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MONTESSORI PRACTICES IN EARLY CHILDHOOD EDUCATION WITH TEACHERS' EXPERIENCES

Abstract: The study was conducted using a qualitative research method to examine Montessori preschool education practices in Turkiye. The study group consisted of 14 teachers in Montessori classrooms of preschools in the central district of a province in Turkiye. The data were collected with a Structured Classroom Observation Form, Material Control List and Semi-structured interviews. The MAXQDA 2022 software was used for the analysis of teacher interviews. According to the findings, the structure of the Montessori classrooms was generally in accordance with the Montessori philosophy, and there was a sufficient number and variety of Montessori materials in the classrooms. Practical life and mathematics activities were frequently included in the program. The most commonly used materials were sensorial and cosmic field materials. Teachers felt inadequate about Montessori practices. There were problems with the high-class size, mixed age, cost and supply of material. According to teachers, education provides children with self-regulation skills and enables effective learning. In addition, education has some advantages for parents and teachers. Children were bored with the activities, parents had insufficient knowledge of the practices, and teachers had time management problems. Finally, teachers offered recommendations for improving practices.

Keywords: Montessori approach, Early years, Early childhood education, Montessori teacher.

Introduction

Habits and experiences acquired by children in the early years are very critical. Preschool education institutions are essential to ensure this critical process is productive and to prepare environments that will reveal the potential of children. In preschool education, many factors, such as the characteristics of classrooms, the competencies of teachers, and the curriculum, determine the effect of education. In particular, the preparation and implementation of effective education programs are essential for achieving preschool education goals (Tugluk et al., 2006). One of the

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effective practices in preschool education is the Montessori approach.

The Montessori education program offers an extraordinary education opportunity by supporting all child's developmental areas with its child-centred nature, one-to-one study with natural materials and an educational approach (Oguz & Akyol, 2006). According to this philosophy, which gives children the opportunity to explore, try, make mistakes, and correct their errors (Kocyigit & Kayili, 2009), children are at the center of education, and the aim is to activate children's natural desire to learn. Children can work in a free environment by choosing materials according to their interests and needs. Montessori education is based on a specific organization and physical environment with mixed-age classrooms with well-defined areas for different parts of the curriculum (e.g. language, mathematics). Montessori education includes specific pedagogical tools, including multisensory and automatic corrective materials offered by teachers (Montessori teachers) trained on this philosophy and designed at children's learning speed (Lillard & McHugh, 2019a). In recent years, Montessori education has been claimed to be more consistent with the principles of development and learning than the traditional education program (Lillard, 2019; Marshall, 2017).

Montessori classrooms ideally include mixed age groups spread over three years: 0 – 3 years, 3 – 6 years, and 6 – 12 years (Feez, 2010). The materials, which are kept on the shelves and made available to children freely, are organized according to language, mathematics, practical life, cosmic and sensorial domains. The materials are designed so that if children make mistakes, they can see and correct them without guidance or intervention. In addition, children learn more from the prepared environment, materials, and peer education than from the guides. Montessori education is provided individually or in small groups (Lillard, 2013).

The basis of Montessori education is individual education (Cakiroglu Wilbrandt, 2013). It aims for children to develop mainly in the fields of movement education, sensorial education, and language education (Kececioğlu, 2015). The child who actively participates in a ready-made environment gains freedom of choice, innovativeness in education, problem-solving, and communication skills while choosing the material he/she will use (Mutlu, Ergisi, Ayhan, & Aral, 2012). In addition, the child develops his/her self-control and self-confidence skills with his/her internal discipline in a prepared environment that is not intervened (Oguz & Akyol, 2006; Cakiroglu Wilbrandt, 2013). Children who receive Montessori education gain concrete learning experiences. They can correct their own mistakes and gain a natural sense of responsibility. Their intrinsic motivation improves, and their academic skills increase. Parents and teachers can learn about children's interests and needs by observing their work during Montessori education, evaluating their achievements, and presenting an environment prepared for children in line with their needs (Oguz & Akyol, 2006).

In the 18-year longitudinal research, Glenn (2003) observed that children become individuals who actively seek, are open-minded, patient, cooperative, have high social awareness, are free-thinking, and are open to learning thanks to Montessori education. In another study, parents whose children received Montessori education stated that they were more self-confident, free-spirited, self-employed, and happy (Sop & Turgut, 2021). As a result of a study, Bozkurt, Kolemene, Abanoz, & Ulutas (2019) determined that parents think that Montessori education brings their children the skills to be organized and self-employed and the skills for practical life. Kocyigit & Kayili (2009) argued that preschool children who received Montessori education were more successful in social cooperation, independence, and interaction. Kuscu, Bozdas, & Yildirim Dogru (2014) stated that Montessori education affects children's ability to take responsibility, wait in line, and finish the job they started.

The Role of Montessori Teacher

The dynamic trio of children, teachers, and the environment (classroom) is at the center of Montessori education (Feez, 2010; Montessori, 1912). One of the teacher's roles is to guide the child through a classroom designed to support his/her intellectual, physical, emotional, and social development (Lillard & McHugh, 2019b; Marshall, 2017). According to Maria Montessori, the teacher of Montessori, who represents the figure of authority and eliminates obstacles, takes the name of "guide" (Kocyigit & Kayili, 2009). Teachers give children the opportunity to use their potential for development. It is one of the teacher's duties to evaluate each child individually through critical observation to design the individual plans of the children and determine their insufficient areas. Another responsibility of the teacher is to provide children with discipline in the classroom as a role model (Holfester, 2008). This educational philosophy has a very developmental effect on teachers and children.

In a study conducted with a Montessori teacher, he/she stated that he/she learned to be more patient, calm, peaceful, smiling, and child-centered after becoming a Montessori teacher. In addition, the teacher emphasized that this training also contributed to intervention, observation, and self-control skills (Caglar & Ulutas, 2022). In a study conducted with Montessori educators, Malm (2004) concluded that educators started to do more research by acquiring more information about their professional roles, life perspectives, general skills and general knowledge. The widespread acceptance of the benefits of Montessori education is important in spreading this education. One of the essential issues related to this education, whose positive effects have been revealed by various research, is the quality of the practices. So, is every program based on Montessori educational philosophy proper Montessori education? Based on this question, the study aims to examine Montessori preschool education practices in Turkiye. In line with this primary purpose, the structure of Montessori classrooms, the suitability and adequacy of the materials, and the experiences and opinions of preschool teachers regarding Montessori education were examined.

Method

The research was a case study. McMillan (2000) has defined case studies as an in-depth examination of one or more events, environments, social groups, programs, or other interconnected systems (Buyukozturk et al., 2021).

Participants

The study included 14 preschool teachers in Montessori classrooms of four public preschools in the central district of a province in Turkiye. Participants were also Montessori teachers (they received a Montessori education certificate). The study group was formed by a purposeful sampling method, and volunteering was essential. There were various Montessori materials in the classrooms of the participants. All participants were women, and other demographic characteristics were as in Appendix 1. Participants included an average of 2 hours of Montessori practice daily in their classrooms.

Data Collection Tools

Data collection included information forms for demographic information, semi-structured interviews to gather teachers' general views on the Montessori approach and practices, checking for the presence of Montessori materials in teachers' classrooms, and structured classroom observation.

Information Form

It contained some demographic information to identify the participants.

Structured Classroom Observation Form

The form consisting of 17 items was prepared and used to determine the design of the classroom following the Montessori philosophy.

Material Control List

The Material Control List was prepared by taking the information in the literature and the opinions of the field experts to identify the Montessori materials in the classrooms of the participants. The list included 96 materials, practical life, sensorial mathematics, language, and cosmic educational materials.

Semi-structured Interviews

Twelve questions were prepared by researchers in line with the purpose of the research. The questions are aimed at determining the views of Montessori education on its philosophy, functioning, positive aspects, negative aspects, and recommendations for improving practices. Expert opinion was consulted regarding the interview questions.

Ethics Issues

Permission was obtained from the ethics committee of a public university and the relevant local official institution for the research. Before collecting data, principals of preschools with Montessori classrooms and Montessori teachers were informed about the study. Participants who volunteered to participate in the study signed the voluntary participation form and were explained that they had the right to withdraw at any time. Confidentiality and anonymity are guaranteed for all participants. The process was carried out with ethical principles.

Data Collection and Analysis

In the first stage, the materials in the Montessori classrooms of the participants were examined using the "Material Control List". In the second stage, class observations were made using the "Structured Classroom Observation Form". The data obtained from these tools were analyzed descriptively, and the current status of the classes was demonstrated. In the last stage, face-to-face interviews were held with the participants. The interviews lasted an average of 15-30 minutes and were recorded with a voice recorder to prevent data loss. Voice recordings were transcribed, decoded, and analyzed within the thematic and content analysis framework with the MAXQDA 2022 qualitative data analysis software. The MAXQDA provides the opportunity to analyze and interpret data more systematically (Creswell, 2013; Kuckartz & Radiker, 2019). An inductive approach was adopted in data analysis, and the "Hierarchical Code-Sub-Code Model" was used. First, the data was read by two researchers who were able to use this software effectively. The classical coding option was used by marking the written text pieces, and the first codes were prepared through the program. The code projects designed by two researchers were combined as a single project on the MAXQDA. The inter-coder agreement was calculated through the program to increase objectivity and ensure research analysis reliability (Figure 1).

		Encoder 1		
		1	0	
Encoder 2	1	a = 432	b = 10	442
	0	c = 19	0	19
		451	10	461

$P(\text{observed}) = P_o = a / (a + b + c) = 0.94$
 $P(\text{chance}) = P_c = 1 / \text{Number of Codes} = 1 / 60 = 0.02$
 $\text{Kappa} = (P_o - P_c) / (1 - P_c) = 0.94$

Figure 1. Inter-coder Agreement

In qualitative research, as a result of Kappa analysis, the agreement between the coders takes a value between -1 and +1. The fact that this value is less than 0 indicates no agreement between the coders, while the value obtained from the Kappa analysis is 0.41 and above, which shows that the study is reliable (McHugh, 2012; Wynd, Schmidt, & Schaefer, 2003). According to Figure 1, the agreement between the coders is 0.94, and the research results are reliable. On the other hand, the themes and sub-themes were finalized by discussing and reaching a consensus on the codes that were not in agreement.

Results

Results of Classroom Observations and Materials

According to the results obtained from the Structured Classroom Observation Form, it was seen that the classrooms (C1=88%, C2=100%, C3=76%, C4=65%) were structured by the Montessori philosophy in terms of their general structure. However, there were some fundamental deficiencies (for example, the images hanging on the wall were not at the level of the child's eyes. The findings from the Material Control List results are presented in Table 1.

Table 1. Materials in the classrooms of the participants

Category/Classroom	C1	C2	C3	C4
Undamaged, complete, and durable materials	83	92	80	85
Materials with missing parts/damaged materials	0	0	5	1
Materials that are not present in the classroom	13	4	11	10
Total	96	96	96	96

According to Table 1, 83 of the materials in C1, 92 of the materials in C2, 80 of the materials in C3, and 85 of the materials in C4 are undamaged, complete, and intact. In addition, practical life materials were undamaged, complete, and durable in all classrooms. Some sensorial, mathematical, and language materials were absent or incomplete in classrooms; only one of the cosmic educational materials was incomplete in C3. As a result, Montessori classrooms had enough material to qualify.

Results on Interviews

Basic Philosophy of Education

According to the participants, the basic philosophy of Montessori education was to support self-regulation skills and to provide learning by doing and experiencing (f=6). *The samples of teachers' quotes follow* Teacher 13: "Montessori is an approach that gives children freedom and reveals

individual tendencies". Teacher 1: "An educational philosophy that enables the child to learn by doing and experiencing using all sensory organs, in which the teacher plays only the role of a guide and the child is more active...".

Functioning of Education

Figure 2 shows the hierarchical code-sub-code model related to the functioning of Montessori education.

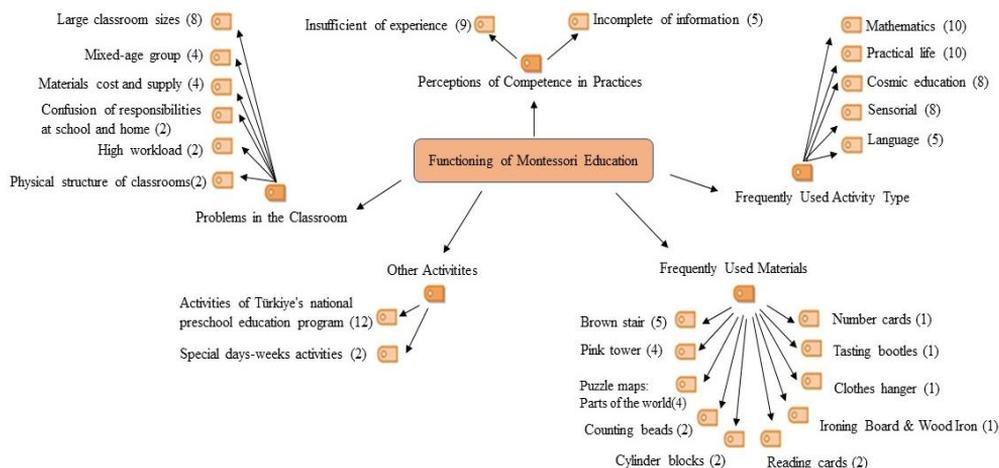


Figure 2. Hierarchical code-sub-code model related to the functioning of the Montessori education

Participants' perceptions of competence in Montessori practices were negative. According to them, their information on this subject was incomplete, and their experience was insufficient. The samples of teachers' quotes follow Teacher 1: "... unfortunately, we do not have a Turkish document, we generally try to learn by watching English videos, but we do not have much knowledge of English either". Teacher 12: "Some things are based on experience. I can't exactly say yes, I mastered the subject. I would like to gain more experience or participate in different training...".

Participants frequently conducted practical life and mathematics activities. Language education was the least involved in the education process. The samples of teachers' quotes follow Teacher 12: "We actively use mathematics activities..." Teacher 13: "The daily living space in which we work most. Because the children wash cups and plates there. "

According to the participants, the materials frequently used in the classroom were the brown stair, the pink tower, and puzzle maps: Parts of the world. The samples of teachers' quotes follow Teacher 14: "... children have their preferences, but if you ask which one is preferred the most, it was brown stairs. They do love it." Teacher 3: "... especially the pink tower and the brown stair attract much attention by children at the beginning of the period. We explained various materials throughout that academic year but they are more important."

In addition to Montessori activities, the participants included Türkiye's national preschool education program and special days-weeks activities. The samples of teachers' quotes follow Teacher 4: "I apply for the national preschool education program... but I cannot apply it completely. Since I spend too much time on Montessori education, I can't complete the national program." Teacher 7: "I have activities related to certain days and weeks. For example, this week was forest week..."

The main problems of the participants in the education process were the large classroom sizes. However, there were also problems with the mixed-age group, the cost of the material, and its supply. The samples of teachers' quotes follow Teacher 10: "The only problem now is that the classroom is crowded...". Teacher 2: "Because children at different ages are together... Balancing is difficult."

Positive Aspects of Education

Figure 3 shows the hierarchical code-sub-code model related to the positive aspects of Montessori education.

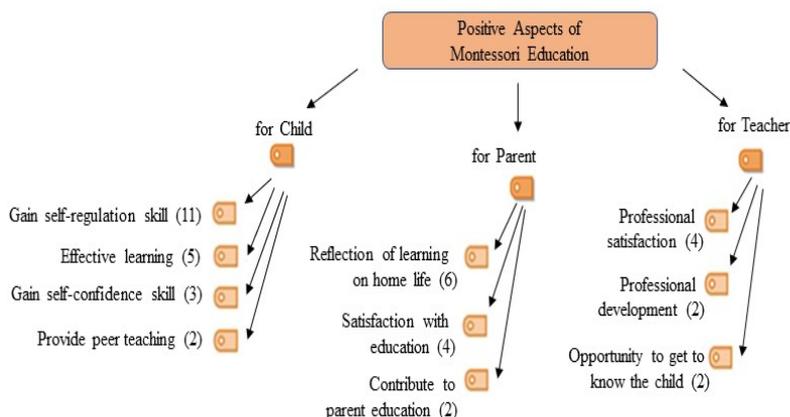


Figure 3. Hierarchical code-sub-code model on the positive aspects of Montessori education

According to the participants, the prominent positive aspects of education for the child were that it enabled the child to gain self-regulation skills and to learn effectively. The samples of teachers' quotes follow Teacher 6: "Self-control of children, their emotions develop a lot". Teacher 12: "...children are given a sense of responsibility, I love this aspect the most. Children who can do something on their own..."

Participants stated that the positive aspect of education for parents reflects learning on home life. In this code, teacher 12's opinion was as follows: "...parents say that children want to help their families at home, such as washing dishes and cooking. They are pleased about this..."

According to the participants, the prominent positive aspect of education for teachers was that it offered them the opportunity for professional satisfaction. In this code, teacher 10 said: "Montessori education is a great difference; I added something to myself and received excellent returns from children. It was also a source of motivation for me. Montessori is a million and one. You can't say, "I learned this, it's over". That's why it gives me excitement..."

Negative Aspects of Education

Figure 4 shows the hierarchical code-sub-code model related to the negative aspects of Montessori education.

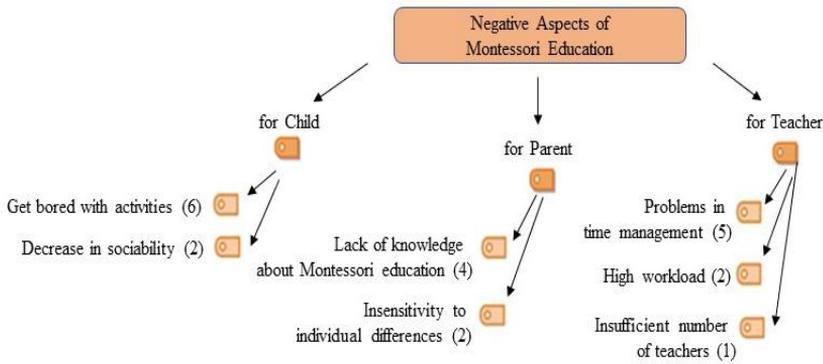


Figure 4. Hierarchical code-sub-code model related to the negative aspects of Montessori education

According to the participants, the prominent negative aspect of education for the child was that children were bored with the activities. The central negative aspect of education for parents was the lack of knowledge of parents' Montessori practices. The participants stated that they had problems with time management as a negative aspect for themselves. The samples of teachers' quotes follow Teacher 11: "... At the end of a certain period, children can get tired of working with the material... They don't want to do". Teacher 8: "Parents do not know the materials. We explain them as much as we can in meetings, but of course, they don't know in detail... We are experiencing the disadvantage of this. "

Recommendations for Improving Practices

Figure 5 shows the hierarchical code-sub-code model for recommendations for improving practices.

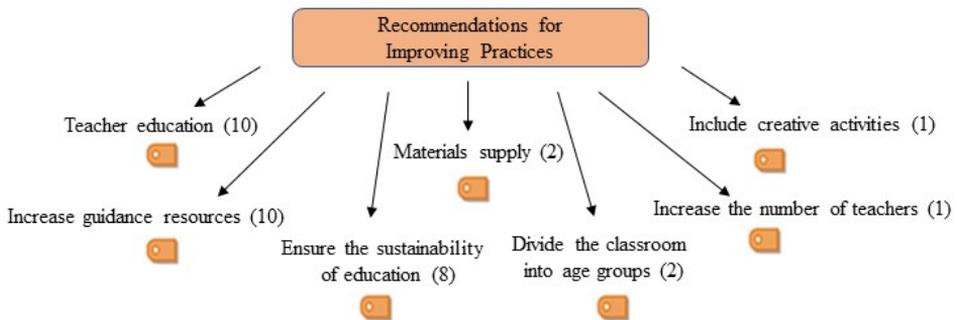


Figure 5. Hierarchical code-sub-code model for the development of practices

Participants had several recommendations for improving Montessori practices. Teacher education, increasing guidance resources, and ensuring the sustainability of education were the main recommendations. The samples of teachers' quotes follow Teacher 9: "...I think we should have more education... Sometimes I wonder if I'm teaching the kid the wrong thing. To improve ourselves completely, we need to go to other countries and receive an education... At least there will be no question mark in our heads". Teacher 14: "When we want to learn something about Montessori, we mostly look at educational materials from abroad... Of course, you need to know some foreign languages. I don't understand some, I try to understand some of them and learn with Google translate. This is a more common education model in other countries". Teacher 5: "For Montessori education to be more effective, it should be applied in a wide process by spreading to all education levels".

Discussion and Conclusion

Since children learn everything around them quickly in the early childhood years, early childhood research has focused on which practices have long-term benefits in preschool programs (Macia-Gual & Domingo-Penafiel, 2021). Montessori, one of the alternative education approaches, is one of them. In the Montessori educational approach, the system consists of approach-specific materials, an educational environment organized by the philosophy of the approach, and Montessori teachers who have been trained in the approach (Feez, 2010). According to the research findings, it was seen that Montessori classrooms were structured by Montessori philosophy in general and had a sufficient number and variety of Montessori materials. This finding enabled us to understand the views of the participants better. Although there were no materials related to a few areas, the participants were teachers of classrooms that could be considered physically equipped.

According to the participants, the basic philosophy of Montessori education was to support self-regulation skills and to provide learning by doing and experiencing. These statements of the participants align with the Montessori basic philosophy in the sources. The deliberate design in Montessori classrooms and the fact that there is usually only one of each material requires children to wait for the material. Thus, the child's patience and supervision skills develop. According to this result, it is understood that the participants know the Montessori philosophy (American Montessori Society, n.d.). According to Efe and Ulutas (2022), teachers should know the philosophy of Montessori education to achieve successful results and internalize it through practice.

It was determined that there were some points where the participants felt inadequate for Montessori practices. This was because they thought their knowledge about this subject was incomplete and their experience was insufficient. According to Montessori Pedagogy, an environment and teacher education are two interrelated and complementary elements that affect children's positive experiences (Macia-Gual & Domingo-Penafiel, 2021). Feez (2010) emphasized that to become a qualified Montessori teacher, at least one full year or equivalent academic study is required in addition to local teaching qualifications. Most participants had at least one year of experience as Montessori teachers (see Appendix 1). This situation made us think about the quality of the education that the participants received to become Montessori teachers. In the early childhood education undergraduate programs of universities in Türkiye, teacher candidates do not have a specific and practical course on Montessori practices. Instead, the Montessori approach's theoretical knowledge is taught within some courses' content. For this reason, teachers should receive training and certification from authorized institutions to be Montessori teachers. Gulkanat (2015) states that Montessori teacher training in Türkiye is given theoretically and without practice, and the movement aims to learn how Montessori materials are used in education. Atli, Korkmaz, Tastepe, & Koksak Aksoy (2016) emphasized that Montessori teachers received special education, but that the practising dimension of this education was not experienced with children was a limitation, and the need for in-service training and supervision support for Montessori teachers in Türkiye was a deficiency.

Participants frequently included practical life and mathematics activities in the training program. In practical life activities, children learn practical skills such as dressing and setting the table. In addition, children learn appropriate social interactions, such as thanking and listening without interrupting (American Montessori Society, n.d.). Practical life skills also include self-control (Antonietti & Valenti, 2017). In this context, it is possible to say that the frequent inclusion of practical life activities in the program is closely related to teachers' perceptions of the philosophy of education. Mathematics is a science that includes abstract concepts, and children need to acquire basic mathematics skills with concrete materials and effective practices from an early age. Yenilmez and Duman (2008) have stated that many students consider mathematics as a tedious, complex, and frightening lesson, and this situation negatively affects mathematics achievement. However, it

is noteworthy as the finding of many studies that positive mathematics experiences in early years positively affect mathematics success in the following years (Kesicioglu, 2022). Crneckiy (2022) determined that preschool teachers who received Montessori education had negative experiences and hesitations about mathematics. However, there was an increase in their mathematics comprehension after the Montessori teacher took a mathematics course in the education program. In addition, these teachers stated that they needed to provide high-quality mathematics experiences for children.

According to the participants, the materials used in the classroom were sensorial (brown stairs, pink tower) and cosmic area (puzzle maps: parts of the world) materials. Montessori materials have an essential role in education. Tzuo (2007) emphasized that according to the Montessori philosophy, children have individual learning power and the importance of materials in making their own free choice.

In addition to Montessori activities, the participants included Turkiye's national preschool education program and special days-weeks activities. A national program is used for preschoolers in Turkiye. For this reason, it is not possible to apply Montessori education entirely in schools. This makes it challenging to apply Montessori education throughout the day. Efe and Ulutas (2022) stated that preschool teachers had to integrate the Montessori method into the national program. Durakoglu (2010) noted that the national program and Montessori education have similar characteristics when considering individual goals. However, the educational environments are different from each other.

The main problem in the education process was the high number of classrooms. However, there were problems with the mixed age group, the cost and supply of the materials, the confusion of responsibilities at school and home, the high workload, and the physical structure of classrooms. Aksoy (2020) also determined that preschool teachers in Turkiye find situations such as crowded classroom sizes, inaccessibility of resources related to the approach, and the involvement of foster parents challenging for Montessori practices. According to the research findings of Acikgoz (2018), teachers state that preschool classroom sizes are large and Montessori materials are incomplete. Efe and Ulutas (2022) determined that preschool teachers face difficulties such as the cost of Montessori materials during the education process and the increasing workload due to the lack of an assistant teacher in the classroom. According to Montessori philosophy, classrooms are organized as mixed age groups for older children to help younger children (Barbieru, 2016). However, mixed-age practices are not included, especially in public preschools in Turkiye. In addition, internship practices of teacher training programs are not carried out with mixed age groups. Therefore, teachers are not accustomed to working with mixed-age groups. At this point, it can be thought that teachers have difficulty in Montessori practices with the mixed age group.

According to the participants, Montessori education contributed to children, parents, and teachers. This finding was similar to the research finding of Efe and Ulutas (2022). Participants stated that education benefits for children are that children acquire self-regulation skills and provide effective learning. It is known that Montessori education improves self-regulation skills (Courtier et al., 2021; Denervaud et al., 2020; Ervin, Wash, & Mecca, 2010; Lloyd, 2008; Yurteri Tiryaki et al., 2021) and many academic skills (Aghajani & Salehi, 2020; Ansari & Winsler, 2020; Aral, Yildiz Bicakci, Yurteri Tiryaki, Cetin Sultanoglu, & Sahin, 2015; Basargekar & Lillard, 2021; Buldur, 2019; Chisnall & Maher, 2007; Franc & Subotic, 2015; Harris, 2007; Kayili & Ari, 2011; Laski, Vasilyeva, & Schiffman, 2016) in the preschool period. The positive aspect that attracted attention among the benefits of Montessori education to parents was the reflection of learning on home life. The increase in children's skills, such as taking responsibility, self-regulation skills, patience, and individual work due to Montessori education, is also exhibited in home life. It is thus considered a positive result for families and children. The benefits of Montessori education for teachers are professional satisfaction, professional development, and the opportunity to get to know the child. Similarly, Gulkanat (2015)

found that preschool teachers' Montessori education contributed to their professional development. They felt free and made children aware of their skills. Teachers' professional satisfaction increases productivity. In preschool education, teacher-child interaction is essential for the child's development. Partee, Hamre, & Williford (2019) state that high-quality classroom interactions contribute positively to children's learning. However, it can be said that teachers' professional satisfaction plays an essential role in teacher-child interaction. Alici and Yalcinkaya (2019) emphasized that the teacher with high professional satisfaction will perform more decedent practices in classrooms and will be open to innovations.

According to the participants, Montessori education also has some negative aspects for children, parents, and teachers. Efe and Ulutas (2022) emphasized that the positive results of Montessori education are related to the extent to which the teacher internalizes the Montessori philosophy. According to the participants, children were quickly bored with Montessori activities, and these activities negatively affected children's sociality. A similar finding was reached by Gulkanat (2015), and preschool teachers stated that Montessori education prevented children from communicating due to its individuality. Although Montessori education aims to gain social behaviours, it is built on individualism (Durakoglu, 2010). Considering that young children enjoy playing and spending time together, it can be thought that the individual use of Montessori materials is effective in this result. In addition, this result may be due to teachers' classroom management skills. However, it has been determined in various studies that education supports children's social skills (Bayrak, 2021; Toran, 2011). The prominent negative aspect of education regarding parents was the lack of knowledge of parents' Montessori practices.

The central negative aspect of education for teachers was stated to be that they had problems with time management as a negative aspect. According to a similar research finding, preschool teachers in Montessori said the insufficient time for controlling individual practices (Aksoy, 2020). This can be thought to be because teachers must implement both the national program, Montessori activities, and crowded classrooms.

Participants had several recommendations for improving Montessori practices: teacher training, increasing guidance resources, and ensuring the sustainability of education. Toran and Temel (2014) emphasized that the Montessori education program's continuity positively affects children's school readiness.

It was understood that Montessori classrooms were prepared by paying attention to essential issues in Montessori philosophy, such as Montessori classroom arrangement, materials, classroom size, and mixed age group, but a short-term education program was applied in teacher training. As a result of the research, teachers expressed their opinions about the Montessori education they used and explained its positive and negative aspects. These opinions and recommendations are evaluated together with the results of different studies in the literature and guide the elimination of weaknesses in practice. As a result, although there are some disadvantages and weaknesses, it is seen that Montessori education is also considered an alternative method in Turkiye. In addition, it can be said that teachers try to carry out the education process through the Montessori philosophy.

Limitations and Recommendations

The structure and equipment of the classrooms are a sensitive part of the Montessori classrooms. For this reason, deficiencies in classrooms should be eliminated, materials with missing parts should be completed, and damaged materials should be repaired. The Material Control List used in this research can be used as a guide for organizing classes by Montessori philosophy.

A good understanding of the philosophy of Montessori education plays a vital role in the whole

process. For this reason, practical courses can be included in the teacher training programs of universities, and Montessori teacher training programs can be strengthened to spread Montessori practices in Türkiye. In addition, the continuity of the professional development of teachers should be ensured through various activities such as training, courses, seminars, and workshops. These steps can increase the knowledge and experience of teachers on the subject and increase the benefit to be gained from the practices. However, the increase in the number of expert teachers may be effective in opening new Montessori classrooms and consequently reducing classroom sizes. Normalization in the classroom can also reduce other problems experienced by teachers in the process. The production and widespread use of Montessori materials in Türkiye can eliminate cost-related obstacles. Ensuring the active participation of parents in the process can also positively affect Montessori practices. At this point, we want to state the importance of cooperation with the family. Finally, qualitative research findings limit its generalizability.

For this reason, the effect of various variables on Montessori practices can be examined using a mixed design in subsequent studies. Most importantly, given the deficiency in the field, experimental studies should be conducted to understand the current situation in Türkiye regarding Montessori pedagogy. Such research can help make the necessary improvements to Montessori education and help children benefit more.

Acknowledgements or Notes

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Appendix 1. Katılımcıların demografik özellikleri

Feature/Teacher no	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14
Education level	BD	MD	MD	MD	BD	MD	BD	BD	BD	BD	MD	BD	BD	BD
Professional experience	11y	8y	13y	12y	12y	12y	12y	8y	22y	11y	3y	6y	7y	10y
Experience (Montessori Ed.)	4y	2y	3y	3y	2y	4y	3y	2y	3y	3y	1y	8m	11m	4y

(T=Teacher, BD= Bachelor's Degree, MD=Master's Degree, y= Year, m= Month)

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