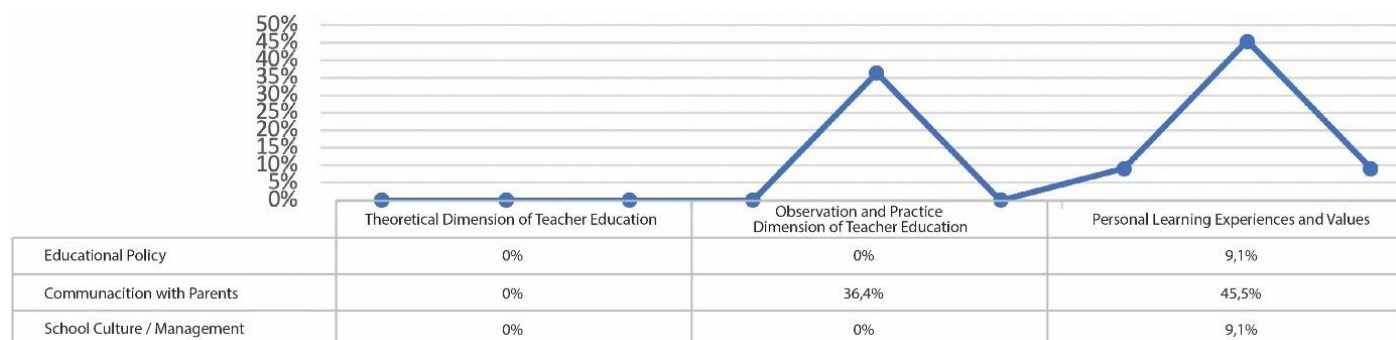
	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Educational Policy	0%	0%	9,1%
Communacition with Parents	0%	36,4%	45,5%
School Culture / Management	0%	0%	9,1%

Figure 1. Distribution of PPTs in Theme of Socio-Cultural Context of Education According to Sources

Preservice teachers' PPTs related to the socio-cultural context of education mainly stemmed from experiences outside the faculty of education (63.7%). It can be seen that the theoretical dimension of teacher education did not originate any of the PPTs within the socio-cultural context of education.
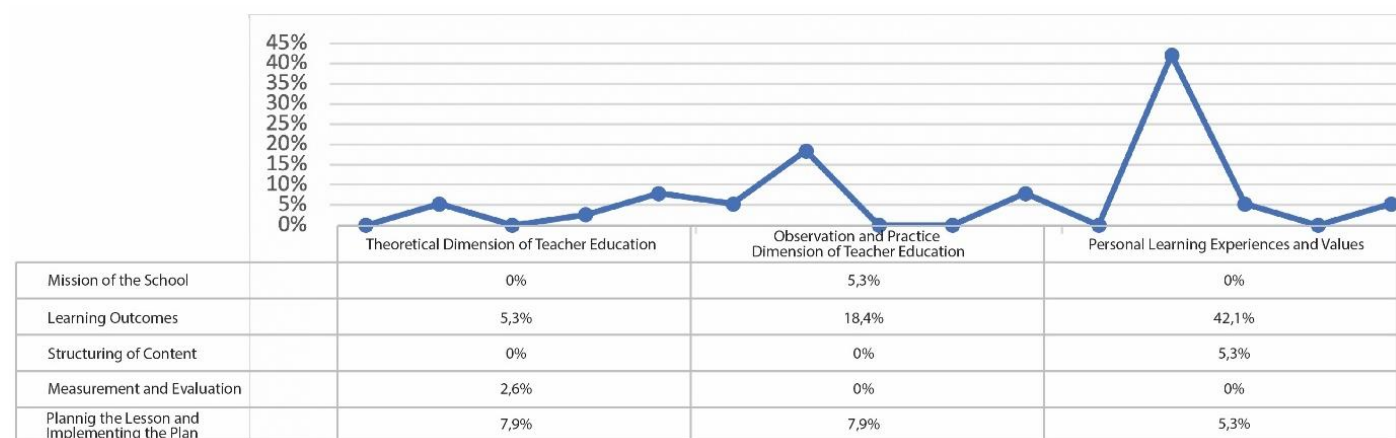
	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Mission of the School	0%	5,3%	0%
Learning Outcomes	5,3%	18,4%	42,1%
Structuring of Content	0%	0%	5,3%
Measurement and Evaluation	2,6%	0%	0%
Plannig the Lesson and Implementing the Plan	7,9%	7,9%	5,3%

Figure 2. Distribution of PPTs in Curriculum Theme According to Sources

It was observed that more than half of the PPTs in the curriculum theme were sourced from units outside the education faculty. In particular, almost all of the PPTs about what students should learn at school were derived from the theme of personal learning experiences and values. All of the PPTs related to the mission of the school originated from the observation and practice dimension of teacher education. On the other hand, none of the PPTs related to the structuring of content stemmed from teacher education. The lowest percentage of PPTs related to the curriculum were sourced from the theoretical dimension of education.
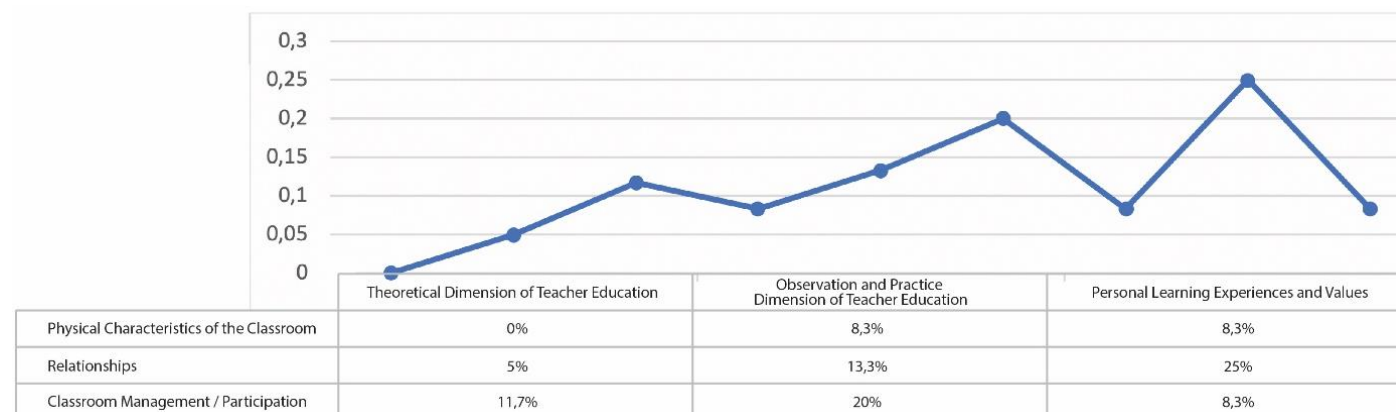
	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Physical Characteristics of the Classroom	0%	8,3%	8,3%
Relationships	5%	13,3%	25%
Classroom Management / Participation	11,7%	20%	8,3%

Figure 3. Distribution of PPTs in Classroom Theme According to Sources

PPTs in the classroom theme were equally sourced from the observation and practice dimension of teacher education and personal learning experiences and values. The lowest percentage of PPTs in the classroom theme were derived from the theoretical dimension of teacher education. PPTs in the relationship category mainly originated from personal learning experiences and values. PPTs in the classroom management theme were largely derived from the observation and practice dimension of teacher education.

	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Ways of Teaching	3,8%	16,3%	7,5%
Instructional Approach	2,5%	2,5%	1,3%
Instructional Strategies	7,5%	7,5%	8,8%
Differentation of Instruction	8,8%	8,8%	5%
Inclusivitiy in Teaching	7,5%	7,5%	5%
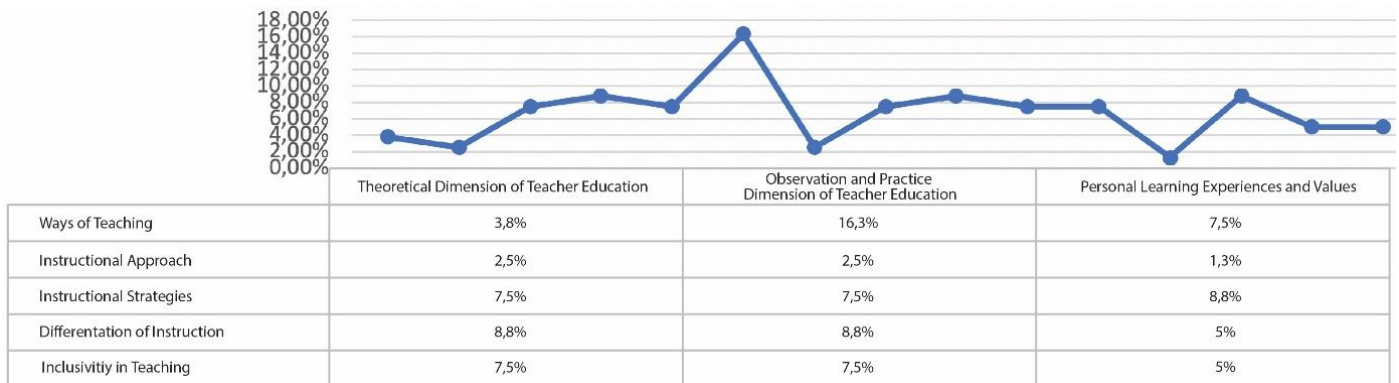
Figure 4. Distribution of PPTs in Instruction Theme According to Sources

The observation and practice dimension of teacher education was the source of almost all PPTs related to ways of teaching. Personal learning experiences and values were the source of PPTs in the category of teaching methods, techniques and strategies at a higher rate than the theoretical dimension of teacher education. The theme that was the greatest source of PPTs in the instruction theme was the observation and practice dimension of teacher education.
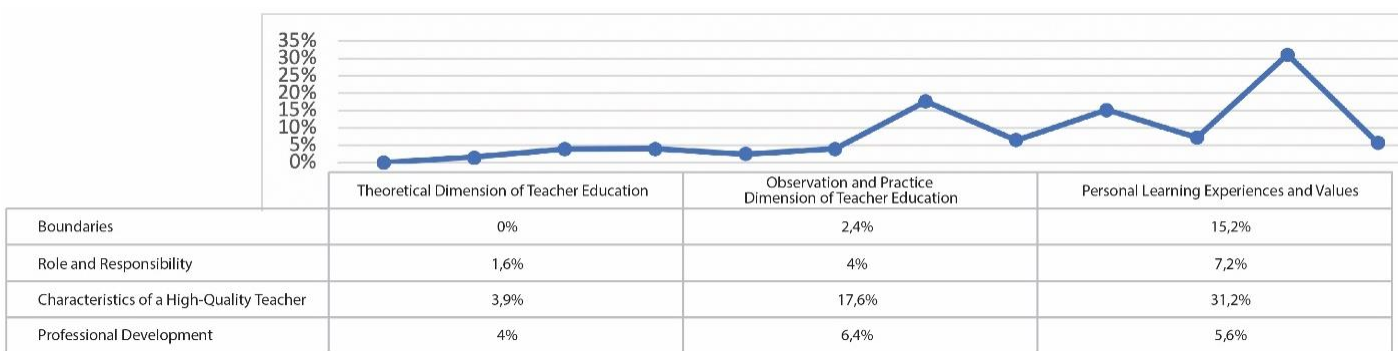
	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Boundaries	0%	2,4%	15,2%
Role and Responsibility	1,6%	4%	7,2%
Characteristics of a High-Quality Teacher	3,9%	17,6%	31,2%
Professional Development	4%	6,4%	5,6%

Figure 5. Distribution of PPTs in Teacher Theme According to Sources

Over half of the PPTs in the teacher theme originated from personal learning experiences and values. It can be seen that the majority of teacher candidates decided on how a teacher should be when they were students. The lowest percentage of PPTs in the teacher theme stemmed from the theoretical dimension of teacher education.
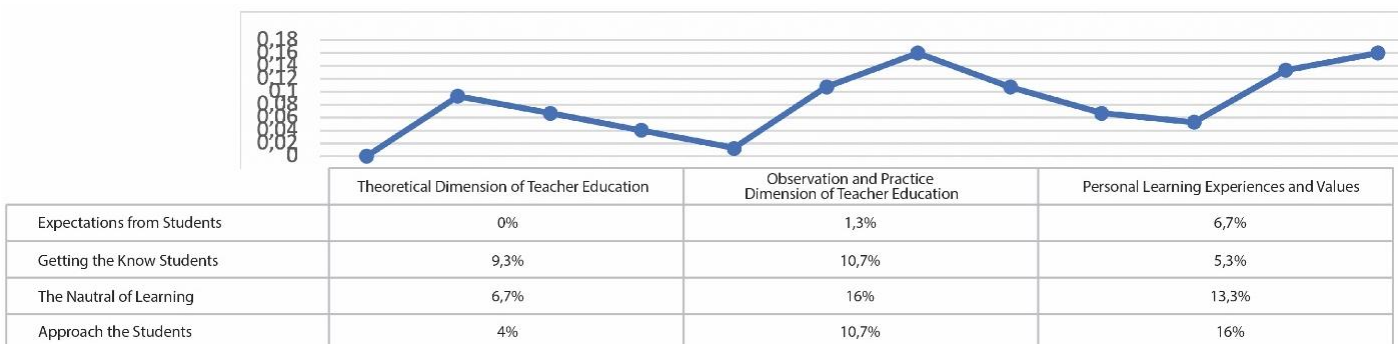
	Theoretical Dimension of Teacher Education	Observation and Practice Dimension of Teacher Education	Personal Learning Experiences and Values
Expectations from Students	0%	1,3%	6,7%
Getting the Know Students	9,3%	10,7%	5,3%
The Nautral of Learning	6,7%	16%	13,3%
Approach the Students	4%	10,7%	16%

Figure 6. Distribution of PPTs in Students Theme According to Sources

PPTs in the student theme were mostly derived from personal learning experiences and values. PPTs in the category of approach to students mostly stemmed from candidates' own student experiences. The observation and practice dimension of teacher education was the main source of PPTs related to the nature of learning and getting to know students.

DISCUSSION

In this study, the contents and sources of preservice teachers' PPTs were examined. The study shows that the preservice teachers structured their PPTs mostly on the basis of teacher characteristics. A similar study (Pitkäniemi et al., 2014) supports this finding. The theme with the second highest percentage of PPTs in the study is instruction. However, in studies conducted with a similar approach (Ferry et al., 2022; Levin & He, 2008; Maaranen et al., 2016), it can be seen that the instruction theme comes in first place. The findings of similar studies, including those of this study, show that the contents of preservice teachers' PPTs are teacher- and instruction-oriented. A comparable finding is also observed in studies examining the identities of teacher candidates on the basis of PPTs (Stenberg & Maaren, 2020). Similar to the findings of this study, the student theme is ranked third in the studies by Pitkäniemi et al. (2014) and Ferry et al. (2022). However, in the study by Levin and He (2008), student contact has the lowest percentage of PPTs. In this study, the classroom theme has a percentage of 15.4%. While this percentage is 29% in the study by Levin and He (2008), it is 29.9-25.9% in the study by Pitkäniemi et al. (2014). Although the category systems used in the studies are similar to each other, the difference between the percentages is worth examining. On the other hand, in the study by Ferry et al. (2022), the classroom theme has a percentage of 14.6%, which is close to the findings of this study. In the study, 9.8% of preservice teachers' PPTs belonged to the curriculum theme. This theme, which is encountered only in the study by Ferry et al. (2022), has a percentage of 6.3% in that study. Only 2.8% of the PPTs examined in the study were related to the socio-cultural context of education. This finding is consistent with that of the study by Pitkäniemi et al. (2014). Similar findings also appear in the studies by Stenberg et al. (2014) and Stenberg and Maaranen (2020). In both studies, this theme, which is discussed under the name "context", also has the lowest percentage.

In the second sub-problem of the study, the sources of preservice teachers' PPTs were examined under three themes. The theme of personal learning experiences and values was the source of nearly half (47%) of the teacher candidates' PPTs. This rate is 35% in Levin and He (2008), 32.4% in Pitkäniemi et al. (2014), and 31% in Ferry et al. (2022). In the study, teacher education was examined in two categories, namely, the theoretical dimension of teacher education and the observation and practice dimension of teacher education. The observation and practice dimension of teacher education was the source of 37.5% of the teacher candidates' PPTs. This rate is 35% in the study by Levin and He (2008) and 34% in the study by Pitkäniemi et al. (2014). It was observed that 82% of preservice teachers' PPTs were derived from observations and experiences, while 18% stemmed from the theoretical dimension of teacher education. The theoretical dimension of teacher education has a percentage of 31% in the study by Levin and He (2008) and 25.3% in the study by Pitkäniemi et al. (2014). Compared to other studies, the theoretical dimension of teacher education has the lowest percentage of sources in this study.

In the third sub-problem of the study, the source percentages of PPT contents for each source theme were examined. The theoretical dimension of teacher education had the lowest source percentage among all themes. This case is not found in the findings of similar studies. PPTs related to the socio-cultural context of education mainly originated from experiences outside of teacher education (63.7%). It was observed that the theoretical dimension of teacher education was not a source of any of the PPTs within the socio-cultural context of education. Over half of the PPTs in the curriculum theme stemmed from units outside of teacher education. PPTs in the classroom theme were equally sourced from personal learning experiences and values and the observation and practice dimension of teacher education. In the study by Pitkäniemi et al. (2014), the classroom theme was mainly derived from personal learning experiences and values. Preservice teachers' PPTs regarding how to establish relationships with students largely stemmed from their experiences before coming to the faculty of education. This finding is consistent with those of the studies by Pitkäniemi et al. (2014) and Levin and He (2008). The classroom management category was largely derived from the observation and practice dimension of teacher education. The studies by Pitkäniemi et al. (2014) and Levin and He (2008) have similar findings. The instruction theme mainly originated from the observation and practice dimension of teacher education. The differentiation of instruction theme was mainly sourced from teacher education. These findings are consistent with those of the studies by Levin and He (2008) and Pitkäniemi et al. (2014). Over half of the PPTs in the teacher theme were derived from personal learning experiences and values. These findings are in line with those of the studies by Pitkäniemi et al. (2014) and Levin and He (2008). The student theme mostly stemmed from personal learning experiences and values. This case is similar in the study by Pitkäniemi et al. (2014). Teacher candidates' PPTs regarding the student theme largely originated from their own student experiences.

The study shows that preservice teachers mostly structured their PPTs on ideal teacher qualities. When these qualities are examined closely, it can be seen that PPTs were mostly focused on personality traits that highlight the ethical and emotional characteristics of teaching. In their article, in which they examined the PPTs of preservice teachers who were just starting the profession, Maaranen et al. (2016) similarly stated that preservice teachers' statements reflected an idealistic approach to teaching. Stenberg et al. (2014), who reached similar findings in their research, attributed this to the fact that teacher candidates have many personal experiences regarding the moral nature of teaching. In their opinion, candidates (as students) easily fix the image of good teaching in teachers who care about and support students' holistic development. A similar situation was observed in the category of boundaries. It was seen that the preservice teachers' emotional experiences during their student years were the source of PPTs that expressed the ethical boundaries. Here, it would be useful to remember the recommendation made by Levin and He (2008), who emphasized that teacher education should take more responsibility in assisting teacher candidates to express, evaluate and restructure their PPTs. A case study-based professional ethics course will allow candidates to reflect on and

reconstruct their PPTs. These opportunities given to candidates in teacher education will pave the way for them to construct realistic, flexible, and developmental PPTs.

Although awareness of the moral nature of teaching is very important (Stenberg et al., 2014), it is questioned whether being a caring educator risks hindering the perception of the complexity of teaching. Maaranen and Stenberg (2017) acknowledged that it is important to be idealistic, but they underlined that teacher candidates should recognize the everyday reality of their profession. In this case, candidates should be made aware of the strong emphasis on values in their identities (Stenberg et al., 2014). Another thing observed in the PPTs under the teacher theme is that the characteristics of high-quality teachers were rarely expressed on the basis of pedagogical requirements, and that teacher qualities were considered in terms of single rather than interrelated characteristics. It is a requirement of teacher education to focus on the ways in which teacher candidates can consider the characteristics of a high-quality teacher on the basis of the steps and requirements of a pedagogical reasoning process (Shulman, 1987). It should be noted here that it is important for candidates to consider their perspectives with a critical approach. This awareness will enable preservice teachers to create a domain for different characteristics and knowledge related to teaching.

All of the PPTs in the categories of ways of teaching and strategies were compatible with current learning approaches such as learner-centeredness and active participation. It can be thought that this situation arose from the harmony between the teacher candidates' belief system and the current approaches. In fact, preservice teachers' pedagogical beliefs play an important role in how they interpret knowledge and experiences during their teacher education (Stenberg et al., 2014). Similarly, Meschede et al. (2017) argued that teachers can only focus on classroom activities that match with their pedagogical beliefs. In fact, when the memories included in the instruction theme were examined, it was observed that candidates frequently stated that they learned better in peaceful learning environments where they were actively involved in the learning process.

In the teacher candidates' PPTs, the classroom was considered more as a social environment than as a physical environment. Candidates stressed the importance of creating a democratic and free-thinking environment in the classroom. However, it was seen that the candidates overly emphasized the classroom as an ideal environment. In the PPTs, the creation, limitation and direction of dialogues in the teaching process were not emphasized. Although it is important for students to be able to express themselves freely in the classroom environment, situations in which the teacher's intervention may be required, such as alerting students to flaws in their thinking during this process, were not mentioned. Furthermore, explanations about in-class academic dialogues were rarely found in the PPTs. This shows that although the candidates were in harmony with accepted approaches, steps should be taken to ensure that their PPTs meet professional requirements. In this process, as revealed by Griffiths and Tann (1992), importance should be given to teacher candidates' PPTs. Moreover, through various studies, they should be guided towards arriving at their own theories. This process is the uncovering of their implicit theories. In this way, their theories can be examined, questioned, compared to public theories, and then verified or reconstructed.

About half of the PPTs expressed by the teacher candidates were derived from their experiences prior to teacher education. This confirms the argument that when candidates begin teacher education, they have clear perceptions about how high-quality teaching should look based on their previous experiences as students and the way they have been taught (Stenberg, 2011). In this case, it can be clearly seen that teacher education should work on the PPTs that teacher candidates bring with them, because it is possible that some of the candidates' beliefs are not conducive to high-quality teaching. Moreover, these beliefs are powerful assumptions based on emotional experiences. Candidates need to deepen the beliefs they bring with them through a pedagogical filter and based on a realistic and scientific perspective. This is exactly what Korthagen (2001) means when he speaks of realistic teacher education. The powerful PPTs that teachers bring with them are effective pathways into the candidate's mind. Teacher education should assist candidates in connecting their beliefs and values to teaching theory and practice (Maaranen & Stenberg, 2017).

In the study, the theme with the least number of PPTs is the socio-cultural context of education. This finding is consistent with those of the studies by Stenberg (2014) and Pitkäniemi et al. (2014). Many of the problems seen in the classroom occur due to contextual conditions. By virtue of the teacher's awareness of the conditions surrounding education, it will be possible for him/her to understand the problems he/she faces. Schools are not isolated islands, but a part of society. Teachers cannot turn a blind eye to political issues in society that affect daily life in schools (Stenberg et al., 2014). The successful integration of students into the ever-changing world depends on teachers' ability to understand and navigate among social and political structures (Maclellan, 2017). In the study, the candidates were able to extend the socio-cultural context of education to relationships with parents. Numerous theoretical courses taught in faculties of education aim to fulfill this purpose. On the other hand, the source percentages of candidates' PPTs for theoretical courses was remarkably low. It is the task of teacher education to provide teacher candidates with experiences that will enable them to interpret the phenomenon of education on the basis of expanding contexts.

PPTs related to the theoretical dimension of teacher education had the lowest source percentage. In this regard, it would be worthwhile to ask whether teacher education enables candidates to confront their current beliefs critically and whether it provides the right conditions to help them reflect on these and expand their perspectives (Stenberg & Maaranen, 2017). It is clear that measures should be taken to increase the source rate of PPTs in theoretical education. Theoretical education should provide teacher candidates with experiences with strong persuasive power that can compete with the PPTs that they bring with them. The observation and practice dimension of the faculty of education had a source effect more than twice that of the theoretical dimension. This situation provides important insights into how an effective teacher education should be designed. The characteristics of the units that have a strong source effect on candidates' PPTs can provide us with ways for effective teacher

education. For example, half of the PPTs originated from the experiences of preservice teachers as a student and candidate in the classroom. This can be interpreted as the fact that candidates need to spend more time in the classroom.

IMPLICATIONS

The main purpose of teacher education is to equip candidates with the ability to think and act like a teacher. Due to the nature of the teaching profession, candidates are not fed only by teacher training in this regard. Each candidate begins teacher education with a highly structured set of beliefs regarding teaching and professional requirements, based on their long years as students and their personal experiences. These beliefs are likely to contradict accepted theories and/or have an idealistic outlook far from grasping the complex requirements of the teaching profession. This situation is worthy of note for us, because these beliefs of candidates are decisive on the extent to which they benefit from the faculty of education. In fact, because of these beliefs, teacher education is regarded as a weak intervention by a number of researchers. Right at this point, this study presents a model related to the contents and sources of preservice teachers' PPTs. The study made it possible to analyze the contents of PPTs, which are regarded as a strong predictor of preservice teachers' professional decisions and practices, on the basis of categorical structures. In this way, numerous inferences can be made about teacher education programs. The most prominent of these is that teacher candidates constructed their PPTs predominantly on ideal teacher characteristics, while they paid less attention to the curriculum and socio-cultural context. An idealistic approach that placed too much emphasis on values was identified in the contents of the candidates' PPTs. Although the candidates' PPTs were largely compatible with the accepted theories, they need to be developed in order to transfer them into practice in a real classroom context. Otherwise, candidates run the risk of experiencing a "reality shock" when faced with the real situation of today's schools (Stenberg & Maaranen, 2017). In addition to being a profession that requires possession of a number of values, teaching also requires the use of high-level pedagogical knowledge, skills and reasoning processes (Shulman, 1983). In this regard, it should be emphasized how preservice teachers can be supported so that they do not experience burnout at the beginning of their careers in the face of the challenging tasks demanded from the teacher in today's world (Stenberg et al., 2014). The finding that about half of the candidates' PPTs were sourced from their experiences before they came to the education faculty once again clearly shows that teacher education should begin with candidates' beliefs. Another issue that needs to be considered is that the observation and practice dimension of teacher education was the source of approximately twice as many PPTs as the theoretical dimension. Considering that the experiences of the candidates as a student and as a prospective teacher in the classroom were the source of half of their PPTs, it becomes clear how an effective teacher education should be designed. Preservice teachers make assumptions that guide their decisions and practices when they are in real classroom environments. This shows that the amount of observation and practice should be increased in teacher education and that students should spend more time in real classroom contexts. The fact that the theoretical dimension of teacher education was the source of only 18% of the candidates' PPTs clearly shows that consideration should be given to the effectiveness of existing theoretical practices. This finding can be taken as a restatement, from a different angle, of the problem of the gap between theory and practice in teacher education, which has been debated for a century.

LIMITATIONS AND FUTURE STUDIES

This study examines the contents and sources of PTTs of preservice teachers studying in the final semester of teacher education. However, it does not investigate how preservice teachers' PPTs change during the teacher education process. In the future, it is recommended to investigate how PPTs are transformed in the teacher education process. Another limitation is that the candidates' PPTs were collected in writing. None of the candidates were observed in actual practice. For this reason, it is recommended to examine how teacher candidates' PPTs are reflected in their teaching practices. In order to understand how the teacher education program affects teacher candidates' beliefs and their actions in their professional lives, studies in which these teacher candidates are monitored in the field should be designed. Moreover, it will be useful to conduct this study on teacher candidates, teachers and teacher educators from different branches in terms of comparison with the findings obtained in this research.

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Statements of publication ethics

I hereby declare that the study has not unethical issues and that research and publication ethics have been observed carefully.

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