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Teachers' Questions and Children's Answers Administered during the "Question of the Day" Practice in a Kindergarten of Turkey

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Abstract

In this study, the questions asked by 5 preschool teachers during the "question of the day" practice at the beginning of the day and the characteristics of the answers given by 240 children of 4-5-year-old were investigated. Language interactions between teachers and children through 198 questions asked during the "question of the day" practice at the start of the day activity and 2048 answers were transcribed and then teachers' questions were analyzed using the coding scheme comprised of four defined abstraction levels, and the answers of the children were analyzed according to three defined abstraction levels. The results revealed that teachers' questions were predominantly preference (31.3%) questions and likewise, the majority of children's answers were personal preference (46.3%) answers. Also, it was concluded that; (a) asking creation questions that allow children to express their original thoughts was least preferred by the teachers; (b) children often preferred to answer recall, inference and creation questions at the realistic level, and preference questions at the personal preference level; (c) children mostly gave creative answers to the creation questions of the teachers; and (d) 5-year-old children prefer to give more creative answers to teachers' questions than 4-year-olds.

Keywords: Turkey, Preschool Children, Teacher Questions, Children Answers

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INTRODUCTION

In Turkey, particular importance is given to pre-school education and free education in public schools provides equal opportunities. The objective is to increase the quality of preschool education in the country and to allow all children benefit from this education (MoNE Annual Report, 2018). The analysis of pre-school education experience in Turkey will contribute to the teachers in terms of pedagogy.

Qualified preschool education requires the provision of development and learning opportunities to the children at school (Sheridan, 2007). One of the most important in-class pedagogical practices that offers development and learning opportunities is asking questions (Cotton, 1989). Questions increase the success of children in language usage as a result of exposure to an abstract language (van Kleeck, GiBam, Hamilton, & McGrath, 1997). This study analyzed the quality and quantity of the questions asked by 5 kindergarten teachers in Turkey and the answers of 73 children emerged as a result of language interaction. As far as it is known, no research has been conducted with this content, targeting this cultural structure.

The Significance of Teacher's Questions and Children's Answers Study

Some motives were considered to be important in planning the study involving the examination of teachers' questions and children's answers. One of the most important motives is discovering that the most commonly used teacher statements are questions. In preschool, questions constitute approximately 30% of teachers' statements (e.g., de Rivera, Girolametto, Greenberg, & Weitzman, 2005; Massey, Pence, Justice, & Bowles, 2008; Tompkins, Zucker, Justice, & Binici, 2013; Zucker, Justice, Piasta, & Kaderavek, 2010). This ratio varies according to the inclusion of class management related statements in the questions. The impact of the questioning technique, which is widely used and reveals children's learning experiences, should be known (MacNaughton, & Williams, 2004).

The second important motive is that teacher questions serve as an important pedagogical strategy to support language development in children. Asking questions that lead children to think enables the development of children's language usage (Zucker et al., 2010). Children give more complex answers to cognitively challenging questions such as why and how (Massey et al., 2008). Numerous researches have shown that the language used by teachers is effective on children's comprehension and expression of language skills (e.g., Chen and Liang, 2017; Han, Roskos, Christie, Mandzuk, & Vukelich, 2005; Justice, Meier, & Walpole, 2005; Massey et al., 2008; Wasik & Bond, 2001; Wasik, Bond, & Hindman, 2006; Zucker et al., 2010). Children's answers to open-ended and cognitively challenging questions, asked for reasoning and interpretation purposes (Massey et al., 2008), are longer and variable (Chen and Liang, 2017; de Rivera, Girolametto, Greenberg, & Weitzman, 2005; van Kleeck, Vander Woude, & Hammett, 2006; Zucker et al., 2010).

In addition, teachers' questions are seen as a key practice in directing children to speak meaningfully by thinking. In this practice, an interaction occurs between teacher and child (Tok & Sevinç, 2010; Gönen, Ünüvar, Bıçakçı, Koçyiğit, Yazıcı, Orçan, Aslan, Güven & Özyürek, 2010; Samur and Soydan, 2013). Thanks to the questions, logical and systematic thinking skills of children start to develop (Dağlıoğlu & Çakır, 2007; Bay & Alisinanoğlu, 2012; Işıkoğlu Erdoğan & Akay, 2015). The child is encouraged to think to use the language in the direction of the cognitive expectation of the question asked by the teacher (Massey 2004; Massey et al. 2008; Zucker et al. 2010). What is decisive here is the quality of the used questions and their suitability to the cognitive level of the child, which determine the extent to which these skills can be developed (Bay & Alisinanoğlu, 2012). Children produce more words to the teacher's cognitively challenging questions (de Rivera et al., 2005). In the studies, it was observed that children's receptive and expressive vocabulary increased by asking literal and inferential questions to the children (e.g., van Kleeck et al., 1997, 2006; Wasik & Bond, 2001; Zucker et al., 2010). These studies were mostly conducted within

the content of some activities, such as story reading, and in the natural process. In addition, the researches were mostly conducted in US preschool classes except the ones in Hong Kong. The questions asked by the teachers after a preliminary planning and the answers given by the preschool children were not investigated in different cultural environments in terms of language production. In this context, it was aimed to analyze the questions asked by preschool teachers as the "question of the day" in the start of the day period and the characteristics of the answers given by the children.

Definition of the Four Levels of Teachers' Questions

Four different levels that were defined for teachers' questions are given below.

Table 1 Question Levels, Codes, Definitions and Examples of Questions

Levels and Codes	Definitions	Examples of Questions
Level 1 (Recall) (RC)	Questions asked to recall and re-express previously learned knowledge.	"How do the fish swim?" "Where did the boy in the story go?"
Level 2 (Preference) (PR)	Questions asked to make a preference according to their own feelings and thoughts among many available people, events, and phenomena.	"Where would you go if you were a cloud?" "What would you like to cook for your guest who will come in the evening?"
Level 3 (Inference) (IN)	Questions asked to predict what can happen as a result of unusual situations and to draw conclusions.	"How would the cars go without the wheel?" "What would have happened if all the people in the world came to your house?"
Level 4 (Creation) (CR)	Questions asked to make them express an existing or imagined situation, event, object, phenomenon in an unusual, original way and to create a product.	"How would be a daisy in the space?" "If you were the lion king of the forests, what would you tell the animals living in the forest?"

Coding categories were created using Zucker et al.'s, (2010) and Chen and Liang's (2017).

Definition of the Three Levels of Children's Answers

The definitions of three different levels of the children's answers to teachers' questions are given below.

Table 2 Question Levels, Codes, Definitions and Examples of Questions

Levels and Codes	Definitions	Examples of Questions
Level 1 (Personal Preference) (PP)	Choosing and expressing the valuable ones among the object, people, facts and events that they encountered in their daily life.	"Shark, because its teeth are sharp." "I would buy a toy car. "
Level 2 (Realistic) (RL)	The use of reality-reflecting statements in accordance with previously learned known facts.	"You shouldn't eat too much candy." "It means feast." "I would make a pumpkin sculpture."
Level 3 (Creative) (CR)	The expression of the child's own, unusual, different, original thought or product.	"People would fill the balloons with water, explode them, and the fire would be extinguished."

Coding categories were created using Zucker et al.'s, (2010) and Chen and Liang's (2017).

Characteristics of the Teachers' and Children's Statements

It was seen that teachers' questions and how children answered these questions were examined in some experimental studies (e.g. Chen and Liang, 2017; Tompkins et al., 2013; Zucker et al., 2010). In their study examining the cognitive difficulty characteristics of teachers' questions, Massey et al. (2008) reported that 33.5% of teachers' statements were questions, 67.5% of these questions were asked as the questions related to classroom management and they were at low

cognitive level. Similarly, in some studies, it was found that about one-third of teachers' statements were comprised of questions (de Rivera et al., 2005; Gest, Holland-Coviello, Welsh, Eicher-Catt, & Gill; 2006), and these questions were mostly less challenging in cognitive aspects (van Kleeck et al., 1997). Considering that high level cognitive questions asked by the teacher had an effect on making inferences, reasoning, discussion, and prediction on children's statements (van Kleeck, 1998; van Kleeck et al., 1997), asking them the questions that improve their statements seems more appropriate (de Rivera, Girolametto, Greenberg, & Weitzman, 2005; van Kleeck et al., 2006).

Children's answers to teachers' questions contain important information that reveals their language development (Zucker et al., 2010). De Rivera et al. (2005) found that children gave longer answers to open-ended questions. Zucker et al. (2010) examined teachers' questions and children's answers in story reading activities. They found that 18.2% of the teachers' statements were questions and 33.95% of these questions were inferential. It was seen that 37.51% of the children's answers were inferential, requiring a high level of thinking. The results of the study showed that the level of teachers' questions had a strong positive correlation with the level of children's answers and that the questions could be used to encourage children's statements to be at an inferential level. Similarly, Tompkins et al. (2013) found that 25% of teachers' statements in the game activities were questions, literal and inferential questions were asked in a balanced manner and children answered inferential questions at inferential level, by producing more words. Chen and Liang (2017) found that 44.6% of teachers' statements during whole group activity were questions, and 17.23% of these questions were at inferential level. It was seen that 22.74% of the children's answers were at inferential level and it was concluded the level of the teachers' questions and the level of the children's answers were highly similar. Research shows that the positive relationship between teacher's questions and children's answers may be an opportunity to expand language use of the children.

Theoretical Framework

Studies on teacher's questions and children's answers are important in terms of social (Vygotsky, 1978; Kalina & Powell, 2009) and cognitive constructivism (Piaget, 1977, Prawat, 1992) theories. According to the social constructivist perspective, the child's language skills develop as a result of the communication and mutual interactions with the teacher (Canbulat & Yüze, 2017). Children learn the language by constructing the meanings of words in their conversations with their teachers (Halliday, 2004). Questions asked by the teachers encourage children to speak more and increase their vocabulary (Işıkoğlu Erdoğan & Akay, 2015; Samur & Soydan, 2013). According to cognitive constructivism, asking questions that increase the interaction of the children allows them to actively construct the knowledge by using their thinking skills (Günel, Kıngır, & Geban, 2012). In other words, questions that use abstract language attempt to expand the knowledge in order to understand the concrete knowledge at a higher level (van Kleeck et al., 1997). Therefore, both theories emphasize the importance of the children-teacher interaction in the classroom, which constitutes one of the social and cultural environments of children, on the development of language and thinking skills.

Purpose of the Current Study

The main purpose of the current study was to examine the language interaction between the children and teachers occurred through the questions in five preschool classrooms in Turkey. In the daily flow, the "start of the day" activity was set as the application period of the study. This activity, which is carried out by the whole class, is a time period in which children actively participate. In this activity, teachers asked the children the questions that they have set as the "question of the day" and wrote children's answers on the activity board.

The main question and six sub-questions of the research were determined as below.

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What are the characteristics of preschool teachers' questions and the answers that children gave to these questions?

1. What are the characteristics of children's answers to teachers' recall level questions?
2. What are the characteristics of children's answers to teachers' preference level questions?
3. What are the characteristics of children's answers to teachers' inference level questions?
4. What are the characteristics of children's answers to teachers' creation level questions?
7. How are the answers of 4-year-olds children to teachers' questions?
8. How are the answers of 5-year-olds children to teachers' questions?

METHOD

Qualitative research method was used in the study. Qualitative research is a method that attempts to understand, interrogates and interprets problem-oriented issues in its natural environment (Lincoln and Denzin, 1994). Qualitative Coding method, one of the qualitative data analysis methods, was used to analyze teachers' questions and the characteristics of the children's answers given to these questions. In qualitative research, coding means is "the way you define what the data you analyze is about" (Gibbs, 2007). In coding, the researcher conceptualizes and names the meaningful parts such as sentences and paragraphs by comparing the data (Neuman, 2012: 668; Yıldırım & Şimşek, 2013: 228-239). Researchers may make different and unique nomenclatures while determining the codes, whereas different researchers may create similar codes on the same data set (Roberts and Priest, 2006). The coding system used in the study was designed and named at different levels in order to understand teachers' questions and the characteristics of the answers given by the children. Teachers asked children the questions set as "question of the day" during the start of the day activity and the children's answers to these questions were written on the classroom board and discussed.

General Information About the Participating Kindergarten

Preschool education in Turkey is given in nursery for children 0-3 years-old, in kindergarten for children 3-6 years-old and in nursery class for children 5-6 years-old. Preschool education in the 3-6 age range is carried out by public and private institutions. Officially, pre-school education is provided by independent kindergartens and by the kindergartens within the body of state institutions.

The participating kindergarten is a kindergarten established within the body of a state university to serve the children of the university employees. In determining the kindergarten, three typical characteristics were considered: 1) Being non-profit, 2) Implementing preschool education program accepted by the state, (3) providing services to children of families of moderate economic level. The study was conducted with the permission of the school administration and the families.

Participants

The kindergarten was providing full-day education to 240 children of moderate socio-economic status. The participants consisted of 5 teachers and 73 children in 5 classes. The study included 44 children (60.27%), 20 girls and 24 boys from 3 classes in the 5-year-old group, and 29 children (39.73%), 11 girls and 18 boys from 2 classes in the 4-year-old age group.

All of the teachers who participated in the study were women and their ages ranged between 26 and 42. Teachers had bachelor's degree, which is required for teaching in Turkey. Their teaching experience ranges from 6 to 14 years.

Procedure

In this research, the questions that teachers preferred to ask and the answers that children gave to teachers' questions were examined. During the two-month period, the teachers asked the questions that they have prepared as the questions of the day to the children. Teachers performed a 15 minute-activity by writing the questions they asked and the answers on the blackboard in the classroom. After the completion of the activity, a photograph of the blackboard was taken, and the questions and answers were recorded for each class. At the end of two months, a photographic record of 198 questions and 2048 answers was obtained from the question of the day activities.

First, the researcher author and a researcher specialized in the field of preschool education coded the questions of one class separately and compared the obtained transcript. After the compatibility of the transcripts was ensured, the coding was continued by comparing the codes. The disagreements aroused during the coding were discussed and resolved and a consensus was reached.

Coding Scheme

First of all, a coding system was developed to analyze each question of the teachers. Teachers' questions were observed to be grouped in four different categories and four definitions were formed for the questions. Since the questions were asked after a planning, it was observed that teachers tried to ask questions allowing children to express their thoughts, instead of yes/no type answers. Teachers' questions were coded as RC for Level 1, PR for Level 2, IN for Level 3, and Level 4 for CR.

Secondly, the answers given by the children to the questions of the teachers were coded. The answers of the children to the teachers' questions were defined under 3 different categories: they were coded as PP for Level 1, RL for Level 2, CR for Level 3.

Interrater Reliability/Agreement

Coding was performed by the researcher and a field expert. The reliability between coders was evaluated separately for teacher questions and children's answers. 20 questions representing 10% of the 198 questions asked during the start of the day activity were randomly selected and interrater reliability was assessed by Cohen’s kappa calculation. Cohen’s kappa value was calculated as $\kappa = 0.94$ for the four levels of teacher questions and as $\kappa = 0.87$ for the three levels of children’s answers. Cohen’s kappa values between 0.81-1.00 means that there is a very good agreement between coders (Landis and Koch, 1977; McHugh, 2012). Thus, the obtained values indicate a strong agreement between the coders and the high reliability of the coding.

Results and Discussion

The analysis of the teachers' questions and children's answers produced important results in terms of the research questions. The presentation of the results includes the followings: (a) characteristics of teachers' questions and children's answers in terms of language interaction, (b) children's answers to teachers' recall level questions, (c) children's answers to teachers' preference level questions, (d) children's answers to teachers' inference level questions, (e) children's answers to teachers' creation level questions, (f) 4-year-old children's answers to teachers' questions and (f) 5-year-old children's answers to teachers' questions

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Characteristics of teachers' questions and children's answers in terms of language interaction

Teachers asked a total of 198 questions as the "question of the day" during the start of the day activity, in five different classes, during the 40-day education period in two months. Teachers' questions were analyzed according to four defined levels. The distribution of teacher questions according to the defined levels is given in the table below.

Table 3 Teachers' Questions

Level 1		Level 2		Level 3		Level 4		Overall	
n	%	n	%	n	%	n	%	n	%
48	24.2	62	31.3	48	24.2	40	20.2	198	100

Regarding Table 3, it can be seen that the teachers asked questions at all levels, but they mostly asked Level 2 preference questions (31.3%). It was found that the teachers asked Level 1 recall questions (24.2%) and Level 3 inference questions (24.2%) at the same rate. The question type least preferred by the teachers was Level 4 creation questions (20.2%).

Children's answers to teachers' questions were also defined and analyzed at 3 different levels. Table 4 shows the levels at which children answered teachers' questions.

Table 4 Children's Answers

Level 1		Level 2		Level 3		Overall	
n	%	n	%	n	%	n	%
949	46.3	827	40.4	272	13.3	2048	100

Regarding the answers given by the children in Table 4, it can be seen that children mostly gave Level 1 personal preference type answers (46.3%). As the second highest, they gave Level 2 realistic answers (40.4%), whereas Level 3 creative type answers (13.3%) was the least given answer type.

A mutual language interaction was observed between children answers and questions asked by the teachers. It was seen that the children gave short answers to Level 1 and Level 2 recall and preference questions, while they were giving longer answers to Level 3 and Level 4 inference and creation questions.

Children's Answers to Teachers' Recall Level Questions

Teachers asked 48 (24.2%) Level 1 recalls questions. It was seen that children answered recall questions at all three levels. The graph below shows the distribution of the answers given by the children.

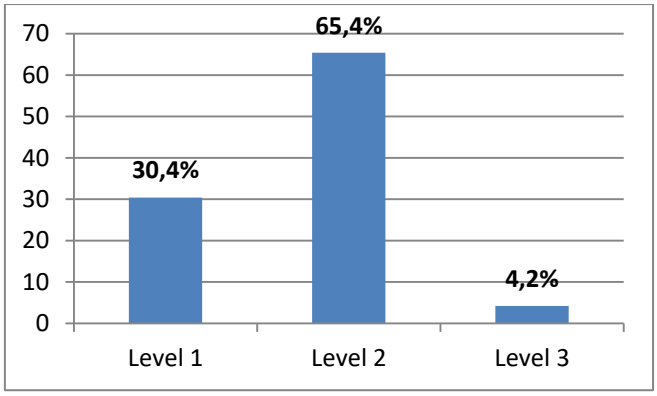

Figure 1 Children's Answers to Teachers' Recall Level Questions

Regarding children's answers to recall questions, it is seen that they mostly gave Level 2 realistic answers with a ratio of 65.4% (n = 293). This was followed by Level 1 personal preference answers 30.4% (n=136). The lowest type of answer was Level 3 creative answers with 4.2% (n = 19).

It was seen that the children answered Level 1 recall questions at all three levels. Some examples of teachers' questions and children's answers are given below.

Teacher: What comes to your mind when I say children's rights? (RC)

Child: "Playing games." (RL)

Teacher: How it occurs day and night? (RC)

Child: "I would draw a picture of the night, it would be real." (CR)

Teacher: What does it mean not to be unfair? (RC)

Child: "Not nipping, not hitting each other" (PP)

Teacher: Tell a moment when you feel very happy? (RC)

Child: "Going to the park with my family." (PP)

Regarding the answers of the children to the recall questions asked by the teachers to make them recall and express previously acquired knowledge: the answers that the children express the things that they sees valuable among the object, person, event or phenomenon they encountered in their own life were coded as PP; if the child's answer represents the knowledge that reflects the fact that he/she has already learned, it was coded as RL; if the child's response reflects a unique and distinctive thought, it was coded as CR. It was seen that the children were more prone to give answers reflecting the reality to the recall level questions of the teachers.

Please embed tables and figures in appropriate areas within the document and center them horizontally. Tables and figures should not exceed the given page margins. Provide captions (maximum length: 6 to 8 words) for each table or figure. Centre the caption above the table and below the figure. Please reference the table or figure in the text (Table1). Please do not use vertical lines in tables. For figures, GIF and JPEG (JPG) are the preferred formats.

Children's Answers to Teachers' Preference Level Questions

Children gave 699 (34.1%) answers to 62 (31.3%) Level 2 preference questions that teachers asked. The distribution of the answers given by the children is shown in Graph 2.

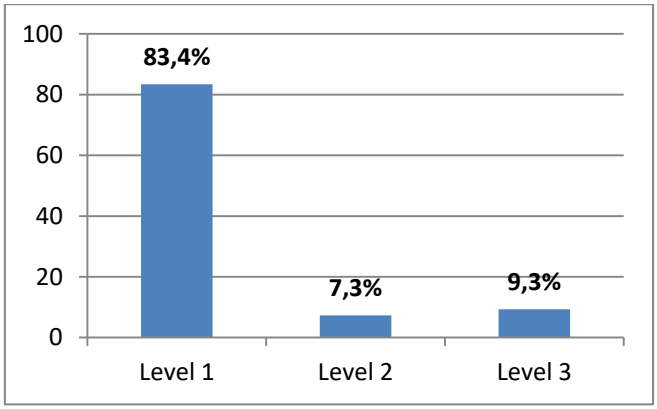

Figure 2 Children's Answers to Teachers' Preference Level Questions

Regarding children's answers to preference questions, it is seen that they mostly gave Level 1 personal preference answers with a ratio of 83.4% (n=583). It was found that children gave 9.3% (n=65) Level 3 creative answers and 7.3% (n=51) Level 2 realistic answers.

Although the children answered Level 2 preference questions of the teachers with the answers at all defined three levels, it was seen that they mostly gave Level 1 personal preference answers, indicating the things that are valuable to them. Some examples of teachers' preference questions and children's answers are given below.

Teacher: What would you be if you liken yourself to a fruit? (PR)

Child: "Strawberries because they are red, triangular and very sweet." (PP)

Teacher: What would you change if you had a magic wand? (PR)

Child: "I would teleport myself into the cartoon movie." (CR)

Teacher: If you were a manufacturer in a pharmaceutical company, what would you want to destroy? (PR)

Child: "I would destroy germs." (RL)

Teacher: If you wanted to make a very different burger, what would you put in it? (PR)

Child: "Pasta, water and an illustration of butterfly on it." (CR)

Teacher: What would you do if you had a bouncing shoe with strings? (PR)

Child: "I would pick up the fruits and find my things by jumping." (PP)

Child: "I would fall." (RL)

Child: "I would go to other planets and watch you from there." (CR)

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As can be seen from the examples, the children answered preference questions asked by the teachers to make them express the things that they see valuable among the object, person, event or phenomenon they encountered in their own life at different levels. Children's answers were seen to include any entity they encountered in their own lives as well the answers reflecting the learned reality or giving their own unique answers.

Children's Answers to Teachers' Inference Level Questions

Teachers asked 48 (24.2%) Level 3 inference questions. The distribution of the 520 (25.4%) answers given by the children is given in Graph 3.

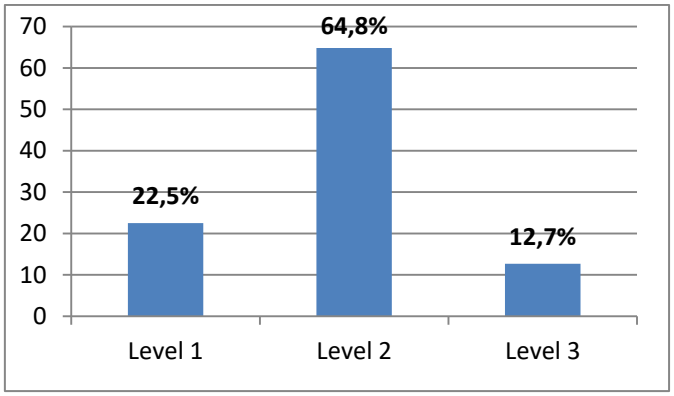

Figure 3 Children's Answers to Teachers' Inference Level Questions

As can be seen from Graph 3, it was found that children's answered inference questions with 22.5% (n=117) Level 1 personal preference answers, 64.81% (n=337) Level 2 realistic answers and 12.7% (n=66) Level 3 creative answers.

Regarding the answers of the children to the inference questions asked by the teachers to make inferences about what can happen when they encounter different situations than usual, it was seen that children mostly answered with Level 2 realistic answers (64.81%). Some examples of teachers' questions and children's answers at different levels are given below.

Teacher: What happens if it rains all the time? (IN)

Child: "I would dip my feet in the mud and play games." (PP)

Child: "We would always have to carry an umbrella." (RL)

Child: "In the puddles, the children would swim, tying the umbrella on a rope." (CR)

Teacher: What would happen if our hair were growing on our feet instead of our heads? (IN)

Child: "I would wipe the floor quickly." (CR)

Teacher: What would happen if our bones were like cotton? (IN)

Child: "We would fail to walk" (RL)

Teacher: What would the world be like without butterflies?? (IN)

Child: "Flowers would have more pollen." (RL)

Teacher: How would life be in a place without gravity? (IN)

Child: “I would made special shoes and dress people.” (CR)

Teacher: What would happen if all kids cry at the same time? (IN)

Child: “I would be angry at the kids.” (PP)

Child: “There would be too much noise.” (RL)

Child: “The house would turn into a lake.” (CR)

As can be seen from the examples, regarding the answers of the children to the inference questions asked by the teachers; children mostly tended to answer with realistic answers based on the previously learned knowledge, but some inferences reflected their personal preferences, or they were creative because they contained different answers of their own.

Children's Answers to Teachers' Creation Level Questions

Teachers asked 40 (20.2%) Level 3 creation questions. The distribution of the 381 (18.6%) answers given by the children is given in Graph 4.

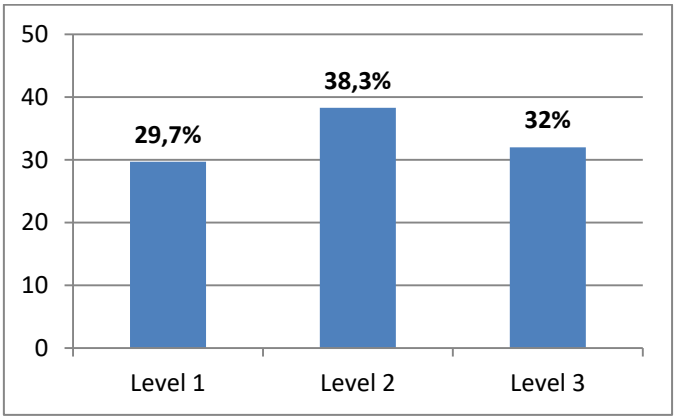

Figure 4 Children's Answers to Teachers' Creation Level Questions

As can be seen from Graph 4, it was found that children's answered creation questions with 29.66% (n=113) Level 1 personal preference answers, 38.32% (n=146) Level 2 realistic answers and 38.32% (n=122) Level 3 creative answers.

Regarding the answers of the children to the creation questions asked by the teachers to get specific, unusual answers from children, it was seen that children answered similarly on all three levels, where Level 2 realistic answers (38.32%) were slightly higher. Some examples of teachers' questions and children’s answers at different levels are given below.

Teacher: If it was you, how would you make a TV? (CR)

Child: “I would make a documentary television with all the animals.” (PP)

Child: “I would make a heart-shaped television.” (CR)

Teacher: If you made a special dessert, what would you name it? (CR)

Child: “Golden beads desert” (CR)

Teacher: How would we walk if we didn't have legs? (CR)

Child: “I would take two walking sticks and walk by jumping.” (RL)

Child: “I would hold a seagull's leg and move.” (CR)

Teacher: If you were a leaf, how would you be in a tree? (CR)

Child: “I would be a fresh leaf in a small tree.” (PP)

Teacher: You woke up one morning and you see that you are tiny. What would you do to make people see you? (CR)

Child: “I would build a machine that spray liquid. When I push the button, the spraying liquid would make me grow.” (CR)

Child: “I would grow up by eating.” (RL)

Teacher: If you wanted to make a very different burger, what would you put in it? (CR)

Child: “Tomato.” (PP)

Child: “Pasta, water and an illustration of butterfly on it.” (CR)

Teacher: If you were a cardigan with a broken button, what would you say to the person who will wear you?

Child: “I would say to repair the button.” (RL)

As seen in the examples, children answered teachers' creation questions at all three levels.

4-Year-Old Children's Answers to Teachers' Questions

29 children (39.73%) of 4-year-old age group who participated in the study answered 119 questions asked by their teachers with 1213 answers. The distribution of children's answers according to levels is given below.

Table 5 Teachers' Questions and Children's Answers

	Teachers' Questions									
	Recall (n=33)		Preference (n=41)		Inference (n=29)		Creation (n=16)		Overall (n=119)	
Children's Answers	n	%	n	%	n	%	n	%	n	%
Level 1	94	34.31	381	83.19	77	24.52	40	23.95	592	48.80
Level 2	169	61.68	37	8.08	206	65.61	84	50.30	496	40.89
Level 3	11	4.01	40	8.73	31	9.87	43	25.75	125	10.31
Overall	274	100	458	100	314	100	167	100	1213	100

According to Table 5, the children were found to mostly answer the questions that teachers asked at recall, inference and creation levels realistically, in accordance with previously known facts,

with Level 2 answers (61.68%, 65.61%, 50.30). It was seen that children gave Level 1 personal preference answers (83.19%) to teachers' Level 2 preference questions in which they chose the most valuable thing among the objects/cases they encountered in their surroundings. Regarding the distribution of the level of children's answers, Level 3 creative answers, with which the child expresses his/her unique thinking, and which were usually observed to be at the lowest level, were found to be the highest among the answers of creation questions (25.75%), occupying the second place after realistic answers.

The overall review of children's answers revealed that mostly given type of answer was Level 1 personal preference answers constituting 592 of the 1213 answers (48.80 %). Some examples of teachers' questions and children's answers are given below.

Teacher: What do you do if you find money while walking on the road? (PR)

Child: "I would buy myself food." (PP)

Child: "I would make it the world's biggest money with an automatic device." (CR)

Teacher: What pet would you like to keep at home, why? (PR)

Child: "I would breed birds because I love birds." (PP)

Teacher: Where would you go if you were a cloud? (PR)

Child: "I would go to visit my grandmother's house" (PP)

Child: "I would go to the rainbow because I would like to see the color tones." (CR)

Teacher: When our teeth get damaged? (RC)

Child: "When we eat too much candy." (RL)

Teacher: How do two people who do not speak the same language understand each other? (RC)

Child: "By signs." (RL)

Child: "I would speak from my brain." (CR)

Teacher: If you had a big pumpkin, what would you do with it?? (PR)

Child: "I would make a dessert." (PP)

Child: "I would make a pumpkin sculpture." (CR)

Teacher: If you had a daisy in space, how would it be? (CR)

Child: "It would be a yellow daisy." (PP)

Child: "It would be a daisy with different powers." (CR)

Teacher: What would you use to reach the rainbow? (RC)

Child: "Plane" (PP)

Child: "Flying bicycle" (CR)

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Teacher: Who would extinguish the fires if there were no firemen? (IN)

Child: “Teachers would extinguish.” (PP)

Child: “Rains would extinguish.” (RL)

Child: “People would fill the balloons with water, explode, and the fire would be extinguished.” (CR)

Teacher: How would it be if the rain and snow had rained off the ground, not the sky? (IN)

Child: “If it rained from the ground, I would trod on it.” (RL)

5-Year-Old Children's Answers to Teachers' Questions

44 children (60.27%) of 5-year-old age group who participated in the study answered 79 questions asked by their teachers with 835 answers. The distribution of children's answers according to levels is given below.

Table 6 Teachers' Questions and Children's Answers

	Teachers' Questions									
	Recall (n=15)		Preference (n=21)		Inference (n=19)		Creation (n=24)		Overall (n=79)	
Children's Answers	n	%	n	%	n	%	n	%	n	%
Level 1	42	24.14	202	83.82	40	19.42	73	34.11	357	42.75
Level 2	124	71.26	14	5.81	131	63.59	62	28.97	331	39.64
Level 3	8	4.60	25	10.37	35	19.99	79	36.92	147	17.61
Overall	174	100	241	100	206	100	214	100	835	100

Children's answers to teachers' Level 1 recall and Level 3 inference questions were seen to be mostly Level 2 realistic answers (71.26%, 63.59%). Children often answered teachers' Level 2 preference questions with Level 1 personal preference answers (83.82%). Unlike the four-year-old ones, five-year-old children gave more Level 3 creative answers (36.92%) to teachers’ creation questions.

Regarding the answers of the children as a whole, it was seen that most of the answers they gave, 357 (42.75%) out of 835, were belonging to Level 1 personal preference category; on the other hand, the proportion of Level 3 creative answers (17.61%) increased compared to the 4-year-old age group. Some examples of teachers' questions and children’s answers are given below.

Teacher: What would you buy if you had never-ending money? (PR)

Child: “I would buy palace, hotel and mine.” (PP)

Teacher: Why do we love our parents? (RC)

Child: “For loving us.” (RL)

Teacher: How would we rest without the holidays? (IN)

Child: “I would go to another country.” (PP)

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Child: “When we are sick.”

Child: “I would make a resting place for myself at school.” (CR)

Teacher: There's a big door in front of you. Where do you want it to open? (PR)

Child: “I wish it would open to my school.” (PP)

Child: “I wish it would open up to a banana forest and a kitchen made with cocoa.” (CR)

Teacher: If you had an alien friend, what gift would you give him?? (PR)

Child: “Toy car” (PP)

Child: “I would buy non-melting ice cream, mask and costume.” (CR)

Teacher: You're a newborn baby. What do you see? (PR)

Child: “I see the hospital.” (RL)

Teacher: What would you do if you were a bug living under the ground?? (CR)

Child: “I would collect harmful garbage.” (PP)

Child: “I would roam underground.” (RL)

Child: “I would build a castle and a house in the sand” (CR)

Teacher: What if you had two heads?? (CR)

Child: “We would play together.” (PP)

Child: “Our body would be too heavy, we could not carry.” (RL)

Child: “My second head would imitate my own head.” (CR)

Teacher: Tell a moment when you are very happy? (RC)

Child: “Going to the park with my family.” (PP)

Teacher: What would happen if there was no water in the world? (IN)

Child: “We would collect water droplets when it was raining.” (CR)

Teacher: What can we do from an old glove?

Child: “I would cut a finger off the glove and make a puppet.” (CR)

Teacher: How trees grow? (RC)

Child: “With seeds and water.” (RL)

Child: “With love and happiness.” (CR)

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DISCUSSION

This study addresses two shortcomings in the context of language interaction resulting from teacher questions and children's answers in relevant research. These are: (a) analyzing the language interaction between teacher and children in the practice of "question of the day", in which teachers planned and asked their own questions, rather than the questions asked during any type of activity (e.g., Chen & Liang, 2017; Massey et al. 2008; Tompkins et al. 2013; Zucker et al. 2010), and (b) examining teachers' and children's use of language aroused by the questions in Turkey, in the context of a different culture and education environment. Accordingly, the results of the research prepared the ground for wider experimental researches in the future and contributed to the existing knowledge base.

Teacher's Questions

Teachers asked 198 questions at 4 different levels. Previous studies examined the number of question sentences among the sentences that teachers formed in the activities (e.g., Chen and Liang, 2017; Mascareño, Deunk, Snow, & Bosker, 2017; Massey et.al., 2008; Sembiante, Dynia, Kaderavek, & Justice, 2017; Tompkins et al., 2013; Zucker et al., 2009). In some of these studies, the ratios of teachers' questions in the activities were also examined, and it was observed that questions were used at different rates (e.g., Chen and Liang, 2017; Massey et.al., 2008; 2017; Tompkins et al., 2013; Zucker et al., 2009). In this research, the questions that teachers prepared in advance were examined. Therefore, this research was concentrated on the characteristics of the questions that the teacher asked, instead of the number of questions that teacher asked in any activity period. It was found that teachers' questions were mostly Level 2 preference questions (31.3%). Chen et al. (2017) found that Level 1 questions (47.61%), which are considered as recognition and recall, were more asked by teachers during the whole-group instruction. Zucker et al. (2010) found that teachers mostly asked Level 3 inference questions (33.95%) in the story reading activity. Massey et al. (2008) revealed that in the large-group instruction process, teachers mostly asked cognitively challenging questions (32%) following management questions. It is thought that these differences of the research results may be due to differences in the activities.

In Turkey, preschool teachers tend to ask closed-ended questions and questions from the first three levels of the cognitive taxonomy (Bay & Alisinanoğlu, 2012; Bay & Alisinanoğlu, 2013; Işıkoğlu Erdogan Akay, 2015). Therefore, it was observed that practices such as "question of the day", which directs teachers to ask qualified questions rather than waiting them to ask high-level questions, led teachers to think about the questions. The fact that teachers' questions ratio are quite close to each other at all four levels is an indicator of this.

Children's Answers

Regarding the 2048 answers that children gave to the questions of the teachers at different level, it can be seen that children mostly gave Level 1 personal preference type answers (46.3%), followed by Level 2 realistic answers (40.4%), whereas Level 3 creative type answers (13.3%) was the least given answers. In the study by Chen et al. (2017), it was also found that children mostly answered by recalling and defining the knowledge. Chen et al. (2017) defined 4 different levels for children's answers and it was seen that the children gave inferential answers (15.67%) and the answers enabling them to produce more ideas (7.07%) less. Similarly, in the study of Zucker et al. (2010), who defined children's answers at 4 different levels, analyzing the answers of children, it was concluded that the answers recalling the learned knowledge were given the most (37.71%) and the answers requiring more thinking and reasoning were less (10.55%). Research shows that children often prefer to recall and give realistic answers (e.g., Chen et al., 2017; Mascareno et al., 2017; Sembiante et al., 2017; Tompkins et al., 2017; Zucker et al., 2010). In the study, in which Tompkins et al. (2017) examined children's answers to literal and inferential questions, they found that children answered literal question literally and inferential questions inferentially at the same level. On the other hand, in

this study, it was seen that children answered Level 1 and Level 3 questions with Level 2 realistic answers (64.40%, 64.81%), whereas they mostly answered Level 2 questions with Level 1 personal preference answers (83.40%). Another remarkable result is that children answered Level 4 creation questions of the teachers in an original and creative way with Level 3 answers (32.02%) more than the other levels. It was also observed that children's answers to the creation questions were more evenly distributed according to the levels. It is important to support preschool children's inquiry-based creative thinking skills and to encourage the child to think creatively by preparing an appropriate environment (Fisher and Williams, 2004; Sternberg, 2004; Tok and Sevinç, 2012). One of the main characteristics of the pre-school education program implemented in Turkey is to develop creativity in children (MOE, 2013). According to the research, it can be said that teachers' creation questions support creative answers that reveal children's own unique thoughts.

Children's Answers according to Age

Regarding the children's answers to the questions asked at different levels according to their age groups, the most important difference was found on the creation questions defined as Level 4. Although the creative responses rate of 4-year-old children to creation questions was higher, it was found that 5-year- old children gave the most creative answers. Unfortunately, there were no comparison in terms of age in similar studies in which the answers of the children were examined (e.g., Chen et al., 2017; Mascareno et al.,2017; Sembiante et al., 2017; Tompkins et al., 2017; Zucker et al., 2010). With the increase in the age of children, the way they think and express themselves improves (Isaacs, 2018). In the study, this developmental difference was observed in the answers of 4 and 5-year-old children.

Teacher questions also serve as a development mechanism for the participation of children in cultural and social conversations. Teachers should ask higher levels of questions to support thinking and wider language use (Demir& Eryaman, 2012; Chen & Liang, 2017). Research has shown that children give more detailed and longer answers to questions that require inference and reasoning (e.g., Chen & Liang, 2017; Rivera et al., 2005; Zucker et al., 2010). In this context, asking questions can be seen as a practice that encourages both teachers' professional development and children's language and cognitive development (Chen et al., 2017; Tompkins et al., 2017; Zucker et al., 2010).

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This research carried out in a kindergarten in Turkey, within the context of the "question of the day", has extended the scope of the research on teacher questions. However, there are some conceptual and methodological limitations. Conceptually, since there is no experimental study conducted in Turkey, the findings could only be discussed through some research conducted in Hong Kong and the United States. It should be noted that in Turkey, the questions of preschool teachers and children's answer may vary due to cultural differences and learning environments. Moreover, since it is the first research on the questions of teachers and children's answers in pre-school education in Turkey, the results of the research should be supported by other researches and its contribution should be verified.

There were also methodological limitations. Since teachers were asked to write the questions and answers on the board within "the question of the day" practice and take a photograph, I could reach a sample of 5 teachers and 240 children from a kindergarten in Turkey. Despite the implementation of a joint training program in Turkey, there may be differences due to some factors such as teaching style and teacher-child interaction, thus the results could not be generalized. Therefore, it is important to evaluate the findings of teacher questions and children's answers in larger and different samples.

In future research, it is very important to work on larger and wider samples in Turkey. The way that teachers follow while determining the question to be asked, the effects of the statements

arising from the conversation for both the teacher and the child should be investigated. To fully demonstrate teacher-child interaction (e.g., Chen et al., 2017; Tompkins et al., 2017; Zucker et al., 2010) the relationship between questions and answers should be verified through experimental research in future, by using sequential analysis method and defined levels.

REFERENCES

Bay, D., & Alisinanoğlu, F. (2012). Okul öncesi öğretmenlerine verilen soru sorma becerisi öğretiminin öğretmenlerin sorularının bilişsel taksonomisine Etkisi. *Mersin Üniversitesi Eğitim Fakültesi Dergisi, 8*(3), 80-93.

Bay, D. N., & Alisinanoğlu, F. (2013). Soru sorma becerisi öğretiminin okul öncesi öğretmenlerinin sorularının yapısı üzerine etkisi. *Kuramsal Eğitimbilim Dergisi, 6*(1), 1-39.

Bay, D. N., & Alisinanoğlu, F. (2012). Soru sorma becerisi öğretim programının okul öncesi öğretmen adaylarının sorularını geliştirmedeki etkisi. *Kırıkkale Üniversitesi Sosyal Bilimler Dergisi, 2*(2), 45-62.

Canbulat, A. N. K., &, Yüce, S. (2018). Yapılandırmacı öğrenme yaklaşımına göre çocuğu merkeze almak ve ilgilenmek. *Trakya Üniversitesi Eğitim Fakültesi Dergisi, 8*(1), 136-161.

Chen, J. J., & Liang, X. (2017). Teachers' literal and inferential questions and children's responses: A study of teacher–Child linguistic interactions during whole-group instruction in Hong Kong kindergarten classrooms. *Early Childhood Education Journal, 45*(5), 671-683.

Dağlıoğlu, H. & Çakır, F. (2007). Erken çocukluk döneminde düşünme becerilerinden planlama ve derin düşünmenin geliştirilmesi. *Eğitim ve Bilim, 32*(144), 28-35.

Denzin, N.K. & Lincoln, Y.S. (1994). *The sage handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Demir, M. K. & Eryaman, M. Y., (2012). A Qualitative Evaluation of Instructors' Exam Questions at a Primary Education Department in terms of Certain Variables. *Educational Policy Analysis and Strategic Research,* 7(1), 52-64.

de Rivera, C., Girolametto, L., Greenberg, J., &Weitzman, E. (2005). Children's responses to educators' questions in day care group play. *American Journal of Speech-Language Pathology, 14,* 14–26.

Fisher, R. (2004). What is creativity? in R. Fisher and M. Williams (Eds.) *Unlocking Creativity: Teaching Across the Curriculum*. London: David Fulton Publishers.

Gest, S. D., Holland-Coviello, R., Welsh, J. A., Eicher-Catt, D. L., & Gill, S. (2006). Language development subcontexts in Head Start classrooms: Distinctive patterns of teacher talk during free play, mealtime, and book reading. *Early Education and Development, 17,* 293–315.

Gibbs, G.R. (2007). *4 Thematic coding and categorizing. Analyzing qualitative data*. London: Sage

Gönen, M., Ünüvar, P., Bıçakçı, M., Koçyiğit, S., Yazıcı, Z., Orçan, M., Aslan, D., Güven, G., Özyürek, A. (2010). Okul öncesi eğitim öğretmenlerinin dil etkinliklerini uygulama biçimlerinin incelenmesi. *Mehmet Akif Ersoy Eğitim Fakültesi Dergisi, 10*(19), 23-40.

Günel, M., Kıngır, S., & Geban, Ö. (2012). Argümantasyon tabanlı bilim öğrenme (ATBÖ) yaklaşımının kullanıldığı sınıflarda argümantasyon ve soru yapılarının incelenmesi. *Eğitim ve Bilim, 37*(164), 316-330.

Halliday, M. A. K. (2004). The place of dialogue in children's construction of meaning. In R. B. Ruddell & N. J. Unrau (Eds.), *Theoretical models and processes of reading* (5th ed.) (pp. 133–145). Newark, DE: International Reading Association.

Han, M., Roskos, K., Christie, J., Mandzuk, S., & Vukelich, C. (2005). Learning words: Large group time as a vocabulary development opportunity. *Journal of Research in Childhood Education, 19,* 333–345.

Isaacs, S. (2018). Intellectual growth in young children: With an appendix on children's" why" questions by Nathan Isaacs. Londın: Routledge &Kegan Paul.

Işıkoğlu Erdoğan, N., & Akay, B. (2015). Okul öncesi eğitimde hikaye okuma ve öğretmen sorularının incelenmesi. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, 1*(36), 34-46.

Justice, L. M., Meier, J.,&Walpole, S. (2005). Learning newwords from storybooks: An efficacy study with at-risk kindergartners. *Language, Speech, and Hearing Services in Schools, 36,* 17–32.

Kalina, C., & Powell, K. C. (2009). Cognitive and social constructivism: Developing tools for an effective classroom. *Education, 130*(2), 241-250.

MacNaughton, G.; Williams, G. (2004). *Teaching young chıldren choices in theory and practice*. Australia: Ligare Pty. Ltd.

Mascareño, M., Deunk, M. I., Snow, C. E., & Bosker, R. J. (2017). Read-alouds in kindergarten classrooms: a moment-by-moment approach to analyzing teacher–child interactions. *European Early Childhood Education Research Journal, 25*(1), 136-152.

Massey, S. L. (2004). Teacher-child conversation in the preschool classroom. *Early Childhood Education Journal, 31,* 227–231.

Massey, S. L., Pence, K. L., Justice, L. M., & Bowles, R. P. (2008). Educators' use of cognitively challenging questions in economically disadvantaged preschool classroom contexts. *Early Education & Development, 19,* 340–360.

Milli Eğitim Bakanlığı (MEB). (2013). *Okul öncesi eğitimi programı*. Ankara: Millî Eğitim Bakanlığı Talim ve Terbiye Kurulu Başkanlığı.

MEB Faaliyet Raporu. (2018, November 10). General format. Retrieved from "http://sgb.meb.gov.tr/www/quotmeb-2018-yili-idare-faaliyet-raporuquot-yayinlanmistir/icerik/343"

Neuman, W. L. (2012). *Toplumsal araştırma yöntemleri: Nicel ve nitel yaklaşımlar* (I-II. Cilt) (5. Basım). İstanbul: Yayın Odası.

Piaget J. 1977. *The development of thought: Equilibration of cognitive structures*. (A. Rosin, Trans). New York: The Viking Press

Roberts, P., & Priest, H. (2006). Qualitative Research in Social Sciences. *Nursing Standard, 20,* 41-45.

Samur, A. Ö., & Soydan, S. (2013). Okul öncesi öğretmenlerinin Türkçe etkinliklerinde soru sorma stratejilerinin incelenmesi. *Elektronik Sosyal Bilimler Dergisi, 12*(46), 70-83.

Samur, A. Ö., & Soydan, S. (2013). Okul öncesi öğretmenlerinin Türkçe etkinliklerinde soru sorma stratejilerinin incelenmesi. *Elektronik Sosyal Bilimler Dergisi, 12*(46), 70-83.

Sembiante, S. F., Dynia, J. M., Kaderavek, J. N., & Justice, L. M. (2018). Teachers' literal and inferential talk in early childhood and special education classrooms. *Early Education and Development, 29*(1), 14-30.

Sheridan, S. (2007). Dimensions of pedagogical quality in preschool. *International Journal of Early Years Education, 15*(2), 197-217.

Sternberg, R.J. (2004). Successful intelligence as a basis for entrepreneurship. *Journal of Business Venturing*. *19,* 189-201.

Tok, E., & Sevinc, M. (2010). Düşünme becerileri eğitiminin eleştirel düşünme ve problem çözme becerilerine etkisi. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi, 27,* 67-82.

Tompkins, V., Zucker, T. A., Justice, L. M., & Binici, S. (2013).m Inferential talk during teacher-child interactions in small group play. *Early Childhood Research Quarterly, 28*(2), 424–436.

van Kleeck, A., Gillam, R., & McFadden, T. (1998). A study of classroom-based phonological awareness training for preschoolers with speech and/or language disorders. *American Journal of Speech-Language Pathology, 7*(3), 65–76.

van Kleeck, A., Gillam, R. B., Hamilton, L., & McGrath, C. (1997). The relationship between middle-class parents' book-sharing discussion and their preschoolers' abstract language development. *Journal of Speech, Language, and Hearing Research, 40,* 1261–1271.

van Kleeck, A., Vander Woude, J., & Hammett, L. (2006). Fostering literal and inferential language skills in Head Start preschoolers with language impairment using scripted book- sharing discussions. American *Journal of Speech-Language Pathology, 15*(1), 85–95.

Vygotsky, L., S. (1978). *Mind in society*. Cambridge: Harvard University Press.

Wasik, M. A., & Bond, M. A. (2001). Beyond the pages of the book: Interactive book reading and language development in preschool classrooms. *Journal of Educational Psychology, 93,* 243–250.

Wasik, B. A., Bond, M. A., & Hindman, A. (2006). The effects of a language and literacy intervention on Head Start children and teachers. *Journal of Educational Psychology, 98,* 63–74.

Yıldırım, A., & Şimşek,H. (2013). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri* (9th ed.). Ankara: Seçkin Yayıncılık.

Zucker, T. A., Justice, L. M., Piasta, S. B., & Kaderavek, J. N. (2010). Preschool teachers' literal and inferential questions and children's responses during whole-class shared reading. *Early Childhood Research Quarterly, 25*(1), 65–83.