PRESCHOOL TEACHERS' BELIEFS AND SELF-REPORTED PRACTICES REGARDING QUESTIONING AS A TEACHING METHOD: QUESTIONING CYCLE AND QUESTION TYPES

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

GAMZE NUR İNÖNÜ

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF SCIENCE
IN
THE DEPARTMENT OF ELEMENTARY AND EARLY CHILDHOOD EDUCATION, EARLY CHILDHOOD EDUCATION

MAY 2022

Approval of the thesis:

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ABSTRACT

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May 2022, 268 pages

The present study investigated preschool teachers' beliefs and self-reported practices regarding questioning as a teaching method and its two strategies: questioning cycle components (planning questions, asking questions, waiting time, listening to the response, assessing the response, and follow-up questions) and question types (open-ended and closed-ended questions). Accordingly, a convergent mixed methods design was adopted, and quantitative and qualitative data were compared. The data were collected from 412 preschool teachers in the central districts of Ankara, Turkey. Each completed the Questioning as a Teaching Method in the Preschool Classrooms (QTMPC) survey. Thereafter, semi-structured interviews were conducted with 21 of them on a voluntary basis. To find the answers to the research questions, SPSS and MAXQDA were used for data analysis. Through descriptive statistics, a perspective was provided based on preschool teachers' beliefs regarding the questioning method and its strategies, and compared with their self-reported practices. Overall, the study reveals that preschool teachers generally use questioning as a teaching method in their

activities. Regarding questioning cycle components and question types, preschool teachers' beliefs and self-reported practices had both commonalities and differences. Specifically, although the participants believe that preschool teachers use some components of the questioning cycle, they had not, according to their self-reports, been able to implement any of these in practice. This study provides a contemporary perspective regarding questioning as a teaching method and its strategies, highlights gaps in its implementation and how these might be addressed, along with suggestions for further enquiry.

Keywords: questioning, teaching method, early childhood education, preschool teacher.

ÖZ

OKUL ÖNCESİ ÖĞRETMENLERİNİN SORU SORMA YÖNTEMİ İLE İLGİLİ İNANIŞ VE ÖZ-BİLDİRİMLERİNE DAYALI UYGULAMALARI: SORU-CEVAP DÖNGÜSÜ VE SORU TÜRLERİ

İNÖNÜ, Gamze Nur
Yüksek Lisans, Temel Eğitim, Okul Öncesi Eğitimi Bölümü
Tez Yöneticisi: Doç. Dr. Hasibe Özlen DEMİRCAN

Mayıs 2022, 268 sayfa

Bu tezin amacı, okul öncesi öğretmenlerinin soru-cevap yöntemi ve soru cevap-yönteminin iki stratejisi olan soru-cevap döngüsü (planlama, sorma, bekleme, dinleme, değerlendirme ve tamamlayıcı sorular sorma) ve soru türleri (açık uçlu ve kapalı uçlu) ile ilgili inanışlarını ve öz-bildirim uygulamaları incelemektir. Araştırmanın amacına uygun olarak, karma yöntem desenlerinden biri olan eş zamanlı üçgenleme deseni kullanılmış, nicel ve nitel veriler karşılaştırılmıştır. Veriler Ankara ili merkez ilçelerindeki okul öncesi öğretmenlerinden toplanmıştır. Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemini Kullanımı (ÖSYK) anketi, 412 okul öncesi öğretmenine uygulanmıştır. Anketi cevaplayanlardan, gönüllü 21 okul öncesi öğretmeni ile yarı yapılandırılmış görüşmeler yapılmıştır. Araştırma sorularının cevabını bulmak için, SPSS ve MAXQDA yazılım programından yararlanılmıştır. Bu kapsamda, okul öncesi öğretmenlerinin soru-cevap yöntemi ve stratejilerine ilişkin inanışları betimsel analiz kullanılarak belirlenmiş ve öz-bildirim uygulamaları ile karşılaştırılmıştır. Analizler, okul öncesi öğretmenlerinin etkinliklerinde genellikle soru-cevap yöntemini kullandıklarını ortaya koymuştur. Soru-cevap döngüsü

bileşenleri ve soru türleri ile ilgili olarak, okul öncesi öğretmenlerinin inanışları ve öz-bildirim uygulamalarının hem ortak yönleri hem de farklılıkları olduğu bulunmuştur. Yani katılımcılar, okul öncesi öğretmenlerinin soru-cevap döngüsünün bazı bileşenlerini kullandıklarına ilişkin inanışlarını ifade etmelerine rağmen, uygulamalarında bu bileşenleri kullanmadıklarını belirtmişlerdir. Sonuç olarak, mevcut tez bir öğretim yöntemi olarak soru-cevap yöntemi ve stratejilerine ilişkin bir bakış açısı ortaya koymaktadır.

Anahtar Kelimeler: soru sorma yöntemi, okul öncesi, öğretim yöntemi.

Dedicated
to anyone who is curious, is inspired, and reads my thesis,
to my advisor, who is fond of my career with all the things she has taught me,
and
to my lovely mom…

ACKNOWLEDGMENTS

Although I am the sole author named on the cover of this thesis, many people have contributed to the completion of this work, and I am grateful to all of them.

Foremost, I give my regards to my supervisor, Associate Professor Dr. Hasibe Özlen DEMİRCAN, who has a kind heart and attitude of a genius. She constantly and convincingly inspired, motivated, and guided me to do the right thing even in difficult times. She has the spirit of adventure for research, which she conveyed to me. Throughout this work, she supported me in all aspects of not only academia but also life. She always believed in me. When I lost my motivation, I always remembered what she said: "Remember, if you lose your motivation, a little bit of jazz music, Turkish coffee, and sometimes, a crunchy apple…." Since the day I met her, she has been more than a supervisor to me because of her friendly demeanor, patience, and academic support. It has been a great pleasure being her student.

I thank my thesis committee members, Professor Dr. Feyza TANTEKİN ERDEN and Associate Professor Dr. Selda ARAS, for their valuable comments and contributions that improved this thesis.

I extend my thanks to all participant teachers, who were a milestone in completing this research. Even in these challenging times, they spared the time and effort for me and encouraged me during the writing process.

I appreciate the feedback offered by Assistant Professor Dr. Aysun ATA AKTÜRK and Dr. Mustafa ÇETİN. I have greatly benefited from their experience, and I am grateful for their contribution.

I would like to express my sincere thanks to writer Şermin YAŞAR, who has always supported me. When I was drowning in the process, she encouraged me, saying, "It will end... To achieve what you really want, the small mountains ahead will end."

My special thanks to my sister of the heart Ezgi KARAŞİN, from whom I learned many things. In thank Alaz MERİÇ, Elif Naz ALTAŞ, Kader KAHRİMAN, and Yasemin SİPAHİ, who have been excellent in offering me not only emotional but

also academic support. I thank my admired life mentor, Professor Dr. Ferhunde ÖKTEM. Thank you “Türkiye Zeka Vakfı.”

I would like to thank the Parent, Teacher, Child group. I completed the first course of my master’s with them. Begüm CANASLAN, Betül DEMİRAY, Elif DÜZGÜN, Ezgi GÜRSOY, Sema BAYDİLLİ, Şebnem ÇETKEN, and Yeliz MENTEŞE made enormous contribution to my research. I also thank Sabiha ÜZÜM for her help and contribution.

Last but not least, I wholeheartedly express my gratitude toward my beloved family. They have ever supported me with their limitless love and care. I am grateful to my brother-Erdem, who drives me out of my mind. Jolly, thank you! I am forever indebted to all my family members, without whom this journey would not have been possible.

Finally, the pandemic—without these trying times, this thesis would have been completed a year earlier. Thank you!

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LIST OF ABBREVIATIONS

ECE: Early Childhood Education

MoNE: Ministry of National Education

ECEP: Early Childhood Education Program

IRB: Institutional Review Board

CHAPTER 1

INTRODUCTION

"Anyone can ask questions," said Mr. Wonka. "It is the answers that count."
(Roald Dahl, Charlie, and the Great Glass Elevator)

Education is defined as a process of teaching and learning in a formal or informal setting to train people with specific purposes (Oxford University Press, 2010). The formal education process comprises learning and teaching circumstances that follow each other and involves four essential components: goals, content, teaching methods, and assessment (Venn & Jahn, 2004; Wood, 1998). In other words, formal education can be applied in a planned manner within a pre-prepared program framework. Learning and teaching are associated with each other in such a program (Bruner, 1966). One of the components of education, which is teaching, resembles building a fire. Paper or combustible material serves to combine oxygen and its environment and creates light. Teachers' purposes are coherent in the classroom. They use and gather different teaching methods to create 'light' between each child and their settings (Ausubel & Robinson, 1969; Hughes & Hughes, 1959). Thus, teaching is an interactive process between teachers and children, which aims to maximize children's learning by using a teacher's extensive teaching methods repertoire (Darling-Hammond et al., 2020). In other words, they act as a conductor of an orchestra. They know children's needs and decide which methods they use and when and how to apply them (Gordon & Browne, 2013). Namely, teaching methods can be one of the tools to enhance learning and 'creating a light.' Teachers can organize the methods they use and give them spirit. Consequently, by evaluating children's developmental appropriateness and considering theories and practices, they should extend their repertoire.

Different teaching methods can support children's learning process (Roth, 1998). These methods can be categorized easily, but their distinctions are not generally specified. Saskatchewan Education (1991) categorized verbal and non-verbal teaching methods. The verbal teaching methods include simple verbal interactions, such as listening, describing, telling, recalling, or questioning. They underlined that although simple, these methods might be vital in order to shape children's learning. These verbal methods also can shape other complex teaching methods. Non-verbal teaching methods comprise tone and texture and give support to the learning process. For instance, listening to children's thoughts and ideas may contribute to understanding children's developmental process. Non-verbal teaching methods, such as listening, helping, or demonstrating, can also shape verbal and other complex teaching methods (Martin et al., 2001). In this context, Brewer (2013) emphasized that choosing an appropriate teaching method is one of the fundamentals of teaching.

As mentioned above, teaching methods are tools, and teachers can select these methods considering particular teaching goals and indicators, children's developmental levels, teacher's research knowledge, the situation of cultural or racial backgrounds, and necessities and differences of children (MacNaughton & Williams, 2004). From this point of view, Wilen and Clegg (1986) refer to questioning as one of the ways to teach something and that teachers typically use questioning as a teaching method in their classrooms. In other words, teachers' questions are the central part of classroom interaction (Bredekamp, 2013; Fusco, 2012; Wassermann, 1991).

Before defining questioning as one of the teaching methods, defining it as a term is essential. According to the Oxford dictionary, questioning is defined as an action, including asking questions to someone (Stevenson, 2010). In parallel with this definition, questioning as a teaching method is defined as a teaching tool that includes asking questions to learners (MacNaughton & Williams, 2004). As cited by Gall (1970), questions have an important role in teaching, and in this sense, teachers can be described as "a professional question-maker" (p.707). In relation to this, De Garmo (1902) emphasized that effective teaching can happen by asking questions well.

1.1. Questioning as a Teaching Method

It is known that the ancient Greek philosopher Socrates used questioning as a teaching method. Today, teachers pervasively use such methods in the learning environment (Wood & Anderson, 2001). According to the Socratic approach regarding questioning, all information is in the children's mind, but this information is not clear and awake; they are asleep. As Nails (2020) explains, Socrates thought that questioning would uncover and awaken knowledge in the child's mind. In this context, Socrates was the first person who used questioning as a teaching method. Specifically, teaching with questions starting with Socrates and continues to be valid today, as far as is known. Nails's (2020) reports indicated that while using this method, Socrates asked questions to the children instead of giving answers to them directly. He also answered children's questions with questions because he believed that children had access to the correct information by consistently reviewing their thoughts (Guthrie, 1969).

Questioning as a teaching method has been being understood and studied for centuries, and this method has been being used since Socrates for the purpose of teaching and learning (MacNaughton & Williams, 2004). As cited by Wilen (1991), Stevens (1912) carried out the first study regarding the questioning method. She examined high school teachers' questions, and she found that questioning was part of the learning and teaching process. Approximately 80% of the school day was occupied with teachers' questions and students' answers. Thereafter, the questioning method has become a research area, still valid today and teachers commonly use this method in almost all lessons or activities for all levels starting with early childhood education (Bay, 2020; Büyükalan, 2007; MacNaughton & Williams, 2004).

Wilen (1991) explained the reason why the questioning method is used by teachers commonly at all levels. He pointed out that it is used because different functions and purposes can be accomplished. Ross (1860) firstly recommended two purposes for using questioning: (1) to gauge whether learners remembered what has been taught and (2) whether learners apply what they have learned. Similar to Ross's purposes, contemporary studies emphasize that teachers commonly use questioning methods to engage children's interests, remind them what they know, increase their attention, and assess the activity. For instance, before a reading activity, the teacher can ask the

children to improve their concentration and motivation in the context of engaging children's interests (Bredekamp, 2013). MacNaughton and Williams (2004) also stated that asking questions to young learners contributes to their thinking, reporting observations, describing experiences, and making predictions.

Questioning as a teaching method can also be used as an assessment tool. Assessment is one of the essential parts of the education process. Teachers assess children to acquire knowledge related to children's development and to get a better idea how the children are developing within the activity (Wortham & Hardin, 2019). Moreover, Gullo (2005) emphasized that one of the ways to assess preschoolers is the use of teacher-directed questions. Thereby, teachers use different methods including questioning to assess children. By asking questions, teachers can give feedback to the preschoolers based on their needs (Turupcu Doğan & Ömeroğlu, 2019). Questioning for assessment also has a crucial role in Turkey's preschool program (see Title 1.3). Preschool teachers plan and use different questions (e.g., descriptive questions, affective questions, and so on) to assess children at the end of the activity. Doğan and Ömeroğlu (2019) investigated 323 preschool teachers' views regarding types of assessment questions. They found that preschool teachers use descriptive questions and questions based on objectives and indicators more than affective questions and questions related to everyday life. Kılınç et al. (2020) also examined preschool teachers' skills on planning activity including assessment questions. They found that preschool teachers mostly asked affective and descriptive questions while assessing the activity.

De Garmo (1902) emphasized that excellent questions bring good teaching because the questioning method encourages children to use different types of thinking and responses. In other words, when the questioning method is appropriately used in the classroom environment; children's critical thinking, attention focusing, and hooking the learning imagination skills can be developed (Bredekamp, 2011). Moreover, as mentioned above, teachers can use the questioning method to increase attention on the activity, assess learning, review, gain objectives and indicators, and create a child-centered and inquiry-oriented community of learners (Taba, 1966; Walsh & Sattes, 2005). To reach these purposes, researchers defined and mentioned some strategies to ask questions effectively (Chin & Osborne, 2008; Fadem, 2008; Fusco, 2012; MacNaughton & Williams, 2004).

1.2. Questioning Method's Strategies

Strategies used while implementing the questioning method provide some perspectives for teachers and enable them to ask questions efficiently. While researchers mention these strategies, some of them focused only on waiting time (e.g., Almeida, 2012; Rowe, 1986; Stahl, 1994), or some touched on question types (Hamel et al., 2021; Meacham et al., 2014; Qashoa, 2013). On the other hand, some researchers discussed these strategies while grounding on Bloom's taxonomy which includes six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bay & Alisinanoğlu, 2012; Bibi et al., 2020). For this study, the researcher used two strategies as the base because they were supported by the ECE learning environments (MacNaughton & Williams, 2004), and they were based on teachers' practices (Fusco, 2012). Fusco's questioning cycle and its components are introduced in the following sections and considered the question types explicitly identified by MacNaughton and Williams (2004).

1.2.1. Questioning Cycle

The questioning cycle can be defined as a questioning method strategy that guides the teacher to ask practical questions and facilitates further thought discussions (Christenbury & Kelly, 1983). Also, Fusco (2012) defined the questioning cycle as a systematic method to gather information from children's knowledge and encourage them to reveal diverse ideas and build community-minded people. The questioning cycle comprised planning, asking, waiting time, listening to the response, assessing the response, and follow-up questions (Fusco, 2012). In other words, the questioning cycle followed a specific order. With the questions formed in line with this cycle, learners can support and provide a basis for their answers. The teacher can also prepare a sequence of steps using the questioning cycle framework (Wilen, 1991). Based on these, well-planned and purposeful questions can be helpful for children's learning experiences, and teachers' use of the questioning cycle as a questioning strategy can enable them to challenge children's thinking and increase their teaching awareness (Fisher & Frey, 2010; Saifer, 2018)

As a first step in the questioning cycle, Fusco (2012) introduced planning questions. In preparation, she emphasized specifying objectives and indicators for the activity because these provide guidance, and specifying them is the first step of teaching (Bonner, 1999). In other words, when planning the questions; teachers should consider an activity's objectives and indicators, concepts that were aimed to be taught, children's prior knowledge, social and cultural background, and developmental abilities (Allison & Tharby, 2017; Ram, 1991; Teodoro et al., 2011). The questions which are planned should be noted down, alongside activity plans. Based on the activity process, the teacher can then readily change or develop these questions (Wilen, 1987b).

According to Fusco (2012), asking questions is followed by the planning questions step. MacNaughton and Williams (2004) referred to the time and goal of questions in the early learning environment. They underlined that the teacher should determine the correct time and purpose for asking questions. In this context, as far as is known, researchers have investigated why, how, and when teachers ask questions and how many questions they have asked (Marzano & Simms, 2014). Studies conducted after this year are placed in the asking question component of the questioning cycle because this component also comprises how many questions teachers asked during the activities or why and when teachers ask questions. Stevens (1912) investigated the number of teachers' questions asked during a hundred lesson observations, and he found that teachers asked an average of 395 questions in a day. Parallel with this research, Deshmukh et al. (2019) conducted research with preschool teachers, and they observed their reading activities. Researchers examined teachers' use of questions and made similar findings regarding the number of questions in early learning environments: Teachers asked many questions. In this context, they underlined the ineffectiveness of asking many questions during the activities.

After asking the question, Fusco (2012) introduced a waiting time as the third and sixth components of the questioning cycle. He defined waiting time as a critical component of the process which should be between three to five seconds in an ideal questioning. Researchers confirmed that teachers should wait for responses. Regarding the importance of waiting time after asking questions, Rowe (1986) conducted research with elementary school teachers and students and found that longer waiting times after asking questions give opportunities for making more explicit connections

and inferences. Wasik and Hindman (2018) supported Rowe's study with their review research. They emphasized that allowing more time to young learners after asking questions may result in more thoughtful responses, and the frequency of answering also can be increased.

After waiting time, listening to children's responses was a following component of the questioning cycle (Fusco, 2012). It should be part of the questioning cycle because listening to children's responses allows understanding children's perceptions of the questions. Active listening also encourages children to effectively share their responses (MacNaughton and Williams, 2004).

On the other hand, listening to children's responses was linked to assessing the response and preparing follow-up questions which were the other components of the questioning cycle (Fusco, 2012). In this way, responsive and respectful teacher-children question dialogue may occur MacNaughton and Williams (2004).

1.2.2. Question Types

MacNaughton and Williams (2004) classified questions based on their two types: closed-ended and open-ended questions. Moreover, these questions may increase the questioning method's effectiveness in teaching and learning. This classification was used for this study.

Closed-ended questions can be answered in just one word or a short sentence. Also, they are commonly asked to get factual information or learn children's experiences and have limited answers (Fusco, 2012; Wilen, 1987a). In this context, facts and experiences are two important foci points that closed-ended questions center on. Facts questions can be used to remember animals' names or centers' rules. For instance, what was your cat's name? This question is classified as fact (first foci point of closed-ended questions). On the other hand, experiences questions are generally used to recall children's own personal experiences (second foci point of closed-ended questions). For instance, what was the name of our visitor? This question is classified as experiences (MacNaughton & Williams, 2004). In closed-ended questions, Penick et al. (1996) also supported these two foci points. They emphasized that teachers could use closed-ended questions in an early childhood environment to reveal specific materials' names or remember experiences. Specifically, they can use closed-ended

questions if the teacher considers what facts children know, what children need to be taught, or what children have remembered. Although some researchers said that these questions might be boring (Brock, 1986; Morgan & Saxton, 1991), teachers should plan closed-ended questions and write their activity plans to effectively cover the learning process (MacNaughton & Williams, 2004). In this case, asking closed-ended questions can be a tool for reaching the objectives and indicators of the activities.

On the other hand, open-ended questions have no specific or particular answers (Hamel et al., 2020; Yu et al., 2019). Through these question types, young learners can represent what they think, believe, feel, and know. In this context, MacNaughton and Williams (2004) defined three foci points regarding open-ended questions: (1) sharing theories and understandings, (2) sharing ideas and feelings, and (3) sharing imaginings. For instance, the "How do you think the washing machine works?" question allows children to share theories and understandings. Secondly, young learners can share their feelings through these question types, such as "How did you feel when your friend knocked over the blocks?" Lastly, by using open-ended questions, children have an opportunity to share their imaginings. For instance, the "What do you think our hero elephant might have done next?" question can facilitate sharing children's imaginings (MacNaughton & Williams, 2004). Open-ended questions are also called thought questions, and teachers may not know their answers (Seefeldt et al., 2014) because they may not know the children's imaginings, theories, or feelings. In this context, some studies emphasized the importance of asking open-ended questions when considering its foci points, as mentioned above. Also, the Ministry of National Education (MoNE) Early Childhood Education Program (ECEP) (2013) emphasized the importance of using open-ended questions in the assessment part and while reaching the developmental objectives. For instance, regarding that Klein et al. (2000) underlined that open-ended questions increase young learners' problem-solving skills, science, and mathematical learning. Similarly, Blosser (2000) emphasized the positive correlation between asking open-ended questions and children's problem-solving capabilities.

Some researchers investigated the effectiveness of closed-ended and open-ended questions. The pioneers of these studies reported very different findings. For instance, Hunkins (1970) found that open-ended questions were more effective than closed-ended ones because these question types enhance learning. After three years, Ryan

(1973) conducted research with elementary school teachers and found that closed-ended questions should be asked to promote creative thinking before asking open-ended questions. In other words, both question types serve different aspects of children's development. In the early learning environments, the researchers recommended using all of these two types in their classrooms equably (Brubacher et al., 2019; Lee & Kinzie, 2012; MoNE, 2013).

The purposes of these two strategies were creating an exhilarating learning environment (Fusco, 2012; MacNaughton & Williams, 2004) and increasing the effectiveness of questioning in the teaching process. Different studies with teachers continue to investigate teachers' implementation of these strategies and their effectiveness. In this context, understanding preschool teachers' beliefs on the questioning method and their self-reported practices may contribute to the ECE field. Teachers' beliefs provide a perspective. In this context, teachers' self-reported practices can elaborate on this perspective.

1.3. The Role of Questioning in the Turkish Early Childhood Education Program

Early childhood education in Turkey is developing and continues to benefit from ongoing studies and investigation (Güven et al., 2018). Some studies underlined the importance of teachers' roles in preschool institutions which are focused on their teaching methods (Yalçın & Uzun, 2018), classroom management skills (Zembat & Küsmüş, 2020), responsibilities related to curriculum and activities (Öçal & Işık, 2017) and so on. The Ministry of National Education (MoNE) also regulates preschool institutions' procedures and principles regarding teachers' roles, purposes, and functions in Turkey. The ECE curriculum program is also determined by MoNE. According to the Regulation on Preschool Institutions (2014), these institutions include six uninterrupted activity hours, including starting the day, playing time, feeding time, cleaning time, activity time, relaxing time, and assessment time (Article 6-1/a). Preschool teachers are supposed to plan and implement these hours according to the MoNE Early Childhood Education Program (Article 43-1). While teachers are planning activity processes, they prepare daily activity plans based on ten different activity types, including Language, Art, Drama, Music, Movement, Play, Science,

Mathematics, Reading, Literacy, and Field Trips. These activity plans comprise the main activity and assessment of the activity (MoNE, 2013).

Preschool teachers can use different teaching methods in these activities. Questioning is one of these, and preschool teachers are required to set out their questions in the learning process and assessment part of the activity. MoNE Early Childhood Education Program (2014) classifies them as "Descriptive Questions," "Affective Questions," "Questions based on Objectives and Indicators," and "Questions Related to Everyday Life" (MoNE, 2013). "Descriptive Questions" are the first step of assessment where teachers can seek an answer regarding what happened during the activity. Consequently, with these questions, the activity was reviewed. Affective questions prompt children to express their values and feelings. Not only the children's own feelings but also others' feelings can be shared. Questions based on objectives and indicators are also asked to clarify if these have been accomplished. Lastly, questions related to daily life are asked to learn what the children have experienced regarding the activity (MoNE, 2013; Turupcu Doğan & Ömeroğlu, 2019).

While planning these questions, teachers may follow some strategies based on question types and questioning cycle components. However, the role of questioning in the Turkish early childhood education program has not been investigated in terms of teachers' general beliefs and self-reported practices regarding questioning strategies or the differences between beliefs and self-reported practices regarding questioning, as far as is known.

1.4. Teachers' Beliefs and Self-Reported Practices

Teachers' beliefs regarding learning and teaching methods have been studied from different viewpoints in educational studies (Alghamdi, 2022; Lucero et al., 2013). In other words, researchers investigate teachers' beliefs regarding a specific topic, and they ask some questions to find answers to their research questions. As Sahin et al. (2002) mentioned, researchers have used the 'beliefs' term in a variety of means in its long history. Kagan (1992) emphasized that there is no shared definition regarding 'teachers' beliefs.' This term may refer to 'principles of practice,' 'perspectives,' 'assumptions,' 'opinions,' and more. Lavrakas (2008) highlighted the importance of those aspects of beliefs reflecting attendees' personal thinking and interpretations

regarding an issue or topic. Considering this, beliefs in the current study refer to teachers' opinions, thoughts, and interpretations of their practices involving their experiences and feelings (Kagan, 1992; Lavrakas, 2008; Sahin et al., 2002).

From this perspective, besides investigating teachers' beliefs, examining their self-reported practices can provide an opportunity to elicit information (McIntyre, 1999). In other words, to support or corroborate a perspective, self-reported practices can be used. Researchers are generally interested in self-reported practices to understand and investigate the current practices which are reported directly by participants (Stone, 2000). Koziol and Burns (1986) highlighted the importance of teachers' self-reports on their practices, and they said reliable data might be collected through their self-reported practices regarding their actual teaching practices. In other words, although self-reported practices have some limitations, they may accurately reflect teachers' actual practices. For instance, Clunies-Ross, Little, and Kienhuis (2008) examined primary school teachers' self-reported practices and actual practices regarding classroom management. They found that primary school teachers' self-reported practices reflected their actual practices accurately.

Poulson et al. (2001) indicated that teachers' teaching practices could help to shape their beliefs. Moreover, teachers' beliefs may also influence their teaching practices. For instance, Alghamdi (2022) and Chen et al. (2021) emphasized that teachers who have positive beliefs towards STEM education tend to be more willing to do STEM activities. In other words, what teachers believe about their teaching may shape their instructional practices. In this context, Poulson et al. (2001) emphasized the complex relationship between teachers' beliefs and practices. Teachers' practices are not always affected by their beliefs; sometimes their beliefs can be affected by their practices.

Although some studies have demonstrated that teachers' beliefs are consistent with their classroom practices (Richardson et al., 1991; Sak et al., 2016; Zou, 2022), others have found inconsistencies. For instance, Şahin-Sak, Tantekin-Erden, and Pollard-Durodola (2018) investigated preschool teachers' beliefs and how their self-reported practices related to two dimensions of developmentally appropriate practices. They found that teachers' beliefs were closer to these two dimensions, which was suggested by the literature, but their self-reported practices were different.

As explained above, investigating teachers' beliefs and their self-reported practices is one of the ways to provide a perspective regarding questioning as a teaching method.

Previous studies have provided viewpoints for different concepts and topics based on teachers' beliefs and self-reported practices (e.g., Alghamdi, 2022; Şahin-Sak et al., 2018; Sahin et al., 2002; Sak et al., 2016). In this study, the questioning method, as one of the primary and powerful teaching methods (MacNaughton & Williams, 2004), has been examined in terms of preschool teachers' beliefs and self-reported practices.

1.5. The Purpose of the Study

This research had three purposes. Firstly, it was proposed to reveal in-service preschool teachers' beliefs on questioning as a teaching method that uses questioning cycle components and question types. Secondly, it was to investigate their self-reported practices, and thirdly, to explore the commonalities and differences between their general beliefs and part of the preschool teachers' self-reported practices. In line with these goals, the following research questions were addressed:

1. What are preschool teachers' beliefs on questioning as a teaching method in terms of:
    a. General use of questioning as a teaching method?
    b. Questioning cycle components as a questioning strategy?
    c. Question types as a questioning strategy?
2. What are preschool teachers' self-reported practices on questioning as a teaching method in terms of:
    a. General use of questioning as a teaching method?
    b. Questioning cycle components as a questioning strategy?
    c. Question types as a questioning strategy?
3. What are the commonalities and differences of preschool teachers' beliefs and self-reported practices about questioning as a teaching method?

1.6. Significance of The Study

This study aimed to investigate teachers' beliefs and self-reported practices regarding questioning as a teaching method, with a specific focus on question types and the questioning cycle as questioning method strategies. It also examined the commonalities and differences between beliefs and self-reported practices. This exploration is significant for the following reasons: its provision of up-to-date

information, its methodology and research design, its contribution of questioning as a teaching method to the field of ECE, and its explanation of a comprehensive understanding of each questioning cycle component.

First, this study can provide up-to-date information regarding questioning as a teaching method. Researchers carried out a considerable exploration of questioning, question types, and certain components of the questioning cycle, such as waiting time. Why was another study needed to delve into question types and the components of the questioning cycle in the current context? The literature review revealed that most of the aforementioned studies were performed before the 1960s. An important issue for consideration is that educational perspectives, learning and teaching approaches, our understanding of them, and educational practices may change over time because education is a dynamic structure that is affected by social, political, and economic factors (Davies & Guppy, 2010). For instance, Borg (1970), as cited by Lee and Low (1984), stated that although the emphasis was placed on the importance of using a variety of question types in the learning environment, the question types raised by teachers have not changed for more than fifty years. Recent studies also supported these findings (Tofade et al., 2013; W. Yu, 2010). All in all, although the learning approaches and educational perspectives in the 1960s and the in 2020s are different, teachers still actively use the questioning method. Therefore, periodic investigations are necessary to provide a re-evaluation of the understanding of questioning.

Second, previous studies focus mainly on observing the teachers' questioning strategies. For instance, Deshmukh et al. (2019) investigated the question types used by preschool teachers during a reading activity by observing video recordings. Similarly, Bay and Hartman (2015) observed two preschool teachers' questions during the activities to investigate questions' levels on the basis of Bloom's taxonomy. Other studies involved interventions after observations. For example, Albergaria-Almeida (2010) conducted research with three teachers and implemented a strategy for increasing their understanding of questioning. After the intervention, she found critical changes in the strategies that the teachers used. All of these studies provide third-person perspectives (researchers' points of view) and contribute to the questioning literature. An example of an observational study was conducted by Günay Bilaloğlu et al. (2017), who observed preschool teachers' waiting time approaches after asking questions. To find out the rationale for these, they recommended further investigation

of teachers' beliefs for providing further knowledge and, in this way, deepen the observation. That is, if the teacher has been observed while applying or not applying the requirements of that method, deepening the observation with teachers' beliefs and self-reported practices may also contribute to the literature. In the current study, the researcher gathered teachers' first-person point of views by obtaining beliefs from a large sample and the self-reported practices from a smaller group. Moreover, the current study's research design enabled the comparison between teachers' self-reported practices collected through interviews; and teachers' beliefs collected through a survey. Commonalities and differences based on teachers' beliefs and self-reported practices may shed light on their understanding of theory and practice. All in all, the current study' methodology and research design can offer different perspectives to the questioning literature and deepen understanding about the observational studies (e.g., Bay & Hartman, 2015; Günay Bilaloğlu et al., 2017; Hamel et al., 2021).

Third, in Turkey's Education Vision 2023, teachers are responsible for organizing learning activities with interaction, curiosity, and active learning processes. This initiative highlighted the significant roles teachers play in implementing teaching methods (MoNE, 2018). One of the teaching methods to increase interaction, curiosity, and active learning is questioning (MacNaughton & Williams, 2004). A limited number of studies have been published on the questioning method used by preschool teachers (De Rivera et al., 2005; Hamel et al., 2021; Meacham et al., 2014; Taunton, 1983; Zucker et al., 2010) and a few researchers have investigated the questions that preschool teachers raise in class in national contexts (e.g., Bay & Alisinanoğlu, 2012; Doğan & Ömeroğlu, 2019; Günay Bilaloğlu et al., 2017; Samur & Soydan, 2013). These studies encompassed question types and some components of the questioning cycle; however, Günay Bilaloğlu et al. (2017) underlined that not much of this research was undertaken in early childhood education. Many of these limited studies highlighted preschool teachers use of the questioning method to assess teaching and learning process (e.g. Aras, 2019). Similarly, in Turkey, the MoNE Early Childhood Education Program also emphasizes the assessment, where the questioning method (e.g., descriptive questions, affective questions, and so on) is frequently used.

In the current study, asides from assessment, the use of the questioning method is investigated through the learning process to facilitate increased interaction and curiosity and to support active learning. Such findings should be a useful source for

further studies as researchers agree on the usefulness and benefits of the questioning method and report a lack of guidance on how teachers can improve the quality of the questions they raise. Indeed, there is a general lack of adequate resources and studies regarding preschool teachers' questioning approaches. In light of these deficiencies, there is a clear need for a more comprehensive understanding of teachers' beliefs and self-reported practices that both add to the literature and inform the active learning process, besides assessment, as recommended in Turkey's Education Vision 2023. The findings of the present study should therefore provide explanations that are useful to the advancement and achievement of national goals.

Last, it is also known that studies concerning the application of the questioning cycle in early childhood education generally focus on teachers' approaches to the implementation of waiting time after questions are raised (e.g., Wasik & Hindman, 2018). In addition to waiting time, questioning cycle components as a whole were examined in the current study, including planning, asking, waiting, listening, and follow-up questions. Hamel et al. (2020) and Günay Bilaloğlu et al. (2017) recommended that further studies emphasize other aspects of the questioning cycle apart from waiting time. Moreover, Fusco (2012) investigated primary school teachers' questioning cycle strategies, and she suggested the need to investigate the understanding of preschool teachers' questioning cycle strategies. In following this recommendation, the current study serves as a resource for researchers who investigate preschool teachers' understanding of questioning through details regarding the questioning cycle and its components.

1.7. Definition of Crucial Terms

Preschool Teacher: According to Bredekamp (2014), preschool teachers are responsible for teaching children aged 3 to 4 years. However, in Turkey, preschool children have an age range between 3-and 6 years in independent and dependent preschools (MoNE, 2013). Also, according to the Regulation on Preschool Institutions Article 43, preschool teachers should provide training in the classroom that encompasses the planning and implementation of educational activities for their assigned class, according to the principles specified in the early childhood education program book (Gordon & Browne, 2013; MoNE, 2014). In this scope, these preschool

teachers are responsible for preparing activity plans, being a good model for the child, creating new learning opportunities, and using these learning opportunities during play or in structured activities (MoNE, 2013).

Questioning Cycle: The questioning cycle is an organized process that is used to ask questions to gather information and get children's potential out in the open in the classroom settings (Fusco, 2012).

Question Types: Christenbury and Kelly (1983) mentioned that researchers used different categories to classify questions. MacNaughton and Williams (2004)'s classification is used for this study. They define two question types: open-ended and closed-ended.

Teachers' Beliefs: According to Pajares (1992), teachers' beliefs may comprise beliefs about the role of teachers in their educational process. In the current study, preschool teachers' beliefs refer to preschool teachers' personal beliefs regarding preschool teachers' questioning strategies.

Teaching Method: MacNaughton and Williams (2004) defines teaching methods as devices that support children's learning by forming an interaction with them. In this scope, MoNE (2013) emphasizes that the children's developmental needs should be supported with different teaching methods in the learning process.

Teachers' Self-Reported Practices: These comprise details about something based on participants' own practices. For this study, preschool teachers' self-reports are based on their questioning method understandings and practices through interviews.

CHAPTER 2

LITERATURE REVIEW

"Questions are aimed at seeking and finding answers. They form two parts of a whole. However, if you ask which one is more important, our preference without hesitation comes out on the side of questions. The question is a claim, a challenge. The answer is a defense against this challenge."

-Emrehan Halıcı, *Mind Games Opening Ceremony (2007)*

The following review sets out how questioning as a teaching method is defined in the related literature, along with current knowledge about the questioning cycle and its components, teachers' beliefs, and self-reported practices.

2.1. Theoretical Background

This study was conducted within the frame of sociocultural theory and ecological systems theory. The former is useful to explain the dialogue established through questioning and how it has become to be used as a teaching method. Ecological systems theory can then be applied to reveal important features of such dialogues and how they are impacted by the community of networks that teachers and children populate.

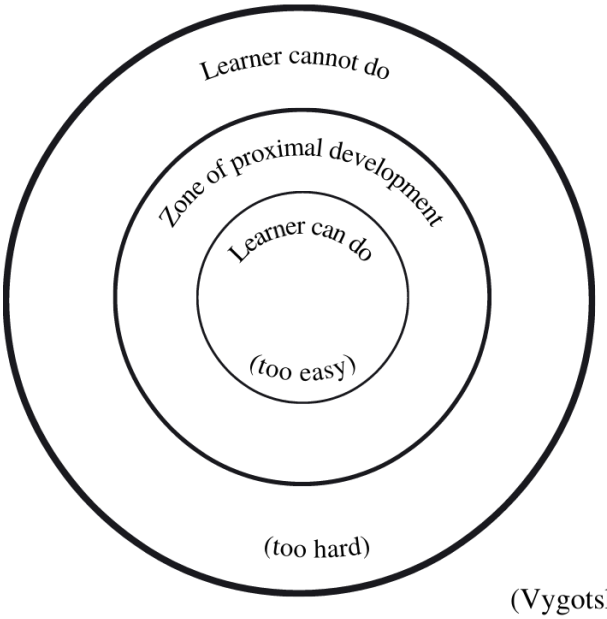
In this way, the researcher aimed to find evidence that questioning as a teaching method is associated with teachers' questioning practices in the ECE class environment, which specifically emerged as a result of teacher-child dialogue (sociocultural theory) and functions within a thinking, community network (ecological systems theory).

2.1.1. Sociocultural Theory

Given the scope of this study, the sociocultural theory of learning and teaching as according to this theory, children's minds develop as a consequence of interactions with their social world. Learning is viewed as collaborating and interacting with adults and others, so social interaction has a vital role in learning (Vygotsky, 1980). Vygotsky was specifically interested in children's cognitive and language development and their relationship with teaching and learning (Berk, 2014) and stressed that children's development could be supplied through social interactions (Orlich et al., 2018; Vygotsky, 1965). In this way, children learn with others and shape their learning through their culture, education, and community. Interaction and communication with adults or teachers contribute to young learners' building of knowledge, with teachers playing a vital role in children's learning process (Berk, 2014; Kostelnik et al., 2011; Vygotsky, 1980). It follows that communicating with knowledgeable persons such as teachers, parents, and others may support children when they are constructing their understanding of concepts and learning (Lee & Kinzie, 2012). Through these interactions, different learning levels might have occurred. Vygotsky defined these levels of learning as the Zone of Proximal Development (ZPD) concept. He defined the concept as the distance between children's actions without helping and what they can achieve with adult support (Vygotsky, 1980).

Figure 2.1

Zone of Proximal Development Concept

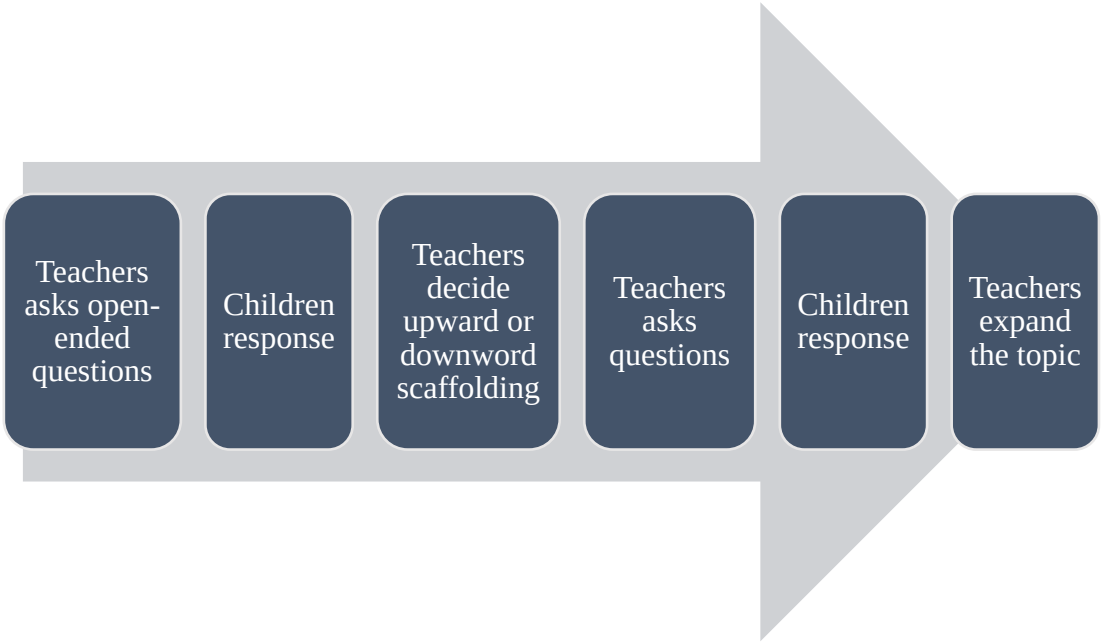


(Vygotsky, 1980)

In the above situation, Vygotsky emphasized that teachers should teach any goals or objectives within the ZPD concept. Firstly, he argued that teachers should be good observers and observe children in order to support their development. Through these observations, the teacher may understand the current developmental level of the children (Pound, 2019; Vygotsky, 1980). Based on the children's current level, the teacher can adapt Vygotsky's ZPD concept and should carefully plan their activities and the teaching methods which she/he uses during the activity. In other words, the theory encouraged teachers to plan their learning objectives, extending children's current knowledge and developments (Berk & Winsler, 1995). Based on observation and planning, teachers can design or plan the questions they ask in the activity process considering the ZPD concept. Through open-ended and closed-ended questions, they may match children's ZPD, as shown in figure 2.2 (Bailey et al., 2013; Y. Lee & Kinzie, 2012; Zucker et al., 2020).

Figure 2.2

Scaffolding with Question Types



Vygotsky suggested that teachers should set a learning activity just above the children's current ability level (Vygotsky, 1980). For example, when reading with preschoolers, teachers ask, "Is the character sad?" children may respond with a limited word. Then again, when teachers ask children, "The cat was crying in this story. Why might the cat be crying?" children can make inferences beyond the reading. Accordingly, with the teachers' questions that help and supervise the children, the children's learning with different developmental levels was encouraged (Kozulin et al., 2003; Smith, 1993). In this sense, open-ended and closed-ended questions which were prepared considering the ZPD concept may increase children-teacher interaction and directly support children's learning. For this reason, according to the sociocultural theory, these teachers' and children's interactions may promote learning.

Vygotsky (1980) also emphasized that asking questions and giving answers may obtain various information regarding children's development. In this context, he believed that interaction between teachers and children might contribute to constructing children's knowledge (Semmar & Al-Thani, 2015). As Edwards et al. (2000) and Walsh and Sattes (2017) mentioned, questioning was a way to interact with children. Establishing effective questioning interaction between teachers and children

resembles a building block for good teaching. In this context, they highlighted that adopting teaching strategies to establish effective, supportive, generative, and interactive learning and teaching is essential.

Sociocultural theory underlines that teacher and children interaction is related to the transmission of facts, and it is a tool to know and extend children's thoughts (Vygotsky, 1980). To realize these scaffolded interactions, the teacher can use questioning as a teaching method. Through interactions that are realized with questions and responses, children's cognitive processing skills are developed (Berk, 2014).

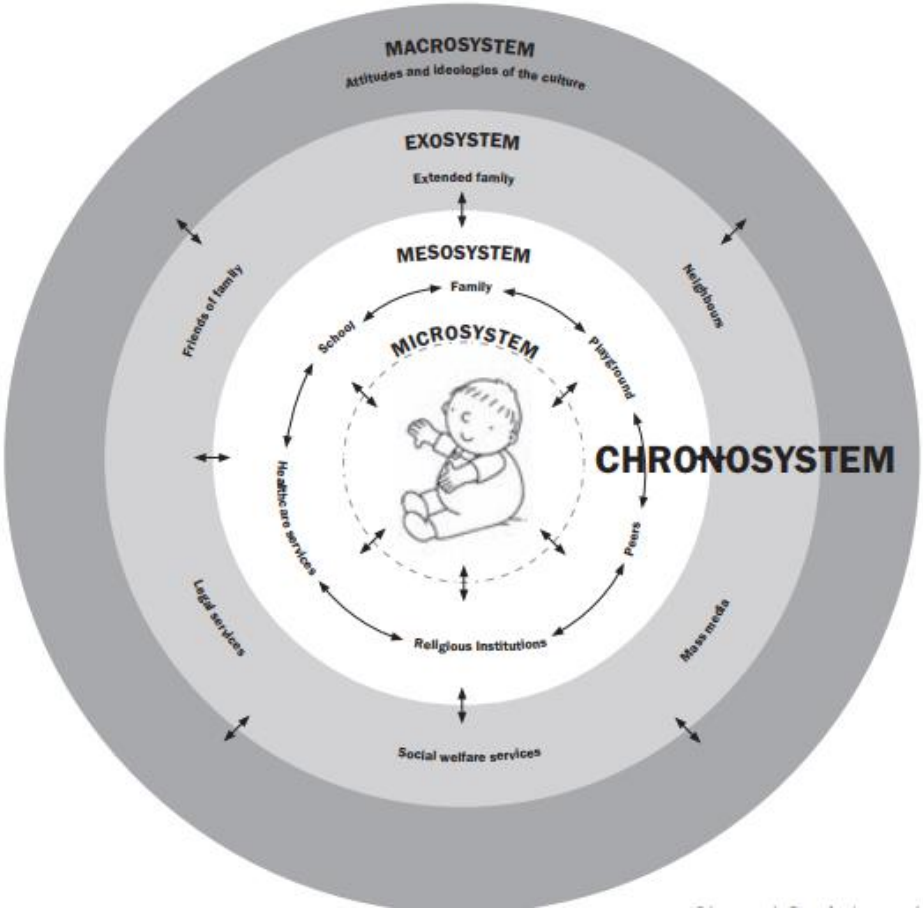
Sociocultural theory is embraced by educators today. Social interactions with teachers reveal children's learning potential and facilitate learning. In this regard, teachers widely use the questioning method that provides social interaction (Mooney, 2013). As a consequence, teachers should arrange questions based on children's development, and they should assist children from one level to another (scaffolding) with their questions (Lee et al., 2012b). In this vein, the current study can explain the social interactions between teachers and children based on teachers' beliefs and self-reported practices regarding the questioning method. Sociocultural theory can explain this questioning interaction between the teacher and the children.

2.1.2. Ecological Systems Theory

Another prominent theory which is representing the theoretical frame of this study is Ecological Systems Theory. According to Bronfenbrenner (1986), child development can be affected by their environments, including not only physical factors (home, space, school) but social ones as well (family, teacher, or society) (Gordon & Browne, 2013). In other words, children's development may not be understood without their environment. In harmony with this theory, he underlines that child development is based on the interaction between children and other individuals. Specifically, Bronfenbrenner (1979) stressed that children grow up in a comprehensive system that is influenced by the environment at divergent levels. These levels were microsystem, mesosystem, exosystem, macrosystem, and chronosystem, as demonstrated in figure 2.3.

Figure 2.3

Ecological Systems Theory



*adapted from Pound (2019)

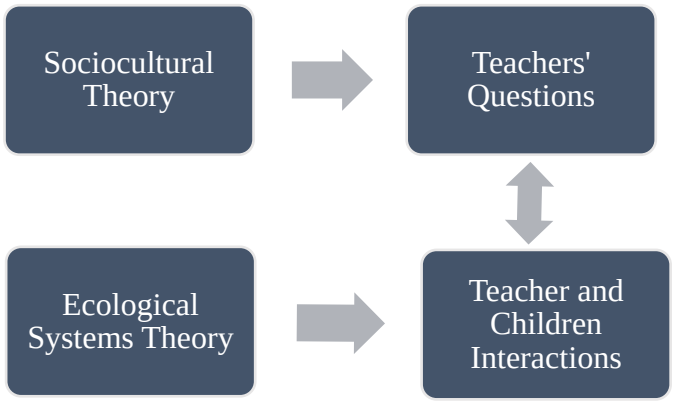
All levels represent the social relationship that affects children's development. Firstly, the microsystem is the midmost of these levels that refers to bidirectional interaction with children's immediate environments, such as parents, peers, and teachers, who can affect children's learning and behavior. It follows that children's learning and behavior can also affect teachers' teaching and behavior (Berk, 2014). Teachers and their teaching methods, which supply bidirectional interaction with children, can promote children's learning in the classroom environment (MacNaughton & Williams, 2004). Specifically, there is a relationship between one becoming a productive questioner and the questioning method used by your teachers (Wells, 2001). In this sense, Walsh and Sattes (2004) mentioned that only a few

children are born as questioners; it is natal. Other children encounter the learning and teaching environment with some handicaps in questioning because they might live in homes where the parent did not model questioning or set dialogue. Barell (2005) implied that these handicaps might be overcome with teachers. So, as Bronfenbrenner mentioned, the teacher can facilitate children to be good questioners in the community.

In brief, this study was developed in the light of two theories: sociocultural and ecological systems. Examining these theories revealed the importance of questioning as a teaching method to improve teacher and children interaction in the learning environment, as demonstrated in figure 2.4.

Figure 2.4

Theories Relevant to Teachers' Questioning



In the scope of the sociocultural theory, it is understood how people teach and learn from each other in social contexts. So, teachers can create a learning environment that maximizes children's learning by using their questions. In other words, as shown in figure 2.4, sociocultural theory frames teachers' questions. Ecological systems theory supports teachers' questions and children's responses by means of the interactions made.

2.2. Questioning

Collins Dictionary of the English Language defines "question" as consisting of words to reveal information or arouse a response (Question, 2010, p. 1197). Oxford Advanced Learner's Dictionary of Current English explains the word "questioning" as

the action of asking someone questions (Questioning, 2010b, p. 1243). These definitions offer the meaning of questioning and in which situations people ask questions. These are general definitions, which is the first meaning when looked up in the dictionary.

On the other hand, some researchers separate everyday questioning and educational questioning. For many years, people have been using questions to interact with other people (Vygotsky, 2012), express their thoughts (Wilen, 1987b), as a teaching method which is used by teachers (MacNaughton & Williams, 2004), or as a way of assessing the activity process (Wortham & Hardin, 2001).

Questioning is also defined and described in research and studies differently. For instance, Bredekamp (2013) and Christenbury and Kelly (1983) defined questioning as teaching strategies obtained from information with different responses, a skill, a learning and teaching process, and an attitude. Gall (1970) defined it as the teaching method and teaching from the educational questioning perspective. Within the context of this study, questioning is used based on an educational perspective, which emphasizes the importance and value of questioning in learning and teaching environments.

Explicitly, questioning is a tool that encourages children's learning process and is used for various reasons in preschool settings. In preschool settings and other settings, questions and questioning, which is one of the teaching methods, have been examined for years (Orlich et al., 2018). In the following part, historical backgrounds of questioning are introduced.

2.3. Historical Background of Questioning

Questioning as a teaching method is attributed to Socrates and is based on a disciplined, carefully thought teacher-children dialogue. The teachers plan questions for which they do not know the answers. Socrates believed that this approach enabled children to analyze their ideas logically and to determine the validity of those ideas. In this way, misunderstandings could be corrected, and reliable knowledge could be built. In the Socratic Questioning method, teachers pretend to be uninformed and ask questions to obtain a comprehensive understanding of what the children know about a

concept or issue. Children discover it themselves. The teachers ask them the questions they have planned on this discovery journey (Padesky, 1993; Paul & Elder, 2019).

When the history of questioning is evaluated from the ECE perspective, Froebel's definition of the teacher role should be considered (Lascarides & Hinitz, 2013). He defined teachers as gardeners metaphorically. Like Socrates, he suggested that teachers encourage children to find out knowledge rather than being told or shown directly and mentioned teacher's questions to increase children's curiosities in this context (Pound, 2019). Not only Froebel but also other ECE contributors mentioned the significance of teacher's questions in history. Dewey also said the teacher should ask questions to discover what the children are aware of (Mooney, 2013). Also, other contributors accepted that questioning as a teaching method enhances teacher and child interactions. In this way, children's curiosity and active involvement in activities increase (Fusco, 2012). Teachers apply the questioning method to develop children's knowledge and gain this ability in relation to their environment and thoughts (Fusco, 2012; Strohmer & Mischo, 2015). In this context, some educational approaches interiorized questioning as a teaching method. MacNaughton and Williams (2004) contextualized two well-known ones. In the High-Scope one, teachers need to support learning experiences by asking open-ended questions and listening and responding to children, thereby promoting children's problem-solving or other cognitive skills (MacNaughton & Williams, 2004; Pound, 2019). In the other, called the Reggio Emilia approach, questioning supports the dialogue and interaction between children and teachers that promotes a community of inquiry between teachers and young learners (MacNaughton & Williams, 2004). Clearly, questioning remains a universal teaching method that is well researched.

2.4. Definition of Questioning as a Teaching Method

The questions that are used in teaching and teachers' strategies for asking them have been studied for some time (Orlich et al., 2018). It is known that questioning as a very popular teaching method and has therefore been defined in various ways to suit different contexts and perspectives of questioning (Kostelnik et al., 2011; Sigel and Saunders, 1977). For instance, Lee and others (2012) mention that questioning can be used as a tool for encouraging the development of science learning skills in early

childhood education. Similarly, Furman and others (2019) found questioning to be a crucial part of child-centered and inquiry-based science teaching. Arslan (2006) stated that questioning facilitates critical thinking and the formation of communities of learners. Moreover, Allerton (1992) described how questioning could be applied to develop children's expressive language and extend their general knowledge or ideas, encouraging them to think differently. Similarly, Robitaille and Maldonado (2015) stated that questioning is one of the effective teaching methods, and they added that when teachers are asking questions, they can form a thinking community environment. In this context, Taba (1967) identified questioning as a pragmatic source because it promotes thinking. He highlighted that learning to think can be one of the educational objectives of questioning, especially that choosing questioning as a teaching method can be practical. Bredekamp (2013) also defined questioning as a teaching method that is used commonly in preschool classrooms. Davis and Torr (2016) list it as one of the crucial methods that promote young children's learning process. Sigel and Saunders (1977) described questioning as a teaching tool that increases children's problem-solving skills and facilitates children to reflect on their thoughts. Zeegers and Elliott (2019) also defined questioning as a teaching and learning tool which is used in instructional activities. Hogg and Foster (1973) had defined questioning as a teaching method that relies on some rules. These are: (1) questions should be direct and have a straightforward sentence structure, (2) complex questions may not be appropriate for young learners, so the teacher should divide them into short and straightforward sentences; and (3) open-ended questions and closed-ended questions that are asked to young learners should be balanced.

2.5. Questioning as a Teaching Method in Learning Process

Questioning as a method is based on using questions for the teaching and learning process. According to MacNaughton and Williams (2004), it is one of the most powerful and useful for encouraging learning environments built by teachers. They defined it as a pervasive and effective teaching method that supplies learning experiences to children. It is generally used in the learning process: (1) to direct children's attention to a specific issue or phenomenon, (2) to arouse children's interest and their curiosity about activities, (3) to help children reflect on information, (4) to

engage children's active learning, (5) to identify their difficulties based on activities, (6) encourage cognitive abilities, (7) to extend their language skills, (8) to help them to feel empathy, (9) to support young learner' metacognitive skills (MacNaughton & Williams, 2004).

Questioning as a teaching method is considered as a part of learning and teaching (Joseph & Thomas, 2020). Farrell (2018) emphasized that teachers ask questions at the beginning of an activity to establish interaction with children and focus their attention on the topic. Thereafter, they continue to ask questions during the activity to promote active learning and teaching (Birbili, 2013). Zeegers and Elliott (2019) investigated teachers' questioning strategies. They compared pre and post-interviews based on teachers' self-reported practices. At the end of the intervention, most of the teachers emphasized their deeper understanding of how to use the questioning method to encourage children's learning during activities. When teachers interact with children by asking questions effectively during activities, the method has potential to move children from passive to active participants (Paul & Elder, 2019; J. A. Walsh & Sattes, 2005).

Fan et al. (2014) also emphasized that questions are fundamental to teacher-children communications. They mentioned teachers' questions at the beginning of the activity to determine children's developmental readiness. Moreover, questions asked during the activity may help the teachers understand children's thinking skills and arouse their interests. Learning is defined as an active process, so using the questioning method helps to construct new ideas in children's minds.

2.6. Questioning as a Teaching Method in Assessment

Many teachers use the questioning method as an assessment tool so that they can check children's understandings of the concepts or issues in the activity (Farrell, 2018). In Turkey, the preschool curriculum program guidebook also highlights using the questioning method to assess children's learning and teachers' own teaching. This program includes some question types (e.g., descriptive questions, affective questions, and so on) to assess children's knowledge and development at the end of the activity (MoNE, 2013). Aras (2019) investigated teachers' formative assessment practices, and

she found that preschool teachers only asked a question to assess children's learning at the end of the activities.

Fan et al. (2014) also emphasized the importance of asking questions at the end of an activity to assess the activity process. Questioning in the assessment process enables teachers to clarify the quality and quantity of children's knowledge that they have obtained from the activity. Wallace and Hurst (2009) examined teachers' questions during activities and why they were asked. They analyzed three articles from 1967, 1987, and 2007. They noticed that teachers generally asked questions to assess children in those years.

2.7. Questioning in the Turkish Early Childhood Education Program

Questioning is one of the universal methods of teaching (Wisneski & Goldstein, 2004). Preschool teachers use it too. Göllü (2018) investigated teaching methods used by ten preschool teachers in Turkey. Seven of them confirmed that they frequently used questioning as a teaching method. Moreover, Doğan and Ömeroğlu (2019) found that preschool teachers use the questioning method during the assessment of the activity. Günay Bilaloğlu et al. (2017) found that preschool teachers use the questioning method during the learning process. In this context, questioning as a teaching method may generally use by preschool teachers in Turkey. Teachers ask questions during the learning process and as part of the assessment process for each preschool activity.

The preschool program guide emphasizes the crucial role of the questioning method, particularly in terms of assessment questions to be asked at the end of the activities. These questions are classified as descriptive questions, affective questions, questions based on objectives and indicators, and questions related to everyday life (MoNE, 2013). Preschool teachers are responsible for planning these questions before an activity and writing them down in the daily activity plan. For example, a teacher can design a language-integrated math activity for preschoolers. In doing so, they may choose to read a story regarding shapes to their class. In planning the activity, they would set out the learning process in the activity plan along with the assessment questions they would ask the children at the end of the activity. Descriptive questions are used to assess children's knowledge regarding what happened during the activity.

For example, for this activity, a teacher may ask “Which shapes did we learn?” questions. Turupcu Doğan and Ömeroğlu (2019) emphasized that descriptive questions are generally planned as closed-ended questions, but some of them might be open-ended. Affective questions give an opportunity for children to share their feelings based on the activity. For example, “Did you get excited while learning new shapes? Can you please share your feelings?”. Questions based on objectives and indicators are used to understand whether the activity reached the learning objectives or not. Teachers can pose questions considering the learning objectives, such as “What are the features of the square shape?”. Questions related to daily life are also asked so that learners can associate what they have lived with and what they have learned. For example, “Have you ever seen a circle sky? Can you please describe it? Where did you see it?”. In ECE Program book also defined the teachers’ roles while using the questioning method during the activities. For example, in reading activities, the ECE program book suggested that teachers ask questions about the main topic in the story, the characters, the problems, and the introduction, development, and conclusion parts (MoNE, 2013).

In short, the questioning method has a vital role in the Turkish ECE education program. In particular, the Turkish ECE Program takes up the questioning method comprehensively in assessment.

2.8. The Questioning Cycle and Its Components

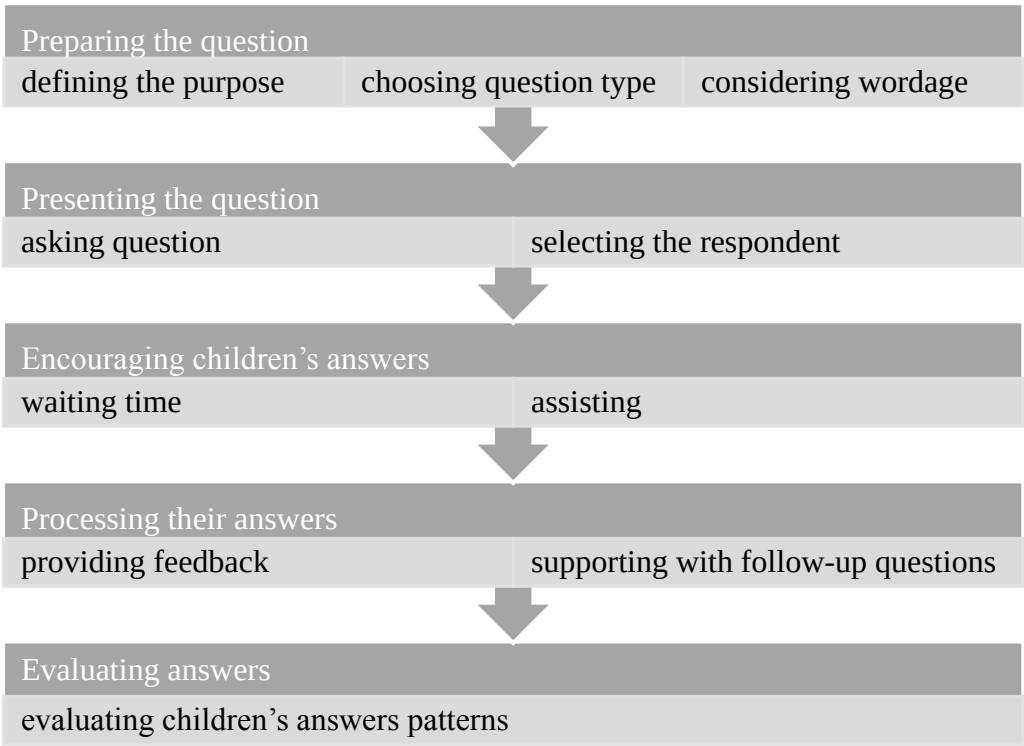
While using the questioning method, teachers may follow some strategies (Fusco, 2012). One of the strategies that are used by teachers is the Questioning Cycle. In this context, Walsh and Sattes (2004) and Fusco (2012) have similar questioning cycle models and introduce their models as a strategy. Firstly, Walsh and Sattes’s model is introduced, then Fusco’s model is proposed. In this study, Fusco’s questioning cycle model is used.

Walsh and Sattes (2004) introduced a questioning cycle process to improve teachers’ questioning skills based on a literature review, and they constructed a framework which is called “Questioning and Understanding to Improve Learning and Thinking” (QUILT). This framework is applied to teachers in the context of an intervention study. There are five stages which are corresponding to Fusco (2012)’s

questioning cycle components: (1) preparing the questions, (2) presenting the question, (3) encouraging children's answers, (4) processing their answers, and (5) reflecting and evaluating the questioning process as shown in Figure 2.5.

Figure 2.5

The QUILT Framework



*Designed by considering Walsh and Sattes's (2004) framework.

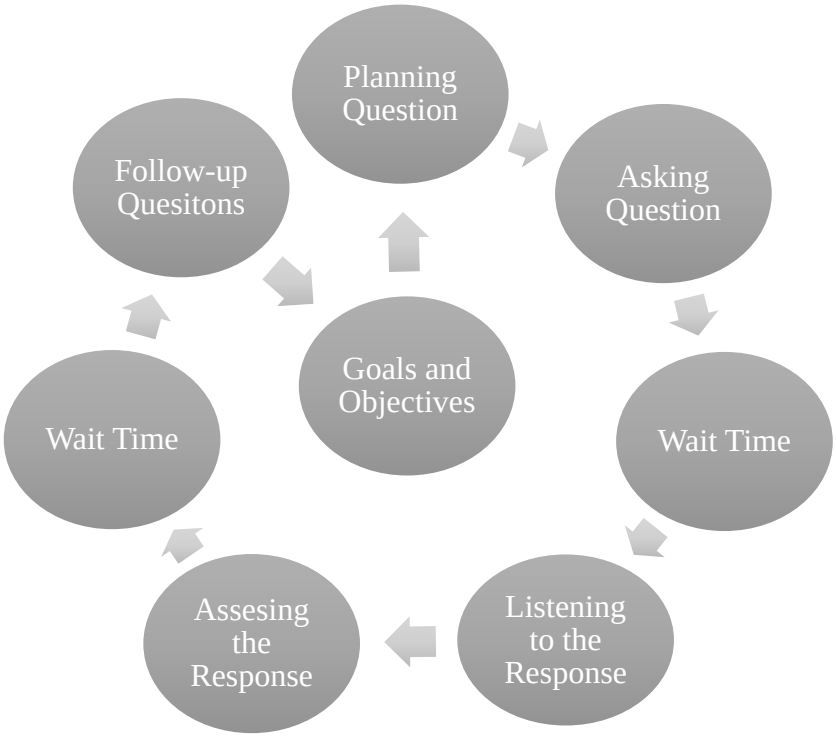
The researchers defined the first component of the QUILT framework as planning questions. In this part, the teachers should define the objectives and indicators, and content. Then, they should decide the question types they want to ask, and they should write them down while considering wording that is appropriate to the children's development.

In addition to Walsh and Sattes's questioning cycle model, Fusco (2012), in the book Effective Questioning Strategies, mentions that they work with children of different levels, including kindergarten level. In detail, while Walsh and Sattes mentioned a general approach to the questioning cycle, Fusco emphasized that the questioning cycle is used at many levels, including preschool. As a result of their study,

they define the questioning cycle as shown in Figure 2.6. Emphasizing the importance of following the order in the cycle (planning questions, asking questions, wait time, listening to children's response, assessing the response, wait time, follow-up questions), they discuss increasing children's learning skills. They agree that the targeted objectives and indicators and the planned questions support the holistic development of children. Also, the questioning cycle can help to create an interactive learning environment and invite children to communicate (Fusco, 2012).

Figure 2.6

The Questioning Cycle



*Fusco (2012)

Fusco (2012) mentioned that teachers should assign goals and indicators before the following questioning cycle components. Goals and indicators are generally specified based on children's developmental domains. The developmental domain is a universal term, and in the early learning environment, physical, social-emotional, language, and cognitive development are defined as significant domains (Berk, 2006). The teacher

should consider goals and indicators to support and develop these domains. They focus on children's access to developmental domains and school readiness knowledge and competencies. Different developmental areas of preschool children and their ability to attain them and make their transition to primary school have been identified (MoNE, 2013).

MacNaughton and Williams (2004) stressed that teachers should contemplate target objectives and indicators to choose the appropriate teaching method. Specifically, the teacher should plan their questions according to target learning and teaching objectives in the questioning method. After ***determining goals and objectives,*** to increase questioning method effectiveness, Fusco (2012) recommended the following questioning cycle components; namely: (1) planning questions, (2) asking questions, (3) waiting time, (4) listening to the children's responses, (5) assessing the response, and (6) asking follow-up questions. In table 2.1, the definitions of cycle components are described.

Table 2.1

Definition of Questioning Cycle Components

Questioning Cycle Component	Definition of the Cycle Component
Planning Question	The process of thinking regarding the activities to achieve predetermined goals and indicators (Breslin et al., 2012).
Asking Question	The action of transmitting question(s) and the question is defined as sentences to reveal information (Breslin et al., 2012).
Waiting Time	Pausing after asking questions (Rowe, 1986).
Listening to the Response	Paying attention to children's responses carefully and effectively (MacNaughton & Williams, 2004).
Assessing the Response	Evaluating the children's responses based on objectives and indicators (Fusco, 2012).
Follow-up Question	The question(s) that help to increase children's perform and learning, asked by teachers or children (Fusco, 2012).

Planning has been defined as a process of thinking regarding the activities to achieve predetermined goals and objectives (Breslin et al., 2012). In this study, the ***planning questions*** term is also used with a similar meaning. It is known that teachers are responsible for organizing and writing down the questions that were asked (Wilen, 1987b). Planning some basic questions based on learning objectives and indicators and children's personal feedback can improve the quality of the questioning method (Fusco, 2012). Of course, planning all questions may not be possible during the activity. However, teachers should plan the specific guiding questions within the framework of the goals. The planning process can contribute to the learning process. Written planning question is a form of rehearsal. When teachers have their questions planned carefully, they can control the activity process more efficiently (Shanmugavelu et al., 2020). From this point of view, Godinho and Wilson (2008) specified some goals to remember when planning the questions before the activity: (1) questions should be chosen with clear and age-appropriate words, (2) there should be a logical order between the questions, (3) the questions asked should be matched with the children's experience and abilities, and (4) instead of remembering information, questions that develop children's thinking, generalization and conceptualization skills should be included. Moreover, while planning questions, the teacher should consider children's characteristics, thinking styles, and backgrounds (Fisher & Frey, 2010; Fusco, 2012). On the other hand, to plan effective questions, the teacher should be competent about the question's purpose, cognitive level, and content (Walsh & Sattes, 2005). In this context, if teachers know which questions they ask and know the strategy, they may orchestrate the questioning method efficiently (Fusco, 2012). Especially, the teacher should specify concepts and point to what children need to know and understand, and then they should plan questions according to these concepts and points (Walsh & Sattes, 2005). Mauigoa-Tekene (2006) emphasized that teachers should not write down all the questions they will use beforehand but plan and formulate them in general before asking them. They can approach this task by considering what they teach, the learning goals and indicators, and children's developmental levels. In this context, Ramsey and Fowler (2004) conducted a study with three preschool teachers, their aids, and children's parents. The researchers prepared colorful posters and cards, including questions, and they introduced each poster and card to teachers and their aids week by week. Then, they observed these

three classrooms for ten weeks and found that the planned questions in the poster and cards helped children improve their math and science skills. The teachers also mentioned the benefit of these planned cards. All in all, planning questions helps teachers to avoid missing learning opportunities and makes the teaching process easier for them to accomplish (O'Hara, 2004).

As the second component of the questioning cycle, Fusco (2012) introduced ***asking questions*** after planning questions. Sigel and Saunders (1977) defined asking questions as a two-way communication process and claimed that the right questions could foster authentic dialogue. They noticed that simple yes-no questions or guessing questions may not help children's cognitive development because they require little mental activity. On the other hand, the purpose of the question is also considered a dimension while asking questions. Related to this, Wallace and Hurst (2009) investigated why teachers ask questions by analyzing three articles from 1967, 1987, and 2007. These articles included experienced and inexperienced elementary and secondary school teachers. The researcher found that teachers asked questions to check children's current levels and understand children's learning in 1967. More teachers in 1987 and 2007 asked questions to enhance children's thinking and encourage their motivations. In 2007, the teachers also focused on children's self-questions. In terms of experiences years, research conducted in 2007 showed that there was a small difference between experienced teachers' purposes of asking questions and inexperienced ones.

After asking the question, Fusco (2015) defined ***waiting time*** as the third and sixth components of the questioning cycle. After the question is asked, the teacher should wait for young learners. They should also ensure that young learners understand and are ready to respond to the teacher's questions (MacNaughton & Williams, 2004). Waiting time after asking the question is especially valuable for early childhood settings (Günay Bilaloğlu et al., 2017). Although much research was conducted from elementary to high school regarding waiting time after asking questions, there was limited research on preschool (Wasik & Hindman, 2018).

In this study, waiting time is defined as pausing after asking questions. In this context, Stahl (1994) stated that teachers generally ask more questions, but they receive fewer responses when not using waiting time. In other words, after asking the question, the teacher can encourage more targeted responses by waiting. Some studies

regarding the waiting time component in different class levels were conducted with preservice and in-service teachers. For instance, according to Kang's (2016) study, pre-service teachers did not use waiting time effectively after asking questions. Then, the researcher applied for a questioning strategy program. After the program, the waiting time increased, and the researcher underlined after asking open-ended questions that the waiting time given by teachers has significantly motivated children's engagement in the activities.

A mixed-method study by Mauigoa-Tekene (2006) with twenty preschool teachers showed that a considerable number of teachers waited for less than three seconds or did not wait after asking the question, and these questions were generally closed-ended. Her study collected data through pre-and post-observations via participatory action research, whereby each participant teacher also observed each other. Günay Bilaloğlu et al. (2017) also conducted research with preschool teachers and observed them during science activities. They also investigated preschool teachers' waiting times and found that six preschool teachers did not use waiting time effectively, as they did not wait for children or waited only 1 or 2 seconds after asking questions. Children were having to respond to the questions as immediately as possible, and they were not being encouraged by their teachers to think about possible answers. In this context, Wittmer and Honig (1991) mentioned the importance of waiting time after asking a question and showed that teachers wait just one second or less after asking the question to young children. However, they were then trained to wait at least five seconds or more. It was seen that by expanding the waiting time over three or more seconds was found to have several beneficial impacts on both children's involvement and the teaching methods' effectiveness (Blosser, 2000; Critelli et al., 2010; Qashoa, 2013).

Sigel and Saunders (1977) emphasized that children need time to understand and analyze the question, and then they can formulate the response. The process is valuable for children and teachers because the teacher may learn how children think. In this context, Cazden (1988) underlined that when teachers give adequate waiting time after asking questions, children gain some benefits: 1) they think carefully and give more extended responses, 2) they express more details about their thoughts, 3) they think more, 4) they ask more follow-up questions and talk more with their peers,

and 5) they contribute answers much more. These benefits may create more interactions between teachers and children.

After waiting for children to respond to the questions, ***listening to the response*** has a vital role in the interaction between teachers and children. So, Fusco (2015) introduced fourthly listening to the response component of the questioning cycle. Listening to children's responses is essential to redesigning the teacher's question. Accordingly, the teachers firstly listen to the children's responses, then analyze whether they achieve their questions' goals and objectives or not (Fusco, 2012; MacNaughton & Williams, 2004). The teacher should also paraphrase what the children's responses were. In this way, they can listen effectively and assess their responses actively and alternatively. This effective listening behavior for teachers is critical to eventuate in beneficial teacher-child interactions. In this context, Wilen and Kindsvatter (2000) define some components of effective listening: (1) making eye contact, (2) using appropriate facial expressions, (3) using body gestures appropriately, (4) arranging physical distance like moving closer to the child who is answering, (5) silence without interrupting children's responses, (6) using verbal confirming, and (7) summarizing or paraphrasing after listening to the response.

After listening to children's responses, understanding and ***assessing the response*** component is provided in the questioning cycle as a fifth one. Fusco (2012) underlined that all answers include valuable data because these responses reflect children's cognitive levels. Sigel and Saunders (1977) defined three types of response, which were 1) a relevant response, 2) an irrelevant response, such as when the teacher asked, "What types of animals did you see in the zoo?", then the child responses as "I have a new bike!"; and 3) ignoring the question or leaving the environment. The teacher can assess the children's responses based on these three types.

The last component of the questioning cycle is introduced as ***asking follow-up questions*** (Fusco, 2012). Follow-up questions comprise how preschool teachers respond to children's answers, which supports children's developmental processes and engagement (Walsh & Sattes, 2004). Similarly, Sigel and Saunders (1977) described follow-up questions to help the children think more comprehensively and develop themselves. When questions were used to activate thoughts, they helped the children to focus and learn better. Thus, the children can form their concepts in their minds. Follow-up questions were used to extend children's thinking and provide a different

perspective. More information to the children is provided through follow-up questions, and rethinking the ideas is encouraged (Fusco, 2012). Walsh and Sattes (2004) defined different types of follow-up questions, including teachers' feedback and evaluations. These follow-up questions' feedback should be based on children's thinking and learning process. During the process, teachers might use questions that support children's creative thinking skills and their perspectives. Follow-up questions may include open-ended questions and closed-ended ones because the follow-up questions' purposes are to facilitate and sustain the classroom conversation rather than evaluating children's answers to supply effective teaching and learning (Walsh & Sattes, 2004).

2.9. Question Types

Researchers have been interested in teachers' question types for years. Black (2001) shares her observation note in her research as follows: The concept of the preschool day was green. The teacher pointed to a green toy car and asked the class, "What color is this?". The children answered "Green" without waiting. Then the teacher asked, "Would you show me the green objects around you?" The children immediately found and showed the green object. During the next 10 minutes, the teacher kept showing green-colored materials and asking, "What color is this?". The activity ended with the distraction and noise of the children. Referring to this observation note, Mauigoa-Tekene (2006) says that one of the most common teaching methods used in classrooms is questioning. She mentions that mastering different question types is very critical and valuable for the learning and teaching process. She adds that the reason why the teacher-child dialogue explained with the example becomes boring is related to the question types. In this context, Crowe and Stanford (2010) stressed that although teachers mostly use questioning methods in the classroom, they may not notice their questions' quality and which types they asked. Hence, if teachers ask so many closed-ended questions to children, the questioning method may not reach the purpose. Alternatively, if the teachers ask too many open-ended questions, children may get confused before defining the concept with closed-ended questions (Deshmukh et al., 2019).

Qashoa (2013) commented that these types might differ based on their purposes and the type of response from children. For instance, if the teachers assess children's

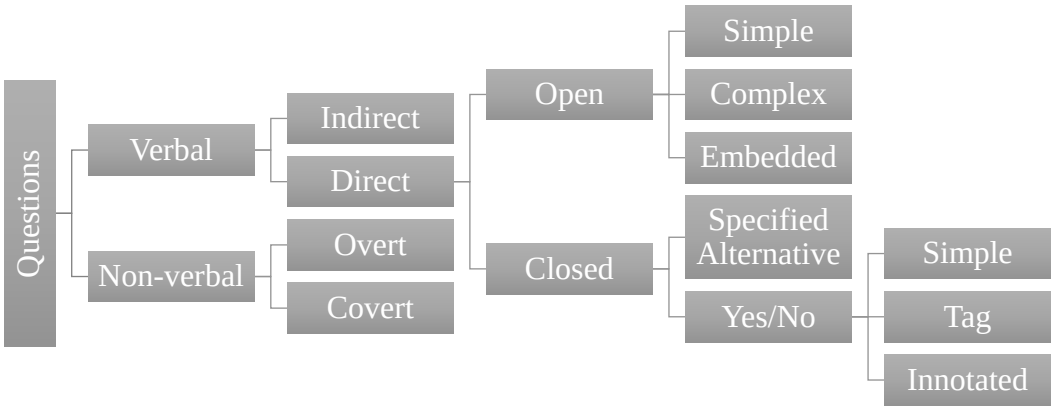
knowledge, they generally ask closed-ended questions based on children’s current knowledge. On the other hand, if the teachers want to reveal children’s expressions, thoughts, or feelings, they generally ask for open-ended ones. O. L. Davis and Tinsley (1967); Kearsley (1976), Ciardiello (1998), and MacNaughton and Williams (2004) developed question type frameworks based on their findings. For this study, the researcher used MacNaughton and Williams (2004)’s question types frameworks classified as open-ended and closed-ended questions for the early childhood education level. This framework is demonstrated in the following part. Before their framework, other frameworks were introduced.

Firstly, O. L. Davis and Tinsley (1967) identified various question types and classified them into eight types. In the first, they mentioned memory questions which are used to recall and recognize the information. They are generally closed-ended questions. The second type is interpretative questions generally used to state the relationship between situations. These questions are also classified as closed-ended questions. For instance, the "What happened when we added water to the soap?" question is interpretative. Based on this type, the teacher wants to know a specific response. In the third, children can translate or change information from one form to another. For instance, the "Can you draw the picture of your block building?" question. Application questions are the fourth type and are required to solve real-life problems by using appropriate knowledge and skills. These questions might be not only closed-ended but also open-ended ones. The fifth type is questions that require children to synthesize what they know by combining their knowledge and skills to solve a problem. Teachers generally ask such questions after first asking the class some memory, interpretative or translation questions. Evaluative questions are the sixth type and are necessary to make a judgment about what should happen. For instance, "Why do you think the block building fell down?" is an evaluative question. This type is considered as one of the open-ended questions. A seventh type, affectivity questions, is generally used to understand feelings or emotions. Based on MacNaughton and Williams's (2004) classification of questions, this type also can be classified as open-ended. Lastly, procedural questions are used to manage classroom organization and children’s behavior and can also be categorized as closed-ended. As is understood from O. L. Davis and Tinsley's (1967) question types classifications, their types move from closed-ended questions to open-ended ones.

Secondly, on the lines of O. L. Davis and Tinsley's (1967) framework, Kearsley (1976) defined a taxonomy of questions. Their categorization is structural. Based on their taxonomy, questions are classified as verbal and non-verbal ones. A nonverbal question is a question that can be answered by gestures such as raising eyebrows or puzzled facial expressions. A verbal question is a question that can be answered verbally as indirect and direct questions. An indirect question is a statement that contains partial question sentences. For instance, the “I wonder where you are” sentence is classified as an indirect question. On the other hand, they classified direct questions as open and closed questions. Correspondingly, the direct questions of their taxonomy may match up with this study’s classification. When the question is direct and open, the question is classified as simple, complex, and embedded. According to children’s developmental level, teachers decide the type. For instance, "What do you need to build a toy car?" is a type of simple question. The complicated version of the question can be, "If you wish to do a toy car, what do you need?" Lastly, the embedded question example might be, "This is a nice toy car which you have done. What do you need to do it, because if you could find out, it will help you next time?" (Kearsley, 1976). On the other hand, closed-ended questions were classified as a specified alternative and yes-no questions, as shown in Figure 2.7.

Figure 2.7

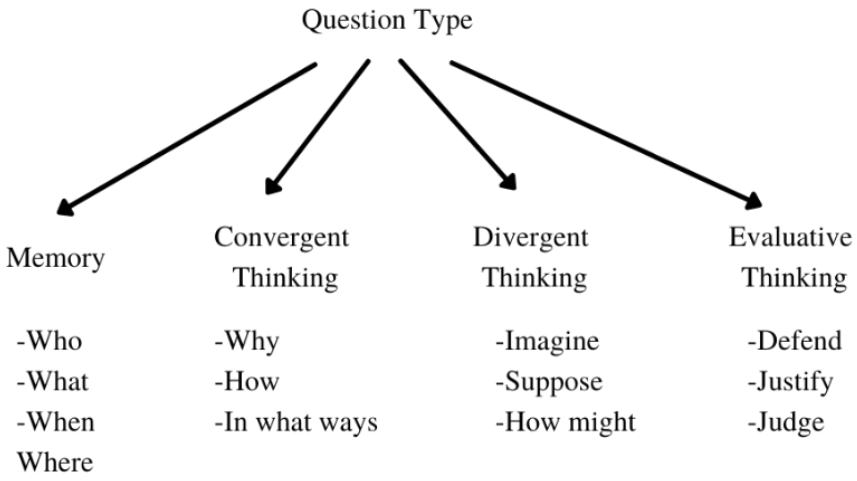
A Taxonomy of Question Types



Thirdly, as shown in figure 2.8., Ciardiello (1998) defined teacher's questions into four categories. Memory questions are used for naming, defining, and identifying situations or material. Their answers may be predictable and should be correct answers. For instance, who, what, and where questions are classified as memory ones. MacNaughton and Williams (2004) defined these questions as closed-ended and mentioned that they are used to recall information. Convergent thinking questions are used to explain, compare, and contrast situations. Divergent thinking ones are more useful to predict and hypothesize conditions. Lastly, evaluative thinking questions are generally used to justify and value choices.

Figure 2.8

Ciardiello's Question Types



Some other studies have also defined and classified questioning in terms of their sequential hierarchies. Christenbury and Kelly (1983) divided these classifications into two types, mainly sequential and nonsequential hierarchies questions. In sequential hierarchies design questions, teachers firstly ask A question type for the beginning of the activity, and then they should move to the B question type, which is the more

advanced one. On the other hand, in nonsequential design, it is not necessary to follow a pattern. The teacher can use a mix of these questions based on children's differences and developmental levels.

For the current study, the researcher used question types that are defined and introduced by MacNaughton and Williams (2004). This model is discussed in the following part of the research.

2.9.1. MacNaughton and Williams (2004)'s Classification

There are different approaches to structuring and classifying questions, as mentioned above. MacNaughton and Williams (2004) emphasized that children's cognitive abilities and questions structures are correlated with each other. In this context, the teacher may use two question types to gather data from children in the preschool period: closed-ended and open-ended questions. Parallel with this classification, Wragg (2016) observed more than a thousand questions asked by teachers in primary grades. They categorized their questions as: managerial (questions which require the running of the lesson), closed-ended (questions that ask for recalling information), and open-ended (questions which asked students to go beyond the simple recollection of facts, encouraging them to analyze, generalize, or infer information). Both have a different effect on children thinking (Bredekamp, 2014; MacNaughton & Williams, 2004; Wragg, 2016)

Some researchers specifically reported that the question types could be a factor in determining the effectiveness of questions in learning environments (Boller, 1973; Buggey, 1972; F. Martin, 1970; C. T. Smith, 1977; Turner, 1980). While open-ended questions support children's higher-order thinking, closed-ended questions have one kind of response and give an idea regarding what children already know (Allerton, 1992; MacNaughton & Williams, 2004; Sigel & Saunders, 1977; Wittmer & Honig, 1991). In this context, Allerton (1992) highlighted that teachers should use open-ended and closed-ended questions together while considering children's needs. For this reason, the aim of the question can be determined before being asked. For example, if the teacher asked the question to increase children's critical thinking skills, she/he should prefer to use open-ended ones. On the other hand, if the teacher investigates what the children know already or assesses their objectives and indicators, he/she can

prefer to use closed-ended. Moreover, he mentioned that the teacher uses closed-ended questions because of the classroom size; the more children mean, the less time to conduct long questioning conversations for teachers. Allerton (1992) mentioned that the teacher may prefer closed-ended questions rather than open-ended questions to manage the class. However, she suggested that asking an equal amount of closed-ended and open-ended questions during the activity may be more beneficial for children's development outcomes.

Consequently, the researcher used MacNaughton and Williams (2004)'s question type classification for this research because they defined these types for specifically early childhood education level. The characteristics defined in light of the literature review regarding open-ended and closed-ended questions are illustrated in table 2.2.

Table 2.2

Summary of Open-Ended and Closed-Ended Question Types

Question Types	Open-Ended	Closed-Ended
Definition	A question that has a variety of acceptable responses	A question that has only one possible and acceptable response
Synonym	* higher-level question (Redfield & Rousseau, 1981) * divergent question (Wittmer & Honig, 1991) * verbal reflective question (Olsen-Fulero & Conforti, 1983) * productive question	* narrow question (Raphael, 1986) * convergent question (Wittmer & Honig, 1991) * nonproductive question
Characteristics	* emphasis on the process rather than the product * enhance discussion	* emphasis on the specific response and results *assess current knowledge

2.9.1.1. Open-Ended Questions

MacNaughton and Williams (2004) defined an open-ended question as having more than one answer. Also, Sigel and Saunders (1977) defined an open-ended

question as a question that the teacher might not predict clearly after asking. For example, "What did you do yesterday?" is an open-ended question type, and the teacher may not predict the response. There are many options. Children may start with any point in the history of the day; they may mention their feelings. Christoph and Nystrand (2016); E. McIntyre (2007) defined an open-ended question as the question to which the teacher does not already know the answer. Olsen-Fulero and Conforti (1983) defined open-ended questions in another aspect based on their research. They defined open-ended questions as those which prepare the child for further dialogue by establishing common interests. The teacher may not predict the response because children have the dialogue in their hands. This open-ended question is not more than repeating what the child said. For instance, "You saw a cat, did you?" is an open-ended question.

Teachers generally use open-ended questions to allow children to get more information, help them think, and find their solutions in their way (Fusco, 2012; Wood & Anderson, 2001; Wragg, 2002). Moreover, these questions encourage to reflect on children's thinking. Through open-ended questions, children gain higher-order thinking skills and build their thinking (Fusco, 2012). In consequence, through open-ended questions, teachers encourage the children to think critically and independently (Allerton, 1992). Studies show that asking open-ended questions may positively affect children's achievement (M. Gall, 1984; Redfield & Rousseau, 1981). Moreover, Wittmer and Honig (1991) stressed that open-ended questions might support children's language and cognitive development.

On the other hand, according to researchers, open-ended questions may not be appropriate for infants. This question type may be appropriate for preschoolers. Moreover, open-ended questions are more effective than closed-ended questions for preschool children's learning because open-ended questions are generally deliberate, purposeful, and thoughtful (Davis and Torr, 2016).

2.9.1.2. Closed-Ended Questions

Wragg (2002) defined a close-ended question as a question with short and specific answers consisting of one or few words. Sigel and Saunders (1977) defined that if the question is closed, the response can be linked to the question's content, and it might

include expected responses. For instance, "Which color is this paper?" is a closed-ended question because there is only one and expected answer. In this context, Fisher and Frey (2010) defined closed-ended questions as guessing what the teacher thinks. Closed-ended questions have "yes, no" or a single answer, and the teacher already knows the answer (Dillon, 1983; H. Wood and Wood, 1983). Allerton (1992) said closed-ended questions resembled playing a guessing game because teachers always know the answer, and children should guess the correct answer. So, Wittmer and Honig (1991) add these definitions by their observation: The teacher asked, "What color is your pen?" then the children said, “Why does our teacher ask this question type when they already know answer?”

Closed-ended questions are used to reach a specific answer (MacNaughton & Williams, 2004). According to Raphael (1986), this question type is designed to recall information. Therefore, Tofade et al. (2013) found that teachers often ask closed-ended questions that rely on students’ factual recall of prior knowledge rather than asking open-ended questions that promote deep thinking, requiring students to analyze and evaluate concepts. Moreover, teachers generally used closed-ended questions to know facts and understand what children remembered (Parker & Hurry, 2007; Tizard & Hughes, 1984; Turney, 1981). Newton (2013) shows that primary-school teachers ask closed-ended questions to children to recall information. The teacher can also use this question type to teach one concept (Sigel and Saunders, 1977).

2.9.1.3. Open-Ended and Closed-Ended Questions

Some studies refer to a balance of both closed-ended questions and open-ended questions. Since open-ended questions require essential information to think deeply. On the other hand, closed-ended questions get children to think about this essential information. Therefore, closed-ended questions also have a considerable position in supporting the children’s cognitive skills (MacNaughton & Williams, 2004; Martin, 2012).

The difficulty level of the questions asked to children differs according to the question types. Open-ended questions are more complicated than closed-ended ones because they do not have a predetermined answer. Open-ended questions require more

in-depth thinking since they have answers beyond predetermined responses (Hamel et al., 2021).

2.10. Studies Conducted about Questioning

Questioning as a teaching method has been used by teachers for many years. Although this method has been used for years, examining the questioning strategies of preschool teachers is an emerging field. Given this situation, research about preschool teachers and primary school level teachers and their practices in terms of the questioning method was compiled by the researcher and is summarized below.

Teacher's questions at the ECE level were examined in terms of various characteristics in literature. Some of these studies were focused on question types. In this sense, Wittmer and Honig (1991) underlined the inadequacy of research based on the teacher's question types. In their study, the researchers examined the question types that were asked and observed teacher and child interactions. They focused on 50 children who were three years old and their teachers. They observed each child for 80 minutes. They coded all questions as divergent questions that are open-ended and convergent that are closed-ended questions. They noted 667 questions during the 70 hours of observation. Many more closed-ended questions were asked than open-ended ones. On the other hand, they found that 3-years old children have the equal capability of answering these two question types. The findings indicated that teachers should receive training to ask more open-ended questions in the preschool learning environment to develop children's cognitive and language skills.

Similarly, Allerton (1992) conducted a study with 24 preschool children in London, and he separated them into two groups. He also used two forms of the question in the study: closed-ended (Who accompanied you on your way to the park?) and open-ended (What can you describe to me about the park?). He used closed-ended questions for the first group and open-ended ones for the second group. The findings showed that group one, which asked closed-ended questions, had a higher number of responses than group two. He also deduced that open-ended questions are more challenging to respond to than close-ended ones by considering children's responses. However, he initiated that answers for open-ended questions are more comprehensive than closed-ended ones. Accordingly, he discussed that more responses do not mean

effective responses. Another finding showed that children's responses become varied through open-ended questions.

Some studies analyze question types asked during the learning activities. For instance, Hamel et al. (2021) explored preschool teachers' questioning strategies in science activities. They collected data by using videotapes and analyzed each video recording. They classified 755 questions that were asked by teachers in the 14 different science activities. They analyzed these questions according to their types (open-ended or closed-ended) and their contents (science-related or non-science related). The findings indicated that teachers mostly asked closed-ended (78%) questions than open-ended (22%) ones through the preschool science activities.

Günay Bilaloğlu et al. (2017) have conducted a study similar to Hamel et al. (2021). The researchers investigated six different preschool teachers' questions during science-related activities. The data were gathered through classroom observation records, and the researchers analyzed all of the teachers' questions in the science activities. At the end of the analysis, the researchers found that the participant preschool teachers asked more closed-ended questions than open-ended ones during the science activities.

Deshmukh and others (2019) investigated preschool teachers' questions during reading activities. Ninety-six preschool classes and their teachers participated in the study. The reading activities were video recorded, and the researcher transcribed the videos to investigate questions asked by teachers and the responses given by the students. The participant teachers read the same book to the children. In total, 5207 questions and children's responses were analyzed to investigate the rate and proportion of question types, the accuracy of children's responses, and the length of children's responses. Researchers found that preschool teachers were inclined to ask more closed-ended questions than open-ended ones. The findings also show that the children were able to answer most teacher's questions with one word. Researchers discussed that teachers could not use the questioning technique effectively and did not adjust their questions to a difficulty level just above the general level of the children.

Massey et al. (2008) also investigated teachers' question types. They investigated 14 disadvantaged preschool classrooms. They used video recording to analyze teachers' questioning in the classroom environment. In the context of the research, the researcher coded 1682 questions. Based on the findings, they identified three question

types. They were management, less cognitively challenging, and more cognitively challenging questions. In this study, the researchers found that teachers use mostly management questions.

Regarding activity types, O'brien and Bi (1995) conducted research regarding teachers' questions in different activity types. They found that, during doll play activities, preschool teachers asked more questions and gave few directions. On the other hand, in motor play activities, they asked fewer questions and gave more directions to preschoolers. Teachers were observed to generally use open-ended questions during shared storybook reading activities.

Sigel and Saunders (1977) investigated the question types employed during an activity. They hypothesized that children's cognitive development could depend on the quality of the question. Their observations mentioned that teachers should use questioning by starting with closed-ended questions. Then, they should use open-ended ones. In this way, the teaching method can help to reveal children's implicit ideas. In this context, Piaget (2002) exemplified a dialogue between a researcher (R) and a child (C):

R: What is a brother?

C: A boy.

R: Are all boys brothers?

C: Yes

R: Is the boy who is the only one in the family a brother?

C: No.

R: Why are you a brother?

C: Because I have sisters.

R: Am I a brother?

C: No.

R: How do you know?

C: Because you are a man.

R: Has your father got brothers?

C: Yes.

R: Is he a brother?

C: Yes.

R: Why?

C: Because he had a brother when he was little.

R: Tell me what a brother is.

C: When are there several children in the family?"

(Piaget, 2002)

Shanmugavelu, Ariffin, Vadivelu, Mahayudin, and Sundaram (2020) also researched the effectiveness of teachers' questioning methods during the learning process. They believed appropriate questioning is essential for learning and teaching manner. They described some questioning techniques that teachers need to know associated with waiting, question content, and questions' distributions. They mentioned the teacher's voice and classroom arrangements before asking questions. Also, they highlighted the waiting time after the teacher asked the question because children need time to think. On the other hand, they emphasized the value of planning questions because children's age level, developmentally appropriateness, and cultural issues should be considered.

On the other hand, there were some studies based on intervention. For instance, a study was conducted as action research with twenty preschool teachers to investigate teachers' questions before and after the intervention. The participant teachers were qualified models of questioning training. After the intervention, the researchers found effective changes in teachers' beliefs and practices associated with questioning strategies. They planned and used more open-ended questions that increased divergent and higher levels of thinking. Also, they comprehend the value of open-ended questions (Mauigoa-Tekene, 2006).

Buggey (1972) investigated the relationship between teacher's questions and the social studies achievement related to teacher's questions and the activity type. According to Bloom's taxonomy, he analyzed the higher and lower order thinking questions. The researcher used a multiple-choice instrument to evaluate teachers' questions. The study variables were the level of questions, children's gender, school location, and children's social study achievements. To assess the achievement, the researcher formed a visual instrument. The experimental design was applied. The researcher chose 108 children. Then, he randomly assigned them into three groups, and each group was assigned Treatment A, Treatment B, or Control group. Their teacher asked questions containing 70% knowledge-level and 30% higher-level questions for treatment A. Treatment B included questions that contained 30%

knowledge-level and 70% higher-level. The control group received no instruction. The researcher used an instrument that was prepared by three different professors. At the end of the analysis, the researcher found treatment B group performed significantly better than the treatment A group. On the other hand, he did not find a significant effect on children's gender. If the teacher mostly used higher-level questions than lower ones, the children's social study achievements are increased for the first graders. He recommended that researchers investigate the different class levels and different subjects by using the same study method.

Lee et al. (2012) designed a quasi-experiment study to investigate the effects of provided teacher support (training regarding questioning) which encourages preschool teachers' open-ended questioning skills in science activities. The researchers used an observation form, survey, and teacher support accessing time checklist to collect data. They selected 35 preschool teachers, and 25 of them received teacher support while 10 of them did not. At the end of the study, the researchers found that the treatment group of preschool teachers who received teacher support asked more open-ended questions than the control group in science activities. The authors recommended that future research should investigate teachers' open-ended questioning skills related to other activity types.

Bay (2011) also conducted an intervention study about preschool teachers' questioning. She developed a questioning skill teaching program and applied it with participant preschool teachers. The study aimed to increase teachers' use of open-ended questions during activities and was based on Bloom's taxonomy. At the beginning of the program, the participant teachers asked knowledge questions categorized as closed-ended ones, and they never asked evaluative questions classified as open-ended. After applying for the questioning skill teaching program, the researchers found that the program was successful because the number of open-ended questions asked by participant teachers was increased.

2.11. Beliefs and Self-Reported Practices of Teachers

Investigating teachers' beliefs and self-reported practices is crucial because teachers' teaching strategies can be determined based on their beliefs and practices (Sakellariou & Rentzou, 2012). Beliefs have been examined in various studies.

Lavrakas (2008) underlined that beliefs might reflect someone's personal experiences based on the issue or topic. Investigating teachers' beliefs is essential because Webb et al. (2004) underlined that beliefs could affect teachers' teaching practices and provide a perspective. Moreover, investigating someone's beliefs can reveal knowledge without observing them (McIntyre, 1999).

Several studies focused on teachers' beliefs. For instance, Kasik and Gál (2016) investigated teachers' beliefs regarding preschool children's behavioral and social problems. This study tried to shed light on teachers' general beliefs. Namely, they try to draw a picture regarding children's behavioral and social problems.

Besides investigating teachers' beliefs Koziol and Burns (1986) underlined the importance of examining teachers' self-reports regarding their practices because, through these reports, the researcher may collect consistent data based on participants' actual practices. In other words, researchers emphasized that although practices formed on participants' self-reports have some limitations, they may accurately reflect teachers' actual practices. In this sense, Clunies-Ross et al. (2008) conducted research related to a comparison between primary-school teachers' self-reported practices and their actual practices on the subject of their classroom management skills. The findings of the study revealed that primary-school teachers' self-reported practices accurately reflect their actual practices.

Researchers have also investigated teachers' beliefs regarding their teaching and compared them with their self-reported practices or actual practices (Calleja, 2021; Şahin-Sak et al., 2018; Sak et al., 2016). Beliefs are perceived as functional predictors of teachers' practices. In this context, Mansour (2009) asserted that teachers' beliefs may depend on their current experiences and practices. On the other hand, teachers' beliefs may also influence their teaching practices. Calleja (2021) emphasized that these two perspectives reveal the powerful nature of the association between teachers' beliefs and their self-reported practices. In other words, these two different perspectives can provide a better overview to understand a concept or issue.

Yurekli et al. (2020) conducted research with mathematics teachers to examine the connection between teachers' beliefs and self-reported practices. They found that teachers' self-reported practices and their actual practices are not consistent with each other. In other words, they found inconsistency between teachers' beliefs and their self-reported practices. Parallel with this research, Öneren Şendil and Erden (2019)

emphasized the consistencies and inconsistencies between preschool teachers' beliefs and practices regarding preschool children's peer relationship problems. They found that there were some inconsistencies between teachers' beliefs and their actual practices. In another study, Buldu and Tantekin-Erden (2017) examined preschool teachers' beliefs and their self-reported practices based on assessment and found a strong association between preschool teachers' beliefs and their self-reported practices. On the other hand, Enzingmüller and Prechtl (2021) carried out research with biology teachers related to their graph construction understandings during their lessons. They noted inconsistencies between biology teachers' beliefs and their self-reported practices because participant teachers implied there were limited opportunities to use graphs in the learning environment. That is, their beliefs were not consistent with their self-reported practices.

2.12. Summary of Literature Review

Questioning is not only a way of interacting with others (Vygotsky, 2012) or asking a question to someone (Questioning, 2010b, p. 1243) but is also one of the ways of teaching (MacNaughton & Williams, 2004), which gives opportunities to increase young learners' critical thinking skills (Christenbury & Kelly, 1983), and to create a thinking community (Robitaille & Maldonado, 2015). A great majority of studies (Allerton, 1992; Arslan, 2006; Christenbury & Kelly, 1983; Davis & Torr, 2016; Furman et al., 2019b; Sigel & Saunders, 1977; Wisneski & Goldstein, 2004; Zeegers & Elliott, 2019) revealed that teachers who used questioning as a teaching method effectively could form a thinking community, reach desirable educational objectives, develop children's developmental skills. Moreover, teachers also use questioning to enhance social interaction between teachers and children (Mooney, 2013). This social interaction was explained by sociocultural theory. Social interactions can also occur between children and their ecological systems. Children learn to ask effective questions from their environments. Specifically, ecological systems theory can also be effective on questioning methods. Two strategies were introduced and reviewed to increase the questioning method's effectiveness (questioning cycle and question types) in this context. In this respect, studies in this part of the research examined teachers' practices in the context of questioning as a teaching method and its two strategies:

questioning cycle and question types. Firstly, Fusco (2012) and Walsh and Sattes (2005) introduced the questioning method pattern as a cycle. They both underlined the importance of stages followed by teachers to manage the questioning method efficiently. In this sense, some studies (Godinho & Wilson, 2008; Günay Bilaloğlu et al., 2017; Mauigoa-Tekene, 2006; Shanmugavelu et al., 2020; Sigel & Saunders, 1977; Stahl, 1994) were presented regarding teachers' views or practices based on these stages (questioning cycle components). Secondly, question types and related studies were introduced as a questioning strategy.

Most of the studies (Crowe & Stanford, 2010; O. L. Davis & Tinsley, 1967; MacNaughton & Williams, 2004; Qashoa, 2013) classified questions according to their types and underlined the importance of asking or planning different question types. Researchers generally focused on classroom observations to investigate teachers' questioning strategies (Deshmukh et al., 2019; Günay Bilaloğlu et al., 2017; Mauigoa-Tekene, 2006; Wittmer & Honig, 1991; Wragg, 2016), and they generally focused on higher class levels rather than early childhood education. On the other hand, they generally emphasize only some of the components, especially waiting time (Fusco, 2012; Günay Bilaloğlu et al., 2017; Sigel & Saunders, 1977). Consequently, this study was designed to investigate teachers' beliefs and their self-reported practices regarding the questioning cycle and question types.

CHAPTER 3

METHODOLOGY

"You start a question, and it is like starting a stone."

-Robert Louis Stevenson, The Strange Case of Dr. Jekyll and Mr. Hyde

The methodology part of the study explains the overall research design, context of the study, participants and sample selection procedures, instruments that were used, data collection procedures, and data analysis.

3.1. The Purpose of the Study and Research Questions

This study aimed to investigate preschool teachers' beliefs and self-reported practices regarding questioning as a teaching method and its two strategies known as the questioning cycle and question types. The following questions were investigated:

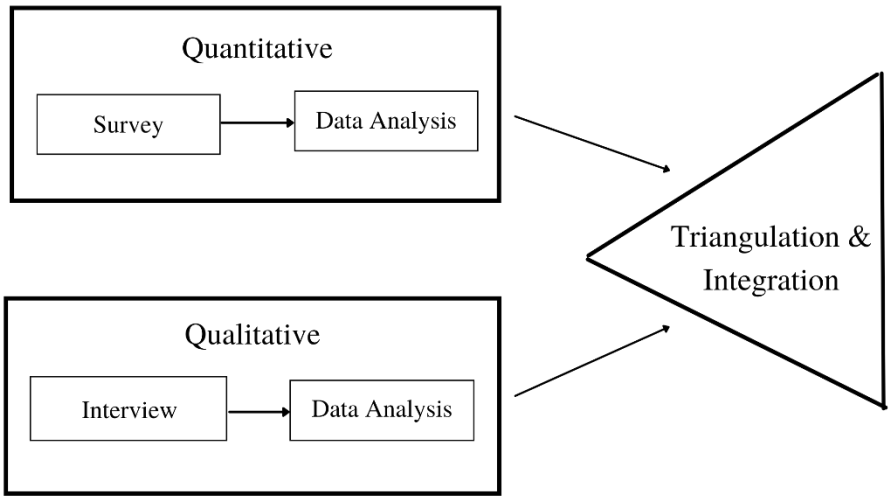
1. What are preschool teachers' beliefs on questioning as a teaching method in terms of:
    a. General use of questioning as a teaching method?
    b. Questioning cycle components as a questioning strategy?
    c. Question types as a questioning strategy?
2. What are preschool teachers' self-reported practices on questioning as a teaching method?
    a. General use of questioning as a teaching method?
    b. Questioning cycle components as a questioning strategy?
    c. Question types as a questioning strategy?
3. What are the commonalities and differences of preschool teachers' beliefs and self-reported practices about questioning as a teaching method?

3.2. Research Design

In this study, the convergent (triangulation) mixed-method design (Creswell & Plano Clark, 2018) was used to answer the research questions comprehensively. This type of research comprises two data sets which can involve surveys and in-depth interviews. The mixed-method research design supplies more evidence for research problems than either quantitative or qualitative research alone (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). Researchers collect different forms of data, and these data forms are comprehensive enough to correspond to the research problem (Morse, 1991). Specifically, the purpose of the convergent (triangulation) mixed-method design is to validate data. In this research design, there are two parts. The researcher may collect quantitative and qualitative data at the same time to compare and triangulate findings, as shown in Figure 3.1 below (Creswell & Creswell, 2018). To compare these two different data sets, the researcher uses the transformation procedures, which involve either qualifying quantitative findings or quantifying qualitative findings. When there are discrepancies between the findings, the researcher should explain why they occur (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010).

Figure 3.1

Convergent Mixed Methods Design



In this study, data were collected through two steps in the context of the convergent (triangulation) mixed-method design. Firstly, a survey was implemented to gather data from a large sample. Although survey design may involve qualitative and quantitative procedures regarding population beliefs, the researcher in this study collected data following quantitative survey procedures in line with the convergent (triangulation) mixed-method (Creswell & Creswell, 2018). In the second stage, an interview was conducted with a subsample of the survey participants. In this way, the researcher was able to gather in-depth information. Fraenkel et al. (2015) declare this stage necessary as qualitative data provides a more comprehensive perspective. In other words, interview findings may support, expand, and triangulate the survey findings. As a result, the convergent (triangulation) mixed-method design makes it possible to integrate and synthesize the data from the survey and the interview. These data in the present study were collected with both quantitative and qualitative approaches so as to offer a more comprehensive understanding (Doyle et al., 2009).

3.3. Participants and Sample Selection

According to Fraenkel et al. (2015), purposive sampling is generally preferred in mixed-method studies. In this study, as the researcher conducted mixed-method research, the sample was selected based on previous knowledge of a population and the purpose of the study (purposive sampling). As Patton (2015) mentioned, the logic and power of purposive sampling lie in selecting information-rich participants. For this reason, the researcher first selected survey participants to represent the larger population by using the purposive sampling method. This study was conducted in three different central districts in Ankara (Çankaya, Keçiören, Yenimahalle), which were easily accessible by the researcher. The criteria for participant selection in line with the purposive sampling were as follows: (1) teachers should agree to participate in the study voluntarily; (2) they should be working in public schools in central districts in Ankara, be easy to access, and represent a similar socioeconomic status and culture (Tashakkori & Teddlie, 2010); and (3) they should hold at least a bachelor's degree.

As the first part of the study, survey research was conducted; Krejcie and Morgan's (1970) sampling method table was used to determine sample size. They

recommended that the sample size be designated based on a defined population number. The defined population number in this study is shown in Table 3.1.

Table 3.1

Number of Teachers in Public Schools

Central Districts	Number of teachers
Çankaya	536
Keçiören	550
Yenimahalle	440
Total	1526

(MoNE, 2020).

Relying on Krejcie and Morgan's table (1970), a total of 306 participants would be appropriate for this study. Considering the possibility of outliers, 412 participants were selected for the survey part. The participants used the Internet to complete the survey. The link was shared with the teachers via school principals, who were contacted by phone.

The convergent (triangulation) mixed-method design aims to confirm the findings and to compare and contrast quantitative findings with qualitative findings. For this reason, Creswell and Clark (2018) recommended that the same participants should be chosen for the qualitative and quantitative parts of the research. The purposive sampling method employed in the qualitative part was also used in the quantitative part of the study. As recommended by Patton (2015), information-rich participants were selected. Following this, teachers were asked whether they would agree to participate in the study. There was a tick box at the end of the survey, and those who agreed to participate in the second part of the study wrote down their emails. Participants were selected from among those who supplied their e-mail addresses. The selection process was based on the following criteria: (1) the researcher selected an equal number of participants from the three different central districts; (2) the years of experience were considered; and (3) type of school (independent and preprimary preschool) was regarded. Consequently, 21 in-service preschool teachers who were working at public schools were interviewed. All the participant teachers were female.

3.3.1. Participant Characteristics (Survey)

This section presents detailed information (sex, years of experience, types of school they worked in, and educational background) about the preschool teachers who participated in the survey. A total of 412 preschool teachers completed the survey. After cleaning outliers and replicating answers, 363 in-service teachers remained. All participant teachers were female, and their mean experience year was 13.88 (min. 5; max 32), as shown in Table 3.2.

Table 3.2

Years of Experience of Teachers (Survey)

Years	Number of teachers	%
5-10	111	30,6
11-15	143	39,4
16-20	58	16
21-25	26	7,2
26+	25	6,8

All participant teachers were working in public schools categorized as independent (n=195, 53,7%) and preprimary preschool (n=168, 46,3%). These independent preschools are completely autonomous institutions for all age groups in the range of 36-72 months. The preprimary preschools are located in a primary or secondary school building. The distribution of teachers in each school type can be seen in Table 3.3 (MoNE, 2014).

Table 3.3

Types of Schools Where Teachers Work (Survey)

School type	Number of teachers	%
Independent preschool	195	53,7
Preprimary preschool	168	46,3

Participant teachers' educational backgrounds were as follows; the undergraduate degree (n=325, 89,5%), master's degree (n=34, 9,4%), and doctoral degree (n=4, 1,1%), as shown in Table 3.4. Most of them (n=325, 89,5%) had graduated from an undergraduate program.

Table 3.4

Educational Background of Teachers (Survey)

Degree type	Number of teachers	%
Undergraduate	325	89,5
Master' degree	34	9,4
Doctoral degree	4	1,1

3.3.2. Participant Characteristics (Interview)

Twenty-one female preschool teachers were interviewed in the study. Demographic data shows that the participants were working in independent preschools (n=11, 52%) and preprimary preschools (n=10, 48%) in three different central districts in Ankara (See Table 3.5). For ethical considerations, pseudonyms were chosen, and central districts were kept confidential.

Table 3.5

Demographic Data of Interview Participants

Participant	District	Gender	Years of experience	Types of schools they worked
T1	D1	Female	18	Independent Preschool
T2	D2	Female	12	Preprimary Preschool
T3	D3	Female	20	Preprimary Preschool
T4	D3	Female	9	Independent Preschool
T5	D2	Female	22	Independent Preschool
T6	D2	Female	11	Independent Preschool
T7	D2	Female	17	Independent Preschool
T8	D1	Female	11	Independent Preschool
T9	D1	Female	10	Preprimary Preschool

Table 3.5 (Continued)

Participant	District	Gender	Years of experience	Types of school they worked
T10	D2	Female	16	Preprimary Preschool
T11	D3	Female	8	Independent Preschool
T12	D1	Female	12	Independent Preschool
T13	D3	Female	8	Preprimary Preschool
T14	D2	Female	16	Independent Preschool
T15	D2	Female	9	Preprimary Preschool
T16	D3	Female	12	Preprimary Preschool
T17	D2	Female	9	Preprimary Preschool
T18	D2	Female	13	Preprimary Preschool
T19	D1	Female	9	Preprimary Preschool
T20	D3	Female	23	Independent Preschool
T21	D2	Female	12	Independent Preschool

The participant teachers' educational backgrounds are shown in Table 3.6. Seventeen (81%) had graduated from the Early Childhood Education department, and 4 (19%) from the Child Development and Education department.

Table 3.6

Educational Backgrounds of Teachers (Interview)

Degree type	Number of teachers	%
Early Childhood Education	17	81
Child Development and Education	4	19

The participant teachers' experience years ranged from a minimum of 8 to a maximum of 23, and the average year of experience was 13.19, as summarized in Table 3.7.

Table 3.7

Years of Experiences of Teachers (Interview)

Years	Number of teachers	%
6-10	7	33,3
11-15	7	33,3
16-20	5	23,8
21+	2	9,5

The participant teachers stated that the number of children in each class had been affected by the Covid-19 pandemic. The number of children in each classroom varied between 7 and 15 children, as shown in Table 3.8.

Table 3.8

Number of Children

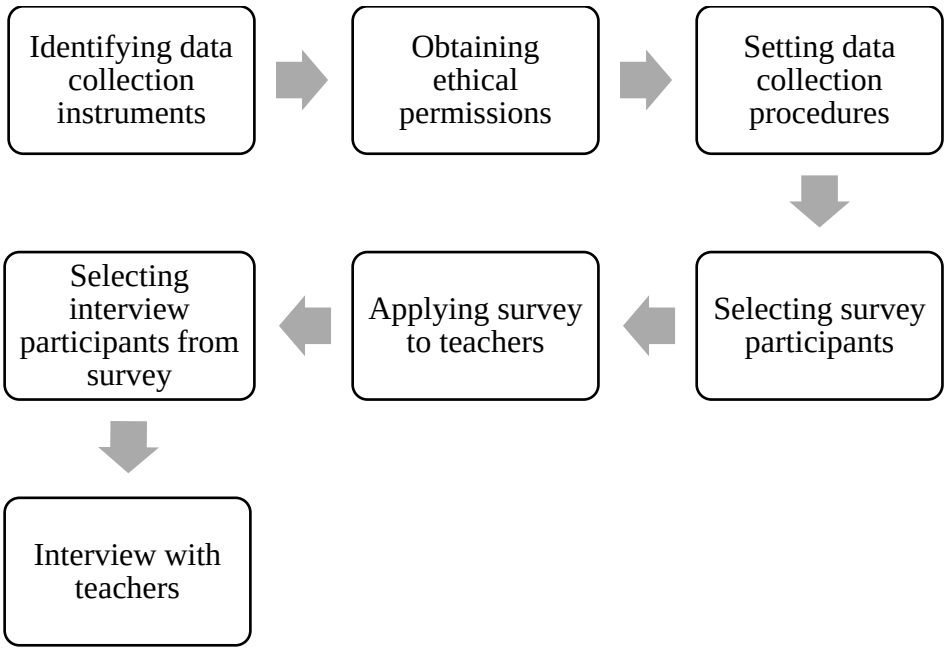
Number of children	Number of teachers	%
7-9	6	28,6
10-12	13	61,9
13-15	2	23,8

3.4. Data Collection Procedure

Creswell and Clark (2018) identified several steps to investigate research questions. These include deciding on the target population, identifying data collection sources, selecting participants, obtaining ethical permissions from related institutes, and setting data collection procedures. The researcher followed these major steps (see Figure 3.2) while collecting data:

Figure 3.2

Process of Data Collection



*Adapted from Creswell and Plano Clark (2018)

As demonstrated in Figure 3.2, the data collection process began with identifying data collection instruments. Varied data collection instruments were used at different times. Firstly, the survey was conducted with participant in-service teachers and included the use of a Demographic Information Form and the QTMPC Survey (See Appendix C). The researcher uploaded instruments on "Google Forms" to collect data about teachers' beliefs regarding questioning as a teaching method and its strategies: questioning cycle and question types. After creating the survey link, ethical approval was renewed due to the format change. Then, the researcher communicated with the school principals via telephone to reach the target sample. The researcher explained the details and purpose of the study and presented the ethical permission document to the principals. After the phone call, either the researcher shared the invitation link with the school principal or the school principal shared the teachers' contact numbers with the researcher. Then, the invitation link was shared with the target sample. Volunteering in-service teachers completed the survey. When the teachers accessed the survey, they first encountered the consent form. Then, the

demographic information form and questions on a 5-Likert scale were presented, respectively.

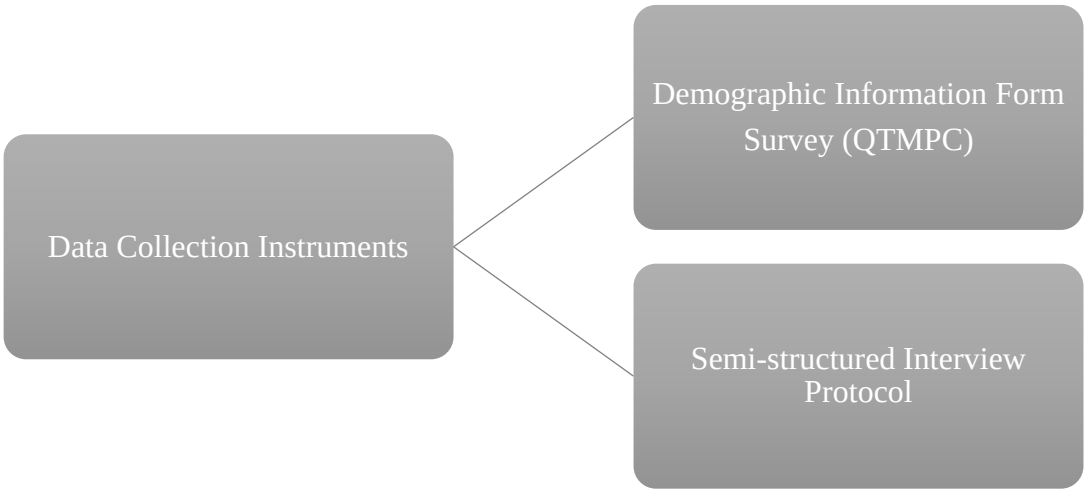
Gathering general beliefs from the participants through a survey before conducting interviews was essential to understand their beliefs on questioning as a teaching method. The survey took approximately 10-12 minutes to complete. Data were collected from January 2021 through March 2021. At the end of the survey, there was a tick box. Participants who volunteered to also attend the interview stage of the study were invited to mark the box and share their nicknames and contact numbers or emails. There were 57 participants who shared their contact numbers or emails. The researcher selected 21 of them through purposive sampling for the interview. Because of the Covid-19 pandemic, all interviews were conducted on the one-to-one online communication platform Zoom. Before the interviews, the researcher read the consent form to inform participants about ethical considerations and record data. Audio and video recordings were taken through the Zoom application during the interview. All teachers accepted the audio and video recording. Interviews took between 40 and 60 minutes.

3.5. Data Collection Instruments

Qualitative and quantitative data collection instruments can be used in conjunction to combine or compare findings (Creswell and Clark, 2018). In this study, the researcher used different data collection instruments to focus on teachers' beliefs and self-reported practices regarding questioning cycle components and question types in the context of questioning as a teaching method. These were: (1) Demographic Information Form, (2) Questioning as a Teaching Method in the Preschool Classrooms (QTMPC) Survey, and (3) Semi-structured Interview Protocol (see Figure 3.3). All data collection instruments were designed by the researcher. The instruments and their development procedures are explained in detail in the following parts.

Figure 3.3

Data Collection Instruments



The characteristics of the data collection instruments are presented in Table 3.9, and the complete versions are provided in Appendices C and D.

Table 3.9 *Characteristics of the Data Collection Instruments*

Instrument	Purpose	Categories	Number of items	Response Format
Demographic Information Form	To define the demographic features of the teachers	Gender Years of experience Types of schools they worked at Level of education Number of children	5	Fill in the blanks and multiple-choice items
QTMPC Survey	To gather data about the beliefs of in-service teachers on their general understanding of questioning, questioning cycle components, and question types	Use of Questioning Planning Questions Asking Questions Question Types Waiting Time Listening to the Response Assessing the Response Follow-up Questions	1 10 4 5 5 4 4 3	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
Semi-structured Interview Protocol	To gather data about the self-reported practices of in-service teachers on their general understanding of questioning, questioning cycle components, and question types	Use of Questioning Planning Questions Asking Questions Question Types Waiting Time Listening to the Response Assessing the Response Follow-up Questions	17	Verbal (Zoom)

3.5.1. Data Collection Instruments for Survey

The following sections present the quantitative part of the data collection instruments. These instruments included a demographic information form and a Likert-scale survey named Questioning as a Teaching Method in the Preschool Classrooms (QTMPC) developed by the researcher (see Appendix C for the final version).

3.5.1.1. Demographic Information Form

The researcher developed a demographic information form containing questions about the participant teachers' years of experience, the types of schools they worked in, and their educational background (see Appendix C). Demographic data were collected through this form, and the characteristics of the participants were defined to reveal the overall picture.

3.5.1.2. Questioning as a Teaching Method in the Preschool Classrooms (QTMPC) Survey

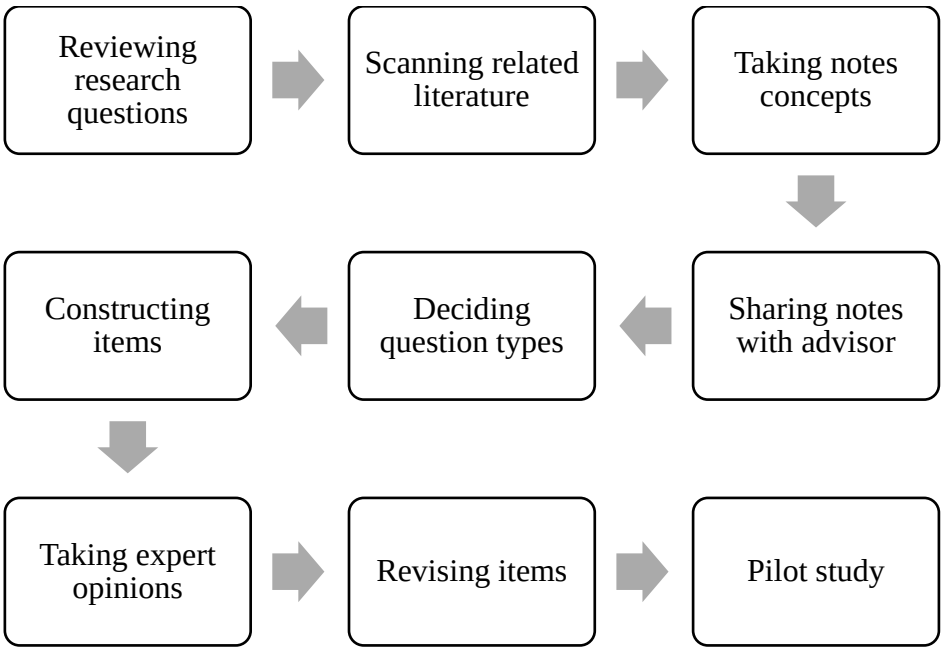
In order to investigate teachers' beliefs on questioning as a teaching method and its strategies of questioning cycle and question types, the Questioning as a Teaching Method in the Preschool Classrooms (QTMPC) survey was used (see Appendix C). This Likert-scale type survey investigates comprehensive beliefs on questioning as a teaching method. Its development procedures are explained below in detail.

3.5.1.2.1. QTMPC Survey Development Procedure

Before administering the survey, the researchers had followed several steps to develop it, as shown in Figure 3.4 (Fraenkel et al., 2015; Taherdoost, 2016).

Figure 3.4

The Development Process of the QTMPC Survey



Firstly, the purpose of the research and research questions were reviewed. Considering the purpose of the research, the researcher scanned related literature. The concepts and issues were noted during the review. Then, literature review notes were shared with the advisor. Later, researchers decided on the question types. Fraenkel et al. (2015) mentioned that the closed-ended questions are easy to code for analysis while constructing the survey. For this reason, the researcher created ordinal closed-ended questions. Dillman et al. (2014) stated that this question type is most commonly used in survey research because the researcher can measure gradations of beliefs. While measuring, they offer an appropriate scale length so that the participants can place themselves on it. For this reason, Dillman et al. (2014) generally offer a 5-Likert-type scale (1=never and 5=always).

The researcher developed 48 items, after which expert opinions were taken to ensure content-related validity evidence, as suggested by Fraenkel et al. (2012). The researcher submitted the items to the four experts for an in-depth evaluation based on the type of measurement tools, the suitability of the items, the suitability of theme titles, item options, and clarity of language. Also, the experts checked the appropriateness of the content and its congruence with research questions. The first

expert was an academician from the Department of Turkish philology. The other three experts were academicians from the Department of Early Childhood Education in different universities. After expert opinions, necessary modifications were made to the survey based on their feedback. At the end of the process, a survey with 36 items out of the 48 item-pool was prepared in order to investigate the in-service preschool teachers' beliefs regarding the questioning method and its two strategies, namely the questioning cycle and question types. The survey consists of various subgroups based on Fusco's (2012) questioning cycle dimensions. Table 3.10 demonstrates the sub-categories and related items used in the Questioning as a Teaching Method in Preschool Classrooms (QTMPC) survey.

Table 3.10

Sub-categories of Questioning as a Teaching Method in Preschool Classrooms

Sub-categories	Item numbers	Sample items
Planning Questions	2, 3, 4, 5, 6, 7, 8, 9, 10, 20	The preschool teacher ..... writes the questions they will ask in the activity plan.
Asking Questions	11, 12, 13, 16	The preschool teacher ……. asks questions for the active participation of the children.
Question Type	14, 15, 17, 18, 19	The preschool teacher…… asks open-ended questions in their activities. (eg. What do you think about the color red?)
Waiting Time	21, 22, 23, 24, 25	The preschool teacher ….. gives children time to think about the responses.
Listening to the Response	26, 27, 28, 29	When children do not understand the questions, the preschool teacher …… asks once more.
Assessing the Response	30, 31, 32, 33	The preschool teacher ……. gives feedback to the children regarding their responses.
Follow-up Questions	34, 35, 36	The preschool teacher …… uses questions to expand the topic.

All of these created items were designed in a web survey format. Although this was done due to the necessity caused by the Covid-19 epidemic, Dillman et al. (2014)

described the internet survey as the fastest rising form of surveying because most of the population uses the internet nowadays. Therefore, for this study, the researcher designed a web-based survey that the participants completed on their internet browser (Chrome, Firefox, Internet Explorer, Safari, and so on). The participants could participate in the survey via the Uniform Resource Loader (URL) sent to them. The limitations and assumptions are introduced in the following parts.

3.5.1.2.2. Pilot Study (Survey)

The purpose of the pilot study was to promote the effectiveness of conducting the survey. Also, piloting is valuable for detecting possible problems before the study (Fraenkel et al., 2012). For this study, a pilot survey was conducted with 210 in-service preschool teachers who were working in public schools in three different metropolitan cities, which are among Turkey's largest (Bursa, Istanbul, and Izmir). These cities were selected because their characteristics were similar to the city in the main study. The necessary permission was obtained from the METU Applied Ethics and Research Center before conducting the pilot study. The pilot study sample was selected using the purposive sampling method. After selecting the target sample for the pilot study, the researcher contacted school principals through telephone or email and informed them. Consequently, 210 preschool teachers completed the survey. The pilot study was also conducted as a web-based survey. Based on the participant's feedback, the survey was redesigned through Google Forms, and it was converted into an easier to read and fill format. There was no need for any change in the number and content of the items.

At the end of the pilot study, the researcher created a short URL link that enabled access through mobile devices or other technological devices. When the participant clicked the link, a welcome page was screened. There was a consent form on this screen that mentioned the details for the following part. The participants could then reach the demographic information form with the next button. The second next button opened the 5-Likert scale survey. Each participant filled out the survey once and could edit their responses. All responses were stored in a database of Google Forms.

3.5.2. Data Collection Instrument for the Interview

For the qualitative part of the study, the researcher collected data to interpret to what extend the findings have commonalities or differences from the survey part, as mentioned in the nature of the convergent (triangulation) mixed-method design (Creswell and Plano Clark, 2018). A semi-structured interview protocol was evaluated to comprise triangulation. The following section explains the qualitative part of the data collection instrument (interview). Based on the existing literature and the distinctive context of the study, the semi-structured interview protocol was developed by the researcher (see Appendix D).

3.5.2.1. Semi-structured Interview Protocol

This part of the study was conducted to gather information about the extent to which preschool teachers use the questioning method, questioning cycle and question types, the extent to which they report the questioning cycle components, the question types they asked, and their self-reports based on definition and context of question types and questioning cycle components. As Fetterman (1989) pointed out, interviews provide reliable data with first-hand information. Specifically, the researcher conducted semi-structured interviews to focus on teachers' self-reports regarding questioning cycle components and question types. In this type of interview, the researcher prepares open-ended questions and asks them in the same sequence but can add follow-up questions (Fraenkel et al., 2015). Salmons (2010) uses the gardener metaphor regarding the researcher who conducts the semi-structured interview. In the scope of the metaphor, the researcher as a gardener recognizes that harvest may not be possible without seeding. At the same time, the researcher assists seeds by offering appropriate weather, water, and soil conditions. Like the gardener, the researcher plants interview question seeds and encourages with their responses through appropriate follow-up questions.

In the convergent (triangulation) mixed-method design, Creswell and Clark (2018) refer to similar questions that should be asked between data collection instruments to be readily compared or merged. Therefore, the researcher formed the semi-structured interview protocol in scope with survey items. While developing the

interview protocol, certain stages were followed. First of all, the relevant literature was reviewed by the researcher. Secondly, the items and subgroups of the survey were taken into consideration while forming the interview questions. That is, the interview protocol was designed based on both the literature review and the sub-groups of the survey: planning questions, asking the question, question types, waiting time, listening to the response, assessing the response, and follow-up questions (Fusco, 2012).

The researcher planned an interview protocol that covered three parts, including 22 open-ended questions. In the first part, there are four demographic information questions. The second part includes questions to investigate teachers' questioning cycle components reports. In the last part, question-type related questions are included (see Appendix D for the last version). While developing the questions, the literature was kept in sight to decide the type of interview questions. Merriam and Tisdell (2017) suggested that the semi-structured interview should include open-ended questions rather than closed-ended ones. In addition to this, a sequence of questions was planned.

Parallel to the validation of the quantitative part, the interview protocol was also sent to four experts. Three of them were academics in the field of Early Childhood Education, and the fourth one was in Turkish philology. They examined content appropriateness and comprehensibility. Following their feedback, some questions were combined and revised, and some were eliminated.

3.5.2.1.1. Pilot Study (Interview)

The pilot study was conducted with three teachers to determine the final version of the semi-structured interview protocol. The participants who filled out the survey and volunteered for the qualitative part of the study were selected from the quantitative part. Because of the pandemic, the interview was conducted through a computer-mediated communication tool (CMC). All interview processes were audio and video recorded and carried out synchronously, enabling the researcher and participants to network in real-time. The web conferencing platform is also integrated with text chat and a sharable screen. Then, the researcher transcribed audio recordings to review and analyze them.

During the pilot study process, the researcher first introduced herself and mentioned the research topic. Then, she shared the consent form via the sharing screen application. Afterward, demographic information questions were asked. Following these, the questions were examined. Some were rearranged or removed at the end of the pilot study.

The following version of the protocol comprised 18 questions, including questions related to the sample's demographic characteristics. Participant teachers provided in-depth answers to 18 questions regarding using questioning as a teaching method, the definition of the questioning cycle, self-reported practices regarding questioning cycle components, and question types. The interviews lasted about 45-50 minutes. The researcher took some notes during the interview and recorded the answers with audio and video. Some interview questions are presented in Table 3.11 below:

Table 3.11

Example Questions from the Semi-Structured Interview Protocol

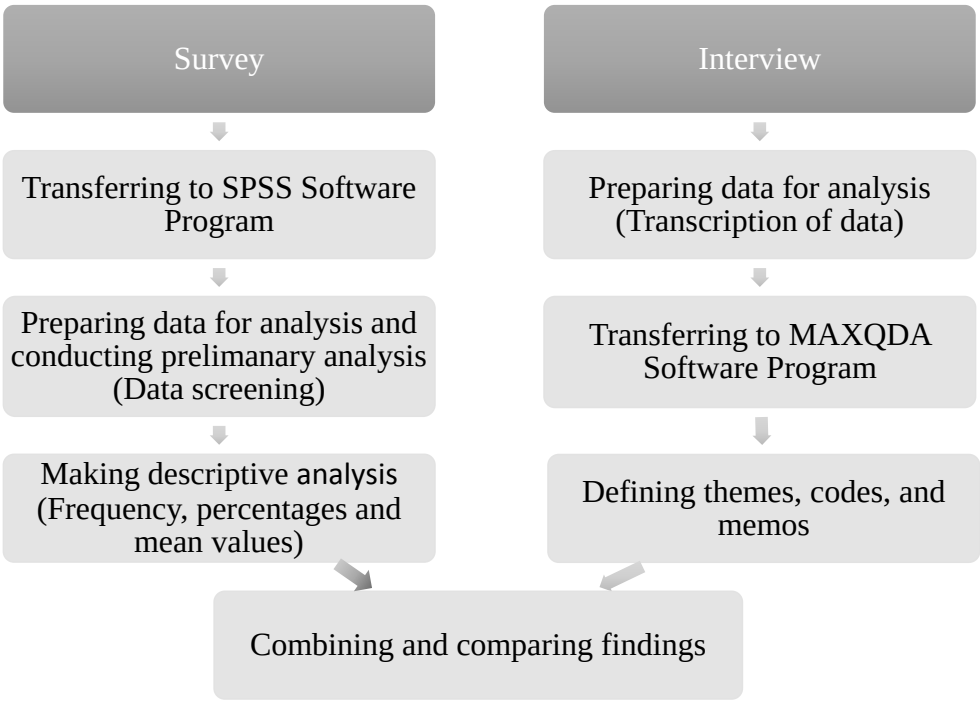
Aims	Sample Questions
• Using the questioning method in activities	- In your opinion, is it an appropriate method for early childhood education? Do you use it? - Is there any activity type that does not use the questioning method?
• Definition of Questioning Cycle	- What does the questioning cycle mean to you?
• Planning Questions	- Do you plan the questions before the activities? Is planning necessary?
• Asking Questions	- Why do you ask questions? What do you pay attention to while asking questions?
• Question Types	- Which question types do you use more? Why? - Can you please provide an example of open-ended and closed-ended questions?
• Waiting Time	-Is waiting time necessary after asking questions? Can you please share your opinions?
• Listening to the Response	- After asking questions, what do you pay attention to while children respond? Do you listen to them? If yes, while listening, what do you pay attention to?
• Assessing the Response	- Do you assess their responses? If yes, what do you pay attention to?
• Follow-up questions	- Imagine you ask questions and you do not reach the goal properly; what was another step?

3.6. Data Analysis Procedures

In the convergent (triangulation) mixed-method research design, quantitative and qualitative data are analyzed independently and then merged (Creswell and Clark, 2018). In this study, the researcher also analyzed survey and interview data independently, and then these data were compared. The analysis procedure is explained in Figure 3.5.

Figure 3.5

Data Analysis Procedures



After data collection was completed, the researcher prepared the data for analysis. To do this, the researcher followed the requirements of both quantitative and qualitative data analysis.

3.6.1. Analysis of Survey Data

For the survey part of the study, the researcher used IBM SPSS Statistics 24. The survey data were automatically stored in an excel file, and then this file was

transferred to SPSS. The researcher assigned numerical values, both for the demographic and Likert-scale parts of the study, and defined the variables. Then, the data were checked for errors, and errors in the file were found and corrected. After preliminary analysis, the demographic and Likert scale parts of the survey were investigated using descriptive statistics. Frequencies, percentages, and mean values were examined.

3.6.2. Analysis of Interview Data

In qualitative data analysis, including interview transcriptions, MAXQDA 2020 was used to analyze the data. There were parallel sub-groups with the survey as codes. Firstly, all interview audio recordings were transcribed. The researcher read the transcriptions several times in the MAXQDA 2020 software program. Memos were written to remember crucial data. Kuckartz and Radiker (2019) advised retrieving, reviewing, reflecting, and reducing the data. The researcher followed this rule during the data reduction process. The researcher organized and identified categories, themes, codes, and sub-codes to address research questions in this context. Using the MAXQDA program, the researcher continued line-by-line coding to find thematic similarities in the participants' data. This process took approximately two months to complete. Whenever possible, member checking was used to confirm whether the analysis from the participants represented accurate information. Merriam and Tisdell (2017) suggest that codes should be applicable, manageable, and well-defined, so the researcher paid attention to this suggestion. When the kappa statistic was calculated, the result was computed as .92 (almost perfect).

3.6.3. Comparative Analysis of Survey and Interview

Following the collection of data separately for the two parts (survey and interview) and analyzing them independently, a convergent (triangulation) design is required to compare these two data resources (Creswell and Plano Clark, 2018). The survey's sub-groups and interview themes and codes had comparable explanations. Consequently, these two types of analysis can easily be a side-by-side comparison.

The researcher compared the two sets of data to detect how these findings responded to the research questions for this part of the process. The MAXQDA 2020

software program was used to compare and combine the findings. The researcher also used tables and figures regarding commonalities and differences.

3.7. Ethical Considerations

Hesse-Biber (2010) recommends that ethical issues should be considered before and during research, that they should not be postponed but be discussed carefully and seriously. Regarding ethical considerations, the researcher took the following situations into account while conducting this study.

IRB Approval

The Institutional Review Boards' (IRB) role is to evaluate study proposals regarding participants and ensure that studies are applicable to humans and protect participants' rights and welfare (Trochim et al., 2016). For this reason, the researcher sought and obtained permission from the Ethical Committee of Middle East Technical University (see Appendix A). Then, the Ministry of National Education (MoNE) Research and Application Commission gave permission for the research and its application (see Appendix B).

Supervisor Interaction

The researcher endeavored to keep her supervisor up-to-date during the preparation and implementation of data collection instruments. She met her supervisor regularly and sought her opinion regarding the consent form, instrument items, questions and methods, and application of data collection.

Interests of Participants

The researcher kept the participants' attention during the interview. Although the participants were above the age of 18, the researcher informed them regarding the research process. Additionally, member-checking opportunities were offered. At the end of the interview, the researcher offered to share the research findings with them.

Consent Form

The researcher prepared the consent form to inform participants regarding the purpose and process of the research. Also, she provided information related to the benefits of the study. She ensured the participants that she would honor confidentiality and added that they had the right to reject or withdraw from the instrument at any time

or to ask questions regarding the items or questions. In other words, voluntary participation was essential.

Confidentiality

During the study, the researcher promised to protect participants' identities in the schools where they were working so that they would feel relaxed and comfortable while sharing their ideas.

Honest Representation

The researcher ensured the participants that she would represent the findings honestly and not revise any comments or quotations. She sent a written copy of the responses to the participants. In this way, the participants could confirm that the researcher had transferred their responses correctly.

3.8. Validity and Reliability

The researcher has the necessary quantitative and qualitative skills in mixed-method design as the data was collected and analyzed separately. For this reason, the results of validity and reliability for the quantitative part and credibility and trustworthiness for the qualitative part are given separately.

3.8.1. Validity and Reliability in the Survey

Validity implies the suitability, relevance, accuracy, and effectiveness of the interpretations a researcher makes. On the other hand, reliability refers to the stability of answers. These issues play a vital role in designing an instrument or conducting a research study (Fraenkel et al., 2012).

In the survey part of this study, the researcher investigated teachers' beliefs based on questioning as a teaching method regarding the questioning cycle and its components and question types. Pilot study were conducted (see page 70 for detail) to ensure validity.

Content-related Evidence of Validity (Instrument Validity): The instrument's content was considered, including transparency of printing, the precision of directions, and so on. Fraenkel et al. (2012) mentioned the necessity of expert opinion to obtain content-related validity. For this reason, the survey was sent to three experts from the early childhood education department. The researcher wrote an email to the experts to

define the research questions, samples, and a summary. The survey was sent to the experts at the times they specified as appropriate. The experts read and evaluated the survey by adding notes, corrections, and suggestions. The three expert opinion documents were then merged, and items and explanations were rewritten.

Internal Validity: Fraenkel et al. (2012) defined three possible threats in the survey type: mortality, location, and instrumentation. In this study, instrumentation posed a threat as the survey was transferred to an online tool due to the pandemic. To control this threat, the researcher contacted participants individually. Mortality was not a threat for this study because no participant dropped out of the survey. The location might have been a threat, but this threat was not controlled.

3.8.2. Trustworthiness in Interview Data

The analogs of validity and reliability are used as trustworthiness and rigor in qualitative research (Merriam and Tisdell, 2017).

Credibility (Internal Validity): Wolcott et al. (2009) define credibility as the association between research findings and the real world. Merriam (2001) suggests some strategies to increase internal validity. Triangulating different data sources is the first one. In the present study, the researcher used two different data collection instruments. In addition to this, triangulation was also provided. Patton (2015) states that in triangulation, two or more people analyze the data independently to compare the findings. According to Fraenkel et al. (2015), this type of triangulation improves the value of data and the interpretation accuracy. Also, the documents captured unexpected clues about the teachers' classroom practices (Stake, 2010). The second strategy is sufficient engagement in the data collection process. Merriam (2001) states that at a certain point in research, the researcher begins to hear the same things from the participants. No new information is collected, which means the process is saturated. In this study, the researcher continued to collect data until no new information was obtained from the participants. Thirdly, member checking was used to supply credibility. The researcher asked the participants whether the reports reflected accurate information or not. Participants confirmed that the information was reflected accurately.

Consistency (Reliability): Merriam (2001) defines reliability as related to replicating. In this study, the researcher used inter-coder agreement to supply consistency. Three different coders coded interview transcripts separately. Then, the researcher measured kappa statistics and calculated kappa values. McHugh (2012) writes that Cohen's Kappa values below ≤ 0 show no agreement and 0.01- 0.20 show none to slight agreement, while 0.21- 0.40 show reasonable agreement, 0.41-0.60 normal agreement, 0.61-0.80 considerable agreement, and 0.81-1.00 great agreement. For this study, the Cohen's Kappa result for the interview protocols was .92. Accordingly, intercoder reliability was accepted to be in practically great agreement.

3.9. Delimitations, Limitations, and Assumptions

Delimitations

Delimitation is defined as boundaries that are set by the researcher regarding what the research does not intend to do (Leedy & Ormrod, 2021). For this study, delimitations should be considered while interpreting the findings of the study.

The school types where potential participant teachers were working were delimited as only public schools. In other words, the data were collected only from public-school teachers, and teachers working in private schools were not included in this study. This issue was delimited because some private-school teachers implement structured activities. Also, they may follow different alternative early childhood education approaches.

Limitations

In addition to delimitations, there were several limitations which are defined as potential weaknesses out of the researchers' control (Leedy & Ormrod, 2021). Firstly, the study data were collected through the internet because of the Covid-19 pandemic, as mentioned above. Regarding this limitation, Adalı et al. (2021) emphasize that researchers had already been discussing the advantages and disadvantages of internet survey research before the pandemic. One of the disadvantages is related to accessibility, but recent studies argue that people have easy access to the Internet with telephones, tablets, or other devices these days. Therefore, online surveys and e-

interviews, which researchers commonly prefer to use these web-based tools, are easily accessible to participants (Dillman et al., 2014; Salmons, 2010).

Secondly, in the survey part of the study, the researcher selected participants from only three central districts of Ankara. For this reason, generalization is limited to only these three districts of Ankara. On the other hand, no male preschool teacher completed the survey. In addition to these issues, although all participant teachers had graduated from ECE-related departments, approximately 10% of them held a master's degree, and only 1% of them held a doctoral degree. These district-related, gender-related, and graduation-related limitations should be considered while interpreting the findings.

Assumptions

Leedy and Ormrod (2021) introduced assumptions as things that are accepted as real or true. In this study, the researcher assumed that all participant teachers expressed their beliefs and self-reported practices honestly and consistently.

3.10. Chapter Summary

In this chapter, the researcher referred to the methodology of the current study. Considering the purpose of the study and literature review, a convergent (triangulation) mixed-method design was chosen. The researcher identified three research questions, and to investigate these questions, sample selection, data collection instruments, data analysis procedures, and validity and reliability issues were identified. Lastly, the delimitations, limitations, and assumptions were described. The following chapter represents the reports of findings.

CHAPTER 4

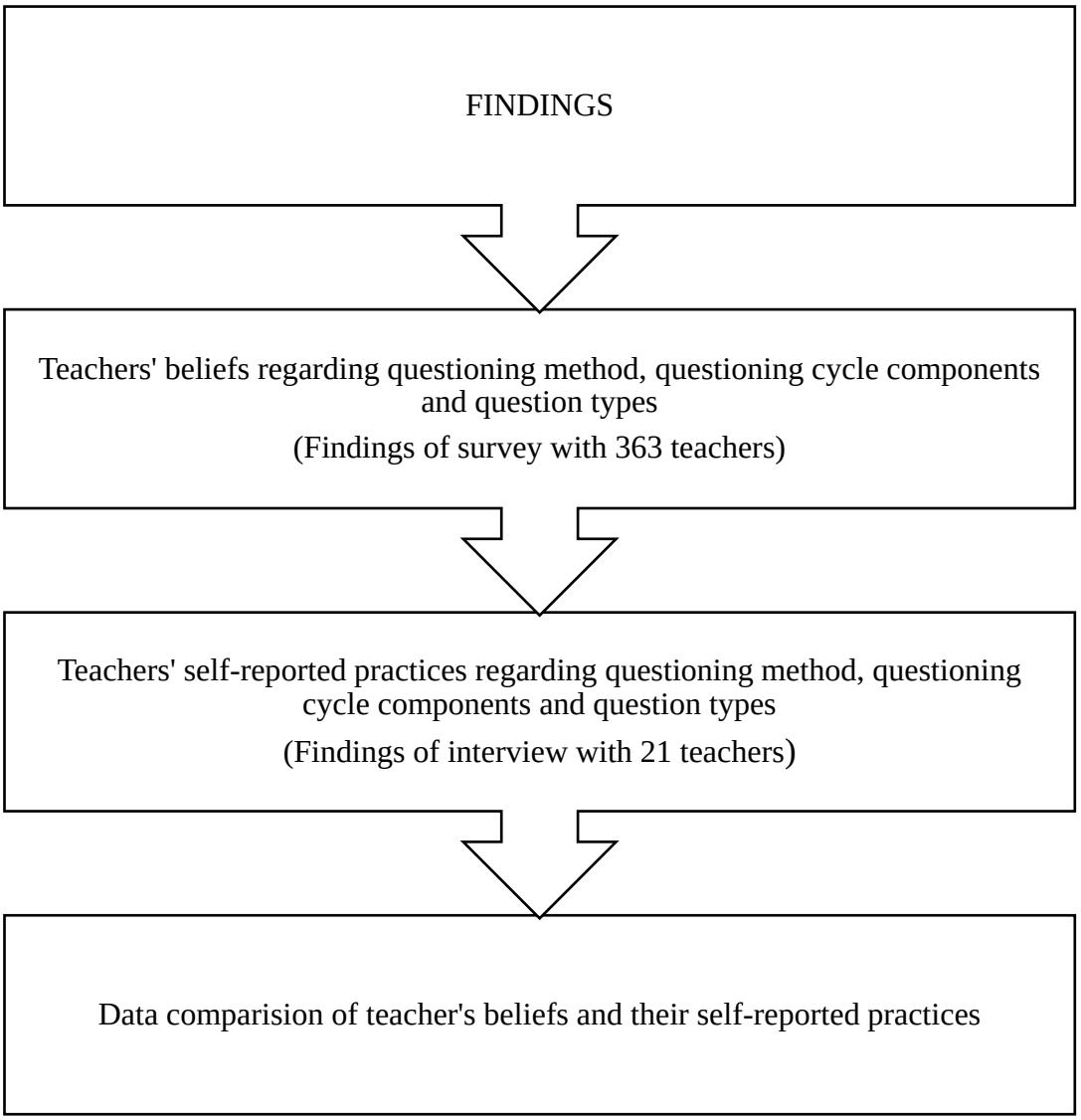
FINDINGS

This study aimed mainly at investigating teachers' beliefs and self-reported practices regarding questioning as a teaching method and its two strategies: questioning cycle and question types. In accordance with this aim, this chapter presents the findings obtained from the data analysis.

In response to the first research question, preschool teachers' beliefs on questioning as a teaching method are presented. Findings are given within the scope of question types, and question cycle components are reported. Secondly, in response to the second research question, findings related to preschool teachers' self-reported practices regarding questioning as a teaching method and its two strategies, questioning cycle components and question types, are reported. Lastly, findings regarding commonalities, partially commonalities, and differences between preschool teachers' opinions and self-reported practices are presented (see Figure 4.1).

Figure 4.1

The Sequence of Presenting Findings



4.1. Teachers' Beliefs Regarding Questioning Method, Questioning Cycle Components, and Question Types (Survey Findings)

In this part of the study, findings that were obtained from the QTMPC survey are presented to focus on the first research question: What are preschool teachers' beliefs

on questioning as a teaching method in terms of general use of questioning, questioning cycle components, and question types as questioning strategies? As reported in the previous chapter, the preschool teachers' beliefs were investigated to provide a perspective. Descriptive statistics were utilized to organize, present, and analyze the survey data. The researcher screened the data regarding errors, missing values, and outliers. After screening the data, in-service preschool teachers' beliefs about questioning cycle components and question types as a teaching method were analyzed under the subgroups of (a1) use of questioning (1 item), (b1) planning question (10 items), (b2) asking question including question types (9 items), (b3) waiting time (5 items), (b4) listening to the response (3 items), (b5) assessing the response (4 items), (b6) follow-up question (4 items), and (c1) question types (2 items) as shown in Table 4.1.

Table 4.1

Descriptive Statistics for the Survey Sub-Groups

Sub-groups	Number of Items	M
General use of Questioning	**1**	**4,36**
Questioning Cycle	**33**	**-**
Planning Questions	10	3,70
General Understanding	2	4,01
Developmental Considerations	5	4,15
Issues to be Considered	3	3,40
Asking Questions	7	4,35
Developmental Considerations	5	4,36
Issues to be Considered	2	4,33
Waiting Time	5	4,1
Listening to the Response	3	3,75
Assessing the Response	4	4,07
Follow-up Questions	4	3,82
Question Types	**2**	**-**
Open-Ended	1	4,29
Closed -Ended	1	2,01

4.1.1. Teacher Beliefs on the Use of Questioning

The majority of teachers (n=324) in the sample believed that preschool teachers always or often use the questioning method in their activities (M=4,36, 89,7%). Nearly half of them (47,6%) believe that teachers always use the questioning method. On the other hand, two participant teachers mentioned that teachers never use the questioning method (0,6%). These two participants were removed for the following findings because they believed that preschool teachers never use the questioning method. The details can be seen in Table 4.2.

Table 4.2

Descriptive Statistics for the Use of Questioning Method

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
1	The preschool teacher ..... uses the questioning method.	4,36	2	0,6	2	0,6	35	9,6	152	42,1	172	47,6

4.1.2. Teachers Beliefs on Questioning Cycle Components

Teacher beliefs regarding the questioning cycle were investigated in the scope of the cycle's components. In the following part of the study, teacher beliefs regarding questioning cycle components (planning questions, asking questions, waiting time, assessing the response, follow-up questions) are demonstrated through descriptive statistics.

4.1.2.1. Planning Questions

For the planning questions component, detailed descriptive findings were demonstrated. The planning questions stage was investigated through 10 items of the survey in three sub-groups: (1) general understanding, (2) developmental considerations, and (3) issues considered while planning question.

4.1.2.1.1. General Understanding (Planning Questions)

The participants believed that preschool teachers generally plan the questions which they ask in the activities (M=4,01, 71,5%). Further, 39,9% of them expressed that preschool teachers always write questions in their activity plans. On the other hand, a very small number of the teachers believed that preschool teachers never write questions that they will ask in an activity (1,9%). Nearly half of the participant teachers claimed that teachers never or rarely ask questions not included in the activity plan (M=2,94, 42,1%). Moreover, almost one-fifth of them believed that teachers never ask questions that they did not plan (n=62, 17,2%). One-tenth of the participants believed that preschool teachers always ask questions they did not write in the activity plan (n=46, 12,7%) (see Table 4.3).

Table 4.3

Descriptive Statistics for Planning the Questions

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
2	The preschool teacher ..... writes the questions they will ask in the activity plan.	4,01	7	1,9	23	6,4	73	20,2	114	31,6	144	39,9
3*	The preschool teacher..... asks questions not included in the activity plan.	2,94	62	17,2	90	24,9	62	17,2	101	28	46	12,7

*This item is reversed.

4.1.2.1.2. Developmental Considerations (Planning Questions)

In the following part of the survey, the researcher investigated developmental considerations while planning questions. These five items (4, 5, 7, 8, and 9) and a detailed descriptive analysis of these items are presented in Table 4.4.

Concerning developmental considerations, the majority of the teachers believed that preschool teachers consider the individual differences (M=4,53, 90,9%)

and needs (M=4,54, 91,9%) of children while planning questions. Additionally, more than half of the teachers believed that the activity plan should include more than one developmental area related to children's developmental needs (M= 4,39, 90%).

Another sub-group of planning questions inquired whether the developmental issues (goals and indicators of the curriculum) were considered by teachers. According to the findings, most of the participant teachers believed that preschool teachers plan their questions based on goals and indicators (M=4,18, 80,6%). Only one believed that preschool teachers never plan their questions in line with goals and indicators. On the other hand, only 15,5% of participants mentioned that preschool teachers never plan questions unrelated to goals and indicators (see Table 4.4).

Table 4.4

Descriptive Statistics for Planning the Questions (Developmental Considerations)

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
4	The preschool teacher ..... considers the children's differences (age, gender, stage, and so on).	4,53	1	0,3	3	0,8	29	8	97	26,9	231	64
5	The preschool teacher ..... considers the children's needs (interests, language, cognitive abilities, and so on).	4,54	1	0,3	3	0,8	25	6,9	103	28,5	229	63,4
7	The preschool teacher ..... includes questions in the activity plan for more than one development area of children (cognitive, emotional, social, language, self-care, and psychomotor development).	4,39	-	-	3	0,8	33	9,1	146	40,4	179	49,6
8	The preschool teacher ..... plans questions based on the goals and indicators.	4,18	1	0,3	12	3,3	57	15,8	142	39,3	149	41,3
9*	The preschool teacher ..... includes questions that are not related to goals and indicators.	2,91	56	15,5	88	24,4	102	28,3	63	17,5	52	14,4

*This item is reversed.

4.1.2.1.3. Issues Considered (Planning Questions)

Three survey items (6, 10, and 11) were associated with issues considered while planning the questions. Detailed findings are demonstrated in Table 4.5.

The findings revealed that participant teachers believed preschool teachers foresee possible answers to the questions which they planned (M=3,86, 68,1%). For this item, only eight teachers (2,2%) responded that preschool teachers never foresee the responses of planned questions. On the other hand, more than one-fourth of preschool teachers reported that teachers never care about the word count of the questions (M=2,55, 28%). On the other hand, 10,5% of participants said teachers always keep wordage in their mind while planning questions (n=38) for the last item of this sub-group. In addition, 63,1% of the participant teachers believed preschool teachers generally explore possible answers to the questions they planned (M=3,78). One-third of them expressed that preschool teachers always explore possible answers (n=112, 31%). Nine participant teachers believed that preschool teachers never explore the responses to the questions they planned for the activity (2,5%).

Table 4.5

Descriptive Statistics for the Planning the Questions (Issues Considered)

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
6	The preschool teacher.....foresees the answers to the questions she/he designed for the activity plan.	3,86	8	2,2	30	8,3	77	21,3	134	37,1	112	31
10	The preschool teacher ..... cares about the word count of the questions she/he designed for the activity plan.	2,55	101	28	85	23,5	88	24,4	49	13,6	38	10,5
11	The preschool teacher ..... searches for the answers to the questions she/he designed for the activity plan.	3,78	9	2,5	39	10,8	85	23,5	116	32,1	112	31

4.1.2.2. Asking Question

The next component of the questioning cycle that comes after planning is asking questions. In this regard, the related items were investigated in two sub-categories: (1) goal relevance and (2) issues considered while asking questions. The details are shown below.

4.1.2.2.1. Goal Relevance (Asking Question)

In the context of goal relevance, while asking questions, the detailed findings are shown in Table 4.6. Five items (12, 13, 17, 18, and 19) in the survey focused on the question why teachers ask questions. The items were created considering these dimensions: Arousing interest, class dynamics, what facts children remembered, what facts children know, and sharing feelings.

Most of the survey participants believed that preschool teachers generally ask questions to arouse children's interest and curiosity (M=4,46, 91,3%). More than half claimed that teachers always ask questions to arouse children's interest (n=204, 56,5%). Moreover, the majority of participants reported that the activity is more lively when teachers ask questions during it (M=4,42, 91,9%). More than half of the participants specifically mentioned that if teachers ask questions during the activity, it becomes livelier (n=192, 53,2%). Furthermore, a large proportion of teachers mentioned that teachers ask questions to assess whether the children are learning (M=4,29, 84,2%), to determine what the children know (4,31, 86,4%), and to understand how they feel about the activity (M=4,33, 85,3%) (see Table 4.6).

Table 4.6

Descriptive Statistics for Asking Questions (Goal Relevance)

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
12	The preschool teacher ..... asks the questions to arouse interest and curiosity during the activity plan process.	4,46	1	0,3	2	0,6	32	8,9	122	33,8	204	56,5
13	The preschool teacher ……. asks questions for the active participation of the children.	4,42	1	0,3	5	1,4	27	7,5	136	37,7	192	53,2
17	The preschool teacher ..... asks the questions to assess whether the children have learned what she/he have aimed.	4,29	1	0,3	9	2,5	47	13	132	36,6	172	47,6
18	The preschool teacher ..... asks the questions to find out what the children know and do not know.	4,31	-	-	5	1,4	44	12,2	146	40,4	166	46
19	The preschool teacher ..... asks the questions to understand how children feel about the activity.	4,33	-	-	2	0,6	51	14,1	135	37,4	173	47,9

4.1.2.2.2. Issues Considered (Asking Question)

There were two items (16 and 20) on the issues considered while asking questions. As demonstrated in Table 4.7, they were about whether the teachers asked the questions to the whole class or not and whether the teachers knew the correct answers or not.

A remarkable part of the participants believed preschool teachers generally ask questions to the whole class (M=4,30, 85%). Notably, nearly half of the participants mentioned that preschool teachers always pose questions to the whole class (n=174, 48,2%). On the other hand, only one participant teacher believed that preschool teachers never direct a question to the whole class (M=2,85, 0,3%). Concerning having a comprehensive knowledge item, the majority of the teachers believed preschool teachers generally know the correct answer to questions which they asked (M=4,37, 86,4%). Specifically, more than half of the participants said preschool teachers always know the correct answer to their questions. In contrast, only 3 participant teachers (0,8%) believed that preschool teachers never know the correct response to the questions which they ask.

Table 4.7

Descriptive Statistics for Asking Questions (Issues considered)

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
16	The preschool teacher ..... asks the questions to the whole class.	4,30	1	0,3	9	2,5	44	12,2	133	36,8	174	48,2
20	The preschool teacher ..... knows the correct answer to the questions she/he asked.	4,37	3	0,8	7	1,9	39	10,8	117	32,4	195	54

4.1.2.3. Waiting Time

In order to understand the beliefs of teachers regarding waiting time, five questions (21, 22, 23, 24, 25) were asked to the participants. The analysis revealed that 60,9% of participant teachers believed preschool teachers always give children time to think after asking questions (M=4,47, n=220). Moreover, most participant teachers believed that preschool teachers generally give children more than 3 seconds to think (M=4,20, 79,8%). Only three teachers stated that preschool teachers never wait for children for more than 3 seconds (0,8%). Concerning these findings, a minority of the participants pointed out that preschool teachers do not make a prediction about how long they should wait (M=2,38, 6,4%). In other words, most participant teachers believed that preschool teachers generally predict how long they should be waiting after asking questions (n=213, 59%).

On the other hand, there were two items (24 and 25) regarding waiting time according to question types. The analysis revealed that a considerable proportion of teachers believed preschool teachers generally allow time to think after asking open-ended questions (M=4,49, 90%). Mainly, 61,2% of the participant teachers reported that preschool teachers always allow waiting time after asking open-ended questions (n=221). Only one participant teacher said preschool teachers never allow waiting time after asking open-ended questions. However, almost 16% of the participant teachers mentioned that preschool teachers always give time to think after asking closed-ended questions (M= 2,70, 16,9%). More than one-fourth of participant teachers believed preschool teachers never give children time to think after asking closed-ended questions (n=95, 26,3%). Related to the waiting time sub-group items, a comprehensive analysis is shown in Table 4.8.

Table 4.8

Descriptive Statistics for Waiting Time

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
21	The preschool teacher …….. gives children time to think about the responses.	4,47	1	0,3	7	1,9	35	9,7	98	27,1	220	60,9
22*	After asking the question, the preschool teacher..... does not predict how long she/he will have to wait for it to be answered.	2,38	98	27,1	115	31,9	85	23,5	40	11,1	23	6,4
23	The preschool teacher ..... waits more than 3 seconds after asking the questions.	4,2	3	0,8	4	1,1	66	18,3	132	36,6	156	43,2
24	The preschool teacher ..... gives the children time to answer after asking closed-ended questions.	2,7	95	26,3	90	24,9	67	18,6	48	13,3	61	16,9
25	The preschool teacher ..... gives the children time to answer after asking open-ended questions.	4,49	1	0,3	5	1,4	30	8,3	104	28,8	221	61,2

*This item is reversed.

4.1.2.4. Listening to the Response

There were three items (26, 27, and 29) in the survey regarding listening to the response component of the questioning cycle. The analysis revealed that most respondents believed that preschool teachers generally clarify their questions according to the children's responses (M=4,10, 76,2%). 39,6% of total respondents believed that preschool teachers always formulate clear questions based on the children's responses (n=143). On the other hand, only 2 of the teachers (0,6%) mentioned that teachers never clarify their questions, and 16 of them (4,4%) mentioned that teachers rarely revise their questions according to children's answers. Moreover, teachers believed that preschool teachers generally reword the questions if children do not understand them (M=4,39, 87,2%). Specifically, more than half of the respondents believed preschool teachers always word their questions in a different way if it has not been understood by young learners (n=199, 55,1%). For the last item, nearly half of all respondents believed that preschool teachers generally do not compare children's responses to the response they have in their minds (M=2,76, 48,2%). 26,9% of the total respondents believed preschool teachers never compare the children's responses and their own responses (n=97, 26,9%). 17,2% of the participant teachers (n=62) believed that preschool teachers always compare their own responses and children's responses. Table 4.9 illustrates teachers' beliefs on the listening to the response component in the questioning cycle.

Table 4.9

Descriptive Statistics Regarding Listening to the Response

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
26	The preschool teacher ..... clarifies the questions she/he asked according to the children's responses.	4,1	2	0,6	16	4,4	68	18,8	132	36,6	143	39,6
27	When children do not understand the questions, the preschool teacher …… asks them differently.	4,39	2	0,6	7	1,9	37	10,2	116	32,1	199	55,1
29	The preschool teacher ..... compares the answers given by the children and his/hers.	2,76	97	26,9	77	21,3	66	18,3	59	16,3	62	17,2

4.1.2.5. Assessing the Response

Regarding assessing the response component of the questioning cycle, there were four items (30, 31, 32, and 33) to investigate preschool teachers' beliefs. The teachers believed that preschool teachers generally give children some clues if children have difficulty in answering the question (M=4,34,83,9%). More than half of the teachers believed preschool teachers always give children some clues if they seem to experience difficulties while responding to questions (n=191, 52,9%). Only 2 of the teachers believed preschool teachers never give any clue to children (0,6%). For the second item of this component, they believed preschool teachers commonly give feedback about the children's responses (M=4,53, 90,8%). Almost two-thirds of the respondents believed preschool teachers always give feedback to children's responses (n=229, 63,4%). Only one participant teacher believed preschool teachers never give feedback to children's responses. The participant teachers reported that teachers generally assess their questions' comprehensibleness based on the children's responses (M=4,43, 91%). While more than half of the teachers believed that preschool teachers always make inferences regarding their questions' comprehensibility (n=198, 54,8%), only one teacher believed preschool teachers never make any inferences (0,3%). Moreover, more than half of the teachers mentioned that preschool teachers generally do not immediately correct a child's response if the answer is incorrect (M=2,48, 56,5%). One-tenth of the participants believed preschool teachers always correct children's responses immediately when right if they answer they answered incorrectly (n=33, 9,1%).

Table 4.10

Descriptive Statistics Regarding Assessing the Response

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
30	If the children have difficulty answering the questions, the preschool teacher ..... gives them a clue.	4,34	2	0,6	6	1,7	50	13,9	112	31	191	52,9
31	The preschool teacher ……. gives responses regarding the questions she/he asked.	4,53	1	0,3	4	1,1	28	7,8	99	27,4	229	63,4
32	By using the answers that the preschool teacher received from the children, she/he ..... makes inferences about whether her/his question was understood correctly.	4,43	1	0,3	3	0,8	32	8,9	127	35,2	198	54,8
33*	When a child answers the question incorrectly, the preschool teacher ..... immediately makes it right.	2,48	98	27,1	106	29,4	76	21,1	48	13,3	33	9,1

*This item is reversed.

4.1.2.6. Follow-up Questions

There were four items (28, 34, 35, and 36) in the survey aiming to investigate teachers' beliefs on follow-up questions. According to the findings, almost all participants believed preschool teachers mostly let the children ask questions (M=4,57, 91,1%). Two-thirds of the participants said preschool teachers always let the children ask questions (n=243, 67,3%). Only one of the participants said teachers never let the children ask any questions (0,3%). Participant teachers' beliefs were equally distributed (M=3,07). Put differently, fifteen percent of respondents remarked that preschool teachers never ask more questions in order for the children to give different responses (n=54, 15%). Roughly one-fifth of the respondents believed preschool teachers rarely ask follow-up questions so that children can respond differently (n=77, 21,3%). On the other hand, more than one-fifth of the participants believed preschool teachers always ask further questions so that the children can give different answers (n=73, 20,2%). Almost half of the respondents believed that preschool teachers generally ask follow-up questions because they have more than one answer (M=3,36, 46,8%). On the other hand, 5% of participants mentioned that preschool teachers never ask follow-up questions (n=18). The participant teachers believed that preschool teachers always use questions to expand the topic (M=4,26, 44,9%). Only 2 of the participants said teachers never use questions to expand the topic (0,6%). Table 4.11 represents participant teachers' beliefs regarding follow-up questions.

Table 4.11

Descriptive Statistics Regarding Follow-up Questions

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
28	The preschool teacher ..... lets the children ask questions.	4,57	1	0,3	2	0,6	29	8	86	23,8	243	67,3
34	The preschool teacher ..... asks more questions so that the children can give different answers.	3,07	54	15	77	21,3	93	25,8	64	17,7	73	20,2
35	The preschool teacher's questions had more than one answer, so she/he asked follow-up questions.	3,36	18	5	59	16,3	115	31,9	114	31,6	55	15,2
36	The preschool teacher …… uses questions to expand the topic.	4,26	2	0,6	6	1,7	50	13,9	141	39,1	162	44,9

4.1.3. Teachers' Beliefs on Question Types

Table 4.12 provides detailed information about teachers' beliefs on question types. There were two items (14 and 15) in the survey addressing this issue.

The minority of participant teachers believed that preschool teachers rarely use open-ended questions (1,7%), and most of them believed that preschool teachers generally asked open-ended questions in their activities (M=4,29, 84,2%). Nearly half of the participants believed that preschool teachers always ask open-ended questions in the activities (n=166, 46%). There is no participant who mentioned that teachers never ask open-ended questions in their activities.

The analysis revealed that the majority of participants believed preschool teachers do not prefer to ask closed-ended questions in the activities (M=2,01, 72,8%). Nearly half of the total respondents believed preschool teachers never ask closed-ended questions (n=143, 39,6%). Only 3,6% of participants reported that preschool teachers always use closed-ended questions (n=13).

Table 4.12

Descriptive Statistics for Question Types

#	Item	M	Never		Rarely		Sometimes		Often		Always	
			f	%	f	%	f	%	f	%	f	%
14	The preschool teacher…… asks open-ended questions in their activities. (eg. What do you think about the color red?)	4,29	-	-	6	1,7	51	14,1	138	38,2	166	46
15	The preschool teacher ..... asks closed-ended questions in the activities. (eg. Is red a color?)	2,01	143	39,6	120	33,2	63	17,5	22	6,1	13	3,6

4.2. Teachers' Self-Reported Practices Regarding Questioning Method, Questioning Cycle Components, and Question Types

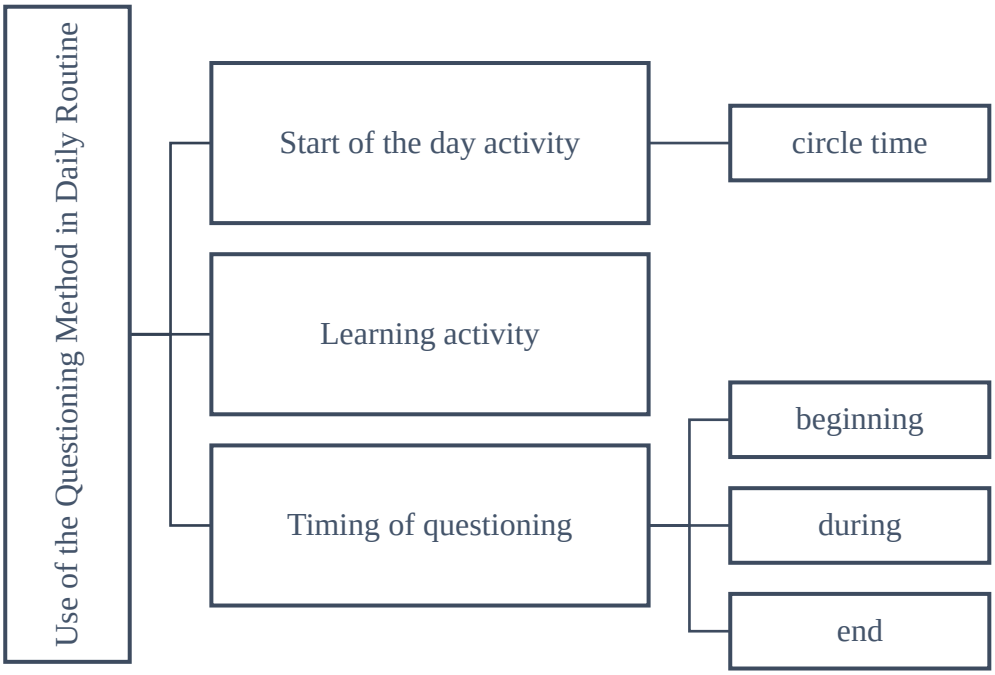
The self-reported practices of the 21 preschool teachers about the use of the questioning method in their activities, the questioning cycle and its components, and question types were investigated with an interview protocol. To analyze all of the collected data, common themes and key codes were found. These themes and codes were finalized, as demonstrated in related sessions. In this context, teachers' self-reported practices regarding the general use of questioning were revealed. Then, their self-reported practices based on the questioning cycle and its components and question types were reported.

4.2.1. Teachers' Self-Reported Practices on the Use of Questioning

Parallel to the first research question of the survey, the researcher asked participant teachers questions to obtain a holistic viewpoint regarding teachers' general use of questioning method practices: 'Do you use the questioning method? In which types of activities do you use it more, and in which activities do you use it less or never? In what parts of the activity do you use it?' All of the teachers (n=21, 100%) who participated in the interview reported that they always used the questioning method during their activities, and they reported their ways in a detailed manner. Participants' point of views emphasized the following themes: (1) start of the day activity, (2) learning activity, and (3) timing of questioning, as shown in Figure 4.2:

Figure 4.2

Themes and Sub-Themes Regarding Teachers' Self-Reported Practices on the Use of the Questioning Method



Teachers' self-reported practices on the general use of the questioning method are demonstrated in Table 4.13. Based on teachers' self-reported practices, participants mentioned circle time as a start of the day activity. On the other hand, a learning activity may include different activity types (e.g., language, math, science, field trip, literacy, and so on) defined by the MoNE (2013). Moreover, teachers' preferences about the timing of questioning in the activity (beginning, during, and end) were examined.

Table 4.13

Descriptive Findings on the Use of Questioning in Daily Routine

Themes and Codes	N	%
Start of the Day		
Type of daytime where questioning is used:		
circle time	14	66,7

Table 4.13 (continued)

Themes and Codes	N	%
Learning Activity		
Type of activity where questioning is used:		
movement activity	1	4,8
play activity	7	33,4
art activity	2	9,5
literacy activity	4	19,1
math activity	3	14,3
science activity	13	61,9
language activity	19	90,5
drama activity	6	28,6
music activity	3	14,3
field trip activity	0	0
Type of activity where questioning is not preferred:		
movement activity	13	61,9
play activity	7	33,3
art activity	11	52,4
literacy activity	0	0
math activity	0	0
science activity	1	4,8
music activity	1	4,8
drama activity	1	4,8
field trip activity	0	0
language activity	0	0
Timing of Questioning		
Time of activity in which teachers prefer to use questioning:		
beginning of the activity	16	76,2
during the activity	5	23,8
end of the activity	12	57,1

Table 4.13 (continued)

Themes and Codes	N	%
Time of activity in which teachers do not prefer to use questioning:		
beginning of the activity	2	9,5
during the activity	13	61,9
end of the activity	1	4,8

4.2.1.1. Use of Questioning in Start of the Day and Learning Activities

Participant teachers mentioned that they generally use the questioning method in their activities. As demonstrated in Table 4.13, most of the teachers mentioned that they use the questioning method as they start the day, although it is not strictly defined as an activity type. On the other hand, participants pointed out some activities where they did and did not prefer to use the questioning method. The findings are demonstrated in Table 4.14 in a detailed way.

Table 4.14

Teachers' Self-Reported Practices of Questioning in Start of the Day and Learning Activities

Theme	Category	Codes	Example Quotations from Participants
Start of the Day Activity	Type of daytime where questioning is used	Circle time (n=14)	As preschool teachers, we use the questioning method when we sit in a circle in our morning routines. For instance, we may talk about the weather. "What did you do at home? How is the weather today?" I ask. (T21)
Learning Activity	Types of activity where questioning is used	Movement (n=1)	Even if the questioning method is thought to be the least used in physical activities, I actually use the method quite a lot in such activities. For instance, "How would it be if we did that movement in this way? What would it be like if we did that movement?" I get the kids to act out. That is very useful. (T8)
		Play (n=7)	I use this method in play activities. Before starting the play activity, I ask children who would play, and I also ask about the rules of the play. At the end of the play, I ask, "What did we play? What were the rules?" (T4)
		Art (n=2)	One of the children asks me, "Where should I stick its eye, teacher?" I respond: "I do not know." Then I ask, "Where can be the best place for an eye?" I use the questioning method in this way. (T17)
		Literacy (n=4)	I generally use this method in literacy activities. More specifically, while describing or talking about concepts. I ask, "Why is this bigger? Why is this smaller? Alternatively, can you please draw a line?" I ask questions like these. (T10)
		Math (n=3)	You know, there are operations in math activities like addition or subtraction. I generally use the questioning method while teaching these operations. For example, I ask, "I have two apples, and my friend gave me two more. How many apples do I have?" (T12)
		Science (n=13)	The questioning method is excellent in science activities. For example, I use it when teaching intermediate colors and mixing two colors. I paint the children's hands. I apply a different paint to the other hand. Then I say to the children: "These two colors collided. They found a third friend. I ask, what color do you think their friend will be? (T16)

Table 4.14 (continued)

Theme	Category	Codes	Example Quotations from Participants
Learning Activity	Types of activity where questioning is used	Language (n=19)	I read a story to children. Children's books have some messages to inspire and inform children. You know, these might be related to respect, tolerance, or, I do not know, social responsibility or sharing. I usually read these kinds of stories. After reading those stories, I ask questions to the children about the book's messages. (T1)
		Drama (n=6)	We are doing a drama activity during disability awareness week. We always ask children questions during the activity. (T20)
		Music (n=3)	Sometimes I turn on music for children. When I stop it, I ask, "She is a famous pianist. How did you feel while listening to her?" Every child responds. (T14)
	Types of activity where questioning is not preferred	Movement (n=13)	If we are going to do a warm-up exercise, the children must follow in silence. She/He should be quiet, and she/he needs to listen. It is not a place for questioning. (T21)
		Play (n=7)	I do not use the questioning method during play because play activities have some rules, and we just play. (T7)
		Art (n=11)	We use this method during certain activities, but there is no need to ask questions in arts activities. These activities should be individual. If you ask questions to the child during these activities, she/he will be distracted. (T7)
		Science (n=1)	Let us say the teacher does an experiment. The teacher should not ask a question like, "I wonder what this water will be?" Children may not guess or answer. It is an unpredictable activity. I mean, science activities are unpredictable. It is not appropriate to ask questions in these types of activities. You will show, and the children will watch. That is what needs to happen. (T3)
		Music (n=1)	In music activities, I do not use questions. It is necessary to let the children flow there. They can dance freely. Teachers should not ask any questions. (T4)
		Drama (n=1)	Especially in drama activities, I do not wish to interrupt the children, so I do not ask any questions. I expect them to engage in dialogue. There is a flow. (T15)

Circle time is perceived by most of the participant teachers as an activity type. The teachers (n=14, 66,7%) mentioned they generally use the questioning method during circle time. T21 stated that she used the questioning method at the start of the day by asking about the weather or children's past experiences.

Learning activities reported by teachers under the category of 'type of activity where questioning is used' were analyzed under several codes based on activity types (language, movement, play, art, literacy, math, and so on). Most of the teachers use questioning method in language (n=19, 90,5%) and science (n=13, 61,9%) activities (see Table 4.13). Teachers especially use the questioning method after reading books, and they reported to ask questions related to the books which they read. Concurrently, teachers (61,9%) also reported they prefer to use questioning while doing experiments in science activities. One of the participant teachers (4,8%) emphasized that she uses the questioning method in movement activities, and she mentioned, 'even if the questioning method is thought to be the least common in these activities, she prefers to use it mostly during them. Play is another activity type where teachers (n=7, 33,4%) prefer to use the questioning method. For example, T4 claimed that she uses questions related to the rules of play or to understand the play's characteristics. Another activity type where the questioning method is used is art. Two of the participant teachers (9,5%) claimed they ask questions during the art activities and T17 said she asks questions based on children's artistic work. Four of the participant teachers (19,1%) emphasized they ask questions in literacy activities and T10 specifically mentioned she asks questions while teaching or talking about concepts. Math activity is another activity type in which teachers (n=3, 14,3%) prefer to use the questioning method. For instance, T12 claimed that she asks questions about math concepts or she asks 'mathematical operations' to children. Another activity type where the questioning method is used is drama. Six of the teachers (28,6%) stated that they ask questions in drama activities. Teachers (n=3, 14,3%) also mentioned using questioning methods in music activities. For example, T14 claimed she turns on music, and she asks questions regarding the musicians and the type of music to the children. On the other hand, none of the teachers who participated in the interview reported any practices based on field trip activities.

Another learning activity reported by the teachers was related to the 'type of activity where questioning is not preferred.' This category was also analyzed under

several codes which covered the activity types (math, science, literacy, language, movement, art, and so on). Most of the teachers (n=13, 61,9%) mentioned they do not prefer to use the questioning method during movement activities because of the nature of the activity (see Table 4.13). For instance, T14 and T21 claimed that they use different teaching methods in movement activities besides questioning because movement activities are generally composed of instructions, so the questioning method may not be appropriate for this type of activity. Nearly half of the participant teachers (n=11, 52,4%) mentioned they do not use the questioning method in arts activities. According to them, art activities should be individual, and teachers should not interrupt children with their questions. For instance, T18 claimed that she does not ask questions in art activities because the responses might be limited. Some of the participant teachers also reported to not use the questioning method in play activities (n=7, 33,3%). T7 claimed that play activities involve rules which children should obey, so using the questioning method might be pointless in this type of activity. One of the teachers (4,8%) reported she does not use questions in music activities because of their nature. She claimed that there is a flow in music activities, so children should dance freely without having to answer questions. Another participant teacher (4,8%) also mentioned she does not use the questioning method in drama activities because she does not want to interrupt children. T3 claimed that she does not ask questions in science activities because questions asked in science activities might be 'unpredictable.' She added that she commonly uses the demonstrating method rather than questioning. Additionally, none of the teachers who participated in the interview reported any practices related to questioning methods in mathematics, literacy, field trip, and language activities.

4.2.1.2. Timing of Questioning

When the teachers were asked about the timing of the questions in the activities they implemented (In which part of your activity do you prefer and not prefer to use the questioning method), teachers described three different times, which were coded as (1) beginning of the activity, (2) during the activity, and (3) end of the activity as shown in Table 4.15.

Table 4.15

Teachers' Self-Reported Practices on Timing of Questioning

Theme	Category	Codes	Example Quotations from Participants
Timing of Questioning	Time of activity in which teachers prefer to use questioning	Beginning of the activity (n=16)	Asking questions is always the best introduction to arouse curiosity. So, I generally use it at the beginning of the activity. (T8)
		During the activity (n=5)	I use questioning in all parts of the activity, including the activity and assessment process. (T5)
		End of the activity (n=12)	I generally ask questions at the end of the activity as an assessment tool. (T12)
	Time of activity in which teachers do not prefer to use questioning	Beginning of the activity (n=2)	If you ask questions at the beginning of the activity, the topic is too distracting. That is why I do not ask any at the beginning. (T18)
		During the activity (n=13)	I think questioning would not be suitable during an activity. It is essential to leave the child alone during the activity. Give the information at the beginning, leave them alone during the activity, and then ask questions about the activity. (T4)
		End of the activity (n=1)	There are assessment questions in our program, but I do not prefer to ask any questions; I assess children in a different way. (T6)

The timing of questioning reported by teachers was classified under two categories, namely the 'time of activity in which teachers prefer to use questioning' and the 'time of activity in which teachers do not prefer to use questioning' (see Table 4.15). Teachers defined activity times as (1) beginning of the activity, (2) during the activity, and (3) end of the activity. According to their reports, 16 of them (76,2%) used the questioning method at the beginning of the activity. For instance, T8 claimed that she uses the questioning method at the beginning of the activity to arouse children's interest, and she believed that the questioning method is the best way to introduce an activity. A total of 12 of the teachers (57,1%) mentioned that they used it at the end of the activity. According to their reports, they use the questioning method during the assessment of the activity process. For example, T12 claimed that she asks questions 'at the end of the activity' to assess the activity process. On the other hand,

5 of the teachers (23,8%) mentioned that they ask questions during the activity. Among these findings, codes were constructed with reference to the data collected from teachers who said, "I use questions in all parts of the activity." Therefore, teachers did not claim they specifically asked during the activity.

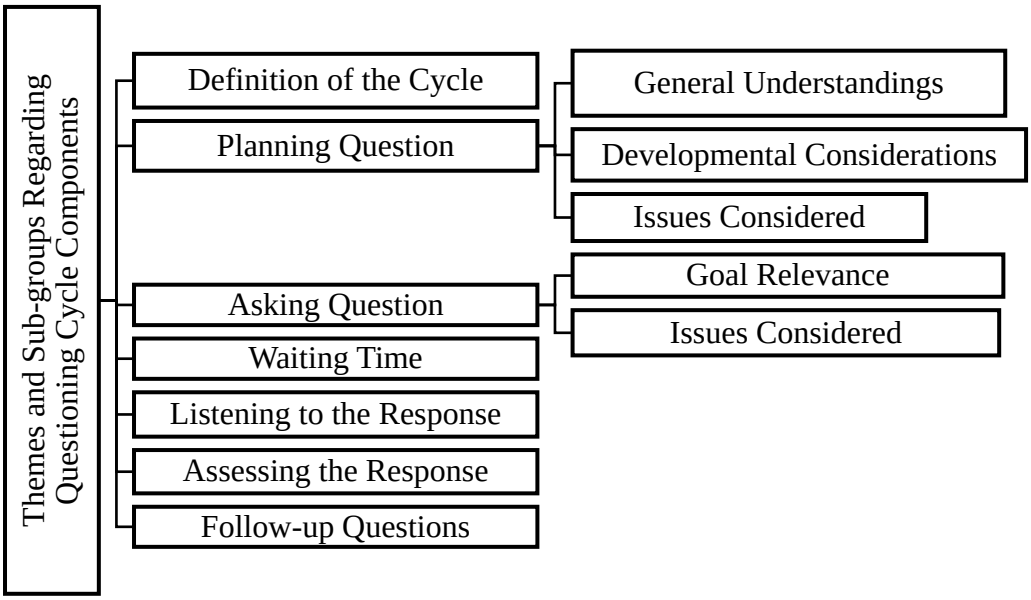
Considering their 'timing of questioning', teachers were also asked about the times they do not prefer to use questioning. This category was also coded: (1) beginning of the activity, (2) during the activity, and (3) end of the activity. Most of the teachers (n=13, 61,9%) who participated in the interview stated that they did not prefer to ask questions during the activity because they generally emphasized the necessity to leave children alone during the activity process. According to T4, asking questions is not appropriate during the activity because she gives information at the beginning, leaves children alone during the activity, and asks questions at the end of the activity as an assessment tool. Two of the teachers (9,5%) claimed they do not use questioning at the beginning of the activity. For instance, T18 claimed that she does not ask any questions at the beginning of the activity because she believes they might be distracting. One of the teachers (4,8%) claimed that she does not use the questioning method at the end of the activity as she prefers different assessment tools instead of questions.

4.2.2. Teachers' Self-Reported Practices About the Questioning Cycle and Its Components

An interview protocol containing nine questions regarding the questioning cycle and its components was used to investigate the self-reported practices of 21 preschool teachers. The themes and codes are given in Figure 4.3. These themes and codes were created based on the literature review reported earlier in the study.

Figure 4.3

Themes and Sub-groups Regarding Questioning Cycle Components



4.2.2.1. Definition of the Questioning Cycle

The participant teachers' definitions of the questioning cycle are shown in Table 4.16:

Table 4.16

Descriptive Findings Regarding the Questioning Cycle

Definition of Questioning Cycle	**N**	**%**
As a two-way communication tool	**11**	**52,4**
Question and answer between teacher and child	4	19
Answer the question with a question	7	33,3
Other definitions	**9**	**42,8**
Questioning loop	7	33,3
Starting questioning method, then following another method	1	4,8
Asking, listening, and assessing	1	4,8
Undefinable	**1**	**4,8**
Change as regards the activity	1	4,8

The questioning cycle defined by teachers can be classified into three categories, namely a two-way communication tool, other definitions, and undefinable. Most of the teachers defined the questioning cycle as a two-way communication tool. Some of them described it using different definitions, and one of the teachers described it as undefinable.

The two-way communication tool reported by teachers (n=11, 52,4%) includes the coded ‘question and answer between teacher and child’ and ‘answering the questions with a question’ (see Table 4.17). Four of the teachers (19%) defined the questioning cycle as a process between teacher and child. The teacher asks the question, and the children answer it. As T9 reported, the questioning cycle occurs between teacher and child by asking and answering questions. According to one-third of preschool teachers (n=7, 33,3%), the questioning cycle was defined as answering the question with a question process. The teacher asks questions to the children, and the children’s questions emerge based on the teacher’s questions. For example, T15 claimed that she asks questions, and children respond to them. This is an interaction between teachers and children (see Table 4.17).

Nine of the preschool teachers (42,8%) defined the questioning cycle by focusing on its some components or connotations. Seven of them (33,3%) defined the questioning cycle as a questioning loop. This definition is different from asking the question in a questioning manner. For example, T11 emphasized that the questioning cycle process is kind of a loop, an endless questioning process. ‘Starting with the questioning method, then following with another method’ was another definition that one of the teachers (4,8%) reported. Another participant teacher (4,8%) defined the questioning cycle by referring to some of the cycle’s components. Namely, her definition referred to asking questions, listening to the response, and assessing the response components of the questioning cycle (see Table 4.17).

Indefinableness reported by one of the teachers (4,8%) was coded as ‘changing with the activity.’ She claimed that she could not describe the questioning cycle because she believed that every activity has its own questioning cycle definitions (see Table 4.17).

Table 4.17

Teachers' Self-Reported Practices on the Definition of the Questioning Cycle

Theme	Category	Codes	Example Quotations from Participants
Definition of Questioning Cycle	As a two-way communication tool	Question and answer between teacher and child (n=4)	I can describe the questioning cycle as follows. There is a question. There is a teacher who asks the question. There is a child who answers the question. A cycle can occur between them. (T9)
		Answer the question with a question (n=7)	I ask questions, and children answer them. With these responses, new issues emerge. I mean, new questions may emerge while asking questions. (T15)
	Other definitions	Questioning loop (n=7)	I can define the questioning cycle as a learning process. Because I ask questions, the child answers, I ask again, the child answers. Here and there, there, and here... (T11)
		Starting with the questioning method, then following with another method (n=1)	I can define the questioning cycle as starting with the questioning method and turning into a different method. So, let us say I use the questioning method. According to the children's responses, this method can turn into a drama activity. So, you should use different methods there, such as demonstrating. Then you can go back to the questioning method. I can describe it in this way. (T4)
		Asking, listening and assessing (n=1)	I can describe the questioning cycle as follows. The teacher poses a question. Then, she listens to the children's responses. Maybe, she reads a story on the topic, and the answer is discussed together. (T6)
	Undefinable	Changes with activity (n=1)	I can not define the questioning cycle because every activity has its own questioning cycle. There is no single definition. Different cycles may occur for different activities. (T16)

4.2.2.2. Planning Questions

When asked about the planning component of the questioning cycle, the participant teachers talked about (1) general understanding, (2) developmental considerations, and (3) issues to be considered, as shown in Table 4.18.

Table 4.18

Descriptive Findings Regarding Planning Questions

Planning Questions	**N**	**%**
General Understandings		
Planning the Questions	5	23,8
Unexpected situations	1	4,8
Relay information	3	14,3
Understanding feelings	2	9,5
Considering socioeconomic status	1	4,8
Knowledge about topics covered	3	14,3
Not Planning the Questions	16	76,2
Based on experience	10	47,6
Unexpected situations	10	47,6
Based on observation	7	33,3
Socioeconomic status	1	4,8
Time limitations	1	4,8
Developmental Considerations		
Children's differences	9	42,9
Children's needs	11	52,4
Issues to be Considered		
Concrete to abstract	7	33,3
Open-ended	17	80,9
Balanced	1	4,8
Simple and clear	6	28,6
Functional	2	9,5

When teachers asked, "Do you plan your questions before the activities? While planning the questions, what do you pay attention to?" teachers reported their general

understanding of question planning, developmental considerations, and issues to be considered while planning questions. The relevant quotations are given in Table 4.19.

Table 4.19

Teachers' Self-Reported Practices on Planning Questions

Theme	Category	Codes	Sub-codes	Example Quotations from Participants
Planning Questions	General Understanding	Planning the Questions (n=5)	Unexpected situations	I plan the questions that I ask. Sometimes, you look at the process, and it goes entirely differently. Then, you should have other questions in your pocket. The teacher should plan the questions by predicting the process. (T21)
			Relay information	Before starting the activity, I generally write or take notes on my phone or the margins in the activity plan, the questions that I should ask. Because this question is the question of the activity. I should provide and relay the information with this question. (T13)
			Understanding feelings	For example, I plan the questions to understand a child's feelings. What kind of questions can I ask the child to share her/his feelings? I need to plan this (T5)
			Considering socioeconomic status	For instance, there may be children who are interested in space. Moreover, they may have received information about this at home from the family. So, I must plan my questions and their possible answers considering it. (T15)
			Knowledge about the topic covered	Let us say I will talk about Turkish painters. I really don't know this issue. I can plan the questions I will ask in such activities. (T11)
		Not Planning the Questions (n=16)	Based on experience	For example, when you have just graduated and entered the classroom, you have difficulty managing and applying the questioning method in the classroom. Being able to use the questioning method effectively is related to experience. (T3)

Table 4.19 (continued)

Theme	Category	Codes	Sub-codes	Example Quotations from Participants
Planning Questions	General Understanding	Not Planning the Questions (n=16)	Unexpected situations	I mean, sometimes I ask such questions... The question may not be in the context of a plan or a framework. It develops with something that the child realizes at that moment. Moreover, that question needs to be asked at that moment. (T8)
			Based on observation	Mostly, I do not plan questions. This is the nature of the preschool environment. Everything can change depending on the situation. So, I observe the children, and questions arise in my mind. (T5)
			Considering socioeconomic status	Would I ask public school children questions as if they were private school students? We know that the families of children at private schools take better care of their children. So, I do not plan my questions. (T16)
			Time limitation	Do you need planning? Not much, because we may not plan everything. The time is limited, so we race against time. Everything occurs at the spur of the moment. (T2)
	Developmental Considerations	Children's differences (n=9)		Questions should be specific for each child. In other words, it should be planned according to the developmental differences. (T8)
		Children's needs (n=11)		First, we teachers will get to know the children, listen, and understand their feelings and thoughts. We will find out what they need. Next comes the questioning part. (T21)

Table 4.19 (continued)

Theme	Category	Codes	Sub-codes	Example Quotations from Participants
Planning Questions	Issues to be Considered	Concrete to abstract (n=7)		We should not ask an abstract question to a preschool child. We ask for something more concrete, something they can visualize or have experienced before. (T14)
		Open-ended (n=17)		I plan open-ended questions to express children themselves, give them the right to speak, and set their sentences free. (T7)
		Balanced (n=1)		I care more about open-ended questions. I think it develops children more. However, sometimes we may also need closed-ended ones. Occasionally, I think we only should ask questions to get information from children. (T21)
		Simple and clear (n=6)		Children may not understand fancy questions. We should ask simple questions without weighing on children's minds. (T14)
		Functional (n=2)		Questioning is a method that can trigger children's curiosity, and I think it is functional. Therefore, the questions should be planned. (T13)

Teachers' self-reported general understanding of planning questions is classified under two codes, namely planning the questions and not planning the questions. When the findings were analyzed, five of the teachers (23,8%) claimed that they plan questions in order to (1) overcome unexpected situations, (2) relay information, (3) understand feelings, (4) consider socioeconomic status, and (5) gain knowledge about the topics covered. For example, T13 claimed that she prepares and writes questions and she plans possible responses for them. Overcoming unexpected situations were categorized under 'planning the questions.' One of the teachers (4,8%) emphasized being prepared for unexpected situations regarding the planning part of the questioning cycle, and she (T21) claimed that 'teachers should have other questions in their pockets for this unpredictable process.' Three of the teachers (14,3%) mentioned that they planned their questions to provide information to the children. Teachers claimed that activities have certain goals and objectives, and to reach these goals, they should plan their questions. T13 mentioned that she writes questions before the activity because she believes that 'these questions are essential to attain the goals' and provide information to young learners. Understanding children's feelings (n=2, 9,5%) is also another code that falls under 'planning questions.' For example, T5 claimed that she plans her questions to encourage children to share their feelings. One of the participant teachers (4,8%) responded to this interview question from the perspective of children's socioeconomic status. She mentioned that whether she plans the questions depends on the past experiences of the children and their family structure. T15 emphasized that children's socioeconomic status is essential. She mentioned that she plans questions based on children's socioeconomic level by considering their possible responses. Another code under planning questions (n=3, 14,3%) was gaining knowledge about the topics covered. Teachers generally stated that they plan questions to gain knowledge. For example, T11 claimed that she plans questions regarding unknown issues. Therefore, teachers plan their questions and search for possible responses to gain knowledge (see Table 4.19).

On the other hand, most of the teachers (n=16, 76,2%) reported that they did not plan their questions before the activity. For instance, T12 claimed that she does not plan questions because she can ask them without any prior plan. She also argued that planning questions is a waste of time. Participant teachers offered the following reasons for random or unplanned questions: (1) experience, (2) unexpected situations,

(3) observations, (4) socioeconomic status, and (5) time limitation. Nearly half of the teachers (n=10, 47,6%) attributed their unwillingness to plan questions to their 'experience years.' For example, T3 claimed that teachers who have inadequate experience might have difficulty while managing the classroom and while using the questioning method as compared to more experienced teachers. The possibility of encountering unexpected situations was coded under the 'not planning questions' category. In other words, some of the teachers (n=10, 47,6%) mentioned they did not plan their questions because they may encounter unexpected situations during the activity. As T8 reported, 'questions may not be in the context of a plan,' and they may be formulated based on children's understanding at that moment. Some of the participant teachers (n=7, 33,3%) claimed they do not plan their questions but ask them by observing the children during the activities. For example, T5 mentioned that she observed the children and formed her questions at that moment based on her observation. Socioeconomic status was another reason for 'not planning the questions.' T16 (4,8%) reported that the socioeconomic status of children might affect her planning of questions. She emphasized the pointlessness of planning questions because she believes that the same questions that are planned cannot be asked for both private and public-school children. Time limitation was another cause for not planning the questions. One of the teachers (4,8%) claimed that she races against the time, so every question should be prepared at the moment (see Table 4.19).

Although some of the teachers reported not to plan their questions, they noted at the same time that they consider children's developmental considerations. Therefore, the teachers base their practice on children's developmental considerations regardless whether they plan their questions or not. Developmental considerations reported by teachers in the study were classified under two codes, namely children's differences and children's needs. Teachers (n=9, 42,9%) generally mentioned that they consider children's differences while planning questions. For example, T5 claimed that she generally starts with closed-ended questions for the child who does not want to respond to open-ended questions. Also, T8 emphasized the importance of planning questions for each child because she mentioned that each child has a different developmental process. As T14 emphasized, culture also may affect children's developmental differences, so she considers children's different cultures while planning questions. Children's needs were reported by teachers as developmental

considerations while planning questions. Most of the teachers (n=11, 52,4%) claimed they consider children's needs. For example, T21 claimed that she listens to and tries to understand children's thoughts and feelings. Based on children's necessities, they plan their questions.

Although some of the participants mentioned they did not plan their questions, they expressed the necessity of considering several issues while planning them. Whether teachers plan questions or not, they mention the following issues to consider while planning questions: (1) going from concrete to abstract, (2) making them open-ended, (3) asking balanced questions, (4) making them simple and clear, and (5) making them functional. Some of the teachers (n=7, 33,3%) claimed to plan their questions from concrete to abstract. For example, T14 stated that she does not plan any abstract questions for preschoolers, and she emphasized the importance of planning and asking more concrete questions. Planning questions as open-ended was another code for the category 'issues to be considered.' More than half of the teachers (n=17, 80,9%) emphasized that the questions should be planned as open-ended rather than closed-ended. For example, T7 and T9 claimed that open-ended questions could help children express themselves, so they plan more open-ended questions rather than closed-ended ones. Regarding this, one of the teachers (4,8%) reported that planned questions should be balanced. Closed-ended and open-ended questions should be included in a balanced way in teachers' plans. T21 reported that she cares and plans about closed-ended questions as much as she cares and plans about open-ended questions. Six of the teachers (28,6%) stated that they plan their questions as simple and clear. For example, T4 and T14 contended that questions should be planned as simple because children may not understand fancy questions. The functionality of questions was another code defined by teachers (n=2, 9,5%) in terms of issues to be considered while planning questions. For example, T13 reported that she plans her questions to arouse children's curiosity, and in this way, the questions might be functional (see Table 4.19).

4.2.2.3. Asking Questions

When preschool teachers were asked about their practices regarding the asking questions component of the questioning cycle, their self-reports were categorized as

(1) goal relevance and (2) issues to be considered while asking questions. Table 4.20 demonstrates the categories and codes.

Table 4.20

Descriptive Findings Regarding Asking Questions

Asking Questions	**N**	**%**
Goal Relevance		
self-expression	10	47,6
arousing interest	6	28,6
assessing the things children know	8	38,1
assessing the things children remembered	7	33,3
relaying information	7	33,3
sharing their feelings	17	80,9
attracting attention	6	28,6
Issues to be Considered		
gesture and facial expressions	3	14,3
class dynamics	8	38,1
giving voice to all children	4	19

As demonstrated in Table 4.20, teachers ask questions to the children for certain purposes. These purposes were categorized as ‘goal relevance.’ Moreover, while asking questions, they consider some concerns categorized as ‘issues to be considered.’ Table 4.21 includes quotations from teachers who reported their practices regarding the asking questions component of the questioning cycle.

Table 4.21. *Teachers' Self-Reported Practices on Asking Questions*

Theme	Category	Codes	Example Quotations from Participants
Asking Questions	Goal Relevance	Self-expression (n=10)	I ask questions because the questioning method gives freedom of expression to the child. Some children tend never to speak unless the teacher asks questions. (T7)
		Arousing interest (n=6)	I do not ask questions to assess knowledge. So, I try to ask them to arouse children's curiosity. I generally ask questions about the information I am about to give to arouse children's interest. (T6)
		Assessing the things children know (n=8)	I use the questioning method to assess what children know. Accordingly, firstly, I assess their knowledge; I use it to understand what is going on with the activity. (T21)
		Assessing the things children remember (n=7)	I use it to repeat information. We already know something; I use it to repeat something we already know, to remember it at that moment. (T11)
		Relaying information (n=7)	Our purpose in asking questions is, can we give new information to the child, can we teach the child a different perspective? We should. (T4)
		Sharing their feelings (n=17)	I use it to feel the children's current feelings. You know, this is also a questioning method. You ask the child why she/he is upset; you try to understand her/his feelings. (T3)
		Attracting attention (n=6)	I usually ask questions to the class to get the children's attention. The questioning method should definitely be used to attract attention in preschool. (T6)
	Issues to be Considered	Gestures and facial expressions (n=3)	I look at them with my eyes (wide open) and try to ask the questions that way. (T2)
		Class dynamics (n=8)	Classes include different levels of children, and they are mixed. For example, you try to include a new student by asking something, but the experienced students try to answer immediately because they know the answer. That is why you need to know class dynamics while asking questions. (T16)
		Giving voice to all children (n=4)	I always ask questions to the whole class. Then the child continues to think, and the activity continues. The child who becomes active does not pass into passivity. (T19)

Teachers reported some practices regarding the asking questions component. These reports fell under two categories, namely goal relevance and issues to be considered. Goal relevance is classified under several codes, and these findings show why teachers use questions. The teachers said they use questions for (1) children to express themselves, (2) arousing interest, (3) assessing the things children know, (4) assessing the things children remember, (5) relaying information, (5) sharing feelings and (6) attracting attention. Some of the teachers (n=10, 47,6%) reported that they ask questions because children may express themselves through questions. For example, T7 claimed she asks questions because she believes the questioning method gives the child freedom of expression. T18 also mentioned that she uses the questioning method to give children a chance to express themselves because some children may not be able to do so without asking questions. Another reason why teachers use the questioning method is to arouse children's interest. Six of the teachers (28,6%) mentioned they ask questions for this purpose. For example, T6 expressed that she does not ask any questions to assess children's knowledge; she asks questions to arouse children's curiosity about the topic. Some of the participant teachers (n=8, 38,1%) stated that they use questioning as a teaching method to assess what children know related to the concept or issue. T21 claimed that she asks questions 'to understand what is going on with the activity,' so she asks questions to assess what children know about the current issue. Assessing what children remember fell under goal relevance. One-third of the teachers (n=7, 33,3%) reported that they use questions to assess what children remember. For example, T11 claimed that she uses the questioning method to repeat information or to remind children of certain information. She asks questions and, based on the children's responses, she assesses what children remember. Some of the teachers (n=7, 33,3%) reported that they use questions due to relaying information. They generally emphasized that to reach objectives, they use the questioning method. For example, T4 claimed that she asks children questions to add new information to their learning or teach them a different perspective. A considerable number of participants (n=17, 80,9%) noted that they ask questions as a tool for children to share their feelings. For example, T3 expressed that she uses the questioning method to elicit and understand their feelings. Moreover, T9 claimed that she uses the questioning method to learn children's feelings after learning activities. Attracting attention was another code under the goal relevance category. Some of the participants (n=6, 28,6%)

reported that they used the questioning method to attract children's attention in the activities. For example, T6 claimed that she usually asks questions to get children's attention before starting the activity or before saying critical things related to the activity concepts.

Issues to be considered while asking questions were another category and reported by teachers with three codes, namely (1) gestures and facial expressions, (2) class dynamics, and (3) giving voice to all children. When the teachers' self-reported practices based on gestures and facial expressions were reviewed, three teachers (14,3%) reported they use their mimics and gestures while asking questions to children. For example, T2 claimed that she opens her eyes widely and asks questions. In this way, she believes children more pay attention to the question. T4 also emphasized that using gestures and facial expressions while asking questions may increase children's curiosity towards the question. Class dynamics was another code that fell under issues to be considered while asking questions. Some of the teachers (n=8, 38,1%) reported that they consider class dynamics while asking questions. T16 claimed that each child has different developmental levels in the same class. She gave the example of a newcomer in class as opposed to another seasoned child and emphasized the importance of class dynamics while asking questions. Finally, some of the teachers (n=4, 19%) talked about giving voice to all children after asking questions. For example, T19 emphasized that she pays attention to asking questions to the whole class rather than individually.

4.2.2.4. Waiting Time

The self-reported practices of the preschool teachers were examined regarding the waiting time component of the questioning cycle. As seen in Table 4.22, there were two views: (1) the waiting time is not appropriate for the preschool age group, and (2) there should be a waiting time after asking the question. Descriptive findings can be seen in Table 4.22.

Table 4.22

Descriptive Findings Regarding Waiting Time

Waiting Time	N	%
the waiting time is not appropriate	10	47,6
there should be a waiting time	8	38,1
no opinion	3	14,3

As shown in Table 4.22, teachers reported two different practices regarding the waiting time component of the questioning cycle. While some thought that the waiting time after asking questions should be in preschool classes, others stated that it is not appropriate for preschoolers after asking questions. A few teachers confessed that they did not have any information about waiting time. Table 4.23 demonstrates quotations based on teachers' self-reported practices regarding waiting time.

Table 4.23

Teachers' Self-Reported Practices on Waiting Time

Theme	Codes	Example Quotations from Participants
Waiting time	The waiting time is not appropriate (n=10)	Children's attention span is very limited, especially in the younger age group. Before you even put the question mark, the child answers. I believe it should be like this. Children should share their thoughts immediately. When they think about it, different things come to mind. For instance, you talk about socks. She/he calls you a dog. Yes, preschool is like this (Laughs). (T7)
	There should be a waiting time (n=8)	I wait after asking questions. Well, I say, "Think about it." In fact, sometimes I say, "Close your eyes. Imagine, what would it be like?" I give 1-2 minutes to think about the question. (T14)
	No opinion (n=3)	When I ask a question, should I wait? I really have no idea. Maybe I need to do some research on this. I am not at all sure. I am not aware of what I am doing while I am doing the activity, really (Laughs). (T16)

The waiting time component of the questioning cycle, as comprehended by teachers, is classified under three codes, namely, the waiting time is not appropriate, there should be waiting time, and no opinion. About half of the participant teachers (n=10, 47,6%) said that waiting for a while after asking questions might be difficult for preschoolers. Teachers claimed that children in this age group tend to express their thoughts immediately, unlike older age groups. Along the same lines, T7 mentioned children's limited attention span. She said that children immediately respond to the questions – 'before the teacher even puts the question mark, the children put the full stop.' Another teacher (T21) also claimed that when she asks questions, children raise their fingers immediately and want to give an answer. Teachers who stated 'waiting time is not appropriate' added that they do not use waiting time after asking questions for this reason. The code 'There should be waiting time' was also classified under the waiting time theme. Eight of the participant teachers (38,1%) mentioned the necessity of waiting time. They emphasized that better answers may be obtained by allowing the children to wait. For example, T4 said that when the waiting time is allowed, children get the opportunity to learn. In this sense, she emphasized that waiting time is critical for preschoolers. T14 reported her waiting time practices. She reported to say to the children, 'Close your eyes, and think about your responses for a while.' Three of the teachers (14,3%) mentioned they had no idea about the waiting time component of the questioning cycle. For example, T16 claimed that she was not sure about waiting time after asking questions, and she wanted to learn about it.

4.2.2.5. Listening to the Response

Data about listening to the response of the questioning cycle were coded by asking, "After asking questions, what do you pay attention to while children respond? Do you listen to them? If yes, while listening, what do you pay attention to?" Preschool teachers reported codes related to the listening to the response component. In Table 4.24, these codes' descriptive analysis is demonstrated.

Table 4.24

Descriptive Analysis on Listening to The Response

Listening to the Response	N	%
active listening	8	38,1
give voice to all children	7	33,3
no opinion	6	28,6

Preschool teachers who participated in the study mentioned (1) encouraging children to share their thoughts and opinions by active listening, (2) giving voice to all children while listening to their responses, and (3) having no opinion regarding listening to the response. Example quotations from participants are listed in Table 4.25.

Table 4.25

Teachers' Self-Reported Practices on Listening to the Response

Theme	Codes	Example Quotations from Participants
Listening to the Response	Active listening (n=8)	When using the questioning method, I want children to answer by raising their hands. That way, I can listen to them one by one. I can understand what they are saying. (T10)
	Give voice to all children (n=7)	While using the questioning method, I never ask one or two children. What do I always do? I ask the question to all the children and get a mix of answers from them. Then, it turns into brainstorming. It is necessary to give every child the opportunity to say; I am here. I listen to each of them. (T4)
	No opinion (n=6)	If you have asked a question, you should listen to the response. Therefore, I am not sure whether there is a specific emphasis in the questioning method on listening to the response. I have no idea about it. (T1)

Teachers reported several matters regarding listening to the response component of the questioning cycle. Active listening fell under listening to the response. Eight teachers (38,1%) mentioned the importance of active listening after

asking questions. These teachers emphasized that to understand what children are saying, they should listen to them carefully and try to understand them. T7 and T10 conveyed their opinions by highlighting the importance of listening to children's responses carefully. As T7 claimed, she assesses children's responses while listening to them actively, and she understands what the child is telling the teacher. Also, T10 mentioned that while using the questioning method, she 'wants children to respond by raising their hands.' In this way, she claimed she could listen actively to each child. One-third of the teachers (n=7, 33,3%) emphasized the importance of giving children a voice after asking questions and while listening to their responses. They also highlighted that children's opinions and ideas are valued. For example, T4 mentioned the 'necessity of giving every child the opportunity to have a voice and added that she never directs her questions to one or two children but all of them and gets a mix of responses. T9 emphasized the principle of listening to all children, and she added that children could learn by listening to each other after the teacher asks a question. Six of the teachers (28,6%) mentioned that they had no idea about listening to the response and that they were not informed about listening to the response in the questioning method.

4.2.2.6. Assessing the Response

The self-reported practices of the preschool teachers were investigated based on assessing the response component of the questioning cycle as well. Teachers reported their practices, and descriptive analyses are demonstrated in Table 4.26.

Table 4.26

Descriptive Analysis Regarding Assessing the Response

Assessing the Response	N	%
not necessary the assess the response	5	23,8
necessary the assess the response	10	47,6
no opinion	6	28,6

Teachers have three views on assessing the response: (1) not necessary to assess the response, (2) necessary to assess the response, and (3) no opinion. Simply put, although some of the teachers reported assessing children's responses, some of them mentioned that they do not do this. On the other hand, six of the participants (28,6%) did not report their practices because they mentioned they had no opinion about assessing the response. Their quotations are given in Table 4.27.

Table 4.27

Teachers' Self-Reported Practices on Assessing the Response

Theme	Codes	Example Quotations from Participants
Assessing the Response	Not necessary to assess the response (n=5)	Let us say we have an answer. We should not assess the answer. There is no right or wrong response. What would you assess? Even as we teach numbers, we say to the child, "What can you design using the number 9?" For instance, the child draws a rabbit or a teddy bear. You cannot say, "Oh, you did not learn number 9," So we should not assess the response. (T9)
	Necessary to assess the response (n=10)	I have a whiteboard. I always write on this board. What responses were received to the questions I asked at the beginning of the activity? How well did the children learn the subject? At the end of the activity, I also write the answers to the questions. This is an excellent assessment of children's responses. (T15)
	No opinion (n=6)	I honestly have no idea about assessing the response component. I would like to learn. I should read your thesis, right? (Laughs.) (T20)

Five of the teachers (23,8%) who participated in the interview said they do not assess children's responses after asking questions because this may mean asking closed-ended questions. For example, T9 claimed there is no right or wrong response to the questions, so she does not assess children's responses. Moreover, some of the participants doubted how they would assess a response that may differ from child to child. The necessity of assessing the response fell under assessing the response. Approximately half of the teachers (n=10, 47,6%) emphasized the necessity of assessing children's responses. Through assessing, they can analyze whether the

objectives have been achieved or not. They also stressed that assessing the response can act as beneficial feedback for teachers. For example, T1 reported that she takes children's responses as notes, and based on these notes, she makes inferences about children's developments. Further, T15 mentioned she has a whiteboard, and she writes children's responses on the board. In this way, she may assess children's responses. Six of the teachers (28,6%) reported they had no opinion regarding assessing the children's responses in the questioning method. T20 said that she wants to learn about assessing the response.

4.2.2.7. Follow-up Questions

When the researcher asked, "Imagine that you ask questions, and you do not reach your goal, what would be another step? Do you use follow-up questions?" in the interviews, teachers responded by mentioning certain matters. Table 4.28 demonstrates the descriptive analysis related to follow-up questions.

Table 4.28

Descriptive Analysis Regarding Follow-Up Questions

Follow-up Questions	N	%
allow children's own questions	5	23, 8
expand the topic	3	14,3
make the topic understandable	6	28,6
no response	7	33,3

Follow-up questions perceived by teachers were categorized under four codes: (1) children's own questions, (2) expanding the topic, and (3) making the current topic understandable. Some of the participant teachers did not voice their self-reported practices about follow-up questions. Related quotations are given in Table 4.29.

Table 4.29

Teachers' Self-Reported Practices on Follow-Up Questions

Theme	Codes	Example Quotations from Participants
Follow-Up Question	Allow children's questions (n=5)	When we use the questioning method, we perceive it as a method applied only by the teacher, right? No, look at the other side now. The person who is asking is a child. The person who should answer is a teacher. We must allow this, too, as teachers. I ask my questions, and I need to listen to the child. What does she/he say to me? Then, they ask me questions—an amazing process. (T5)
	Expand the topic (n=3)	Let us say we are discussing a topic with the children. I ask them a question, and they give different responses. Then, I own this topic. I ask another question. We have such a pleasant conversation between us. (T9)
	Make the topic understandable (n=6)	Now, I do not prefer to terminate the activity by just asking one question. There should be additional follow-up questions. Sometimes, the children do not understand the topic. I ask follow-up questions to make the topic understandable. (T21)

Allowing children's questions, asking follow-up questions to expand the topic, and asking follow-up questions to make the topic more understandable fell under 'follow-up questions.' Within the scope of asking follow-up questions, allowing children's own questions was one of these codes. Some teachers (n=5, 23,8%) talked about giving children the opportunity to ask their own questions. For example, T5 reported this as an amazing process. She emphasized that questions asked by children after the teacher's questions are as valuable as the teacher's own follow-up questions. So, she claimed children's questions could also be categorized as follow-up questions. Asking follow-up questions to expand the topic was another code. Three of the teachers (14,3%) reported they used the follow-up questions to expand on the current topic. As T9 mentioned, children's responses guided the topic, and based on children's responses; she asked further questions. To make the topic more understandable was another code that fell under follow-up questions. Some of the teachers who agreed to participate in the interview (n=6, 28,6%) said they asked follow-up questions about incomprehensible and misunderstood topics. For example, T21 claimed she asks

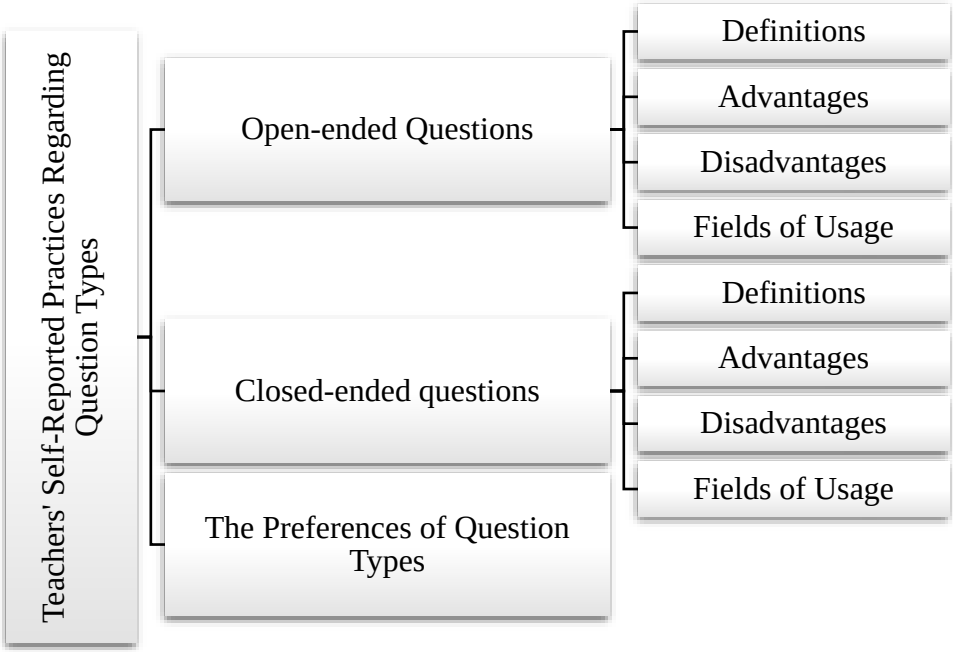
follow-up questions so that children understand the related topic deeply. Seven of the teachers (33,3%) did not answer the question.

4.2.3. Preschool Teachers' Self Reports on Question Types

During the interviews, questions were asked to investigate teachers' self-reported practices regarding the question types: "Two question types are defined, open-ended and closed-ended. What do you think about these two question types? What question types do you use more? Why is that?" The themes created for both types as a result of these questions are explained in detail below. The themes and codes are given in Figure 4.4.

Figure 4.4

Themes and Codes Regarding Question Types



4.2.3.1. Open-Ended Questions

Regarding open-ended questions, based on teachers' self-reported practices, the following codes were determined: (1) teachers' definitions, (2) advantages, (3) disadvantages, and (4) uses of open-ended questions. The detailed descriptive analysis of teachers' self-reported practices on open-ended questions is given in Table 4.30.

Table 4.30

Descriptive Analysis Regarding Open-Ended Questions

Open-Ended Questions	N	%
Definitions of open-ended questions		
self-expression	14	66,67
more than one answer	7	33,33
Advantages and disadvantages of open-ended questions		
Advantages	21	100
Disadvantages	0	0
Uses of open-ended questions		
sharing feelings	9	42,9
sharing understanding	5	23,8
sharing imaginings	7	33,3

Based on their self-reported practices, teachers defined open-ended questions and mentioned their advantages. Lastly, they reported their practices regarding the use areas of open-ended questions. Several quotations are given in Table 4.31.

Table 4.31

Teachers' Self-Reported Practices on Open-Ended Questions

Theme	Category	Codes	Example Quotations from Participants
Open-ended questions	Definitions of open-ended questions	Self-expression (n=14)	In my opinion, an open-ended question can be defined as when the child answers the teacher with their sentences using their logic and their world and expresses themselves with those sentences. (T13)
		More than one answer (n=7)	I can define open-ended questions as questions that do not have a single answer but more than one answer. (T2)
	Advantages and disadvantages of open-ended questions	Advantages (n=21)	Asking open-ended questions is more helpful for children. They develop their horizons and increase their creativity. (T16)
		Disadvantages (n=0)	(no response)

Table 4.31 (continued)

Theme	Category	Codes	Example Quotations from Participants
Open-ended questions	Use areas of open-ended questions	Sharing feelings (n=9)	I usually use open-ended questions to understand what happens. For example, "You hit your friend. How would you feel if the same thing happened to you?" (T8).
		Sharing understanding (n=5)	I use open-ended questions to see what children have understood about the topic. For example, I say, "What do you think we are going to do with these materials?" (T15).
		Sharing imaginings (n=7)	Now, when I ask open-ended questions, the children talk about their fantastic imagination. For example, I say: "If you were the boy in this story, what would you do?" (T6).

The way participant teachers define question types does not mean that they apply them according to these definitions. However, it is essential to know their definitions before focusing on their self-reported practices. Teachers defined open-ended questions as (1) an opportunity for self-expression and (2) a question that includes more than one answer. When their definitions of open-ended questions were examined, more than half of the teachers (n=14, 66,7%) defined them as questions giving children the opportunity to ‘express themselves.’ For example, T7 defined open-ended questions as children’s ‘individual expressions.’ Similarly, T13 defined this question type as a tool for expressing themselves. Having more than one answer was another definition that was coded. One-third of the teachers (n=7, 33,3%) defined open-ended questions as questions with more than one answer. T16 defined that by asking open-ended questions, she can get thousands of responses from children. Moreover, T2 emphasized that open-ended questions do not have a single answer, and she defined them as questions with more than one answer (see Table 4.31).

None of the teachers (n=0, 0%) reported any disadvantages for open-ended questions. They stated that these questions have no disadvantages. On the other hand, all of them (n=21, 100%) reported several advantages of open-ended questions based on their practices. They mentioned that asking open-ended questions may increase

children's creativity. In this respect, they emphasized the effectiveness of this question type. For example, T1 mentioned that open-ended questions are more helpful and can develop children's creative skills (see Table 4.31).

The participant teachers' self-reported practices about the use areas of open-ended questions were analyzed with respect to the classification (sharing feelings, sharing understanding, sharing imaginings) proposed by MacNaughton and Williams (2004). Several teachers mentioned that they asked questions to let children (1) share their feelings, (2) share their understanding, and (3) share imaginings, as exemplified in Table 4.31. Nearly half of the teachers (n=9, 42,8%) mentioned they used open-ended questions to provide opportunities for children to share their feelings. For example, T10 expressed that she used open-ended questions to enable young learners to express their feelings. T8 also reported that asking open-ended questions creates an opportunity to understand how children feel about a given circumstance. She exemplified the circumstance in which a child who hit her/his friend shared her/his feelings. Sharing understanding was reported as another use area for open-ended questions. Five of the participants (23,8%) mentioned that they used open-ended questions so that children could share their understanding of the activity or topic. For example, T15 claimed that she uses open-ended questions to see children's understandings of the topic. Some of the teachers (n=7, 33,3%) also stated that they asked open-ended questions for children to share their imaginings. As T6 reported, teachers can ask open-ended questions to enable children to share their imaginings. As an example, she provided questions she asked about a story.

4.2.3.2. Closed-Ended Questions

Regarding closed-ended questions, (1) definitions by teachers, (2) the advantages and disadvantages of such questions, and (3) their use areas were mentioned. Descriptive analyses are shown in Table 4.32.

Table 4.32

Descriptive Analysis Regarding Closed-Ended Questions

Closed-Ended Questions	N	%
Definitions of closed-ended questions		
one answer	10	47,6
predictable	5	23,8
short and clear	6	28,6
Advantages and disadvantages of closed-ended questions		
Advantages	**3**	**14,3**
school readiness	2	9,5
listening comprehension	1	4,8
Disadvantages	**12**	**57,1**
ineffective	12	57,1
Uses of closed-ended questions		
recalling experiences	4	19
recalling facts	16	76,2
time limitation	1	4,8

Based on teachers' self-reported practices, their definitions of closed-ended questions and the advantages and disadvantages of this question type were derived. The teachers also reported practices demonstrating the different use areas of closed-ended questions. The quotations are given in Table 4.33.

Table 4.33. *Teachers' Self-Reported Practices on Closed-Ended Questions*

Theme	Category	Codes	Example Quotations from Participants
Closed-ended questions	Definitions of closed-ended questions	One answer (n=10)	I think closed-ended questions have one answer. So, just as two plus two makes four, and we cannot change this, I think the answers to closed-ended questions do not change, either. (T17)
		Predictable (n=5)	To the closed-ended questions, "What is the weather like in winter?" or "What happens in the spring?" the child answers: "It will be sunny, there will be wind, there will be rain." However - these are not the child's thoughts, these are facts, and the answers are predictable. (T18)
		Short and clear (n=6)	When someone says a closed-ended question, the first thing that comes to my mind is… For example, I ask a specific question, "What is this, answer me?" The child can say, "This is a pencil." It has a very, very clear answer. (T15)
	Advantages and disadvantages of closed-ended questions	Advantages (School readiness) (n=2)	We should not forget that we also prepare children for primary school. There is discipline there. Teachers do not constantly ask open-ended questions. Therefore, we need to include closed-ended questions as well. (T10)
		Advantages (Listening comprehension) (n=1)	Are children's listening comprehension skills developed or undeveloped? Therefore, closed-ended questions are useful. That is why I use them. They are necessary. They are useful. (T2)
		Disadvantages (Ineffective) (n=12)	Closed-ended questions should not be used much with preschool children. For example, "Is this red?" "Yes" "Is there a red tree?" "Yes or no." Such questions are useless and ineffective. (T9)

Table 4.33 (continued)

Theme	Category	Codes	Example Quotations from Participants
Closed-ended questions	Uses of closed-ended questions	Recalling experiences (n=4)	Closed-ended questions are mainly used to determine what children have experienced in their lives. For example, "Have you ever been to the cinema?" (T14)
		Recalling facts (n=16)	For example, as I design science activities. I always feel the need to ask questions about these activities. To try and get feedback from the children. For example, “Do they remember the names of planets?” (T1)
		Time limitation (n=1)	If the time spared for the activity is limited, and the children do not want to answer too many questions, I prefer to use closed-ended questions. (T2)

When teachers were asked what closed-ended questions are, three codes appeared: They (1) have a single answer, (2) a predictable answer, and (3) a short and clear answer. Having a single answer fell under one of the definitions of a closed-ended question. Approximately half of the teachers (n=10, 47,6%) reported that a closed-ended question has one certain answer. For example, one of the participants defined that "When we say closed-ended question, what comes to mind is a single-answer question" (T5). T17 defined this question type as one which has a definite answer like two plus two makes four. Another classification regarding the definition of closed-ended questions was having a predictable answer. Five of the teachers (23,81%) reported that responses to closed-ended questions are predictable. As T4 stated, based on her practices, the teacher has a prespecified response to the closed-ended question, and she wants to hear it from the child. This means that teachers can predict the responses to closed-ended questions. Correspondingly, T18 also repeated that closed-ended questions have predictable answers, such as the answer to the question 'What is the weather like in winter?'. Once again, the teacher can predict children's answers. Having a short and clear answer was another definition that was coded under the definition of closed-ended questions. Several teachers (n=6, 28,6%) defined closed-ended questions as those with short and clear answers. For example, T15 said: 'This is a pencil' is a clear answer; such a statement answers questions defined as closed-ended (see Table 4.33).

The advantages and disadvantages of closed-ended questions perceived by teachers were classified under several codes. Three of the teachers (14,3%) who participated in the interview mentioned the advantages of asking closed-ended questions by mentioning aspects of school readiness and listening comprehension. Two teachers (9,5%) mentioned the advantages of closed-ended questions in relation to school readiness. For example, T10 emphasized that she prepares young students for primary school, so she emphasized the necessity of using closed-ended questions to prepare them. Regarding the advantages of closed-ended questions, one of the teachers (T2) highlighted the importance of children's listening comprehension skills. To develop this skill, she claimed that closed-ended questions were valuable. Six of the teachers (28,6%) reported neither advantages nor disadvantages of closed-ended questions. Most teachers (n=12, 57,1%) reported, based on their practices, that closed-ended questions have certain disadvantages. All of them mentioned the ineffectiveness

of closed-ended questions as a disadvantage. For example, T1 claimed that as closed-ended questions have a limited effect on children's development, she does not prefer to use this question type. Similarly, T9 mentioned that closed-ended questions should not be preferred for preschoolers because asking them might be ineffective. She gave the question 'Is this red?' as an example, and she emphasized its worthlessness (see Table 4.33).

The participant teachers' self-reported practices were also analyzed regarding the use areas of closed-ended questions. The analysis was based on MacNaughton and Williams (2004)'s classification (recalling experiences and recalling facts). Therefore, the codes were created as follows: (1) recalling experiences, (2) recalling facts, and (3) time limitation. Asking closed-ended questions for recalling past experiences is one of the fields of use. Four of the teachers (19%) reported that they used closed-ended questions to help children recall their experiences. For example, T14 mentioned she used closed-ended questions to learn children's past experiences. Most of the teachers (n=16, 76,2%) described that they used closed-ended questions to remember a fact or a situation. For example, T1 said that as she prepared science activities, she used such questions to get feedback from children, such as 'do children remember the names of planets?' Time limitation was another code that fell under the use area of closed-ended questions. One of the teachers (4,8%) pointed out that she used closed-ended questions due to limited time. T2 reported that activity times could sometimes be limited, so she prefers closed-ended questions which bring rapid responses (see Table 4.33).

4.2.3.3. Teachers' Preferences Regarding Question Types

When asked "Which question type do you prefer to use during the activities?" the teachers who participated in the study answered as follows: (1) It depends on the activity, (2) It depends on the children's answers, (3) I prefer open-ended questions, and (4) I prefer a balanced combination of open-ended and closed-ended questions, as demonstrated in Table 4.34.

Table 4.34

Descriptive Analysis Regarding Preferences of Question Types

The Preference of Question Types	N	%
depends on activity	2	9,5
depends on the children's answers	4	19
open-ended	12	57,2
closed-ended	0	0
open-ended and closed-ended used in a balanced combination	3	14,3

According to teachers' self-reported practices, while some of them base their preference on the activity type or children's answers, others prefer to ask open-ended questions rather than closed-ended ones. Example quotations from participants from the interviews can be seen in Table 4.35.

Table 4.35

Teachers' Self-Reported Practices on Preference of Question Type

Theme	Codes	Example Quotations from Participants
The preference of question types	Depends on activity (n=2)	I like to ask closed-ended questions while teaching or giving academic information, such as numbers, forming colors, primary colors, intermediate colors, or geometric shapes. Because I can see if the child has any knowledge or not. However, in the scientific sense, artistic sense, or general cultural context, of course, I prefer open-ended questions. So, it depends on the activity type. (T17)
	Depends on children's answers (n=4)	Open-ended question for what, the open-ended question for whom? Sometimes you ask a question, and the child answers you in one word, but in her/his mind, the thought process continues. The next day, a light bulb goes on in her/his head, and she/he comes to you with another question. (T21)
	Open-ended (n=12)	Of course, I prefer to use open-ended questions. As I said before, my aim is to perform the best teaching for children, of course, I prefer to ask open-ended questions. (T13)
	Closed-ended (n=0)	(None of the participants)
	Open-ended and closed-ended questions in a balanced combination (n=3)	I use both questions types equally because it helps memory. When you do an activity, you should ask both closed-ended questions and open-ended questions. (T12)

Teachers said that their preferences of question types depend on circumstances. Two teachers (9,5%) reported that they prefer question types based on the activity. For example, T17 mentioned that she preferred to use closed-ended questions while checking children's knowledge, especially during math activities. In science or art activities, she reported that she preferred to use open-ended questions. Four teachers who participated in the interview (19%) said that the preference of question types should be based on children's answers. That is, the child might give open-ended answers, which seem to be closed-ended ones. As T21 reported, when she asks closed-ended questions, children may share their thoughts as if she was asking open-ended questions. More than half of the teachers (n=12, 57,2%) reported they preferred to ask open-ended questions in their practices. For example, T13 defined her aim as to perform the best available teaching for children; for this reason, she stated that she preferred to ask open-ended questions. None of the teachers (n=0, 0%) with whom the interview was conducted said they preferred to ask closed-ended questions. Three teachers (14,3%) reported that closed-ended and open-ended questions should be asked in balance. For example, T12 claimed that she preferred to use closed-ended and open-ended questions equally, and she added that to achieve goals, these two question types should be asked together in activities.

4.3. Commonalities and Differences among Teacher's Beliefs and Their Self-Reported Practices

In this section of the study, the survey and interview findings were confirmed, disconfirmed, or expanded on each other. In total, 363 preschool teachers' beliefs and 21 preschool teachers' self-reported practices were organized and compared based on their commonalities and differences.

4.3.1. General Use of Questioning

One of the sub-research questions of this study was to investigate the commonalities and differences among preschool teachers' beliefs and self-reported practices regarding the general use of the questioning method. There is one item in the survey, and the teachers responded by stating that preschool teachers frequently use the questioning method in their activities. In the interview, the teachers specified the

activity types where they used the questioning method. Therefore, the self-reports of teachers' practices elaborated on their beliefs.

Table 4.36

General Use of Questioning in Activities

Types of Activity	Interview	
	N	%
Drama	6	28,6
Language	19	90,5
Science	13	61,9
Field Trip	0	0
Literacy	4	19,1
Math	3	14,3
Art	2	9,5
Play	3	14,3
Music	3	14,3
Movement	1	4,8

As demonstrated in Table 4.36, 90.5% of the teachers reported that they commonly used the questioning method in language activities. None of the teachers mentioned the use of the questioning method in field trip activities. All in all, teachers revealed in their self-reports that they use the questioning method in line with their beliefs. When their self-reported practices were probed, the teachers reported that while they frequently used the questioning method in some activities (language, science, and so on), they used it less in other activities (field trip, movement, and art).

4.3.2. Planning Questions

The second sub-research question of this study was to investigate preschool teachers' questioning strategies in the context of the questioning cycle. The researcher collected data through quantitative and qualitative instruments. Firstly, during the data collection process, the teachers filled out the Likert-scale type survey. For the first component of the questioning cycle (planning questions), preschool teachers' beliefs

were investigated through several items. Secondly, teachers' self-reported practices were investigated through interviews. During the interviews, teachers reported their general understanding and mentioned some considerations. Even if teachers normally plan questions in their minds, they also mention several issues that they consider while planning their questions, as well as certain developmental considerations.

Consequently, there were some differences between the survey and interview findings. Most of the survey participants (n=256, 71,5%) believed that preschool teachers always or often plan their questions. However, few of the interview participants (n=5, 23,8%) reported to plan their questions, while most of them (n=16, 76,2%) reported not to do so. In other words, teachers believe preschool teachers should plan their questions, but most of the interview participants reported they did not plan them. The survey and interview findings had notable differences, as shown in Table 4.37.

Table 4.37

Comparison of Planning Questions

Planning Question	**Survey**		**Interview**	
	N*	**%**	**N****	**%**
General Understandings				
Planning Questions	256	71,5	5	23,8
No Planning Questions	7	1,9	16	76,2
Developmental Considerations				
Individual differences and needs	330	91,4	20	95,2
Issues to be Considered				
Structure of questions	87	24,1	6	28,6

* The number of survey participants who chose always, often, or never for no planning.
** The number of interview participants who mentioned the related items.

On the other hand, there was a commonality between the interview and survey findings regarding developmental considerations while planning questions. During the interviews, although the teachers claimed not to plan their questions, they said they considered children's developments. For instance, the teachers who participated in the survey believed that preschool teachers always or often consider children's differences

and needs (n=330, %91,4). Parallel to this finding, participants who were interviewed also reported that children's differences and needs should be taken into account when planning questions (n=20, 95,2%), as shown in Table 4.37.

Issues to be considered was another common code that fell under the planning questions component in teachers' beliefs and self-reported practices. In the survey, teachers stated their beliefs about searching for possible answers and valuing word count. In the interviews, teachers mentioned the structure (simple and clear) and question types. In this context, the structure of the questions and the word count of the questions may be compared. As demonstrated in Table 4.37, preschool teachers' beliefs and self-reported practices about issues considered while planning questions have commonalities. While 24,1% of the survey participants believed preschool teachers value the word count of questions, 28,6% of interview participants reported to plan simple and clear questions.

4.3.3. Asking Questions

There are differences and commonalities between teachers' beliefs and self-reported practices in the 'asking questions' component of the questioning cycle as well. For instance, although most teachers believed that teachers (n=326, 90,3%) ask questions to arouse children's interest, only 28,6% of the total interview participants stated that they actually did so. On the other hand, there is a commonality between teacher beliefs and self-reported practices regarding the 'sharing their feelings' code, as shown in Table 4.38. The survey participants believed that preschool teachers ask questions so that children can share their feelings (n=308, 85,3%). Teachers' self-reported practices also show that they ask questions to enable children to share their feelings (n=17, 80,9%). During the interviews, the teachers also reported that they ask questions because questions allow children to express themselves, help the teacher to assess what information the children can remember and to attract their attention (see Table 4.38).

Table 4.38

Comparison of Asking Questions

Asking Question	Survey		Interview	
	N*	%	N**	%
Goal Relevance				
arousing interest	326	90,3	6	28,6
relaying information	304	84,2	7	33,3
assessing the things children know	312	86,4	8	38,1
sharing their feelings	308	85,3	17	80,9
Issues Considered				
recognizing all children	307	85	4	19

* The number of survey participants who chose always or often.
** The number of interview participants who mentioned the related items.

Preschool teachers' beliefs and self-reported practices about asking questions were compared based on the issues considered while asking questions. Teachers' beliefs showed that most teachers (86,4%) think preschool teachers always or often have full knowledge of the questions that they ask. However, none of the teachers mentioned this item during the interviews. Also, although most survey participants (85%) claimed that preschool teachers recognize all children while asking questions, only four of the total interview participants (19%) touched on this issue, as seen in Table 4.38.

4.3.4. Waiting Time

Another component of the questioning cycle is waiting time. Three hundred sixty-one in-service preschool teachers' beliefs and 21 preschool teachers' self-reported practices were investigated regarding waiting time. A comparison of the findings showed that teachers' beliefs and their self-reported practices have some differences.

Table 4.39

Comparison of Waiting Time

Waiting Time	Survey		Interview	
	N*	%	N	%
Yes to Waiting Time	318	88	8	38,1
No to Waiting Time	1	0,3	10	47,6

* 'Yes to Waiting Time' demonstrates the number of participants who chose always or often. Conversely, 'No to Waiting Time' demonstrates the number of participants who chose never.

Although teacher beliefs claimed that most preschool teachers (n=318, 88%) always or often give children time to think after asking a question, their self-reported practices (n=10, 47,6%) demonstrated that waiting time is not appropriate for preschoolers, as shown in Table 4.39.

4.3.5. Listening to the Response

Data on listening to the response were also collected through surveys and interviews. In this dimension, teacher beliefs and self-reported practices seem to have commonalities.

Table 4.40

Comparison of Listening to the Response

Listening to the Response	Survey		Interview	
	N*	%	N	%
Listening to the Response	245	67,9	15	71,4
No opinion	-	-	6	28,6

* The number of participants who chose always or often.

The survey showed that more than half of the participants (n=245, 67,9%) believed preschool teachers always or often listen to children's responses and consider whether the question is understood or not. Parallel to these beliefs, the interviews showed that most teachers (n=15, 71,4%) reported the importance of active listening and giving

voice to all children after asking a question and listening to them carefully. On the other hand, approximately thirty percent of the participants (n=6) did not share any opinion on listening to the response, as shown in Table 4.40.

4.3.6. Assessing the Response

Another component of the questioning cycle is assessing the response. Teachers' beliefs demonstrated that preschool teachers always or often (n=327, 90,4%) give feedback to children's responses and assess their responses. There was a partial commonality between teachers' beliefs and self-reported practices here. Nearly half of the teachers who participated in the interview (n=10, 47,6%) reported the necessity of assessing the children's responses. On the other hand, although there is one participant who believed preschool teachers never assess children's responses after asking questions, in the interview, there were 5 participants out of 21 (23,8%) who reported their practices that they did not assess children's responses as seen in Table 4.41.

Table 4.41

Comparison of Assessing the Response

Assessing the Response	**Survey**		**Interview**	
	N*	**%**	**N**	**%**
Necessary assess the response	327	90,4	10	47,6
Not necessary to assess the response	1	0,3	5	23,8
No opinion	-	-	6	28,6

* 'Necessary to assess the response' shows the number of participants who chose always or often. 'Not necessary to assess the response' shows the number of participants who chose never.

4.3.7. Follow-up Questions

An analysis of follow-up questions showed similarities between teacher beliefs and self-reported practices regarding these questions. In the survey part, approximately 65 percent of the survey participants (n=235) believed preschool teachers always or often let children ask questions to extend the topic. Similarly, in the interview part of the research, more than half of the teachers (n=14, 66,7%) reported the necessity of asking

follow-up questions. They mentioned the importance of letting the children ask their own questions, asking follow-up questions to expand the topic and make it more understandable, as demonstrated in Table 4.42. All in all, there was a commonality between teachers' beliefs and self-reported practices regarding follow-up questions.

Table 4.42

Follow-up Questions

Follow-up Questions	Survey		Interview	
	N*	%	N	%
Yes to follow-up questions	235	65,1	14	66,7
No to follow-up questions	19	5,3	-	-
No opinion	-	-	7	33,3

* 'Yes to follow-up questions' shows the number of participants who chose always or often. 'No to follow-up questions' shows the number of participants who chose never.

4.3.8. Question Types

The second sub-research question of the third research question was related to teacher beliefs and self-reported practices on question types (open-ended and closed-ended). To compare these, the researcher collected data from the surveys and interviews.

Table 4.43

Question Types

Question Types	Survey		Interview	
	N*	%	N**	%
open-ended	304	84,2	12	57,2
closed-ended	35	9,7	0	0
balanced	52	14,4	3	14,3

***** The number of participants who responded to the survey as always or often.
****** The number of participants who mentioned their preferences.

In the survey part of the research, most participant teachers (n=304, 84,2%) believed preschool teachers always or often ask open-ended questions. On the other

hand, few of the participant teachers (n=35, 9,7%) chose closed-ended questions. In other words, most of them (n=263, 72,8%) believed preschool teachers never or rarely use closed-ended questions. This result was parallel with teachers' self-reported practices as more than half (n=12, 57,2%) in the interviews reported to ask open-ended questions. No teacher reported to ask closed-ended questions, as demonstrated in Table 4.43.

4.3.9. Summary of Commonalities and Differences

In summary, the findings indicated that the preschool teachers who participated in the study appeared to have commonalities in their self-reported practices (interview) and beliefs (survey) regarding listening to the response and follow-up questions. In addition, their beliefs (survey) and self-reported practices (interview) about asking questions, question types, and assessing the response can be interpreted as having partial commonalities. However, the survey and self-reported practices of the participant teachers about planning questions and waiting time seemed to differ, as shown in Table 4.44.

Table 4.44

Summary Table Regarding Commonalities and Differences

Themes	**Survey (Beliefs) – Interview (Self-Reported Practices)**
Planning questions	Differences
Asking questions	Partial commonalities
Waiting time	Differences
Listening to the response	Commonalities
Assessing the response	Partial commonalities
Follow-up questions	Commonalities
Question types	Partial commonalities

CHAPTER 5

CONCLUSIONS AND DISCUSSION

This study aimed to investigate preschool teachers' beliefs and their self-reported practices regarding the use of questioning (question types and questioning cycle) as a teaching method and to explore the commonalities and differences between their beliefs and self-reported practices within the scope of the research questions. In accordance with these purposes, this chapter interpreted the findings and conclusions, discussed them in light of previous studies and related literature, described the implications of the findings in educational settings, and offered recommendations for future studies by considering the study limitations.

5.1. Teachers' Beliefs Regarding Questioning Method, Questioning Cycle, and Question Types

The findings concerning the first research question were discussed in terms of preschool teachers' general use of questioning as a teaching method and its strategies: questioning cycle (planning questions, asking questions, waiting time, listening to the response, assessing the response, follow-up questions) and question types (open-ended and closed-ended).

5.1.1. General Use of Questioning Method

Participant teachers were asked whether preschool teachers use the questioning method, revealing that the preschool teachers frequently (M=4,36) use it with reference to survey reports. Namely, participant teachers believed that preschool teachers ask a certain number of questions during a school day. This finding is in line with studies conducted on the nature of effective and quality teaching. For instance,

Albergaria-Almeida (2010) investigated the number of questions teachers asked in the classroom and found that the teachers spent more than 50% of their class time with the questioning method, asking approximately 300 to 400 questions each day. Göllü (2018) also examined teaching methods that are preferred by preschool teachers in Turkey. She found that preschool teachers (70%) frequently preferred to use the questioning method in their activities. In the national context, the Early Childhood Education Program (MoNE, 2013) also included a part that covered questions. Preschool teachers in Turkey are responsible for planning and asking these questions. In line with the studies conducted (e.g., Bay, 2020; Ross, 1860; Wilen, 1991) and in accordance with the nature of quality and effective teaching (e.g., Chin & Osborne, 2008; Taba, 1966; J. A. Walsh & Sattes, 2005), teachers who took part in the current study believed that preschool teachers very often use the questioning method in the learning and teaching process.

5.1.2. Planning Questions

Walsh and Sattes (2005) underlined that the teachers should plan their questions before asking them—by doing so, they can consider the questions' purpose and content and the children's cognitive levels. In the current study, the researcher examined teachers' beliefs as to whether preschool teachers planned questions or not and whether they considered children's development and specific issues while planning them. Specifically, teachers' planning of questions was examined in three sub-groups: General understandings of planning questions, issues considered, and developmental considerations.

Referring to the survey report, the participant teachers generally believed that preschool teachers plan their questions before asking them (M=4,01). Related to this finding, Fusco (2012) and MacNaughton and Williams (2004) also stated that teachers should plan their questions. Haynes (2010) also emphasized the necessity of planning questions while designing an activity plan, and he stressed that teachers should plan learning and assessment of the activity effectively. In Turkey, planning questions are specified as a necessary part of the national early childhood education program, so preschool teachers are required to write down questions in their activity plans (MoNE,

2014). In this respect, teachers may believe preschool teachers should plan their questions.

While planning questions, the participants reported that preschool teachers sometimes considered some issues such as the word count, searching for answers, and so on (M=3,40). In the related literature, the questions' word count (using a limited number of words) and planning their level from simple to complex are important factors to be considered to create effective early learning skills (Fusco, 2012; MacNaughton & Williams, 2004). However, according to the participants, preschool teachers consider the word count of the questions less while planning questions. Their beliefs in not considering the word count of the questions might be related to the teachers' knowledge of children's language development (Phillips et al., 2020) or their knowledge of the nature of structuring the questions. Hence, as Phillips found, preschool teachers who are knowledgeable regarding early language development are likelier to know how to create effective questions, including appropriate word count.

There may be a gap between the teachers' beliefs concerning developmental areas (e.g., language development) and their relationship with the questions asked (Meacham et al., 2014). In the current study, the participant teachers were found to believe that preschool teachers considered children's areas, such as their differences, needs, and so on (M=4,15) while planning their questions. This finding is in line with previous studies, which found that preschoolers' developmental skills can be improved if their teachers' questions are planned considering their current ability level. It is also known that using open-ended questions in sociodramatic play prevents some of the preschoolers' engagement in the activity because children do not answer these questions, and preschool teachers should therefore consider each child's needs and developments (Combs, 2009).

Accordingly, as per the participant teachers' beliefs regarding planning questions, preschool teachers need to consider children's developmental levels and pay less attention to the word count of their questions. This offers clues about the participant teachers' understanding of the nature of planning questions. This understanding might be affected by some policies because preschool teachers must plan their questions before conducting the activities (e.g., Haynes, 2010; MoNE, 2014).

5.1.3. Asking Questions

Wallace and Hurst (2009) analyzed the findings of studies from three different years (1967, 1987, and 2007) and listed teachers' purposes for asking questions. They found that the teachers asked questions in those years to assess children, check children's current levels, encourage their thoughts, enhance their learning, and measure the effectiveness of their teaching. This study defined the purpose of asking questions as teachers' goal relevance. The mean scores calculated for the goal relevance sub-group (M=4,36) revealed that preschool teachers frequently asked questions to promote children's interests and curiosity, assess them, examine their current knowledge, and understand their feelings. In other words, teachers believe preschool teachers use the questioning method for assessing, promoting, and understanding preschoolers' feelings. In Turkey, the Early Childhood Education Program also includes these question types (MoNE, 2013). Preschool teachers should follow this program, so asking questions for assessing and understanding feelings might be reasonable. For example, in the ECEP, teachers are obliged to plan affective questions to understand children's feelings about the activity. For this reason, previous studies and the findings of this study overlap with each other.

Besides goal relevance contexts, the issues considered while asking questions were also examined. On the basis of teachers' beliefs, the preschool teachers generally (M=4,33) considered some issues while asking questions: posing the questions to the whole class and investigating the possible responses. MacNaughton and Williams (2004) recommended that preschool teachers ask questions individually rather than to the whole class. This is because each child's developmental needs can be different, and preschoolers can better pay attention when asked questions prefaced by their names. However, according to the findings of this study, preschool teachers ask questions to the whole class. This is in line with Walsh and Sattes (2004), who emphasized the effectiveness of asking questions to the whole class for older class levels, such as high school students. However, in the early years, children have different reasoning and learning abilities. For example, while a three-year-old child may not distinguish between the true color of the milk and its appearance in the red glass, another child at the age of four may realize that this color distinction comes from the characteristics of the glass. Alternatively, a different three-year-old may be aware

that the color of milk is white. She/he may realize that the reason why it appears red is the color of the glass. (Bullock et al., 2009). Therefore, the questions of the teachers ask the individuals themselves are more important in the preschool learning environment. The tendency of teachers to ask questions to the whole class, found in the current study, can be explained by the collectivist culture adopted by Turkish teachers. In this context, Kağıtçıbaşı (1997) mentioned that Turkish culture is not individualistic but collectivist, and Toker Gökçe and Oğuz (2015) also emphasized that teachers who live in Turkey adopted collectivist culture. Therefore, in the current study, findings can be interpreted that teachers who adopt collectivist culture pose their questions to the whole class, as expected.

In the present study, teachers' beliefs about asking questions, considering teachers' goal relevance, were similar to previous studies (e.g., Ross, 1860; Wallace & Hurst, 2009), but asking the whole class was not in line with MacNaughton and Williams (2004)'s suggestions. At this point, MacNaughton and Williams's (2004) offers were for early childhood education levels, while Walsh and Sattes's (2004) recommendations were for older children. In this case, the findings of this study may mean that participant teachers reported that preschool teachers to ask questions a little further from what is developmentally appropriate and MacNaughton and Williams (2004)'s suggestions.

5.1.4. Waiting Time

After asking questions, waiting for a while increases questioning effectiveness (e.g., Fusco, 2012; Rowe, 1978). Participant teachers were asked about preschool teachers' general understanding of waiting time, and specifically their waiting times after open-ended and closed-ended questions. In this study, participant teachers believed that preschool teachers generally (M=4,1) give children time to think and wait more than three seconds after asking questions. The findings of previous studies were not in line with this finding of the current study. For example, Günay Bilaloğlu et al. (2017) observed preschool teachers, and they found preschool teachers did not use waiting time, so they did not wait for children even a second after asking questions. Similarly, Mauigoa-Tekene (2006) also noticed that preschool teachers waited less than three seconds after asking questions. The differences between this study and

related literature may be the nature of the studies. It means that although the findings of this study were based on teachers' beliefs, the related literature studies were observational studies (e.g., Bay & Hartman, 2015; Good et al., 1988; Günay Bilaloğlu et al., 2017; Rowe, 1978), whereas teachers in this study might believe preschool teachers should wait for a while, but they may not be aware that they do not wait sufficiently in practice.

Wasik and Hindman (2018) emphasized that waiting time after asking questions may increase children's opportunities to talk and develop their language skills. Accordingly, the current findings of the study indicated that preschool teachers might be aware of the importance of waiting time. Specifically, according to their reports, preschool teachers generally give the children waiting time after asking open-ended questions. For that matter, teachers rarely wait after asking closed-ended questions (M=2,70). The reason for the differences between waiting time after closed-ended questions and waiting time after open-ended questions might be related to teachers' understandings and definitions of these different question types. That is, the preschool teachers may think that closed-ended questions have short answers and can become easily predictable, so they can wait less. To the best of the researcher's knowledge, no study has been conducted with teachers regarding waiting time after asking two question types. However, there is a study conducted by Vettel and Windsor (1997) with young learners' mothers who were found to give equal waiting time after open-ended and closed-ended questions. These periods were less than three seconds.

Previous studies underlined the importance of waiting time and mentioned that three or more seconds allow children to express themselves more comprehensively and increase the effectiveness of the questioning method (Blosser, 2000; Critelli et al., 2010; Qashoa, 2013). The present study found that teachers' beliefs regarding waiting time give some clues about the nature of waiting time after asking questions in preschools. Generally, teachers believe preschool teachers wait after asking questions for a while. This waiting time might change according to question types.

5.1.5. Listening to the Response

Teachers should listen carefully to children's responses to understand them comprehensively (Fusco, 2012). When teachers listen thoroughly to responses, they can assess whether children misunderstand the question or not. From this, teachers can make their questions understandable or re-ask their questions differently (Fusco, 2012; Sigel & Saunders, 1977). In this study, the preschool teachers were asked about their beliefs regarding preschool teachers' listening to the children's responses in the context of the listening clues. On the basis of the survey reports, participant teachers believed that preschool teachers listen to children's responses actively because they generally (M=4,10) clarify their questions based on children's responses and generally (M=4,39) ask their questions differently if the children do not understand their questions. In line with the findings of the current study, Andersson and Gullberg (2014) investigated preschool teachers' listening competencies during science activities. They emphasized that preschool teachers listen actively to understand children's responses and explanations. Also, they rearrange their questions based on children's explanations, if needed. To rearrange their questions based on children's responses may make children more willing to participate in the activity and share their thoughts. Consequently, the findings of previous studies and reviews (e.g., Andersson & Gullberg, 2014; Fusco, 2012; Spooner & Woodcock, 2010; Walsh & Sattes, 2005) were in line with the findings of this study. Preschool teachers generally emphasized the necessity of rearranging and clarifying the questions by actively listening to children's responses. This may result from Turkey's Early Childhood Education program's objectives and indicators regarding listening comprehension. Preschool teachers aim to reach the objectives and indicators regarding listening with their activities. On the other hand, listening to children's responses is one of the most important parts of the questioning. Without listening to them, asking questions may be purposeless. For this reason, teachers believe preschool teachers listen to the children's responses actively.

5.1.6. Assessing the Response

Sigel and Saunders (1977) mentioned the necessity of assessing the children's responses after listening to them. For example, if the teacher asks about the importance of colors and the children respond to this question by telling about the importance of animals, the teacher should assess the children's responses in terms of the relevance of the topic and can rearrange her/his questions. In parallel with the literature review, the teachers were asked about their beliefs regarding preschool teachers' assessing after listening to children's responses. Participant teachers believed that preschool teachers generally (M=4,07) assess children's responses because teachers give some clues (M=4,34) and feedback (M=4,53) if children needed this. Also, teachers believed that preschool teachers assess their responses considering the clarity of questions (M=4,43). However, the findings of this study were not in line with some of the previous studies. For instance, Wang (2019) conducted a study with Chinese preschool teachers. The findings showed that teachers did not assess the child's answers because they moved to ask different questions or to the next step immediately. Similarly, Hu et al. (2021) examined preschool teachers' feedback during science activities, and they found that teachers did not clarify their questions when children misunderstood them. The reason for the discrepancy between previous studies and this study might be the nature of the studies because this study was conducted with a larger group of teachers, and they mentioned their beliefs through the survey. On the other hand, previous studies were conducted based on researchers' observations. Specifically, although the preschool teachers may share beliefs that coincide with the previous reviews, the information which was obtained about their actual practices and their reports may make the findings more arguable. As a result, the findings of the preschool teachers' beliefs regarding giving feedback and clues based on children's responses make preschool teachers' assessing the responses and understandings clear. Teachers believe preschool teachers assess children's responses based on their responses' clarity and give feedback accordingly. This can cause teachers to believe in the necessity of assessing responses and be a natural consequence of using a questioning method while teaching. However, if the teacher asks, "What color is this?" And the child answers

with, "I have a cat; her name is Sapphire" the teacher would need to query this. Otherwise, it would be meaningless to use questioning as a teaching method.

5.1.7. Follow-up Questions

Walsh and Sattes (2005) emphasized the necessity of follow-up questions to support children's developmental skills. They recommended that teachers use follow-up questions. Similarly, Gilson et al.(2014) conducted a study with elementary school teachers and examined their follow-up questions during reading activities. They found that teachers generally use follow-up questions to scaffold children's understandings. In this context, Zucker et al. (2020) emphasized that teachers may increase children's developmental skills by using constructed conversations, and these conversations can be supported with follow-up questions. The teachers were asked for their general beliefs regarding preschool teachers' understanding of follow-up questions in this study. With reference to the survey reports, participant teachers believed preschool teachers often (M=3,82) ask follow-up questions. Specifically, in the current study, teachers generally use follow-up questions to extend the topic, make discussions based on different responses, and let children ask their questions. Hu et al. (2021) found that preschool teachers frequently used follow-up questions during the science activities, and these follow-up questions might be open-ended or closed-ended. Moreover, Dickinson et al. (2008) conducted a study with Head Start classes, and they found that the teachers asked follow-up questions to extend topics that increased children's language skills. As the literature indicates, teachers may ask follow-up questions to support children's developmental areas. In other words, teachers' beliefs about the use of follow-up questions may be related to understanding whether children have achieved the goals in a holistic way. In this section, compared to other items, the item with the lowest mean score revealed that preschool teachers sometimes (M=3,07) ask follow-up questions so that children give different responses. Parallel with the studies conducted and the literature review (e.g., Walsh & Sattes, 2004; Zucker et al., 2020), teachers who took part in the current study said preschool teachers generally use follow-up questions, but they rarely or sometimes ask follow-up questions in order that children give different responses. This may be because the teacher wants to manage the teaching and learning process. Therefore, different children's responses

may move away from the goals, which takes the teacher to objectives and indicators. As a result, teachers believe that although preschool teachers rarely prefer follow-up questions so that children can give different answers, they often include follow-up questions to extend the topic.

5.1.8. Question Types

The study participants were asked to state their beliefs regarding preschool teachers' use of two question types (open-ended and closed-ended). The mean scores show that they believe preschool teachers ask open-ended questions during their activities (M=4,29) and rarely use closed-ended ones (M=2,01). However, previous studies showed that teachers often ask closed-ended questions during activities (e.g., Allerton, 1992; Deshmukh et al., 2019; Günay Bilaloğlu et al., 2017; Hamel et al., 2021; Massey et al., 2008; Wittmer & Honig, 1991). For instance, Hamel et al. (2021) investigated preschool teachers' questioning strategies during science activities, and they observed teachers while asking questions and recorded them. They found that 78% of the questions asked by teachers were closed-ended. Studies showed that teachers' additional training could influence their perceptions and understandings of their questioning strategies (Bay, 2011; Early et al., 2007; Howe et al., 2012). Hence, although teachers know the impact of open-ended questions, this might result from teachers' knowledge base regarding question types and lack of awareness of the effectiveness of question types. The reason why teachers believe that preschool teachers ask open-ended questions more may be because they hold that open-ended questions are more effective than closed-ended ones. Fisher and Frey (2010) emphasized that teachers should also ask closed-ended questions and that such questions should exist in the teaching-learning process because they help teachers to understand what children know and do not know. For this reason, researchers (2010) highlighted the necessity of asking closed-ended questions as much as open-ended ones. Birbili and Karagiorgou (2009) emphasized the value of asking open-ended and closed-ended questions in a balanced manner. For young learners, it can be challenging to put complex thoughts into words. In such cases, the teacher may scaffold the child's thinking with closed-ended questions. In this context, teachers' knowledge base needs to be evaluated in the scope of question types.

5.2. Teachers' Self-Reported Practices Regarding Questioning Method, Questioning Cycle, and Question Types

Teachers' self-reported practices were compiled through semi-structured interviews. Findings based on the participant teachers' self-reported practices were discussed concerning their general understanding of the questioning method and its two strategies defined in the study: Questioning cycle components and question types.

5.2.1. General Uses of Questioning Method

In the early childhood level, children cannot read and write. For this reason, preschool teachers mainly teach something to young learners verbally (Alatalo & Westlund, 2019). One of the teaching methods which support verbal interaction between teacher and children is questioning. The preschool teachers who were interviewed were asked to what extent they used the questioning method in their activities. Concerning teachers' interview reports, as expected, preschool teachers frequently use questioning as a teaching method in line with the findings of previous studies (e.g., Almeida, 2012; Bay, 2011; Günay Bilaloğlu et al., 2017). This finding may be discussed with the necessity of using questioning, which is one of the verbal teaching methods, to support the development of children who do not have reading and writing abilities. Preschoolers learn through interactions, and by asking questions, teachers help to create children's thoughts; they may understand children's feelings and assess them based on teacher-child interactions (Alatalo & Westlund, 2019).

The teachers in this study were asked in which activity types they used the questioning method, and the findings were discussed based on activities (math, language, science, and so on). Although the teachers were asked about the types of activities, they also mentioned the starting the day activities (circle time) in their daily routine. Hence, preschool teachers may perceive circle time as a learning activity.

Regarding circle time, the interview reports analysis revealed that the preschool teachers frequently use the questioning method in circle time. Bustamante et al. (2018)'s study was not in line with the findings of this study because they found that the preschool teachers asked no or few questions during circle time. However, the researchers suggested that the teacher should use questions to encourage young

learners' feelings and understandings during circle time, as in line with the findings of the study. Mosley (2005) also highlighted that preschool teachers should use the questioning method in circle time to support their development. Especially while Bustamante et al. (2018)'s observational study found that the teachers did not use the questioning method in circle time, in this study, preschool teachers reported that they used questions during circle time, as recommended by the literature. The difference between the finding of Bustamante et al. (2018)'s study and the finding of this study might be due to the design of the studies. In other words, researchers collected teachers' self-reported practices for this study, and the other research was conducted through direct observations. In the current study, teachers may have responded according to social desirability. Lavrakas (2008) identified social desirability as one respondent-related bias. That is, respondents may tend to report their responses in a way they find more socially acceptable than their "real" response. In this context, Izadinia (2015) and Keys (2005) emphasized that there might be a difference between teachers' self-reported practices and their actual practices, so sometimes the teachers may talk the talk, but they may not really walk the walk.

Regarding the learning activity types, preschool teachers mainly reported that they use the questioning method during the language (90,5%) and science (61,9%) activities. In line with these findings, Günay Bilaloğlu et al. (2017) and Hamel et al. (2021) investigated preschool teachers' questions in science activities, and they observed them. Both studies found that preschool teachers use questions in science activities. Related to language activities, Deshmukh et al. (2019) examined preschool teachers' questions, and they reported that teachers commonly use questions in language activities. Accordingly, preschool teachers mainly use questions in language and science activities. The reason might be that teachers want to establish interaction based on teacher-child dialogue in these activities than in other activities. In this sense, Kılınççı and Bayraktar (2021) emphasized that preschool teachers felt confident in starting conversations in language activities. For example, during the reading activity, the teacher can use the questioning method depending on the story's plot. Kimmy (2017) also found that preschool teachers can create a question-and-answer environment more easily by using books and provide a discussion environment. Preschool teachers also mentioned they used frequent questioning in science activities. The reason might be the nature of science activities. Gerde et al. (2013) identified

asking questions is one of the scientific method's steps in ECE activities, and they defined the scientific method as an asking and answering process. Cabell et al. (2013) also found that preschool teachers ask more questions in science activities than during other activity types such as math and drama activities because of the nature of science activities.

On the other hand, more than half of the teachers do not use the questioning method in movement (61,9%) and art (52,4%) activities. However, in the literature, the questioning method needs to be used in all different activities, including play, art, and movement. In detail, Frost et al. (2012) emphasized that teachers can open new doors for children with guiding questions during play activities. Similarly, teachers should also encourage challenges in movement activities through their questions, such as 'How can you do this movement differently?' (Abels & Bridges, 2010). Moreover, asking questions in art activities could greatly contribute to children's critical thinking skills and may challenge their perceptions (Fox & Schirrmacher, 2015). Contrary to Fox and Schirrmacher (2015) 's suggestions, in this study, the reason why the teachers rarely asked questions in art activities may be related with one of the Falkenrath (1995)'s findings that teachers may not be asking questions in order not to interrupt children's concentration during their art activities. Also, findings of this study can be elaborated with Otieno et al. (2015)'s study which investigated preschool teachers' beliefs related to questioning method in terms of assessing children's emotional, cognitive, social, personal developments (language, math, science activities and so on); physical developments (movement activities), spiritual and moral developments (art activities). Teachers reported that questioning is more frequently used in language, math, and science activities than in art and physical activities.

Participants were asked in which parts of the activity they used the questioning method. Based on the interview reports, the preschool teachers believe they generally use questioning methods at the beginning and end of the activity rather than during one because most teachers underlined the necessity to leave children alone to concentrate during the activity. In particular, Walsh and Sattes (2005) underlined that preschool teachers should ask questions during the activity process to encourage children's interactive learning, not only at the beginning and end of the activity. Moreover, MacNaughton and Williams (2004) mentioned that preschool teachers should use questions when starting an activity to attract children's attention and again

at the end of the activity to assess children's development. Another explanation for using the questioning method at the end of the activity might be that Turkey's Early Childhood Education Program includes assessment questions. Preschool teachers write down assessment questions at the end of their activity plans, so they may prefer to ask them at the end of the activity. In this context, the Turkish ECE Program emphasizes the great importance of assessment questions. This program even encourages teachers to ask questions at the end of the activity with different types of assessment questions (Turupcu Doğan & Ömeroğlu, 2019). In this respect, the finding obtained by the current study is an expected. However, as the literature says (e.g., MacNaughton & Williams, 2004), the questioning method can also be used effectively in the learning process as well as in the assessment. Accordingly, the preschool teachers' self-reported practices about asking questions give some clues regarding the teachers' general understandings of using the questioning method and contribute to the related literature.

5.2.2. Understanding of Questioning Cycle

Participants' self-reports covered the questioning cycle and its components, along with definitions of the questioning cycle. Fusco (2012) defined the cycle as a facilitator to engage children's active involvement and as a systematic process in which teachers should plan their questions, ask the questions they planned, give the children waiting time for their responses, listen to the children's responses, assess their responses based on objectives and indicators, and ask follow-up questions within the assessing response context. Most of the participants (n=12) in the present study defined the questioning cycle as a two-way communication tool between teachers and children and did not include details on the questioning cycle components. This may be due to the fact that the questioning cycle term is new for the preschool level. Fusco (2012) introduced this term in research that was conducted with primary school teachers and recommended the strategy for use in the preschool period as well. In this sense, although the teachers emphasized that this strategy is a form of communication between the child and the teacher, they did not report anything in detail regarding their components. Accordingly, teachers' reports support the literature because the

systematic process which is followed in the questioning cycle establishes question and answer dialogue between the children and the teacher.

5.2.3. Planning Questions

Alvestad and Sheridan (2015) emphasized that preschool teachers should plan questions in their activities considering children's age, their interests, and curriculum goals. Moreover, Epstein (2003) highlighted that teachers should promote children's thinking and their development by planning questions. In this line, Zucker et al. (2010) also suggested that preschool teachers should plan their questions before asking them. On the basis of these reviews, in this study, the teachers' self-reported practices were investigated regarding planning questions which is the first component of the questioning cycle that has three sub-categories: General understandings, developmental considerations, and issues considered.

As mentioned in the literature review in the MoNE Early Childhood Education Program Book, preschool teachers are responsible for preparing activity plans. Within the scope of the activity plan, both the learning process and the assessment process, including questions, should be planned. In relation to teachers' self-reported practices, most of the teachers (n=16) reported they did not plan the questions before the activity, while five of them reported that they planned. In this context, Sak et al. (2016) stated that preschool teachers do not pay much attention to the implementation of the activity plans, or they may use ready-made activity plans they find on the internet. One of the reasons for the discrepancy between the study's findings and the recommendation of the relevant literature may be this. Other reasons might be related to participant teachers' reports. Hence, the ones who stated that they did not plan reported their reasons as emphasizing that they were experienced enough teachers to plan the questions in their minds, and planning questions may not be meaningful because unexpected situations may occur during the activities. As many of the teachers emphasized in the current study, the reason why they did not plan questions before the activity might be related to their years of experience. Meacham et al. (2014) emphasized that detailed planning may be required at the beginning of the teaching years. In the present study, teachers' average years of experience was about 14 years. Therefore, as Meacham mentioned, teachers may not be planning questions based on

years of experience. The following example can explain this situation. A musician who is just learning an instrument should plan all the steps before going to a concert. As the musician's experience increases, she/he can appear before the audience by using more free notes. The situation of the teacher in the classroom may also be like this. Teaching experience, which changes depending on the years of experience, may also have affected the planning of the questions. On the other hand, teachers also stated that they did not plan the questions because unexpected situations might have occurred. Hence, teachers may think that preparing questions is a waste of time due to the unpredictable nature of children. Therefore, teachers may tend to ask questions immediately, without planning.

Children's developmental characteristics and designing the structure of the questions based on these characteristics were issues considered by the teachers while planning the questions. The analysis of the study revealed that preschool teachers considered some developmental issues regarding children's differences and needs and questions' properties (being concrete to abstract, open-ended, simple and clear, etc.). MacNaughton and Williams (2004) and Cooper et al. (2014) emphasized that the teachers should consider children's developmental differences and needs while planning questions. They should ask questions from concrete to abstract considering children's differences and needs. Moreover, MacNaughton and Williams (2004) suggested that the questions be simple, clear, functional, and balanced. As a result, although most of the teachers reported that they did not plan their questions, they emphasized that they considered some issues in line with the literature. One of the reasons for this may be that the teachers planned questions by keeping them in mind and did not write them down as they considered themselves experienced. Otherwise, teachers' understanding of planning questions can differ from the international literature (e.g., Fusco (2012) defined planning questions as planning not only on the activity plan but also considering children's developmental necessities and differences). In the Turkish context, teachers may have perceived that planning questions means 'writing questions into prepared daily plans.' In this sense, although they did not write the questions, they may have mentioned the issues to be considered while planning the questions. However, in the literature, teachers should write their possible questions in the activity plan by considering goals and objectives (Price & Nelson, 2019; Wilen, 1992).

Accordingly, teachers' self-reported practices contribute to the planning questions component in the context of Turkey because teachers may have presented a different view to the planning questions component.

5.2.4. Asking Questions

In this study, the teachers were asked about their self-reported practices regarding their understanding of asking questions which is the second component of the questioning cycle into two sub-categories: Goal relevance and issues considered.

Teachers ask questions for some purposes in the learning and teaching process. MacNaughton and Williams (2004) introduced these purposes as goal relevance. Regarding goal relevance, with respect to the teachers' self-reported practices, the findings showed that teachers ask questions for assessment and provide active learning environments (attracting attention, enabling children to express themselves and their feelings, arousing children's interests and information). In other words, teachers in the current study used the questioning method for these purposes. In literature, Wallace and Hurst (2009) also examined three different studies conducted in 1967, 1987, and 2007 which investigated why teachers asked questions in those years and investigated their goal relevance. The findings based on these three years showed that the teacher generally asked questions to assess children's learning. Hence, after 14 years of Wallace and Hurst's (2009) study, most teachers who participated in the current study also reported asking questions to assess children. Based on this, teachers' uses of the questions may not be much different from past years. This may be related to the nature of the early childhood education program in Turkey because, in this program, there are assessment questions at the end of the activity. While this program recommends assessment questions, it is expected that teachers will use the questioning method for assessment purposes. In addition, the teachers also reported that they asked questions to provide an active learning environment in this study. Related to this, the literature also suggests the use of the questioning method to provide active learning environments. When teachers use a questioning method effectively in their teaching, it may be possible to move children from passive learners to active learners (Paul & Elder, 2019; Walsh & Sattes, 2004). The reason might be teachers' understanding of child-initiated activities. In recent years, researchers emphasized the effectiveness of

child-initiated activities and the role of questions in supplying an active learning environment for the child-initiated activities (e.g., Sak et al., 2016; Vaisarova & Reynolds, 2022). Consequently, MacNaughton and Williams (2004) emphasized that teachers should ask questions for reasons that support active learning, such as enabling children to express themselves, share their feelings, arouse their interests, and attract their attention. In this context, teachers' self-reported practices may support the literature.

Another concern investigated in the study was the issues considered while asking questions. Preschool teachers reported some issues they considered, such as class dynamics (children's needs, differences, interests, etc.), giving voice to all children, and using gestures and facial expressions. Though six teachers did not mention the issues which they considered, the issues reported by the teachers were parallel with the literature. For instance, Ram (1991); Wallace and Hurst (2009) stressed that during the asking questions process, teachers should consider some situations such as individual differences, the way of asking questions, or the structure of the questions. Moreover, Zucker et al. (2020) stressed that the teachers should scaffold their questions based on children's necessities and their zone of proximal development. On the other hand, Khandamova (2020) mentioned that the teachers should use body language and facial expressions while asking questions. MacNaughton and Williams (2004) specifically stressed the importance of using facial expressions in an ECE learning environment to attract children's attention. This may be because preschoolers have short attention spans (Aslan et al., 2022). Teachers should consider some issues in order to attract preschoolers who have a short attention span while asking their questions. In this context, the current study's findings also support the literature.

All in all, the preschool teachers' self-reported practices give some clues regarding asking questions related to their general understandings, the purpose of asking questions, and the issues they considered. These were in line with the recommendations of the literature and young learners' developmental appropriateness.

5.2.5. Waiting Time

Previous studies support the use of waiting time, not only with older grade levels but also with children in the early years. For instance, McAllister (1990) conducted a

study with young learners and their teachers. She found that teachers waited longer after asking questions to children with higher capacity than children with lower capacity. This is a surprising finding for the researchers because they suggested teachers should give more time for thinking to children with lower capacity. Besides their capacities, the young learner's teachers should give more time to think after asking (MacNaughton & Williams, 2004). For these reasons, the teachers' self-reported practices were investigated regarding waiting time. The analysis revealed that almost half of the teachers (n=10) reported that waiting time was not appropriate for children, so they did not wait for their answers after asking questions. While some of them (n=8) reported they waited for children after asking questions, others (n=3) reported they had no opinion regarding waiting time.

Although most of the teachers reported they did not wait after asking questions, the previous literature emphasized the value of waiting time (e.g., Günay Bilaloğlu et al., 2017; Mauigoa-Tekene, 2006; Sigel & Saunders, 1977; Stahl, 1994; Wasik & Hindman, 2018; Wittmer & Honig, 1991). In this study, the teachers reported the reason why they did not wait as children's limited attention span and their impetuosity. Preschool children may be impatient while waiting their turn. However, the ability to wait is one of the behaviors that should be taught in preschoolers and can be learned based on experience (Roberts & Fishbach, 2022). The literature has demonstrated the effectiveness of a waiting time after asking a question. Even if children are impatient, the necessity of waiting time has been emphasized in the relevant literature (e.g., Günay Bilaloğlu et al., 2017). Accordingly, the findings of previous studies were in line with this study, but previous reviews and suggestions were not in line with the findings. For instance, Rowe (1978) investigated teachers' questions per minute, and he found the average to be approximately 12 questions in a minute. Moreover, when the number of questions increases, children's breathing and sighing rates also increase. So, he underlined that although rapid questioning can be suitable for some lessons or questions, children's quality of expressions and thinking spans decrease. When waiting time increases, the length of children's responses, the number of meaningful responses, confidence increases, and failures to respond decrease (Rowe, 1978, 1986; Tobin, 1987). That is, although the research designs of previous studies and this study differ, the overlap in their findings may indicate that teachers' self-reported practices were in line with their actual practices in the classroom. However, these findings were

not in line with previous reviews and recommendations because the literature suggested preschool teachers should wait after asking questions to increase effectiveness, as mentioned above. As Fusco (2012) emphasized, the differences between the recommendations and the findings may be due to teachers' lack of necessary knowledge about the benefits of waiting for responses to their questions. She found that the waiting time should be increased after training the teachers. Teachers may not have the necessary knowledge to understand how to put the waiting time component into practice. In this context, some of the teachers also reported that they did not know anything about the waiting time issue. Although teachers may want to implement teaching-based strategies in their classrooms, however their lack of knowledge of how to do this may cause them to practice differently than intended (Cheung, 2012). In this case, it may simply be that a lack of knowledge about the topic discourages teachers from making efforts to implement a waiting time strategy when asking questions.

In general, the participant teachers reported that in their practices, they generally did not wait adequately (at least 3-5 seconds) after asking questions because they mentioned that waiting time was not suitable for the preschool learning environment. However, as explained in the literature review (e.g., Günay Bilaloğlu et al., 2017; Mauigoa-Tekene, 2006; Sigel & Saunders, 1977), this time is necessary for the ECE environment, and the preschool teachers should wait at least 3-5 seconds after asking questions.

5.2.6. Listening to the Response

MacNaughton and Williams (2004) emphasized that children learn listening from their teachers. So, preschool teachers should listen to children’s responses to teach them to listen effectively. Also, as cited in Seefeldt (1980), when teachers listen to children’s responses effectively, they show that they value children’s ideas. In this study, teachers’ self-reported practices were examined regarding listening to the responses, which is a component of the questioning cycle. The analysis revealed that most teachers reported they listened to children’s responses actively. Jacobs et al. (2007) also emphasized the importance of active listening after asking questions, and they mentioned that active listening might increase children’s sense of wonder.

Teachers' self-reported practices emphasize that they actively listen to the responses while using the questioning method in the ECE setting, as recommended in the literature. One interpretation of this finding might be that teachers may want to create conditions to encourage children's participation in the activity process by actively listening to them (Mascadri et al., 2021). In fact, it was expected that the teachers' arguments about active listening after asking questions would be about assessment because the ECE program underlines this. When the findings were analyzed, it was found that this was not the case. This may mean that preschool teachers consider the listening the response component, which is part of the questioning cycle, holistically.

5.2.7. Assessing the Response

Brewer (2014) and Fusco (2012) stressed that teachers should assess children's responses. Importantly, these assessments help teachers to plan their future activities and offer some clues to plan their follow-up questions. In the present study, most teachers emphasized that they assessed children's responses, but some said they did not assess them.

The findings demonstrated that most teachers reported assessing the children's responses to understand whether they reached the targeted objectives and indicators. Fusco (2012) also stressed that teachers might assess what the children already know. Consequently, the teachers' self-reported practices and literature reviews emphasized that teachers generally assess children's responses. On the other hand, some teachers reported that they did not assess the children's responses because they tended to believe that if they asked the assessable question, this question should be closed-ended; thus, closed-ended questions may not be used to assess the response. As Fusco (2012) argues in her findings, teachers who do not assess children's responses may think that children's responses might just be assessed based on whether they give correct answers. However, assessing the response means more than whether the response is right or not (Fusco, 2012). This may be related to teachers' limited knowledge of assessing responses. According to the findings, teachers who reported that they did not assess the response may think in line with the responses of the children. In addition to the perspective, Fusco (2012) emphasized that assessing the response is also the teacher's assessment of her/his questions.

Accordingly, most of the teachers emphasized that they assessed the responses, as supported by the literature, because based on children's responses, they may arrange their questions or they may design follow-up questions. In this context, the findings based on most of the teachers' self-reported practices regarding assessing the response component of the questioning cycle were also supported by the literature.

5.2.8. Follow-up Questions

Fusco (2012) emphasized that teachers should ask follow-up questions, and she mentioned that these questions are generally used to give feedback and further understanding after assessing children's responses. The teachers were asked their self-reported practices regarding follow-up questions in this line. Most of the teachers reported that they asked such questions to expand the topic and make it more understandable. Marzano et al. (2001) also referred to a meta-analysis of eight studies, and they found that children who received further questions from their teachers better covered and discussed the issue than children who did not receive any follow-up questions. Correspondingly, they concluded that follow-up questions could be effective tools for making a topic more understandable and extend the children's learning with teachers' feedback. Moreover, Fusco (2012) shared her observation conducted with first graders and their teachers, describing how teachers asked follow-up questions to expand the topic and make the children talk. Webb et al. (2009) observed that although teachers have an important role in initiating and maintaining classroom interactions, they rarely encourage children to speak and maintain classroom question and answer dialogue. They found that teachers did not ask follow-up questions. In the current study, it was established that preschool teachers ask follow-up questions to maintain classroom interaction. As Muhonen et al. (2022) explained, the dominant type of interaction in preschool is a process where the teacher asks a question, and a child answers that question, and the teacher provides feedback on the correctness of the child's answer. The findings of this study also indicate that the preschool teachers asked follow-up questions. Consequently, as recommended in the literature, children's learning occurs comprehensively (Fusco, 2012; Walsh & Sattes, 2005).

5.2.9. Question Types

Question types were investigated based on teachers' self-reported practices as a second questioning strategy. The findings involve preschool teachers' definitions related to two question types, their disadvantages and advantages, their fields of usage, and teachers' preferences.

Teachers' definitions were asked regarding question types to understand their self-reported practices comprehensively. In relation to the closed-ended question, the teachers defined it as a question with a single answer, a predictable answer, and a short and clear answer. In the literature, a closed-ended question is also generally defined as a question with one possible answer, guessing what the teachers think (e.g., Fisher & Frey, 2010; Raphael, 1986; Tofade et al., 2013). The findings of the current study support the literature. Based on the self-reports of preschool teachers, open-ended questions were defined by them as questions that usually have more than one answer and allow children to express themselves. Previous literature also defined open-ended questions as a tool to build children's thinking, promote their higher-order thinking skills, express themselves, and this type has a variety of acceptable answers (e.g., MacNaughton & Williams, 2009; Rogers, 1990; Sigel & Saunders, 1977; H. Wood & Wood, 1983). That is, the definitions of the teachers coincide with the definitions in the literature. Teachers defined the question types as in the literature. These findings show that teachers have a good knowledge of the definition of question types.

Regarding the disadvantages of open-ended and closed-ended questions, the analysis revealed that teachers did not report any disadvantages to open-ended questions. Teachers reported they used open-ended questions to enable children to share their feelings, understandings, and imagination. MacNaughton and Williams (2004) also emphasized asking open-ended questions for these purposes. One of the reasons may be that there are affective questions in Turkey's Early Childhood Education Program. The national program emphasizes the necessity of asking questions about children's feelings and understandings at the end of the activity. Considering in this context, in the current study, teachers were seen to use open-ended questions as recommended by the literature.

On the other hand, more than half of the teachers reported some disadvantages of closed-ended questions because they generally found them ineffective. Regarding

fields of usage for closed-ended questions, teachers reported that although they rarely prefer to use them, when they prefer, they asked them to first recall facts and children's previous experiences. MacNaughton and Williams (2004) also suggested to ask closed-ended questions for these purposes. They identified them as necessary questions because teachers may assess children's current abilities and previous knowledge by asking closed-ended questions. Hence, contrary to what most of the teachers reported, previous studies underlined the necessity and value of closed-ended questions, especially in early learning environments (MacNaughton & Williams, 2004). The information obtained through asking the closed-ended question is particularly important because information can be used as a source and provide a basis. The Turkish Early Childhood Education program also includes descriptive questions for the assessment part of the activities. Teachers ask questions based on descriptions of the activity process, and these question types are generally closed-ended questions (Turupcu Doğan & Ömeroğlu, 2019). As far as is known, there is no research on why teachers find closed-ended questions inadequate. However, one of the reasons for teachers' describing closed-ended questions as ineffective may be their prejudices about closed-ended questions because most of the studies underlined the effectiveness of open-ended questions rather than closed-ended ones (e.g., Lee, Kinzie & Whittaker, 2012; Roth, 1996). Studies on teachers questioning in Turkey (e.g., Bay, 2016; Çakır & Cengiz, 2017) also emphasized the importance of open-ended questions, and the researchers (e.g., Baysen, 2006; Çetinkaya & Köğce, 2014) may want to increase the number of open-ended questions with training programs. Therefore, the findings of this study indicated the need for specially designed training or a program to support teachers' practice regarding closed-ended questions.

Regarding teachers' preferences of question types, the findings based on teachers' self-reported practices demonstrated that they generally used open-ended questions in their activities more than closed-ended ones. Different from the findings of this study, Deshmukh et al. (2019) examined preschool teachers' questions during reading activities and observed them. They found that the teachers used closed-ended questions more than open-ended ones. Günay Bilaloğlu et al. (2017) observed preschool teachers during science activities, and they too found that teachers asked more closed-ended questions than open-ended ones. The difference between the literature and the current study's findings might be due to the nature of the studies

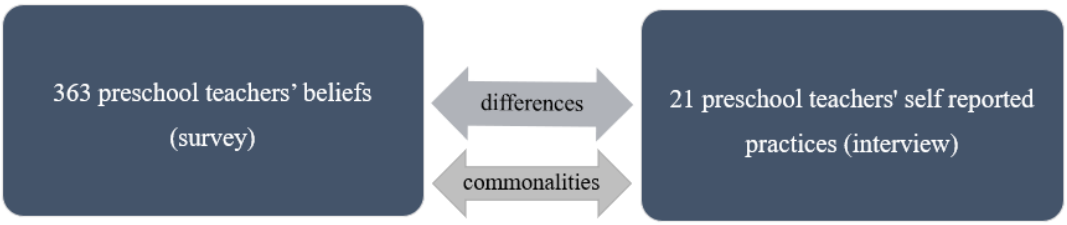
because previous studies (e.g., Öneren Şendil & Erden, 2019; Sak et al., 2016; Yurekli et al., 2020) emphasized that teachers' self-reported practices may not reflect their actual practices. Preschool teachers may not be aware of asking closed-ended questions in their activities. As a result, preschool teachers reported definitions of question types, their fields of usage, their disadvantages, and their advantages, which supports the relevant literature.

5.3. Commonalities and Differences Regarding Teachers' Beliefs and Their Self-Reported Practices

In this part, the findings obtained with two data collection instruments are discussed based on commonalities, partial commonalities, or differences between teachers' beliefs and self-reported practices, as demonstrated in figure 5.1.

Figure 5.1

Discussion of Commonalities and Differences



All these findings were discussed mainly based on these themes: (1) General understandings of questioning as a teaching method, (2) Questioning cycle and its components, and (3) Question types. These commonalities or differences among preschool teachers' beliefs and self-reported practices are summarized in Table 5.1.

Table 5.1

Commonalities and Differences Among Preschool Teachers' Beliefs and Self-Reported Practices

Commonalities	Partially Commonalities	Differences
General understanding of questioning	Asking questions	Planning questions
Listening to the response	Assess the response	Waiting time
Follow-up questions		Question types

In relation to preschool teachers' *general understanding of the questioning*, teachers' beliefs (survey) and their self-reported practices (interview) have commonalities. As a result, almost all participant teachers mentioned that preschool teachers frequently use the questioning method at the ECE level, and they also reported they used it. That is, the questioning method continues to be used frequently in ECE classes. Many previous studies support this expected finding. Teachers commonly use questioning as a method in their teaching (e.g., Blosser, 2000; Furman et al., 2019b; Kostelnik et al., 2011; Sigel & Saunders, 1977). That is, the teachers' beliefs and their self-reported practices match up. At the same time, these findings are also consistent with the literature. These consistencies between teachers' beliefs, self-reported practices, and literature may be explained with the necessity of using questioning as a teaching method in early learning environments. Questioning is one of the verbal teaching methods (Wilen, 1992). Children start to ask questions and respond to teachers' questions as part of expressing themselves at around two years of age (Legare et al., 2013). Questioning is regarded as one of the important tools for teaching something (Bruner, 1966; Yoon & Onchwari, 2006). As emphasized in Vygotsky's theory (1980), children learn through interactions with teachers and then can shape their learning through these interactions. In this context, preschool teachers commonly use the questioning method in teaching. Moreover, according to Turkey's Early Childhood Education Program, teachers should design and include different question types in their daily activity plans. Therefore, in line with the studies conducted in the national and international literature and the applied education programs (e.g., Bay, 2020; MoNE, 2013; Muhonen et al., 2022) and in accordance with the nature of the

young learners (Legare et al., 2013), teachers who participated in the current study reported that preschool teachers believed that the questioning method was frequently used in early learning environments, as well as that they frequently used this method in their practices.

Concerning the *planning questions* component of the questioning cycle, the teachers' beliefs regarding preschool teachers and their self-reported based on their practices seem different from each other. Teachers' beliefs demonstrated that most of the preschool teachers planned the questions before asking them. However, when their self-reported practices were examined, most of them did not plan their questions. One of the reasons for the differences could be that while the interview participants directly stated their practices based on their experiences, the survey participants expressed their beliefs in a general context, not their own experiences. In this context, during the interviews, most participants mentioned that they did not need to plan the questions because they already knew which questions should be asked based on their experience. In other words, as emphasized in the literature, length of teaching experience and knowledge can affect their beliefs regarding other teachers' general practices (Raymond, 1997). In this context, even if teachers believe in the necessity of planning questions, their practices may differ depending on their experience. However, the literature has emphasized that planning questions were independent of teachers' experiences (MoNE, 2013; Shanmugavelu et al., 2020; Wilen, 1987b) because carefully planned questions enable to focus children's attention on the key points of the activity (Price & Nelson, 2019). Moreover, teachers may think that planning questions is a necessity for preschool teachers because in the Early Childhood Education Program implemented in Turkey, teachers are expected to plan different question types (e.g., affective questions, descriptive questions) at the end of the activity (MoNE, 2013). Therefore, while experienced teachers generally believed preschool teachers should plan the questions, they might have reported that they did not plan the questions based on their experience. In this vein, Wang et al. (2017) investigated the impact of teachers' experience on using the questioning method. They found that experienced teachers ask more well-designed questions because teachers' cognitions may be affected by their experience. Heritage and Heritage (2013) also highlighted that experienced teachers are more aware of children's learning behavior and have a clear understanding of what learners need, so they may design questions

more effortlessly. Accordingly, teachers' values, backgrounds, and experiences may have had an impact on this difference. Teachers' beliefs and their self-reported practices have some inconsistencies, and teachers' beliefs are consistent with the literature.

In terms of the *asking questions* component of the questioning cycle, the findings based on teachers' beliefs and their self-reported practices have commonalities with each other. Teachers' beliefs and their self-reported practices showed that they use questions for specific goals: to assess children's learning, to arouse their interests, to enable them to share their feelings, and to enable them to express themselves. In line with the findings, Wallace and Hurst (2009) found that teachers generally asked questions to assess children, check their teaching, recall some facts, and increase children's motivation in 1967, 1987, and 2007. In this sense, MacNaughton and Williams (2004) also emphasized that preschool teachers should ask questions to assess children's current levels, arouse their interests, enable them to share their feelings, excite their interests, encourage their feelings to other children increase their curiosity, etc. So, teachers' beliefs and self-reported practices may support the literature. These findings can be explained by the nature of the Early Childhood Education Program in Turkey. In the current study, teachers reported that they ask questions to enable children to share their feelings and to assess them. When the Early Childhood Education Program in Turkey is examined, it is seen that the program book contains different question types. For example, teachers ask affective questions at the end of the activity to enable them to share children's feelings. Or alternatively, teachers use descriptive questions to assess what children have learned and what they have not learned about the activity. These findings on teachers' beliefs and self-reports are compatible with the literature.

On the other hand, teachers' beliefs and self-reported practices have some commonalities regarding issues considered while asking questions. They believed that preschool teachers should consider some issues like asking questions to the whole class and use facial expressions while asking. During the interview, most of the teachers reported that they used facial expressions and asked questions to the whole class. Hence, preschool teachers' beliefs and self-reported practices regarding asking questions have commonalities, but they differ partially from the literature. For example, MacNaughton and Williams (2004) recommended that preschool teachers

ask questions individually in early learning environments rather than the whole class. Children can focus better if teachers ask small groups or individually. Parallel to this suggestion, Jones (1990) conducted a study with secondary school students and their teachers. He observed that if teachers ask questions to the whole class, only 15% of the students answer questions. Consequently, he suggested that teachers should consider individual differences and necessities, and they ask questions to small groups or individuals. Consistency of teachers' beliefs and self-reported practices may mean that teachers apply the strategies they believe in when asking questions. One of the reasons why their beliefs and self-reported practices are different from the literature in some respects may be that teachers do not have enough knowledge about this issue. That is, although teachers want to consider some issues when asking questions, their unfamiliarity with how to do this may cause them to practice in a different way than be determined (Cheung, 2012).

Regarding the findings of the *waiting time* component of the questioning cycle, there is a difference between teachers' beliefs and their self-reported practices. Specifically, although most of the teachers (88%) mentioned that preschool teachers wait after asking questions when asked for their self-reported practices in detail, they reported that the waiting time is not appropriate for preschoolers. Günay Bilaloğlu et al. (2017) observed preschool teachers during their science activities and analyzed their waiting time after asking questions. They found that preschool teachers did not wait for children. Their waiting time means was calculated as 1.15 s. Consequently, as mentioned in this study, the preschool teachers may think they did not wait because of young learners' developmental differences. Günay Bilaloğlu et al. (2017)'s study confirms this because teachers waited longer for children who gave more explanations, according to the study's findings. The cause of this difference between teachers' beliefs and self-reported practices might be that they may theoretically believe they should wait after asking questions but consider them impractical for the preschool level. When asked about their practices in depth, they may have reported that the waiting time for young children may not be appropriate because they mentioned that children's necessities and developmental levels are different from older children. However, as the teachers stated in their beliefs, the waiting time after asking questions provides many benefits. It has been observed that when sufficient waiting time is given, children give more comprehensive answers, they can explain themselves; their

language use and thinking skills improve, and teachers ask fewer and more qualified questions (e.g., MacNaughton & Williams, 2009; Stahl, 1994; Tobin, 1987; Walsh & Sattes, 2004).

Active listening is one part of effective questioning in the classroom (Fusco, 2012). In this study, the findings on teachers' beliefs and their self-reported practices also demonstrated that preschool teachers *listen to the children's responses.* In this context, Fusco (1984) examined and found that when teachers listened carefully to the responses which were given after asking a question, the students shared more ideas with them. As a result, she recommended that teachers should listen to the responses. On the other hand, Wilen and Kindsvatter (2000) emphasized issues to be considered while listening to the response, such as making eye contact, silent listening without interrupting children's responses, etc. The present study also showed that teachers consider some issues while listening to the response. As supported by the literature, teachers believed in the necessity of listening to children's responses and reported that they practice this belief. The reason for this may be to establish interaction, as Vygotsky emphasized. One of the important conditions for establishing interaction is to listen to children's responses. Moreover, during this interaction, the teacher can make predictions about the child's developmental process. Therefore, the beliefs and self-reported practices which expressed in the current study are an expected result.

Assessing the response is another following component of the questioning cycle, and teachers' beliefs and their self-reported practices have partially commonalities with each other. Accordingly, although 47,6% of the teachers reported that they assessed children's responses in their practices, 90,4% of the teachers believed preschool teachers assessed children's responses. The reason for this partial commonality might also be the differences between teachers' theoretical and practical understandings (Wolff et al., 2014). It means that while preschool teachers may know of the necessity to assess the response; some of them may not implement this practice during their activities. Some of the participant teachers explained that the responses that needed to be assessed were closed-ended questions. They mentioned that answers to the open-ended questions might not be correct, so they may not be assessed. However, the literature underlined that assessing the response can also create effective teaching because some of the children expressed themselves by their responses, and teachers can collect data from their responses, not only regarding the correctness of

the answers but also children's needs and differences (Fusco, 2012; MacNaughton & Williams, 2009). Accordingly, there were partially commonalities between teachers' beliefs and their self-reported practices, and findings on teachers' beliefs overlap with the literature.

The last component of the questioning cycle is *follow-up questions*. Fusco (2012) introduced these components as crucial because after assessing the response, the teacher should ask follow-up questions to extend children's ideas. Moreover, the previous literature also mentioned that teachers should use follow-up questions to clarify a concept or issue (Gilson et al., 2014). The findings based on preschool teachers' beliefs and self-reported practices showed that teachers use follow-up questions to clarify children's understandings and extend the topic. Moreover, when follow-up questions are examined within the framework of ecological systems theory, the findings of the present study support this idea because the follow-up questions component also includes children's questions. In this context, teachers believed children should be allowed to ask questions, and they reported they practiced this. This finding brings to mind Bronfenbrenner's (1979) theory that children learn from their environment. In this context, the child can learn how to form and pose the questions from the teacher. The teacher can also evaluate the questions asked by the children. Children's questions are also defined as follow-up questions.

There is a consistency between teachers' self-reported practices and beliefs regarding question types, but there is an inconsistency with related literature and the current study's findings. The teachers believed that preschool teachers generally ask open-ended questions; also, they reported their practices that they mainly ask open-ended questions. However, previous studies' findings were not in line with the literature (e.g., Bay & Hartman, 2015; Günay Bilaloğlu et al., 2017; Qashoa, 2013; Zeegers & Elliott, 2019). These studies were conducted by observing participants and showed that teachers generally ask closed-ended questions more than open-ended ones. The inconsistencies between teachers' beliefs, self-reported practices, and the literature may be explained by the nature of the research design. In this context, although teachers believe that open-ended questions are asked and reported that they include such questions in their practices, observational studies have found that teachers ask more closed-ended questions than open-ended ones. It follows that teachers may not be aware that they use more closed-ended questions during class. As Birbili (2013)

found, preschool teachers generally ask questions to assess children or teach them some facts during an activity. These question types are generally defined as closed-ended. Hall and Miro (2016) investigated teachers' questioning strategies in STEM activities and observed them during the activities. Although the researchers agreed on using the questioning method in STEM activities, they found that questioning and specifically open-ended questions were rarely observed. In this sense, as Aziza (2018) mentioned, asking open-ended questions might be difficult for teachers because they should react appropriately when children give unexpected responses. However, in the current study, teachers stated that they asked open-ended questions more than closed-ended ones. Although 'teaching the facts' or 'assessing their knowledge' are parts of learning, as Fisher and Frey (2010) highlighted, children also need to apply knowledge and think about how it occurred. In this context, to develop children's thinking skills, it is necessary not only to assess children with closed-ended questions but with open-ended questions ones as well (Birbili, 2013). Moreover, Turkish preschool teachers are directed to use certain question types contained in the ECE program book (e.g., descriptive questions, affective questions, etc.). Turupcu Doğan & Ömeroğlu (2019) investigated teachers' views regarding these question types and classified descriptive questions and questions based on objectives and indicators as closed-ended questions and affective questions and questions related to everyday life as open-ended questions. Hence, the ECE Program book also supports using closed-ended questions besides open-ended ones. Clearly, teachers should be asking both types during their activities as the objectives and indicators they support are different and necessary for the ECE learning environment. In the current study, the reason for teachers' tendencies towards open-ended questions may be that closed-ended questions are perceived as undervalued by teachers, as pointed out by Lee and Kinzie (2012). In this context, although teachers know the importance of closed-ended questions, they may not have enough information about how to use such questions effectively.

5.4. Implications

This research investigates the workings of questioning as a teaching method from the perceptions and experiences of preschool teachers. It does so by asking them to consider their perspectives and practices, how they consider and deploy the

questioning cycle, and the question types they ask in practice. Analysis of the findings has generated some implications and recommendations for future studies, practices, and methodological contributions.

5.4.1. Educational Implications

With the changing needs of children, new teaching methods are emerging (Bredekamp, 2014). Questioning is one of the oldest that seems to update itself and does not go out of fashion. Today, the findings of the current study demonstrate that preschool teachers continue to frequently use questioning as a teaching method in the early years teaching and learning environment. The critical question is whether they use this method in line with children's current needs or not.

Primary and secondary school teachers' understanding of the questioning method is well investigated. However, less attention has been given to how questioning is being used to educate young learners (Günay Bilaloğlu et al., 2017). The current research sought to obtain a general understanding of questioning and its two questioning strategies (questioning cycle and question types) from preschool teachers in Turkey. The following educational implications arise from the analysis of their beliefs and self-reported practices.

Firstly, in terms of teachers' general understanding, the analysis revealed that teachers' use of the questioning method changed according to the activity types. Namely, while teachers asked more questions in language activities, they asked fewer or did not ask questions in physical and art activities. While teachers ask questions, they may focus on children's cognitive and language development. In more individually acted activities, such as art or physical activities, they may not want to interrupt children, so they may ask fewer questions or not ask any questions. Previous studies suggest teachers should use aspects of the questioning method in all activities. For example, by using the questioning method in art activities, children's aesthetic perceptions and language skills can be developed, and they can go on a learning journey with their curiosity (Zolfaghari et al., 2011). The questioning method used in different activities can serve children's different developmental necessities (J. A. Walsh & Sattes, 2005). For all these reasons, the use of the questioning method can be expanded by educating teachers about the use of questions in different activities and

by raising their awareness that the questions asked in different activities can develop children's different developmental areas. Since questions may help children to discover and understand life (Blosser, 2000; Bredekamp, 2014), preschool teachers' attitudes and behaviors in this regard can be considered very important. For this reason, it continues to be important to give training for preschool teachers to improve their existing practices regarding the questioning method. In this manner, children's development can be affected by the teachers' education.

Secondly, implications regarding the questioning cycle were provided. Fusco (2012) emphasized how it creates an effective atmosphere in the class. The findings of the current study generated several implications about preschool teachers' understandings based on the questioning cycle and its components. An important one was that preschool teachers could also use the questioning cycle to create an effective atmosphere. This study also confirms that preschool teachers' beliefs reflected teachers' use of the questioning cycle. However, their self-reported practices reflected that they did not use some of the components (planning questions, waiting time) because they emphasized that children's developmental needs or individual differences at the ECE level may not be sufficient for implementing these components. For instance, they reported that questions do not need to be planned because they were experienced teachers. However, with the changing world, the needs of children, their individual needs, and differences also change (UNESCO, 2021). In this sense, although teachers' years of experience bring an advantage, planning questions make teaching and learning more effective.

When the purpose of asking questions in this study is examined, it is clear that teachers ask questions mainly to assess children, as reported in previous studies (Wallace & Hurst, 2009). Of course, questions can be used to assess children, but as the literature review recommends, beyond assessment, taking children on a learning journey and creating another question in their minds should be among the purposes of questioning. Teachers who follow the questioning cycle components can support every aspect of children's development. Teachers who use this strategy mention their benefits for all children, including children who have difficulties learning (Fusco, 2012). In this sense, preschool teachers should also be aware of their responsibilities towards children while applying the questioning cycle. They should exchange their ideas with other teachers to make the strategy more effective with this awareness. They

can adapt all these components of the cycle by considering the class dynamics. Moreover, they can create a sharing network by following up-to-date studies on the questioning cycle and participating in conferences and in-service training programs. Accordingly, the findings of this study suggest that tangible benefits would flow from further research on preschool teachers' use of the questioning cycle.

Thirdly, implications regarding question types, the second questioning strategy, were offered. Two question types were defined in the literature that was recommended for use in preschool. As revealed in the analysis, teachers reported that they used open-ended questions more. Although preschool teachers emphasize the importance of open-ended questions, in theory, their inability to implement them in practice may be due to a lack of knowledge regarding question types, as Bay (2020) pointed out. Teachers can re-evaluate the questions they plan based on their types in this context. Likewise, by sharing with their colleagues, they can follow updated information on question types, improve their effectiveness, and request in-service training. In addition, they can ask closed-ended and open-ended questions in a balanced way by discussing the developmental levels of children. Young learners also need to answer closed-ended questions.

Teachers' effective use of the questioning method can help to circumvent some of the difficulties faced in activities that adopt the STEM approach, which has been frequently mentioned in the ECE period in recent years. These include instances where teachers have difficulty in describing problem-solving cases to children and the classroom management problems that arise because of children's attention span (Demircan, 2021). One of the reasons for this may be that the teachers do not plan effective questions during these activities and may not offer a balance of open-ended and closed-ended questions. Based on this example, training on effective questioning can also be given to in-service teachers. This training enables teachers to implement emerging approaches more successfully. For example, assume that a problem situation is carried out in a preschool setting. The teacher plans the questions to be posed to the children regarding this problem situation and asks these planned questions considering certain situations. After asking, the teacher gives the child a particular waiting time. The child thinks for a while and answers the question posed to her/him. The teacher also listens to the child's answer and assess their responses. Then, she/he asks follow-up questions to the child within the scope of the planned question. Therefore, with the

use of this strategy, the teacher can overcome the difficulties in implementation, and she/he may describe problem-solving cases clearly, or manage the classroom effectively. Regarding this, Mbugua (2009) emphasized that well-trained and qualified preschool teachers have a crucial role in providing children with quality early childhood education. According to Seabra-Santos et al. (2021), in-service training provides important opportunities for teachers to acquire new skills and improve their existing skills. This training has a vital role in the self-development of teachers and should feature the questioning method.

5.4.2. Methodological Implications

In this study, a QTMPC Survey was developed for preschool teachers in Turkey based on the literature. The survey sought to examine preschool teachers' beliefs on the questioning cycle and question types, which are the two strategies of the questioning method. As far as the literature is reviewed, studies generally focus on the question types of Bloom's taxonomy (Bay & Hartman, 2015) and teachers' approaches to waiting time (Wasik & Hindman, 2018). With the survey, in addition to examining waiting time, the whole questioning cycle components, including planning, asking, waiting, listening, and asking follow-up questions, can be investigated. Thus, the survey which the researcher developed can be a resource for future studies.

5.5. Limitations and Recommendations

This study was conducted in some central districts of Ankara in Turkey. Not to generalize, it may be necessary to undertake similar studies in other regions of Turkey, whereafter a national picture may emerge regarding preschool teachers' beliefs and their self-reported practices about the questioning method.

On the other hand, the effect of demographic variables such as teachers' years of experience, teachers' gender, their education level, etc., which were collected in this study, was not the concern. Therefore, further research studies may explore the potential effects of demographic variables on questioning. This may contribute to the related literature. In particular, the influence of teachers' experience on their beliefs and self-reported practices regarding questioning can be addressed in future studies.

As emphasized by the teachers in this study, years of experience may change their beliefs and self-reported practices on important components of the questioning cycle. For example, more experienced teachers may not need to plan questions.

The researcher did not observe preschool teachers' actual practices; rather, their self-reported practices were examined regarding the questioning cycle and question types, meaning their actual practices were not defined. For this reason, future studies may focus on teachers' actual practices as well. Moreover, each questioning cycle component can be investigated in depth using different data collection methods. As researchers know, there are only a limited number of studies that focus on some of the components of the questioning cycle.

Another limitation was that the research was conducted only in public preschools. Although they use the same preschool curriculum, some of the private schools may integrate different approaches, and teachers may use some different teaching methods based on schools' approaches. Moreover, there may be some differences regarding expectations from teachers, parents' profiles, and expectations of school administrations. So, further studies may examine the effects of these differences on teachers' beliefs and their self-reported practices.

Regarding the survey, which is one of the data collection tools, although opinions of 3 experts were taken, and items were constructed through obtaining within the framework of the relevant literature, the findings were quite positive. There may be two reasons for this outcome: (1) The survey does not work as desired. This may be related to the structure of the sentences in the items, or some items may have been answered within the framework of the policies determined by the authority. For example, the activity plans in Turkey ECEP include questions. Therefore, teachers may have demonstrated a very positive belief regarding the necessity of planning questions. (2) Teachers' personal beliefs may therefore not have been reliably obtained by the survey as their responses may have at times reflected accepted understanding about teaching, as opposed to their own.

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APPENDICES

A. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
MIDDLE EAST TECHNICAL UNIVERSITY

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Sayı: 28620816 / 156

16 HAZİRAN 2020

Konu: Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Dr.Öğr.Üye. Hasibe Özlen DEMİRCAN

Danışmanlığını yaptığınız **Gamze Nur İNÖNÜ'nün "Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemi ile ilgili Soru-Cevap Döngüsü ve Soru Türleri Hakkındaki Uygulama ve Görüşlerinin İncelenmesi"** başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **156 ODTU 2020** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof.Dr. Mine MISIRLISOY
Başkan

Prof. Dr. Tolga CAN
Üye

Doç.Dr. Pınar KAYGAN
Üye

Dr. Öğr. Üyesi Ali Emre TURGUT
Üye

Dr. Öğr. Üyesi Şerife SEVİNÇ
Üye

Dr. Öğr. Üyesi Müge GÜNDÜZ
Üye

Dr. Öğr. Üyesi Süreyya Özcan KABASAKAL
Üye

B. APPROVAL OF THE MINISTRY OF NATIONAL EDUCATION ETHICS COMMITTEE

T.C.
ANKARA VALİLİĞİ
Milli Eğitim Müdürlüğü

Sayı : 14588481-605.99-E.18200508 17.12.2020
Konu : Araştırma İzni

ORTA DOĞU TEKNİK ÜNİVERSİTESİNE
(Öğrenci İşleri Daire Başkanlığı)

İlgi: a) MEB Yenilik ve Eğitim Teknolojileri Genel Müdürlüğünün 2020/2 sayılı Genelgesi.
b) 27.11.2020 tarihli ve 254 sayılı yazınız.
C)17.11.2020 tarihli ve 16847409 sayılı yazımız.

Üniversiteniz Temel Eğitim Anabilim Dalı Okul Öncesi Eğitimi yüksek lisans programı öğrencileri Gamze Nur İNÖNÜ'nün **"Okul Öncesi Öğretmenlerinin Soru-Cevap Yönetimi İle İlgili Soru-Cevap Döngüsü ve Soru Türleri Hakkındaki Uygulama ve Görüşlerinin İncelenmesi"** konulu çalışması kapsamında İlimiz Çankaya İlçesinde online uygulama yapma talebi ilgi (a) Genelge çerçevesinde incelenmiştir.

Yapılan inceleme sonucunda, söz konusu araştırmanın Müdürlüğümüzde muhafaza edilen ölçme araçlarının; Türkiye Cumhuriyeti Anayasası, Milli Eğitim Temel Kanunu ile Türk Milli Eğitiminin genel amaçlarına uygun olarak, ilgili yasal düzenlemelerde belirtilen ilke, esas ve amaçlara aykırılık teşkil etmeyecek, eğitim-öğretim faaliyetlerini aksatmayacak şekilde okul ve kurum yöneticilerinin sorumluluğunda, gönüllülük esasına göre uygulanması Müdürlüğümüzce uygun görülmüştür.

Bilgilerinizi ve gereğini rica ederim.

Turan AKPINAR
Vali a.
Milli Eğitim Müdürü

Anket Linki: https://forms.gle/anKVQHQL5sXGZJHF6

Dağıtım:
Gereği: Bilgi:
ODTÜ Çankaya İlçe MEM

Adres: Emniyet Mah. Alparslan Türkeş Cad. 4/A
Yenimahalle/ANKARA
Elektronik Ağ: www.meb.gov.tr
e-posta: istatistik06@meb.gov.tr

Bilgi için: D. KARAGÜZEL
Tel: 0 (312) 306 89 07
Faks: 0 (___) ___ __ __

Bu evrak güvenli elektronik imza ile imzalanmıştır. https://evraksorgu.meb.gov.tr adresinden a196-1acc-357f-b4ef-f7c6 kodu ile teyit edilebilir.

C. SURVEY FOR QUESTIONING AS A TEACHING METHOD IN THE PRESCHOOL CLASSROOMS (QTMPC)

QUESTIONING AS A TEACHING METHOD IN THE PRESCHOOL CLASSROOMS (QTMPC)

Dear Teacher,

This research was conducted by Gamze Nur İnönü and Assist. Prof. Dr. Hasibe Özlen Demircan from Middle East Technical University Department of Elementary and Early Childhood Education. This is a master's thesis under the supervision of Hasibe Özlen Demircan. The aim of the study is to investigate the opinions of preschool teachers about the questioning as a teaching method.
Your voluntary participation in this study is important. You can stop answering the research as soon as you feel uncomfortable and restless. The questions you will answer for the study focus on your opinions. You will not be asked for any information revealing your identity.
There are 36 questions in this form. It is estimated that it will take approximately 7-10 minutes to answer the questions. The information obtained from the study will be used in scientific purposes.
Thank you for your voluntary participation and supports.

You can contact me about any question.

Contact Information: nur.inonu@metu.edu.tr

* Required

Demographic Information

1. How many years have you been working as a preschool teacher? *

2. In which city do you teach?

Mark only one oval.

- Ankara
- Other

3. Which of the following is your recent school degree? *

Mark only one oval.

- High school
- Some college no degree
- Bachelor's degree
- Master's degree
- Doctoral degree

4. What type of school are you currently working at? *

Mark only one oval.

- Independent preschool
- Kindergarten in primary school
- Kindergarten in secondary school
- Private kindergarten
- Other: _____

5. Gender: *

Mark only one oval.

- Female
- Male

QUESTIONING AS A TEACHING METHOD IN THE PRESCHOOL CLASSROOMS (QTMPC)

6. The preschool teacher ..... uses the questioning method. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

7. The preschool teacher ..... writes the questions they will ask in the activity plan. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

8. The preschool teacher..... asks questions not included in the activity plan. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

9. The preschool teacher ..... considers the children's differences (age, gender, stage, and so on). *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

10. The preschool teacher ..... considers the children's needs (interests, language, cognitive abilities, and so on). *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

11. The preschool teacher.....foresees the answers to the questions she/he designed for the activity plan. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

12. The preschool teacher ..... includes questions in the activity plan for more than one development area of children (cognitive, emotional, social, language, self-care, and psychomotor development). *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

13. The preschool teacher ..... plans questions based on the goals and indicators. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

14. The preschool teacher ..... includes questions that are not related to goals and indicators. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

15. The preschool teacher ..... cares about the word count of the questions she/he designed for the activity plan. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

16. The preschool teacher ..... searches the answers to the questions she/he designed for the activity plan. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

17. The preschool teacher ..... asks the questions to arouse interest and curiosity during the activity plan process. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

18. The preschool teacher ..... asks questions for the active participation of children. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

19. The preschool teacher..... asks open-ended questions in their activities. (eg. What do you think about the color red?) *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

20. The preschool teacher ..... asks closed-ended questions in the activities. (eg. Is red a color?) *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

21. The preschool teacher ..... asks the questions to the whole class. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

22. The preschool teacher ..... asks the questions to assess whether the children have learned what she/he have aimed. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

23. The preschool teacher ..... asks the questions to find out what the children know and do not know. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

24. The preschool teacher ..... asks the questions to understand how children feel about the activity. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

25. The preschool teacher ..... knows the correct answer to the questions she/he asked. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

26. The preschool teacher ..... gives children time to think about the responses. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

27. After asking the question, the preschool teacher..... does not predict how long she/he will have to wait for it to be answered. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

28. The preschool teacher ..... waits more than 3 seconds after asking the questions. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

29. The preschool teacher ..... gives the children time to answer after asking closed-ended questions. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

30. The preschool teacher ..... gives the children time to answer after asking open-ended questions. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

31. The preschool teacher ..... clarifies the questions she/he asked according to the children's responses. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

32. When children do not understand the questions, the preschool teacher ..... asks them differently. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

33. The preschool teacher ..... lets the children ask questions. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

34. The preschool teacher ..... compares the answers given by the children and his/hers. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

35. If the children have difficulty answering the questions, the preschool teacher ..... gives them a clue. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

36. The preschool teacher ..... gives responses regarding the questions she/he asked. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

37. By using the answers that the preschool teacher received from the children, she/he ..... makes inferences about whether her/his question was understood correctly. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

38. When a child answers the question incorrectly, the preschool teacher ..... immediately makes it right. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

39. The preschool teacher ..... asks more questions so that the children can give different answers. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

40. The preschool teacher's questions had more than one answer, so she/he asked follow-up questions. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

41. The preschool teacher ..... uses questions to expand the topic. *

Mark only one oval.

- Never
- Rarely
- Sometimes
- Often
- Always

Thank you!

42. Would you like to share your experiences with interview and your 5 daily plans through e-mail? If yes, please write your contact address. *

OKUL ÖNCESİ ÖĞRETMENLERİNİN SORU-CEVAP YÖNTEMİNİ KULLANIMI (ÖSYK)

Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemini Kullanımı (ÖSYK)

Değerli Öğretmenim,

Bu araştırma, Gamze Nur İnönü tarafından, Orta Doğu Teknik Üniversitesi Temel Eğitim Bölümü Okul Öncesi Eğitimi Anabilim Dalı Öğretim Üyesi Dr. Öğr. Üye. Hasibe Özlen Demircan danışmanlığında yürütülen bir yüksek lisans tez çalışmasıdır. Çalışmanın amacı, okul öncesi öğretmenlerinin öğretme yöntemlerinden biri olan soru-cevap yöntemi hakkındaki görüşlerini araştırmaktır.
Bu çalışmaya gönüllü olarak katılımınız önemlidir. Çalışma için yanıtlayacağınız sorular, konu hakkındaki görüşlerinize odaklanmaktadır. Sizden kimliğinizi açık eden hiçbir bilgi istenilmeyecektir.
Bu form dâhilinde 36 soru vardır. Soruların yanıtlanmasının yaklaşık 7-10 dakikanızı alacağı tahmin edilmektedir. Çalışmadan elde edilecek bilgiler bilimsel yayınlarda kullanılacaktır. Gönüllü katılımınız ve çalışmamıza verdiğiniz destek için teşekkür ederiz.

Araştırma süreci ile ilgili merak ettiğiniz herhangi bir konuda benimle iletişime geçebilirsiniz.

İletişim Bilgisi: nur.inonu@metu.edu.tr

* Gerekli

Demografik Bilgiler

1. Kaç yıldır okul öncesi öğretmeni olarak çalışmaktasınız? *

2. Hangi şehirde öğretmensiniz?

Yalnızca bir şıkkı işaretleyin.

- Ankara
- Other

3. En son mezun olduğunuz okul derecesi aşağıdakilerden hangisidir? *

Yalnızca bir şıkkı işaretleyin.

- Lise
- Ön Lisans
- Lisans
- Yüksek Lisans
- Doktora

4. Şu an çalışmakta olduğunuz okul türü nedir? *

Yalnızca bir şıkkı işaretleyin.

- Bağımsız anaokulu
- İlkokul bünyesinde anasınıfı
- Ortaokul bünyesinde anasınıfı
- Özel Anaokulu
- Diğer: _____

5. Cinsiyetiniz: *

Yalnızca bir şıkkı işaretleyin.

- Kadın
- Erkek

Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemini Kullanımı (ÖSYK)

6. Okul öncesi öğretmeni soru-cevap yöntemini kullanır. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

7. Okul öncesi öğretmeni soracağı soruları etkinlik planına yazar *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

8. Okul öncesi öğretmeni, etkinlik planında yer almayan soruları da sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

9. Okul öncesi öğretmeni sorduğu sorularda, çocukların bireysel farklılıklarını (yaş, cinsiyet, durum vs.) göz önünde bulundurur. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

10. Okul öncesi öğretmeni sorduğu sorularda, çocukların bireysel gereksinimlerini (ilgi alanları, dil, bilişsel durumu vs.) göz önünde bulundurur. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

11. Okul öncesi öğretmeni, etkinlik planına yazdığı soruların cevaplarını önceden düşünür. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

12. Okul öncesi öğretmeni, etkinlik planında çocukların birden fazla gelişim alanına (bilişsel, duygusal, sosyal, dil gelişimi, öz bakım ve psikomotor) yönelik sorulara yer verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

13. Okul öncesi öğretmeni, etkinliğin kazanım ve göstergeleriyle ilgili sorular hazırlar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

14. Okul öncesi öğretmeni, etkinliklerde kazanım ve göstergelerle ilgili olmayan sorulara da yer verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

15. Okul öncesi öğretmeni, sorduğu soruların kelime sayısını önemser. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

16. Okul öncesi öğretmeni, etkinliğinde soracağı soruların cevaplarını önceden araştırır. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

17. Okul öncesi öğretmeni, etkinlik sürecinde ilgi ve merak uyandırmak için sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

18. Okul öncesi öğretmeni, çocukların etkinliğe aktif katılmaları için sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

19. Okul öncesi öğretmeni, etkinliklerde açık uçlu sorular sorar. (ör. Kırmızı rengi hakkında ne düşünüyorsun?) *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

20. Okul öncesi öğretmeni, etkinliklerde kapalı uçlu sorular sorar. (ör. Kırmızı bir renk midir? *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

21. Okul öncesi öğretmeni, etkinlik süresince sorduğu soruları bütün sınıfa yöneltir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

22. Okul öncesi öğretmeni, çocukların hedeflenen kazanımları öğrenip öğrenmediklerini ölçmek için onlara sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

23. Okul öncesi öğretmeni, çocukların neleri bilip bilmediklerini anlamak için onlara sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

24. Okul öncesi öğretmeni, çocukların etkinlikle ilgili neler hissettiklerini anlamak için onlara sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

25. Okul öncesi öğretmeni, sorduğu soruların doğru cevabını bilir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

26. Okul öncesi öğretmeni, sorduğu soruların yanıtlarını düşünmeleri için çocuklara süre verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

27. Okul öncesi öğretmeni, soru sorduktan sonra, cevaplanması için ne kadar beklemesi gerektiğini önceden tahmin edemez. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

28. Okul öncesi öğretmeni, soru sorduktan sonra 3 saniyeden daha fazla bekler. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

29. Okul öncesi öğretmeni, kapalı uçlu soru sorduktan sonra çocuklara soruyu yanıtlamaları için süre verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

30. Okul öncesi öğretmeni, açık uçlu soru sorduktan sonra çocuklara soruyu yanıtlamaları için süre verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

31. Okul öncesi öğretmeni, soracağı sorularda çocukların cevaplarına göre düzenlemeler yapar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

32. Okul öncesi öğretmeni, sorduğu soruları çocuklar anlamadığında başka bir biçimde yeniden sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

33. Okul öncesi öğretmeni, çocukların da soru sormalarına izin verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

34. Okul öncesi öğretmeni, kendi yanıtıyla çocukların soruya verdiği yanıtı karşılaştırır. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

35. Eğer çocuklar sorulan soruyu yanıtlamakta zorlanıyorsa, okul öncesi öğretmeni onlara ipucu verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

36. Okul öncesi öğretmeni, sorduğu sorularla ilgili çocukların cevaplarına dönüt verir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

37. Okul öncesi öğretmeni, çocuklardan aldığı cevaplardan faydalanarak, sorusunun doğru anlaşılıp anlaşılmadığı ile ilgili çıkarımda bulunur. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

38. Bir çocuk, sorulan soruya yanlış cevap verdiğinde, okul öncesi öğretmeni çocuğun yanıtını hemen düzeltir. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

39. Okul öncesi öğretmeni, çocukların farklı yanıtlar vermelerini sağlamak için daha fazla soru sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

40. Okul öncesi öğretmeninin sorduğu soruların birden fazla yanıtı vardır, bu yüzden tamamlayıcı sorular sorar. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

41. Okul öncesi öğretmeni, etkinlik planında ele aldığı konuyu genişletmek için sorulardan faydalanır. *

Yalnızca bir şıkkı işaretleyin.

- Hiçbir Zaman
- Nadiren
- Bazen
- Sık sık
- Her zaman

Teşekkür ederiz!

42. Konu hakkında, yaklaşık 30 dakika sürebilecek birebir görüşmeye katılmak ve etkinlik planlarınızı paylaşmak isterseniz kendi belirleyeceğiniz bir rumuzu ve e-posta adresinizi aşağıda belirtmeniz yeterlidir. Görüşme için gönüllü olmanız durumunda araştırmacı sizinle iletişime geçecektir. *

D. INTERVIEW PROTOCOL

Questions asked for demographic information purposes:

How many years have you been working as a preschool teacher?

Which school and department did you graduate from?

How many children are in your class? Which age group?

General questions about the questioning method:

In your opinion, is it an appropriate method for early childhood education? Do you use it?

How would you define the questioning method if you had created your definition? In which activity types do you use more? Is there any activity type that does not use the questioning method?

In which activity part do you use?

Questions asked for questioning cycle and its components:

When and how do you implement the questioning method in your classroom? Can you give an example?

What does the questioning cycle mean to you?

Do you plan the questions before the activities?

What should be your role while asking questions? Why do you ask questions? What do you pay attention to while asking questions?

Is waiting time necessary after asking questions? Can you please share your opinions?

After asking questions, what do you pay attention to while children respond? Do you listen to them? If yes, while listening, what do you pay attention to?

Do you assess their responses? If yes, what do you pay attention to?

Imagine you ask questions and do not reach the goal properly; what was another step?

Do you use follow-up questions?

Questions asked for question types:

Two question types are defined, open-ended and closed-ended. What do you think about these two question types? How do you define them?

Which question types do you use more? Why?

Can you please provide an example of open-ended and closed-ended questions?
Is there anything related to the topic you want to add?

GÖRÜŞME SORULARI

Demografik bilgi amaçlı sorulan sorular:

Kaç yıldır okul öncesi öğretmeni olarak çalışıyorsunuz?

Hangi okul ve bölümden mezunsunuz?

Sınıfınızda kaç çocuk var? Hangi yaş grubu?

Soru-cevap döngüsü ve bileşenleri için sorulan sorular:

Soru sorma yöntemini sınıfınızda ne zaman ve nasıl uyguluyorsunuz? Bir örnek verebilir misiniz?

Soru-cevap döngüsü sizin için ne ifade ediyor?

Soruları etkinliklerden önce planlar mısınız?

Soru sorarken öğretmen olarak rolünüz ne olmalı? Neden soru soruyorsunuz? Soru sorarken nelere dikkat ediyorsunuz?

Soru sorduktan sonra bekleme süresi gerekli midir? Lütfen görüşlerinizi paylaşır mısınız?

Soru sorduktan sonra çocuklar cevap verirken nelere dikkat ediyorsunuz? Onları dinliyor musunuz? Evet ise, dinlerken nelere dikkat ediyorsunuz?

Çocukların cevaplarını değerlendirir misiniz? Evet ise nelere dikkat edersiniz?

Sorular sorduğunuzda hedeflediklerinize tam olarak ulaşamadığınızda daha fazla sorudan yararlanır mısınız?_Tamamlayıcı soruları kullanır mısınız?

Soru türleri için sorulan sorular:

Açık uçlu ve kapalı uçlu olmak üzere iki tür soru tanımlanır. Bu iki soru türü hakkında ne düşünüyorsunuz? Onları siz nasıl tanımlarsınız?

Hangi tür soruları daha çok kullanıyorsunuz? Neden?

Açık uçlu ve kapalı uçlu sorulara birer örnek verir misiniz?

Eklemek istediğiniz konu ile ilgili bir şey var mı

E. CONSENT FORM

Dear Teacher,

This interview form was prepared to collect data for research titled "Preschool Teachers' Opinions and Self-Reported Practices Regarding Questioning As a Teaching Method: Questioning Cycle And Question Types" by Gamze Nur İnönü from Middle East Technical University, Department of Elementary and Early Childhood Education Department. This research is supervised by Assist. Prof. Dr. Hasibe Özlen Demircan.

Participation in the research is entirely voluntary. It will not be asked for any identifying information during the interview. Your answers are kept completely confidential and will only be evaluated by the researchers. The data obtained at the end of the study is used in scientific publications (congress, academic articles, etc.).

At the end of the interview, your questions about this study will be answered. Thank you in advance for participating in the study.

For more information about the study, you can contact Assist. Prof. Dr. Hasibe Özlen Demircan (E-mail: dozlen@metu.edu.tr) or Gamze Nur İnönü (E-mail: nur.inonu@metu.edu.tr) from the Department of Elementary Education.

I participate in this study entirely voluntarily, and I know that I can quit answering questions at any time. I accept the use of the information I have provided in publications for scientific purposes.

Name Surname	Date	Signature
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GÖNÜLLÜ KATILIM FORMU

Sayın Öğretmenim,

Bu görüşme formu, Orta Doğu Teknik Üniversitesi, Temel Eğitim Bölümü, Erken Çocukluk Eğitimi Anabilim Dalı Öğretim Üyesi Dr. Öğr. Üye. Hasibe Özlen Demircan danışmanlığında yürüttüğüm "Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemi ile İlgili Soru-Cevap Döngüsü ve Soru Türleri Hakkındaki Uygulama ve Görüşlerinin İncelenmesi" konulu bir araştırmaya veri toplamak amacıyla hazırlanmıştır.

Araştırmaya katılım tamamen gönüllülük esasına dayanmaktadır. Görüşmede sizden kimlik belirleyici hiçbir bilgi istenilmeyecektir. Yanıtlarınız tamamen gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir. Çalışma sonunda elde edilecek veriler bilimsel yayınlarda (kongre, akademik makale vs.) kullanılacaktır.

Görüşme soruları, kişisel rahatsızlık verecek soruları içermemektedir. Ancak, katılım sırasında sorulardan ya da farklı bir nedenden dolayı kendinizi rahatsız hissederseniz soruları cevaplamayı görüşmeyi yarıda bırakıp çıkmakta özgürsünüz. Böyle bir durumda görüşmeciye, görüşmeyi tamamlamayacağınızı söylemeniz yeterli olacaktır. Görüşme sonunda, bu çalışmayla ilgili sorularınız cevaplanacaktır. Çalışmaya katıldığınız için şimdiden teşekkür ederiz.

Çalışma hakkında daha fazla bilgi almak için Temel Eğitim Bölümü Öğretim Üyelerinden Dr. Öğr. Üye. Hasibe Özlen Demircan (E-posta: dozlen@metu.edu.tr) ya da Gamze Nur İnönü (E-posta: nur.inonu@metu.edu.tr) ile iletişime geçebilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman soruları cevaplamayı bırakarak çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayınlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz)

Ad Soyad	Tarih	İmza
	----/----/-----	

F. TURKISH SUMMARY / TÜRKÇE ÖZET

OKUL ÖNCESİ ÖĞRETMENLERİNİN SORU SORMA YÖNTEMİ İLE İLGİLİ İNANIŞ VE ÖZ-BİLDİRİMLERİNE DAYALI UYGULAMALARI: SORU-CEVAP DÖNGÜSÜ VE SORU TÜRLERİ

GİRİŞ

Eğitim, belirli amaçlar için bireylerin eğitildiği öğretme ve öğrenme süreci olarak tanımlanır (Davies & Guppy, 2010). Eğitim süreci, birbirini takip eden öğretme ve öğrenme koşullarından oluşur ve dört temel bileşeni içerir: amaç, içerik, öğretim yöntemleri ve değerlendirme (Venn & Jahn, 2004; D. Wood, 1998). Eğitimin bileşenlerinden biri olan öğretim, ateş yakmaya benzer. Kâğıt veya bir başka yanıcı malzeme, oksijen ile birleşerek ısı ve ışık oluşturur. Öğretmenlerin amaçları da bu metafora benzer. Çocuklar ve içinde bulundukları ortam arasında 'ışık' üretmek için, öğretmenler farklı öğretim yöntemleri kullanırlar (Ausubel & Robinson, 1969; Hughes & Hughes, 1959). Yani, öğretim, bir öğretmenin farklı öğretim yöntemlerini kullanarak, çocukların öğrenmelerini en üst düzeye çıkarmayı amaçlayan, öğretmenler ve çocuklar arasında gerçekleşen etkileşimli bir yolculuktur (Darling-Hammond et al., 2020). Bu bağlamda, öğretim yöntemleri, öğrenmeyi kolaylaştıran, çocukla çevresi arasında "ışık" oluşturan araçlardandır.

Öğretmenlerin sınıf içinde kullandıkları farklı öğretim yöntemleri, çocukların öğrenme süreçlerini destekler (Roth, 1998). Saskatchewan Education (1991), öğretim yöntemlerini sözlü ve sözsüz yöntemler olarak sınıflandırmıştır. Sözlü öğretim yöntemlerinin dinleme, tanımlama, anlatma, hatırlama veya soru-cevap gibi basit sözlü etkileşimleri içerdiklerine değinmiştir. Bu yöntemlerin basit sözlü etkileşimleri içermelerine rağmen, çocukların öğrenmesini şekillendirmek için hayati önem taşıyabileceğinin ve öğrenme ortamında kullanımlarının gerekliliğinin altını çizmiştir. Bu sözlü yöntemler, diğer karmaşık öğretim

yöntemlerini de şekillendirmektedir (R. Martin et al., 2001). Tüm bunlar göz önünde bulundurularak, Brewer (2014) uygun öğretim yöntemini seçmenin öğretimin temeli olduğunu vurgulamaktadır.

Yukarıda bahsedildiği gibi öğretim yöntemleri birer araçtır ve öğretmenler bu yöntemleri, öğretimin amaçlarını, çocukların gelişim düzeylerini, kendilerinin araştırma bilgilerini, çocukların kültürel geçmişlerini ve onların bireysel gereksinim ve farklılıklarını göz önünde bulundurarak seçmelidir (MacNaughton & Williams, 2004). Öğretmenlerin, eğitim ortamında kullandıkları öğretim yöntemlerinden biri de soru-cevap yöntemidir. Wilen ve Clegg (1986) soru-cevap yöntemi ile öğretimde hedeflenen bir kazanıma ulaştırmanın mümkün olduğuna değinmektedir. Bu bağlamda öğretmenler soru-cevap yöntemini sınıflarında sıklıkla kullanmaktadır. Diğer bir ifadeyle, öğretmenlerin sorulardan faydalanmaları sınıf etkileşiminin merkezi bir parçasıdır (Bredekamp, 2014; Fusco, 2012; Wassermann, 1991).

Tarihte bilindiği kadarıyla ilk olarak antik Yunan filozofu Sokrates soruları bir öğretme aracı olarak kullanmıştır. Öğretmenler, Sokrates'ten bu yana, öğrenme ortamında soru-cevap yöntemini yaygın olarak kullanmaktadır (A. T. Wood & Anderson, 2001). Sokratik yaklaşıma göre, tüm bilgiler çocukların zihnindedir, ancak bu bilgiler çocukların zihinlerinde uyanık halde değildir. Nails'in (2020) ifade ettiği gibi Sokrates, soru-cevap yönteminin her çocuğun zihnindeki bilgiyi açığa çıkarabileceğini ve o bilgileri uyandırabileceğini dile getirmiştir. Sokrates ile başlayan soru-cevap yöntemi kullanılarak gerçekleştirilen öğretme, günümüzde de yaygın bir şekilde kullanılmaya devam etmektedir.

Öğretim yöntemlerinden biri olan soru-cevap yöntemi, geçmiş yıllardan beri araştırmacıların üzerinde çalıştıkları bir konudur (MacNaughton & Williams, 2004). Wilen'ın (1991) aktardığı gibi, soru-cevap yöntemine ilişkin ilk çalışma Stevens (1912) tarafından yapılmıştır. Bu çalışmada, araştırmacı lise öğretmenlerinin sorularını incelemiş ve soru-cevap yönteminin öğretme ve öğrenme sürecinin bir parçası olduğunu vurgulamıştır. Araştırmanın bulgularına göre, okul gününün yaklaşık %80'i öğretmenlerin soruları ve öğrencilerin cevaplarından oluşmaktadır. Stevens'ın araştırmasıyla başlayan soru-cevap yöntemine yönelik incelemeler, bir araştırma alanı haline gelmiştir. Günümüzde de etkililiğini koruyan bu yöntem, öğretmenler tarafından okul öncesinden

başlayarak tüm kademelerde yaygın olarak kullanılmaya devam etmektedir (Bay & Alisinanoğlu, 2012; Büyükalan, 2007; MacNaughton & Williams, 2004).

Yapılan çeşitli araştırmalar, soru-cevap yönteminin öğretmenler tarafından her düzeyde yaygın olarak kullanılmasının sebeplerini açıklamanın yanı sıra, soru-cevap yönteminin işlevine yönelik birtakım önerilerde bulunmuştur. Ross (1860) öğretmenlerin soru-cevap yöntemini kullanmaları için iki temel amaç belirlemiştir: (1) öğrencilerin öğretileni hatırlayıp hatırlamadığını anlamak ve (2) öğrencilerin öğrendiklerini uygulayıp uygulamadıklarını değerlendirmek. Ross'un amaçlarına benzer şekilde, güncel araştırmalar, öğretmenlerin çocukların ilgilerini çekmek, onlara bildiklerini hatırlatmak, dikkatlerini artırmak ve bilgilerini değerlendirmek için yaygın olarak soru-cevap yöntemini kullandıklarını ortaya koymaktadır (Doğan ve Ömeroğlu, 2019; Wallace ve Hurst, 2009). Örneğin, okuma etkinliğinden önce öğretmen, çocukların ilgilerini çekmek, onların konsantrasyonlarını ve motivasyonlarını artırmak için soru-cevap yönteminden faydalanmaktadır (Bredekamp, 2013). Benzer şekilde, MacNaughton ve Williams (2004) çocuklara soru sormanın, onların düşünmelerine, gözlemlerini rapor etmelerine, deneyimlerini açıklamalarına ve tahminlerde bulunmalarına katkı sağladığını belirtmektedir. De Garmo (1911) da etkili bir şekilde yapılandırılan soruların, iyi bir öğretime yol göstereceğini vurgulamaktadır. Diğer bir deyişle, sınıf ortamında soru-cevap yöntemi uygun bir şekilde kullanıldığında; çocukların eleştirel düşünme, dikkat ve odaklama, etkili öğrenme ve hayal gücü becerilerinin geliştiği ifade edilmektedir (Bredekamp, 2013). Bu amaçlara ulaşmanın da temel yollarından biri soru cevap yöntemini etkili uygulamaktır. Bu bağlamda, araştırmalar soru-cevap yönteminin etkililiğini artırmak için bazı stratejiler tanımlamaktadır (Chin & Osborne, 2008; Fadem, 2008; Fusco, 2012; MacNaughton & Williams, 2009).

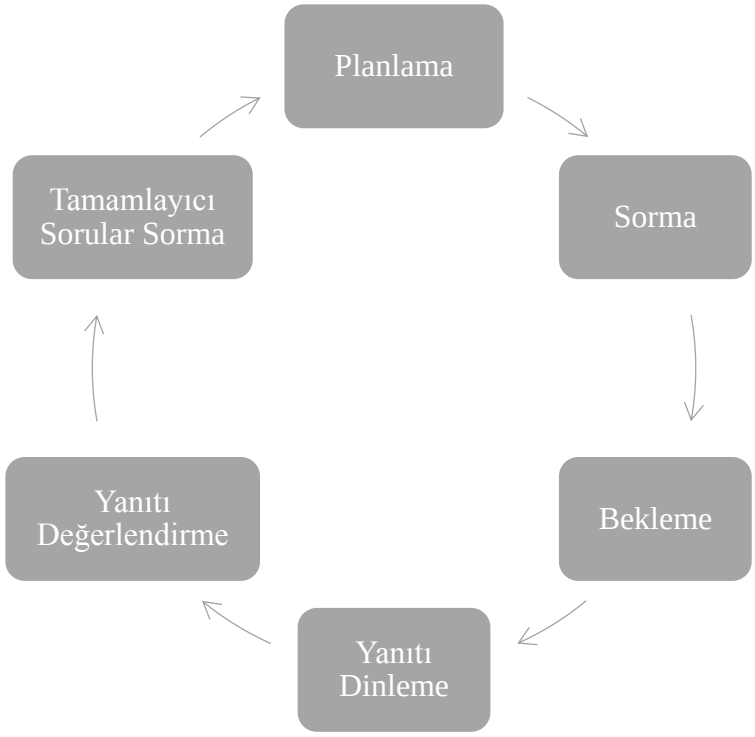
Soru-cevap yönteminde kullanılan bu stratejiler, öğretmenlerin etkili soru sormaları için onlara bazı çerçeveler sunmaktadır. Yapılan çalışmalardan bir kısmı bu stratejileri tanımlarken soruyu sorduktan sonra, bekleme süresine odaklanmaktadır (e.g. Albergaria-Almeida, 2010; Rowe, 1986; Stahl, 1994) veya soru türlerine değinmektedir (e.g. Hamel, Joo, Hong ve Burton, 2021; Meacham, Vukelich, Han ve Buell, 2014). Öte yandan, bazı araştırmacılar ise bilgi, kavrama, uygulama, analiz, sentez ve değerlendirme olmak üzere altı kategoriden oluşan

Bloom taksonomisini temel alarak bu stratejileri tartışmaktadır (Bay, 2011; Bibi et al., 2020). Mevcut çalışmada ise, Fusco (2012)'nun tanımladığı, planlama, sorma, bekleme, dinleme, değerlendirme ve tamamlayıcı sorular sorma bileşenlerinden oluşan soru-cevap döngüsü (bkz. Şekil 1), ve MacNaughton ve Williams (2009)'ın okul öncesi dönem çocukları için tanımladığı, kapalı uçlu ve açık uçlu soru olarak ikiye ayrılan soru türleri iki temel soru-cevap stratejisi olarak ele alınmaktadır.

Soru-cevap döngüsü, öğretmene işlevsel sorular sorması için rehberlik eden, diyalog kurmayı kolaylaştıran ve soruları etkili kılan bir soru-cevap stratejisi olarak tanımlanmaktadır (Christenbury & Kelly, 1983; Fusco, 2012). Ayrıca Fusco (2012) soru-cevap döngüsünü, çocukların bildiklerini anlamak, onları; fikirlerini ortaya çıkarmaya ve toplum bilincine sahip bireyler olmaya teşvik etmek için izlenmesi gereken sistematik bir strateji olarak tanımlamaktadır. Başka bir ifadeyle, soru-cevap döngüsü belirli bir seriyi izlemektedir. Bu seri doğrultusunda planlanan amaçlı sorular, çocukların öğrenme deneyimleri için yardımcı olabilmekte ve çevreye karşı farkındalıklarını artırmalarını sağlayabilmektedir (Fisher & Frey, 2010; Saifer, 2018).

Şekil 1.

Soru-Cevap Döngüsü ve Bileşenleri



Fusco (2012) soru-cevap döngüsünün ilk adımı olarak, *soruları planlama* bileşenini tanımlamaktadır. Öğretmenler soruları planlarken etkinliklerin kazanım ve göstergelerini, öğretilmesini amaçladıkları temel kavramları, çocukların ön bilgilerini, sosyokültürel yapılarını ve gelişimsel özelliklerini göz önünde bulundurmalıdır (Allison & Tharby, 2017; Ram, 1991; Teodoro et al., 2011). Planlanan soruların, etkinlik planları gibi planlama sayfalarına yazılması önerilmektedir. Etkinlik sürecine bağlı olarak öğretmen bu soruları geliştirebilmekte veya değiştirebilmektedir (Fusco, 2012; Wilen, 1987b). Soruları planladıktan sonra, Fusco (2012) *soru sormayı*, soru-cevap döngüsünün ikinci adımı olarak tanıtmaktadır. Bununla ilgili olarak, MacNaughton ve Williams (2009) okul öncesi öğrenme ortamında soruların zamanlamasına ve amacına atıfta bulunmaktadır. Öğretmenin soru sorarken doğru zamanı ve amacı belirlemesinin gerekliliğinin altını çizmektedir. Bilindiği kadarıyla araştırmacılar 1912 yılından itibaren öğretmenlerin etkinliklerde veya derslerde soru sorma davranışlarını araştırmaktadır (Marzano & Simms, 2014). Bu ve bu yıllardan sonra yapılan çalışmalar soru-cevap döngüsünün ikinci bileşeni olan soru sormayla ilişkilendirilebilir. Örneğin Stevens (1912), farklı alan derslerine giren öğretmenlerle bir araştırma yürütmüştür. 100 ders gözlemi ile, öğretmenlerin soru sayılarını araştırmış ve onların günde ortalama 395 soru sorduğunu tespit etmiştir. Bu araştırmaya benzer şekilde, Deshmukh ve diğerleri (2019) okul öncesi öğretmenleri ile araştırma yapmış ve onları kitap okuma etkinlikleri sırasında gözlemlemiştir. Araştırmacılar gözlemlerinde, öğretmenlerin soru kullanımlarını incelemişler ve okul öncesi öğrenme ortamlarındaki soru sayısıyla ilgili benzer bulgulara değinmiştir. Bu sonuçtan hareketle, araştırmacılar etkinlikler sırasında çok soru sormanın etkisizliğinin altını çizmektedir. Fusco (2012), öğretmenlerin soruyu sorduktan sonra, *bekleme*lerini soru-cevap döngüsünün üçüncü bileşeni olarak tanıtmakta ve soru sorduktan sonra ideal bekleme süresinin, en az üç saniye olması gerektiğini vurgulamaktadır. Yapılan araştırmalar da öğretmenlerin yanıtları beklemelerinin gerekliliğini onaylamaktadır. Örneğin, Rowe (1986) soru sorduktan sonra bekleme süresinin önemi ile ilgili ilkokul öğretmenleri ve öğrencileriyle bir çalışma yapmıştır. Çalışmanın sonucunda, öğretmenlerin soru sorduktan sonra, daha uzun süre beklediklerinde, çocuklara daha açık bağlantılar ve çıkarımlar yapma fırsatı verdiğini bulmuştur. Beklemeden sonra çocukların

*yanıtlarını dinleme*k, soru-cevap döngüsünün bir sonraki bileşeni olarak tanıtılmaktadır (Fusco, 2012). Çocukların yanıtlarını dinlemek, çocukların sorulara ilişkin algılarını anlamaya olanak sağladığından, bu soru-cevap döngüsünün etkili bir parçasıdır. Aktif dinleme, çocukların yanıtlarını etkili bir şekilde paylaşmalarını da teşvik etmektedir (MacNaughton & Williams, 2009). Çocukların yanıtlarını dinlemek, *yanıtları değerlendirme* ve soru-cevap döngüsünün diğer bileşeni olan *tamamlayıcı sorular sorma* ile bağlantılı olarak tanımlanmaktadır (Fusco, 2012). Yani, öğretmen çocuğun yanıtını etkili bir şekilde dinledikten sonra, onların yanıtlarını amaçladığı kazanım ve göstergelere, çocukların bireysel gereksinim ve farklılıklarına göre değerlendirmektedir. Daha sonra, onların düşüncelerini daha da genişletmek ve desteklemek için tamamlayıcı sorular sormaktadır. Bu şekilde, öğretmen ve çocuk arasında duyarlı ve saygılı bir soru-cevap diyaloğu gerçekleşmektedir (Fusco, 2012; MacNaughton & Williams, 2009).

Soru-cevap yönteminde kullanılan diğer bir strateji ise soru türlerinin kullanımıdır. MacNaughton ve Williams (2009) okul öncesi dönem çocukları için, kapalı uçlu ve açık uçlu soru türlerini tanımlamaktadır. *Kapalı-uçlu sorular*, tek kelime veya kısa bir cümle ile cevaplanabilen sorular olarak tanımlanmalarının yanı sıra; çocukların genellikle olgusal bilgiler edinmelerini, bildiklerini hatırlamalarını sağlamaktadır (Fusco, 2012; Wilen, 1987). Yani, öğretmenler çocukların neleri bildiğini veya çocukların ne hatırladıklarını anlamak için kapalı uçlu soruları kullanmaktadır. Bazı araştırmacılar bu soruların sıkıcı olabileceğini (Brock, 1986; Morgan & Saxton, 1991) söylese de öğretmenler öğrenme sürecini etkili bir şekilde yönetmek için kapalı uçlu soruları da planlamalı ve onlara da yer vermelidir (Fusco, 2012; MacNaughton & Williams, 2009). Öte yandan, *açık uçlu soruların* belirli bir cevabı yoktur (Hamel et al., 2021; Y. Yu et al., 2019). Açık-uçlu sorular aracılığıyla çocuklar düşündüklerini, inandıklarını, hissettiklerini ve bildiklerini temsil edebilmektedir. Bu bağlamda, MacNaughton ve Williams (2009) açık uçlu sorularla ilgili üç odak noktası tanımlamaktadır: (1) kuram ve anlayışları paylaşmak, (2) fikir ve duyguları paylaşmak ve (3) hayalleri paylaşmak. Örneğin, "Sence çamaşır makinesi nasıl çalışıyor?" sorusu çocuklara kuramlarını ve anlayışlarını paylaşmalarına fırsat vermektedir. Ya da çocuklar duygularını "Arkadaşın inşa ettiğin bloklarını devirdiğinde nasıl hissettin?" gibi sorular

aracılığıyla paylaşabilmektedir. Ayrıca çocuklar, açık uçlu sorular kullanarak hayallerini paylaşma fırsatı da bulmaktadır. Örneğin, "Sence kahraman filimiz bundan sonra ne yapmış olabilir?" sorusu çocukların hayallerini paylaşmalarını kolaylaştıran sorulardandır (MacNaughton & Williams, 2009).

Tanıtılan bu iki stratejinin amacı, nitelikli bir öğrenme ortamı oluşturmak ve öğretim sürecinde soru-cevap yönteminin etkililiğini artırmaktır (Fusco, 2012; MacNaughton & Williams, 2009). Soru-cevap yönteminin uygun stratejilerle kullanıldığında öğrenme ortamlarındaki etkililiği önemli olmasına rağmen, okul öncesi öğretmenlerinin bu konudaki inanış ve uygulamaları literatürde çok fazla yer bulmamıştır (Günay Bilaloğlu et al., 2017). Bu bağlamda, bu iki strateji ile ilişki olarak öğretmenlerin bu konudaki inanışları ve raporladıkları uygulamaları, genel bir bakış açısı ortaya koyabilir ve alan yazına katkı sağlayabilir.

Eğitim araştırmaları genellikle belirli bir konu hakkında bir grup insanın inanışları ile ilgilenebilir ve araştırma sorularına cevap bulmak için onlara bazı sorular sorabilir. Bu bağlamda inanışlar, konu ile ilgili genel bakış oluşturmaya yardımcı olabilir (Fraenkel et al., 2012). Öte yandan, inanışlarının yanı sıra, katılımcıların kendi bildirdikleri uygulamalarını araştırmak da gözlemleyerek ölçülmesi zor olan bilgileri ortaya çıkarma fırsatı sağlayabilir (L. J. McIntyre, 1999). Bu bağlamda, Koziol ve Burns (1986) öğretmenlerin uygulamalarına ilişkin öz bildirimlerini desteklemekte ve bu öz bildirimlerin, öğretmenlerin uygulamalarına ilişkin güvenilir veriler topladığını ifade etmektedir.

Mevcut tezde, soru-cevap yöntemi ile ilgili genel bir bakış sunabilmek için, öğretmenlerin inanışlarına ve öz-bildirim uygulamalarına başvurulmuştur. Bu tezin üç temel amacı vardır. İlk amaç, soru-cevap yöntemine ilişkin okul öncesi öğretmenlerinin inanışları doğrultusunda, soru-cevap yönteminin kullanımı, soru-cevap döngüsü ve bileşenleri ve soru türleri hakkında genel bir bakış açısı sunmaktır. İkinci amaç, okul öncesi öğretmenlerinin öz-bildirim uygulamalarını; soru-cevap yönteminin kullanımı, soru-cevap döngüsü ve bileşenleri ve soru türleri bağlamında incelemektir. Üçüncü amaç ise, okul öncesi öğretmenlerinin inanışları ile öz-bildirim uygulamaları arasındaki benzerlikleri ve farklılıkları keşfetmektir. Bu hedefler doğrultusunda aşağıdaki araştırma sorularına yanıt aranacaktır:

1. Okul öncesi öğretmenlerinin soru-cevap yöntemine ilişkin inanışları nelerdir?
    a. Soru-cevap yönteminin genel kullanımı.
    b. Soru-cevap döngüsü ve bileşenleri.
    c. Soru türleri.
2. Okul öncesi öğretmenlerinin soru-cevap yöntemine ilişkin öz-bildirim uygulamaları nelerdir?
    a. Soru-cevap yönteminin genel kullanımı.
    b. Soru-cevap döngüsü ve bileşenleri.
    c. Soru türleri.
3. Okul öncesi öğretmenlerinin soru-cevap yöntemine ilişkin inanışları ve öz-bildirim uygulamaları arasındaki benzerlik ve farklılıklar nelerdir?

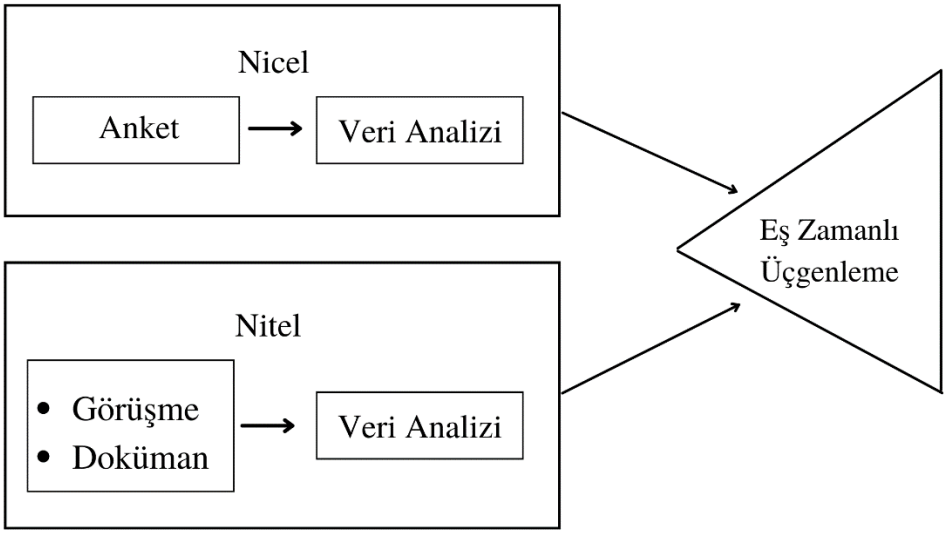
YÖNTEM

Araştırmanın Deseni

Araştırmanın temel amacı, okul öncesi öğretmenlerinin soru-cevap yöntemine ilişkin inanışlarını ve öz-bildirim uygulamalarını incelemektir. Bu amaç doğrultusunda, mevcut araştırmada, karma yöntem desenlerinden biri olan eş zamanlı üçgenleme deseni kullanılmıştır (Creswell & Plano Clark, 2018). Bu araştırma türü, anketi ve görüşmeyi içeren, nicel ve nitel iki veri kümesinden oluşur. Eş zamanlı üçgenleme deseninde, nicel ve nitel veriler aynı zamanda toplanabilir ve analiz edilebilir. Toplanan verilerin analizi ayrı ayrı yapılabilir ve verilerin yorumlanması ve tartışılması esnasında birleştirilebilir (Creswell & Creswell, 2018). Mevcut çalışmada da Şekil 2'de gösterildiği gibi, nicel ve nitel veriler toplanmış ve nicel bulguları niteleyerek veya nitel bulguları nicelleştirerek çıkarımlar yapılmıştır (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010).

Şekil 2

Eş Zamanlı Üçgenleme Deseni



Araştırmanın Örneklemi

Araştırmanın verileri, Ankara'daki üç farklı merkez ilçede (Çankaya, Keçiören, Yenimahalle) bulunan devlet okullarında görev yapan okul öncesi öğretmenlerinden toplanmıştır. 412 katılımcı öğretmen, internet üzerinden verilen anketleri doldurmuştur. Anketleri dolduran öğretmenler arasında, amaçlı örneklem seçimiyle, her ilçeden eşit sayıda olacak şekilde, çalışmaya devam etmeyi kabul eden 21 okul öncesi öğretmeni seçilmiştir. 21 öğretmen ile çevrim içi görüşmeler sağlanmıştır.

Veri Toplama Araçları

Mevcut tezde, okul öncesi öğretmenlerinin bir yöntem olarak soru-cevap yöntemi ve bu yöntemin iki stratejisi olan soru-cevap döngüsü ve soru türleri hakkındaki inanışlarını ve öz-bildirimlerini araştırmak için farklı veri toplama araçları kullanmıştır: (1) Demografik Bilgi Formu, (2) Okul Öncesi Öğretmenlerinin Soru-Cevap Yöntemini Kullanımı (ÖSYK) Anketi ve (3) Yarı Yapılandırılmış Görüşme Protokolü.

Veri Toplama Süreci

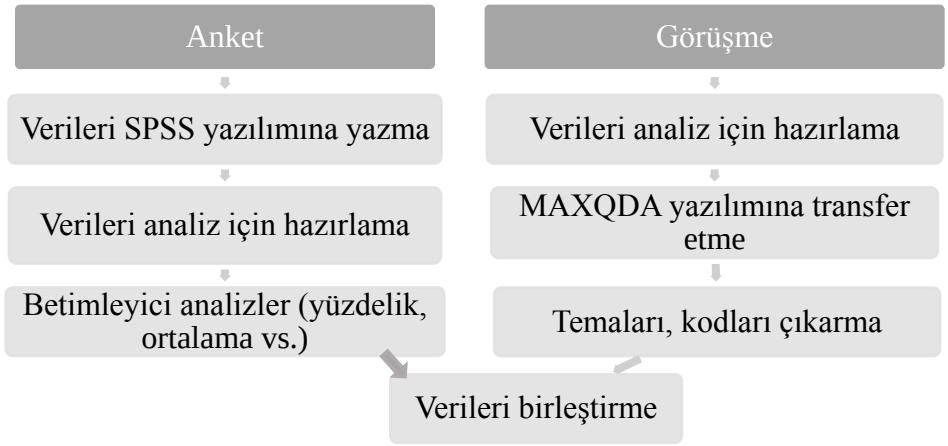
Mevcut araştırmanın verileri, Ocak 2021 ve Mart 2021 tarihleri arasında, çeşitli veri araçlarıyla toplanmıştır. İlk olarak, katılımcı öğretmenlere, Demografik Bilgi Formu ve ÖSYK Anketi uygulanmıştır. Anket, ilgili okul müdürleri aranarak, öğretmenlere anket linkinin iletilmesi ile toplanmıştır. Anketin son kısmında, araştırmanın bundan sonraki bölümüne gönüllü olarak katılmak isteyen katılımcıların rumuzlarını, iletişim numaralarını veya e-postalarını paylaşabilecekleri bir iletişim kutusu bulundurulmuştur. İletişim numaralarını veya e-postalarını paylaşan 57 katılımcının 21 tanesi amaçlı örneklem ile seçilmiş ve çevrim içi görüşmeler yapılmıştır. Görüşmeden önce araştırmacı, katılımcıları etik konular hakkında bilgilendirmek ve verileri kaydetmek için onam formunu okumuş ve görüşme sırasında, uygulama üzerinden ses kayıtları alınmıştır.

Verilerin Analizi

Mevcut araştırmada, araştırmacı, nicel ve nitel verileri, araştırma deseninin önerdiği şekilde, bağımsız olarak analiz etmiştir. Analiz süreci Şekil 3'te açıklanmıştır.

Şekil 3

Veri Analiz Süreci



Şekil 3'te gösterildiği gibi, mevcut tezde veriler, nicel ve nitel tekniklerle toplanmıştır. Çalışma için uygun veri analiz yöntemini belirlemek için, ilgili alan yazın taranmıştır. Çalışmanın, nicel verilerini analiz etmek için SPSS programından faydalanılmıştır. Bu bağlamda veriler, SPSS yazılımına işlenmiş ve gerekli veri temizliği yapılmıştır. Analize hazır hale geldiğinde ise, betimleyici analizler kullanılarak bulgulara ulaşılmıştır. Öte yandan, öğretmenlerden görüşme ile saptanan nitel verileri analiz etmek için ise MAXQDA yazılımından yararlanılmıştır. Veri toplama araçlarından elde edilen tüm veriler yazılı hale getirilmiş ve bütüncül bir yaklaşım elde edebilmek için birden çok kere okunmuştur. Bu süreçte notlar tutulmuş, tutulan notlar yeniden değerlendirilmiştir. Değerlendirme süreci sonucunda, temalar, kategoriler ve kodlar alan yazının ve anketteki bağlamların desteğiyle oluşturulmuştur. Toplanan tüm veriler aynı kategoriler bağlamında analiz edilmiştir.

BULGULAR VE TARTIŞMA

Bu bölümde veri analizi sonucu elde edilen bulgular oluşturulan ortak temalar ve kategoriler çerçevesinde sunulmuş ve ilgili alan yazın bağlamında tartışılmıştır. Tüm bulgular temel olarak şu temalar temelinde tartışılmaktadır: (1) Bir öğretim yöntemi olarak soru-cevap yöntemi ile ilgili genel anlayışlar, (2) Soru-cevap döngüsü ve bileşenleri ile ilgili genel anlayışlar ve (3) Soru türleri ile ilgili genel anlayışlar.

Okul öncesi öğretmenlerinin soru-cevap yöntemine ilişkin genel anlayışları ile ilgili olarak, öğretmenlerin inanışları ile öz-bildirimlerine dayalı uygulamalarının birbirleriyle ortak yönleri olduğu söylenebilir. Çalışmaya katılan okul öncesi öğretmenlerinin neredeyse tamamı (%99,4), erken çocukluk eğitimi (EÇE) öğrenme ortamlarında, soru-cevap yöntemini kullandıklarını belirtmişlerdir. Özellikle öğretmenlerin drama, dil ve fen bilimleri etkinliklerinde soru-cevap yöntemini daha çok kullandıkları; oyun, sanat, müzik ve hareket etkinliklerinde ise nadiren kullandıkları görülmüştür. Ancak yapılan araştırmalar, soru-cevap yönteminin tüm etkinlik türlerinde kullanılması gerektiği desteklenmektedir. Örneğin, Frost, Wortham ve Reifel (2012) oyun etkinliklerinde, öğretmenlerin yönlendirici sorular aracılığıyla, çocuklara yeni kapılar açabileceğini vurgulamaktadır. Hareket etkinlikleri ile ilgili, Abels ve Bridges (2010), "Bu hareketi kim daha farklı yapabilir?" gibi sorularla, çocukların hareket algılarının artırılabileceğini vurgulamaktadır. Sonuç olarak, öğretmenler bazı etkinlik türlerinde daha az sorular sorduklarını bildirseler de soru-cevap yöntemini sıklıkla kullanmaktadır. Geçmişte yapılan çalışmalar da bu bulguyu desteklemektedir (e.g. Blosser, 2000; Furman ve diğerleri, 2019; Kostelnik, Gregory, Soderman ve Whiren, 2011; Sigel ve Saunders, 1977). Bu noktada, Türkiye'nin Okul Öncesi Eğitim Programı'nda soru-cevap yöntemine yer verilmesinin rolü olduğu düşünülmektedir.

Soru-cevap yönteminin stratejilerinden biri olan soru-cevap döngüsü ve bileşenlerine ilişkin olarak, öncelikle öğretmenlerin soru-cevap döngüsü tanımlarını anlamak önemlidir. Literatürde bu terminoloji, çocukların aktif katılımını ve düşünmesini sağlayan kolaylaştırıcı bir strateji olarak tanımlanmaktadır (Fusco, 2012).

Mevcut tez bulguları ise, öğretmenlerin çoğunun (n=14) soru-cevap döngüsünü öğretmen ve çocuklar arasında oluşan soru-cevap diyalogları olarak tanımladığını göstermektedir. Mevcut tezin bulguları ile alan yazının tanımı bir anlamda ortaktır. Literatür bu diyalogları sistematik bir strateji olarak sunmaktadır. Yani, öğretmenler sorularını planlamakta, planladıkları soruları sormakta ve çocuklara yanıtlamaları için bekleme süresi vermekte, çocukların yanıtlarını dinlemekte ve yanıtlarını kazanım ve göstergelere göre değerlendirmektedir; değerlendirdikleri yanıtlardan hareketle çocuklara tamamlayıcı sorular sorarak kazanımlarını desteklemektedir (Fusco, 2012). Bazı öğretmenler ise, soru-cevap döngüsünü, çocuk ve öğretmen arasında gerçekleşen bitmeyen sonsuz soru ve cevap diyalogları olarak tanımlamaları dikkat çekicidir.

Soru-cevap döngüsünün ilk bileşeni olan *soruları planlama* ile ilgili olarak, öğretmenlerin inanışları ve öz-bildirimlerine dayalı uygulamaları birbirinden farklıdır. Yani, öğretmenler, okul öncesi öğretmenlerinin çoğunun soruları planladıklarına inanmaktadır. Ancak, öğretmenlerin öz-bildirimlerine dayalı uygulamaları sorulduğunda, katılımcı öğretmenler (n=16, %76,2), sorularını planlamadıklarını ifade etmektedir. Öğretmenlerin inanışları ve öz-bildirimlerine dayalı uygulamalarının farklı olmasının temel nedenlerinden biri, görüşmeye katılan öğretmenlerin, okul öncesi öğretmenleri ile ilgili genel anlayışlarını yansıttıkları halde, öz-bildirimlerini raporlarken kendi yaptıkları uygulamaları anlatmaları olabilir. Yani öğretmenler soruların planlanması gerektiğini kuramsal olarak savundukları halde, uygulamalarında deneyim yılı gibi bazı faktörler sebebiyle göz ardı edebildikleri anlaşılabilmektedir. Bununla birlikte, alan yazın, öğretmenlerin deneyimlerinden bağımsız olarak, soruların planlanmasının gerekliliğini vurgulamaktadır (Shanmugavelu et al., 2020; Wilen, 1991).

Soru sorma bileşeni ile ilgili, öğretmenlerin inanışlarına dayalı bulgular ve öz-bildirim uygulamaları arasında ortak yönler bulunmaktadır. Öğretmenlerin inanışları ve raporladıkları uygulamaları, öğretmenlerin soruları belirli hedefler için kullandıklarını göstermiştir: çocukların öğrenmelerini değerlendirmek, ilgilerini uyandırmak, duygularını paylaşmalarını sağlamak ve kendilerini ifade etmelerini sağlamak. Bulgular doğrultusunda Wallace ve Hurst (2009), 1967, 1987 ve 2007 yıllarında yapılan çalışmaları incelediklerinde, öğretmenlerin genellikle çocukları değerlendirmek, hatırlayıp hatırlamadıklarını anlamak ve çocukların motivasyonunu artırmak için sorular sorduklarını bulmuşlardır. MacNaughton ve Williams (2009) da

okul öncesi öğretmenlerinin çocukların mevcut seviyelerini değerlendirmek, ilgilerini uyandırmak, duygularını paylaşmalarını sağlamak, heyecanlandırmak, meraklarını artırmak vb. gibi amaçlar için soru sormalarını tavsiye etmiştir. Dolayısıyla, öğretmenlerin inanışları ve öz-bildirim uygulamaları alan yazını desteklemektedir. Bunun temel sebeplerinden biri, Türkiye'de uygulanan okul öncesi eğitim programının etkinlik sonunda değerlendirme sorularına yer vermeleri olabilir. Okul öncesi eğitim programı, etkinlik sonunda çocukları değerlendirmek için betimsel sorular, duyuşsal sorular gibi sorulara yer vermektedir (MoNE, 2013; Turupcu Doğan & Ömeroğlu, 2019). Bu anlamda düşünüldüğünde, öğretmenlerin inanışlarının ve kendi bildirdikleri uygulamaların duyuşsal sorular sorulması, değerlendirme bağlamında soruların sorulması anlamlıdır. Öte yandan, soru sorarken dikkate alınan hususlar konusunda da öğretmenlerin inanışları ve öz-bildirim uygulamaları arasında ortak noktalar bulunmaktadır. Okul öncesi öğretmenleri, soru sorarken bazı hususları dikkate aldıklarını belirtmişlerdir. Öğretmenler bireysel sorulardan çok, tüm sınıfa soru sorduklarını ve soru sorarken yüz ifadelerini kullanmaya dikkat ettiklerini ifade etmiştir. Ancak MacNaughton ve Williams (2009) okul öncesi öğretmenlerinin soruları tüm sınıf yerine, bireysel olarak sormalarının gerekliliğini önermiştir. Bu bilgiler ışığında, öğretmenlerin alan yazının desteklediği gibi bireysel olarak soru sormaya değil, tüm sınıfa soru sormaya yönelmelerinin nedenleri incelenmeye değer bulgular arasındadır. Kısacası, okul öncesi öğretmenlerinin soru sormaya ilişkin inanışları ve öz-bildirim uygulamalarının ortak yönleri olmakla birlikte, bazı yönleri ile alan yazından farklılık göstermektedir.

Bekleme süresi ile ilgili bulgular incelendiğinde, öğretmenlerin inanışları ile öz-bildirim uygulamaları arasında farklılıklar olduğu görülmektedir. Katılımcı öğretmenlerin çoğu (%88), okul öncesi öğretmenlerinin soru sorduktan sonra beklediklerini dile getirseler de öz-bildirim uygulamalarını ifade ettiklerinde bekleme süresinin okul öncesi çocuklar için uygun olmadığını belirterek, soru sorduktan sonra beklemediklerini söylemişlerdir. Öğretmenlerin öz-bildirim uygulamalarında elde edilen bulgulara paralel olarak, Günay Bilaloğlu, Aktaş Arnas ve Yaşar (2017) okul öncesi öğretmenlerini fen etkinlikleri sırasında gözlemlemiş ve öğretmenlerin sorular sorduktan sonra bekleme sürelerini analiz etmiştir. Araştırmalarının sonucunda, okul öncesi öğretmenlerinin soru sorduktan sonra, çocukları cevap vermeleri için beklemediğini bulmuşlardır ve bekleme süreleri ortalamaları 1,15 saniye olarak

hesaplanmıştır. Bu çalışmalardan hareketle, bu tezin bulgularında da bahsedildiği gibi, okul öncesi öğretmenleri, çocukları gelişimsel farklılıkları nedeniyle soru sorduktan sonra beklemiyor olabilir. Yani, okul öncesi eğitimine devam eden çocukların gelişimleri, öğretmenlerin soru sorduktan sonra bekleme sürelerini etkiliyor olabilir. Öğretmenlerin inanışları ile öz-bildirim uygulamaları arasındaki bu farklılığın nedeni, kuramsal olarak soru sorduktan sonra beklemeleri gerektiğine inanmaları olabilir. Ancak öğretmenlerin inanışlarında da belirttiği gibi, soru sorduktan sonra bekleme süresi tanımak, birçok fayda sağlamaktadır. Yeterli bekleme süresi verildiğinde çocukların daha kapsamlı cevaplar verdikleri, fikirlerini bir temele oturtabildikleri, dil ve düşünce becerilerini artırdıkları bulunmuştur. (MacNaughton & Williams, 2004; Stahl, 1994; Tobin, 1987; R. L. Walsh & Hodge, 2018). Sonuç olarak, öğretmenlerin inanışları alan yazınla tutarlıdır, fakat öz-bildirim uygulamaları alan yazından farklıdır.

Aktif dinleme, sınıftaki soru-cevap yönteminin bir parçasıdır (Fusco, 2012). Bu tezde, öğretmenlerin inanışları ve öz-bildirim uygulamalarından elde edilen bulgular, okul öncesi öğretmenlerinin çocukların yanıtlarını dinlediğini göstermiştir. Bu bağlamda Fusco (1984), öğretmenlerin soru sorduktan sonra verilen yanıtları dikkatle dinlediklerini ve bu sayede öğrencilerin öğretmenleriyle daha fazla fikir paylaştığını bulmuştur. Bundan hareketle Fusco (1984), öğretmenlere çocukların cevaplarını aktif bir şekilde dinlemelerini tavsiye etmiştir. Wilen ve Kindsvatter (2000) de, göz teması kurma, çocukların yanıtlarını kesmeden, sessizce dinleme gibi yanıtı dinlerken dikkate alınması gereken konuları vurgulamıştır. Mevcut tezin bulguları da öğretmenlerin çocukların yanıtını dinlerken bu gibi hususları dikkate aldıklarını ortaya koymaktadır. Sonuç olarak, öğretmenlerin inanışları ve öz-bildirim uygulamalarından elde edilen bulgular hem birbiriyle hem de alan yazın ile örtüşmektedir. Bu bulgular, özellikle okul öncesi dönem çocuklarının okuma yazma becerileri olmadığı için, kazanımları değerlendirme konusunda öğretmenlerin sıklıkla başvurdukları soru-cevap yönteminin bir doğası olduğunu düşündürmüştür. Çünkü, öğretmenler çocukların yanıtlarını aktif bir şekilde dinleyerek kazanımları elde edip etmediklerini odaklanmaktadır.

Yanıtın değerlendirilmesi, soru-cevap döngüsünün bir diğer bileşenidir. Bu bileşen ile ilgili, öğretmenlerin inanışları ve öz-bildirim uygulamaları kısmen birbirleriyle ortak noktalara sahiptir. Öğretmenlerin %90,4'ü, öğretmenlerin yanıtları

değerlendirdiklerini bildirmesine rağmen, öz-bildirim uygulamalarında bu oran bu ölçüde fazla değildir. Bu kısmi ortaklığın nedeni, öğretmenlerin kuram ve uygulama anlayışları arasındaki farklılıklar olabilir (Wolff et al., 2014). Nitekim bazı öğretmenlerin de bildirdiği gibi, açık uçlu soruların birden fazla yanıtı olduğu için değerlendirmeye tabii tutulamayacağı anlayışı vardır. Oysaki, yanıtın değerlendirilmesi sorunun türünden bağımsız olarak sor-cevap döngüsünde dikkat edilmesi gereken hususlardan biridir. Bu bağlamda, öğretmenlerin soru-türlerine ilişkin alan yazın bilgileri, yanıtı değerlendirme konusundaki kısmi farklılığa yol açtığını düşündürmektedir.

Soru-cevap döngüsünün son bileşeni, *tamamlayıcı sorular sorma'*dır. Yanıtı değerlendirdikten sonra öğretmen, çocukların fikirlerini genişletmek için tamamlayıcı sorular sormalıdır (Fusco, 2012). Alan yazın da, öğretmenlerin bir kavramı veya konuyu netleştirmek için tamamlayıcı sorular kullanmaları gerektiğini belirtmiştir (Gilson et al., 2014). Okul öncesi öğretmenlerinin inanışlarına ve öz-bildirim uygulamalarına dayanan bulgular, öğretmenlerin çocukların anlayışlarını netleştirmek ve konuyu genişletmek için tamamlayıcı sorular kullandıklarını göstermiştir. Yani, öğretmenlerin inanışları ve öz-bildirim uygulamaları alan yazınla uyumludur ve birbirini desteklemektedir. Bu durum, soru-cevap yönteminin bir doğası olarak ele alınabilir. Bu yöntemin, çocuk ve öğretmen arasındaki diyalog olarak geliştiği düşünülürse, öğretmen tamamlayıcı sorular ile çocuğun gelişimini desteklemektedir.

Öte yandan, soru-cevap türleri ile ilgili olarak, öğretmenler, okul öncesi öğretmenlerinin genellikle açık uçlu sorular sorduklarına inanmakta ve öz-bildirimlerinde de açık uçlu soruları daha çok tercih ettiklerini raporlamaktadır. Geçmişte yapılan araştırmalar ise, mevcut tezin bulguları ile aynı doğrultuda değildir (örn. Bay ve Hartman, 2015; Günay Bilaloğlu ve diğerleri, 2017; Qashoa, 2013; Zeegers ve Elliott, 2019). Bu farklılık, öğretmenlerin genel inanışları ile öz-bildirim uygulamaları arasındaki farklılıktan kaynaklanıyor olabilir (Calleja, 2021). Yani öğretmenler inandıklarını yapamayabilirler veya inandıklarını birkaç nedenden dolayı yapamayabilirler. Ya da öğretmenler sınıf içinde daha çok açık uçlu sorular sorduklarını zannetseler dahi, kapalı-uçlu sorulara daha çok yer verdiklerinin farkında olmayabilirler. Sonuç olarak, öğretmenlerin inanışları ve öz-bildirim uygulamaları birbiriyle örtüşmesine rağmen, alan yazında yer alan çalışmalarla örtüşmemektedir.

Öneriler

Çocukların değişen ihtiyaçları ile yeni öğretim yöntemleri ortaya çıkmaktadır (Bredekamp, 2014). Soru-cevap yöntemi, kendini güncelleyen ve modası geçmeyen en eski yöntemlerden biridir. Bu tezin bulguları, okul öncesi öğretmenlerinin soru-cevap yöntemini sıklıkla kullandıklarını göstermiştir. Kritik soru, okul öncesi öğretmenlerinin bu yöntemi çocukların mevcut ihtiyaçları doğrultusunda kullanıp kullanmayacağıdır.

Yapılan analizler, öğretmenlerin soru-cevap yöntemini kullanımlarının etkinlik türlerine göre değiştiğini ortaya koymuştur. Yani, öğretmenler dil etkinliklerinde daha fazla soru sorarken, beden eğitimi ve sanat etkinliklerinde daha az soru sormuştur veya hiç soru sormamıştır. Daha önce yapılan çalışmalar ışığında, öğretmenler soru-cevap yöntemini farklı etkinliklerle birlikte de kullanmalıdır. Örneğin, sanat etkinliklerinde soru-cevap yöntemi kullanılarak çocukların estetik algıları ve dil becerileri geliştirilebilir (Zolfaghari et al., 2011). Farklı etkinliklerde kullanılan soru-cevap yöntemi, çocukların farklı gelişimsel gereksinimlerine hizmet edebilir (Walsh & Sattes, 2004). Tüm bu nedenlerle, öğretmenlerin farklı etkinliklerde soru-cevap yöntemi kullanımı konusunda ve farklı etkinliklerde sorulan soruların çocukların farklı gelişim alanlarını geliştirebileceği yönünde farkındalıklarının artması için eğitimler düzenlenebilir.

Soru-cevap döngüsüne ilişkin olarak, Fusco (2012) bu döngünün sınıfta etkili bir atmosfer oluşturduğunu vurgulamaktadır. Bu tez ile elde edilen bulgular, okul öncesi öğretmenlerinin soru-cevap döngüsü ve bileşenlerine yönelik anlayışları hakkında çıkarımlar sağlamıştır. Önemli bir sonuç, okul öncesi öğretmenlerinin de etkili bir atmosfer yaratmak için soru-cevap döngüsünü kullanabilmeleridir. Sonuç olarak, soru-cevap döngüsü ve bileşenleri çocukların gelişimini her yönüyle destekleyebilir. Bu stratejiyi kullanan öğretmenler, öğrenme güçlüğü çeken çocuklar da dahil olmak üzere tüm çocuklara faydalı olabilir (Fusco, 2012). Bu bağlamda okul öncesi öğretmenleri de soru-cevap döngüsünü uygularken çocuklara karşı sorumluluklarının bilincinde olarak, bu stratejiyi daha etkin hale getirmek için diğer öğretmenlerle fikir alışverişinde bulunmalıdır. Döngünün tüm bu bileşenlerini sınıf dinamiklerini dikkate alarak okul öncesi öğrenme ortamlarına uyarlayabilirler. Ayrıca soru-cevap döngüsü

ile ilgili güncel araştırmaları takip ederek, konferanslara ve hizmet içi eğitim programlarına katılarak bir paylaşım ağı oluşturabilirler.

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TEZİN ADI / TITLE OF THE THESIS (**İngilizce** / English):
Preschool Teachers' Beliefs and Self-Reported Practices Regarding Questioning as a Teaching Method: Questioning Cycle And Question Types
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