

# A STUDY ON PRESCHOOL TEACHERS' THINKING SUPPORTIVE BEHAVIOURS

İLKE EVİN GENCEL

Izmir Democracy University, Faculty of Education, Karabağlar, Turkiye  
ilke.evingencel@idu.edu.tr

**Abstract** Promoting thinking skills of children is one of the main goals of early childhood education. In this study, it was aimed to investigate the level of preschool teachers' thinking support behaviors according to their own perceptions and to examine whether their perception differs according to some variables such as their previous training in thinking skills and the type of school they work in. In the current study descriptive survey method was used. The study group consisted of 176 female teachers. They were selected randomly and working in public and private preschools in the western part of Turkiye. Data were collected through Thinking Supporting Teacher Behaviors Scale-Preschool Teacher Form. As the initial step in the data analysis, descriptive statistics were calculated then since the data showed normal distribution according to normality analysis independent sample t-test was performed. According to the results of the study, it was determined that preschool teachers highly supported their students' thinking skills according to their own perceptions and the teachers' thinking supportive behaviours varied significantly depending on the variables of previous training on thinking skills' and the type of school where they work.

**Keywords:**

thinking skills,  
early childhood  
education,  
enhancing thinking  
skills,  
early years,  
developing  
thinking

## 1 Introduction

21st Century Skills are widely accepted to describe the future competencies requires from individuals and referred to as skills of future. These skills are vitally important for preschool children as well as for all individuals. Developing thinking skills is one of the main keys for raising individuals with the skills of the future.

Promoting effective thinking in young children is one of the main goals of early childhood education (Costello, 2012). Researchers' definitions of thinking and thinking skills may differ, but the common point is that they focus on mental activity, logic, and use of knowledge. According to McGuiness (2000), thinking skills include acquiring, organizing, analyzing knowledge and reasoning by elimination, problem solving, determining cause and effect relationships, evaluating options, observing the process, making decisions, and applying them to one's own life. The period between the birth of a child and the age of 6 is considered the most critical period for the cognitive development of children (Aisyah, 2019). For this reason, it can be said that it is vitally important to start activities for the development of thinking skills at an early age (Birbili, 2013). Child-centered, inquiry-based and dialogic learning comes to the fore in developing systematic, analytical, creative and critical thinking in children and enabling them to be involved in the learning process (Priyanti and Warmansyah, 2021).

Curiosity, questioning, open-mindedness and enjoyment of thinking should be instilled in children in early childhood (Ritchhart and Perkins, 2008). It is emphasized that enabling children to speak in various situations and contexts is important in developing their thinking skills (Fisher, 1996; Godwin and Perkins 1998). In addition, it is recommended to introduce children to philosophy at an early age and to develop their questioning skills. In this context, in early childhood education, process-oriented questions should be asked, answers should be questioned and justified, and concepts and principles should be transferred (Costello, 2012). In accordance with these statements, Taggart et al. (2005) point out that while organizing teaching and learning process, preschool teachers should include games that encourage students to solve problems and inquiry, and challenges that will stimulate children's creative, reflective and analytical thinking skills.

For the development of thinking in early childhood, first of all, the concept of thinking should be included in curricula in the context of skills and habits (Krogh and Morehouse, 2020). 21st century skills and especially the development of thinking skills should be chosen as one of the focal points in curriculum development studies. Thinking skills that are envisaged to be acquired in the context of 21st century skills in early childhood were listed by Scott (2017). According to his study, children should be taught a wide variety of problem-solving techniques and should be encouraged to use various types of reasoning such as induction and deduction. In addition, they should be enabled to analyze evidence, arguments, claims and beliefs effectively. Children should be able to synthesize and make connections between information and arguments. They also should be able to solve problems in both traditional and innovative ways. Indubitably, teachers have the most important role in this whole process.

In order for children to acquire these skills at an early age, teachers should support their thinking processes through in-class and out-of-class activities. Ensuring that children speak in various contexts during those activities is vital in terms of improving their thinking skills. Parents of children generally perceive academic progress as acquiring knowledge in books. At this point, teachers should both act in a way that supports the thinking skills of children and involve their families in that process (Costello, 2012). Early Childhood Curriculum should be developed to guide teachers on issues such as supporting children's thinking skills and ensuring family participation. Walsh Murphy and Dunbar (2007) also emphasize the importance of developing game-based, practical, challenging, and flexible curriculum for the development of children's thinking skills.

When the level of preschool education in Turkey is examined, it is seen that creativity was emphasized in the curricula developed until 2006, yet "creative thinking" was not directly focused on as a skill, and other thinking skills were not included in the curricula. One of the most important reforms in Turkish Education System was carried out in the 2005-2006 academic year. Since then, all curricula in Türkiye have been revised in accordance with constructivism, starting from the level of early childhood and elementary education.

In Türkiye, thinking skills were emphasized for the first time in preschool curriculum in 2006. The preschool curriculum, which is still being implemented in Türkiye, was developed in 2013 and the activity plans in this program emphasize thinking skills in

the field of cognitive and social development. As Posner (1995) states, the reflections of formal programs in practice can be different. As it is known, the implementers of curricula are teachers. Lieber et al. (2009) points out that teacher characteristics are more effective than physical conditions or the structure of the curriculum in the good implementation of the curriculum. Ornstein and Hunkins (2009) also state that teachers will more accurately determine the learning characteristics, needs, interests of students, and teaching strategies, methods and materials that can be effective for them. Thus, teachers can make curriculum adaptation (Hewitt, 2006).

At this point, the professional skills of teachers come to the fore, and from the point of view of preschool education, the extent to which teachers support their thinking skills in the education program emerges as an important issue. Teachers' thinking supportive behaviors can vary such as practice engaging and exciting activities for children, adopting dialogic teaching using clear language in the classroom, creating an interactive, flexible and creative learning environment, encouraging questions, problems and possible solutions to talk and work collaboratively, problem solving and reflection activities. While thinking is invisible, teachers can make thinking more visible in their classrooms through documenting children's works. The use of documentation in the context of early childhood education is interpreted as a tool for recall and reflection. In contemporary preschools, teachers are constantly documenting work, providing a space to make children's thoughts visible. The use of documentation in the context of early childhood education is interpreted as a tool for recall and reflection (Rinaldi, 2006). It can be said that thinking becomes visible when children are aware of their own thoughts and when teachers plan to progress by using evidence of children's thinking.

In this study, it is aimed to determine the level of preschool teachers' thinking support behaviors according to their own perceptions and to examine whether their perception differs according to some variables. The behaviors to support thinking, which are considered depending on the dimensions of the measurement tool used in this study, were examined as "Openness", "Reflecting through Documentation", "Providing Free/Flexible Learning Environments" and "Questioning". In this context, research questions of the current study were;

According to the preschool teachers' own perceptions;

1. At what level do they show thinking support behaviors?

2. Do preschool teachers' thinking support behaviors show a significant difference according to their previous training in thinking skills and the type of school they work in?

## 2 Method

In line with the purpose of the study, descriptive survey method was used. The study group was all female teachers that were randomly selected working in public and private preschools in the western part of Türkiye (N=176). In this study, "Thinking Supporting Teacher Behaviors Scale (TSTBS)-Preschool Teacher Form" which was developed by Kaymak and Alkın Şahin (2022) administered as a data collection tool. 5-point Likert type scale consisted of 19 items and four subscales: "Openness", "Reflection Through Documentation", "Providing Free/Flexible Learning Environments" and "Questioning". The Cronbach's Alpha value for the whole scale was .77 and it was varied between .69 and .76. The data were analyzed through statistical analysis program. Since the data showed normal distribution according to Kolmogorov Simirnow test and normality analysis [ $z=1,063$ ;  $p=0,224$ ], independent sample t-test was performed.

## 3 Findings

For the first question of the study, descriptive statistics of the level of thinking support behaviors according to the participants' own perceptions are presented in Table 1.

**Table 1: Descriptive statistics for TSTBS**

Subscales of TSTBS	n	K	min	max	$\bar{X}$	S
Openness	176	7	21	35	30.42	2.12
Reflection Through Documentation	176	6	17	30	25.34	2.81
Providing Free/ Flexible Learning Environments	176	3	9	15	13.71	2.03
Questioning	176	3	10	15	13.66	1.89
TSTBS Total	176	19	69	95	83.13	6.88

As it can be seen in the Table 1, the number of the items of subscales are 7, 6, 3 and 3 respectively. When the mean scores of the total and sub-scales of the TSTBS were converted to from 1 to 5, the mean score for the total of the scale was  $\bar{X} = 4.37$ . According to this result, the participants think that they support their students'

thinking behaviors at a high level. Similar results were obtained for the subscales (Openness  $\bar{X}$  =4.34; Reflection through Documentation  $\bar{X}$ =4.22, Presenting Free/Flexible Learning Environments dimension is  $\bar{X}$ =4.57, Asking Question  $\bar{X}$ =4.55).

TSTBS scores of the participants were analysed with independent sample t-test, according to their previous training in thinking skills and the type of school they work in and the results were presented in Table 2.

**Table 2: Examination of TSTBS scores by previous training and the type of school where they work**

			n	$\bar{X}$	s	t
Openness	Previous Training	Yes	72	31.04	.48	.94
		No	104	29.90	.59	
	Type of School	Public	101	28.22	1.12	2.56*
		Private	75	32.03	.94	
Reflection Through Documentation	Previous Training	Yes	72	26.37	.87	.97
		No	104	25.88	.92	
	Type of School	Public	101	25.74	1.79	3.11**
		Private	75	27.26	2.01	
Providing Flexible Learning Environments	Previous Training	Yes	72	14.20	2.12	1.02
		No	104	12.07	2.43	
	Type of School	Public	101	11.16	2.84	3.04*
		Private	75	13.94	2.99	
Questioning	Previous Training	Yes	72	14.09	2.33	3.76**
		No	104	11.28	2.78	
	Type of School	Public	101	12.17	1.99	3.18*
		Private	75	14.14	2.04	
TSTBS Total	Previous Training	Yes	72	85.07	5.98	4.05**
		No	104	79.13	6.02	
	Type of School	Public	101	77.29	5.32	4.21**
		Private	75	87.37	4.97	
*p<.05, **p<.01						

According to Table 2, in openness subscale, it was determined that the mean scores of the participants who had previously received in-service training on thinking skills ( $\bar{X}$  =31.04) were higher than the other participants' scores ( $\bar{X}$ =29.90) but this difference did not show a statistically significant. The mean scores of the participants working in a private school ( $\bar{X}$ =32.03) were statistically different from the mean scores of the participants working in a public school ( $\bar{X}$ =28.22). A similar situation was observed in Reflection Through Documentation subscale. While the mean scores did not show a statistically significant difference according to whether the

participants had received in-service training before ( $t=.97$ ), a significant difference was observed in favor of the participants working in private schools ( $t=3.11$ ). As can be seen in Table 2 no statistically significant difference was observed between the mean scores of the participants who received ( $\bar{X}=14.20$ ) and did not receive in-service training ( $\bar{X}=12.07$ ) in Providing Flexible Learning Environments subscale while there was a significant difference between the mean scores of the participants who work in public school ( $\bar{X}= 11.16$ ) and private schools ( $\bar{X}=13.94$ ). In Questioning subscale, the mean scores differed significantly according to both whether the participants received in-service training or not and the type of school they worked at. These differences were in favor of participants who had previously received in-service training on thinking skills ( $\bar{X}=14.09$ ) and worked in private schools ( $\bar{X}=14.14$ ). When the mean scores obtained from the whole scale are compared, it can be seen that the thinking skills support behaviors of the participants who received inservice training ( $\bar{X}= 85.07$ ) and worked in private schools ( $\bar{X}=87.37$ ) were significantly higher than the other participants ( $\bar{X}= 79.13$ ;  $\bar{X}= 77.29$ ).

#### **4 Conclusion and Discussion**

In this study, it was determined that preschool teachers highly supported their students' thinking skills according to their own perceptions. This finding is promising in terms of raising individuals with the skills required by the 21st century. Alkın Şahin (2022), Soydan and Dereli (2014) revealed similar findings in their studies which they examined the level of support of preschool teachers' thinking skills of their students. According to Akbıyık and Ay's (2014) study preschool teachers' attitudes towards thinking education are positive, which is also consistent with the findings of the current study. Baumfield (2006), on the other hand, determined that teachers consider themselves inadequate in teaching thinking. This difference may be due to the fact that the research was conducted in different country or that it was conducted at an earlier date than the current study. There are also studies conducted in Türkiye with different findings than the current study. For example, in the study conducted by Akbıyık and Kalkan-Ay (2014), it was determined that pre-school teachers did not see themselves as sufficient in teaching thinking skills and they needed to develop themselves. Akbaba and Kaya (2005) also determined that preschool teachers do not give the necessary importance to thinking skills. However, these studies were also conducted at a date earlier than the current

study and qualitative research method was used. In other words, the characteristics of the samples of the studies may have caused this difference. At this point, it may be recommended to examine the thinking skills support behaviors of preschool teachers with a mixed method model, and to determine the current situation and possible needs in future studies.

It was determined that both the total scores and the sub-scale scores of teachers' thinking supportive behaviors differed significantly in favor of teachers working in private schools. This finding may be due to the better physical and financial conditions of private schools and the more flexible application of curricula. Furthermore, the competition between private schools may have resulted in teachers' efforts to improve themselves. Moreover, the socioeconomic characteristics of families who can send their children to private schools may increase their expectations and demands from private schools. In support of this finding, Alkın and Şahin (2022) also determined that preschool teachers working in private schools are more interested in thinking education and their attitudes towards thinking education are more positive than teachers in public schools.

It is known that programs such as Regio Emilia, High Scope, Think! are effective in helping teachers learn the ways of teaching thinking skills through Questioning, Reflection Through Documentation and other activities (Aubrey et al., 2012; Hansen, 2012). Emer (2007) also determined that teachers who received in-service training on thinking skills showed a positive increase in behaviors that support children's thinking skills. In this context, it can be recommended to ensure the implementation of professional development programs aimed at gaining thinking skills, especially in public schools. As a matter of fact, Aubrey et al. (2012) draws attention to the importance of such specific programs, and O'Reilly et. al (2022) and Ayvaci (2010) emphasize that different pedagogical approach programs contribute to the development of thinking skills at an early age.

Planning of studies examining different variables that may be effective in supporting the thinking skills of preschool teachers can contribute to the literature. In addition, studies should be planned to improve the teachers and their opportunities in public schools. The issue can be examined in depth with qualitative studies aimed at examining the difficulties and needs of teachers working in public schools. This study was carried out with the participation of a group of preschool teachers in



Turkiye. Comparative research can contribute to wider and better understanding of teacher's thinking support behaviors and the knowledge in the relevant literature.

## References

- Akbaba, A., & Kaya, B. (2015). Teachers' opinions about cognitive skills development of children at kindergarten. *Electronic Journal of Social Sciences*, 14(55), 148-160.
- Akbiyık, C., & Kalkan Ay, G. (2014). Perceptions of pre-school administrators and teachers on thinking skills instruction: A case study. *H. U. Journal of Education*, 29(29-1), 1-18.
- Aisyah, S. (2019). Development of thinking skills in early childhood. *International Journal of Emerging Issues in Early Childhood Education*, 1(1), 51-67. <https://doi.org/10.31098/ijeiece.v1i1.17>
- Aubrey, C., Ghent, K., & Kanira, E. (2012). Enhancing thinking skills in early childhood. *International Journal of Early Years Education*, 20(4), 332-348. <https://doi.org/10.1080/09669760.2012.743102>
- Ayvacı, H. S. (2010). A pilot survey to improve the use of scientific process skills of kindergarten children. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education*, 4(2), 1-24.
- Baumfield, V.M. (Ed.) (1995). *Improving students' performance: a guide to thinking skills programmes in education and training*. Tyneside Training and Enterprise Council.
- Birbili, M. (2013). Developing young children's thinking skills in Greek early childhood classrooms: Curriculum and practice. *Early Child Development and Care*, 183(8), 1101-1114. <https://doi.org/10.1080/03004430.2013.772990>
- Costello, P. J. M. (2012). *Thinking skills and early childhood education*. Routledge.
- Emer, A. (2007). *Primary school teachers' opinions about teaching thinking skills: A case of İzmir*. [Unpublished Master's Thesis]. Osmangazi University Institute of Science. [https://acikbilim.yok.gov.tr/bitstream/handle/20.500.12812/410474/yokAcikBilim\\_302937.pdf?sequence=-1](https://acikbilim.yok.gov.tr/bitstream/handle/20.500.12812/410474/yokAcikBilim_302937.pdf?sequence=-1)
- Fisher, J. (1996). *Starting from the child?* Open University Press.
- Godwing D., & Perkins, M. (1998). *Teaching language and literacy in the early years*. David Fulton Publishers.
- Hansen, S. G. (2012). *Children's viewpoints: Documentation and assessment in the preschool classroom* [Unpublished Doctoral Dissertation]. Mills College.
- Hewitt, T. W. (2006). *Understanding and shaping curriculum: What we teach and why?* Thousand Oaks, CA: Sage.
- Kaymak, E., & Alkın-Şahin, S. (2022). Teacher behaviors that support thinking scale -preschool teacher form: A validity and reliability study. *Electronic Journal of Education Sciences*, 11(21), 25-46. <https://doi.org/10.55605/ejedus.1082882>
- Krogh, S. L., & Morehouse, P. (2020). *The early childhood curriculum: Inquiry learning through integration*. Routledge.
- Lieber, J., Butera, G., Hanson, M., Horn, E., Czaja, C., Diamond, K., Goodman-Jansen, G., Daniels, J., Gupta, S., & Odom, A. (2009). Factors that influence the implementation of a new preschool curriculum: Implications for professional development. *Early Education and Development*, 20(3), 456-481. <https://doi.org/10.1080/10409280802506166>
- McGuinness, C. (2000, November 9-10). ACTS activating children's thinking skills [Conference presentation] Methodology for Enhancing Thinking Skills ESRC TLRP First Programme Conference, Leicester.
- O'Reilly, C., Devitt, S., & Hayes, N. (2022). Critical thinking in the preschool classroom - A systematic literature review. *Thinking Skills and Creativity*, 46, 1-20. <https://doi.org/10.1016/j.tsc.2022.101110>
- Posner, G. J. (1995). *Analyzing the curriculum*. McGraw-Hill, Inc.
- Priyanti, N., & Warmansyah, J. (2021). Improving critical thinking skills of early childhood through inquiry learning. *Journal Obsesi*, 5(2), 2241-2249. <https://doi.org/10.31004/obsesi.v5i2.1168>

- Rinaldi, C. (2006). *In dialogue with Reggio Emilia: Listening, researching and learning*. London: Routledge
- Ritchhart, R., & Perkins, D. (2008). Making thinking visible. *Educational Leadership*, 65(5), 57-61.
- Scott, L. A. (2017). *21st century skills early learning framework*. P21.
- Soydan, S. B., & Dereli, H. M. (2014). A comparative examination of strategies aiming to improve thinking skills of children used by preschool teachers in different countries. *Kastamonu Education Journal*, 22(2), 475-496.
- Taggart, G., Ridley, K., Rudd, P., & Benefield, P. (2005). *Thinking skills in the early years: A literature review*. NFER Publication.
- Walsh, G., Murphy, P., & Dunbar, C. (2007). *Thinking skills in the early years: A Guide for Practitioners*. Stranmillis University College.